TECHNICAL COLLEGE CHOICE: AN ACTION RESEARCH, MIXED METHODS STUDY OF INFLUENCES ON THE ENROLLMENT DECISIONS OF STUDENTS ADMITTED TO A TECHNICAL COLLEGE

by

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Abstract

Technical College Choice: An Action Research, Mixed Methods Study of Influences on the Enrollment Decisions of Students Admitted to a Technical College

Brian Leigh Cygan, Ed.D.

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Chairperson: John M. Gould, Ph.D.

Many colleges and universities struggle with enrollment management challenges, which in turn create escalating financial pressures. One important aspect of this multifaceted problem that is worthy of closer inspection involves learning how students' college choice factors impact enrollment. Though prior research on this issue is readily available, none consider the matter from the perspective of a technical college; an often overlooked sector of the higher education community. The purpose of this study was to examine the relationship between admitted students' reported perceptions of institutional characteristics and the subsequent enrollment decisions of these matriculating students at a technical college. The central research question in this study asked the following: What actions will motivate a greater proportion of admitted students to enroll at a technical college? Employing a post-positivist approach, the study's conceptual framework placed students' perceptions of institutional characteristics in the context of the college choice process. A mixed research methodology was utilized to collect and analyze data on influential college choice factors for students admitted to a mid-sized technical college in the Mid-Atlantic region of the United States. The quantitative research method involved analysis of pre-existing survey data, previously collected by the technical college via the Admitted Student Questionnaire®. Two qualitative research methods were necessary to

capture in-depth, follow-up information from sample drawn from two (2) sub-populations who participated in the survey: telephone interviews with non-enrolling students and a focus group discussion with students who enrolled. The findings revealed that five (5) out of six (6) general, college choice factor categories (Academic, Cost, Location of Campus, Service Expectations, and Student Life) undoubtedly contained one or more key aspects influential to college choice decisions. Athletics was the only category with questionable evidence of enrollment impact. Ultimately, the study concluded that eight (8) actions were judicious to address the problem. Prominent among the recommended actions were academic items regarding a robust and diverse academic program portfolio, showcasing academic facilities, and building upon a solid academic reputation. Other important, recommended actions involved reducing cost for students, providing a learned and supportive faculty, continuing campus beautification efforts, optimizing on-campus housing, and expanding extracurricular activities.

Keywords: *college choice, technical education, matriculation, enrollment management*

Signature Page

The Dissertation Committee for Drexel University
certifies that this is the approved version of the following dissertation:

Technical College Choice: An Action Research, Mixed Methods Study of Influences on the

Enrollment Decisions of Students Admitted to a Technical College

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Dedication Page

This study is dedicated to the friends, family, and faith that sustained me through the highs and lows of accomplishing this endeavor. To my friends and co-workers at the host site, who encouraged, advised, and graciously understood my time constraints, I thank you and dedicate this work to you with the hope that it is indeed useful to the institution. To my wife, children, parents, and extended family members, I appreciate your love and support and dedicate this work to you in recognition of the many sacrifices you made to help me along the way. Finally, I dedicate this study to my Lord and Savior, Jesus Christ; praying that the research and writing was done to the best of my God-given abilities and trusting that He is glorified as this work contributes to the growing body of knowledge seeking to better understand His world.

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Introduction to the Problem

Public-supported colleges and universities face numerous financial challenges as a result of the recent, prolonged recession (Barnes & Harris, 2010; Bradbard, Robbins, & Alvis, 2011; Craft, Baker, Myers, Harraf, & Association for Institutional Research, 2012; Hemelt & Marcotte, 2011). Operating costs increase consistent with inflation, yet state appropriations decrease. Meanwhile, student demand for enhanced services and amenities continues to escalate. Cost containment measures are helpful to a point, but they rarely cover the entire budget deficit. As such, colleges and universities typically turn to considerable tuition increases in order to bridge the gap between revenues and expenses; despite political pressure to maintain affordability. These circumstances inevitably link sustainable revenue generation with enrollment management in higher education.

In spite of these persistent, significant tuition hikes, enrollment in higher education has enjoyed unprecedented growth (Snyder, Dillow, United States, & National Center for Education Statistics, 2012). This growth continued until very recently, with certain sectors being especially hard hit. High-priced institutions lacking national prestige are losing price-conscious students seeking cheaper alternatives. For expensive colleges and universities with declining enrollments, this presents a serious enrollment management problem. Addressing this problem prompts the following questions: Why are students not coming? What factors are pushing them away or luring them away? What steps can an institution take to address these issues?

Answers to these questions are found in college choice research. Social psychological-based college choice research examines students' cognitive processing of institutional characteristics (McDonough, 1997). Postsecondary institutions rely on this information to guide

enrollment management efforts. Similarly, students today leverage online college choice tools to inform their decision-making process, such as ConsumerReports.org's® (n.d.) "Find the Best Colleges for You" and *U.S. News & World Report's* (n.d.) "Finding the Right School."

Successfully uniting a student with a postsecondary institution is increasingly important as colleges and universities continually diversify and distinguish themselves from one another. Moodie (2009) asserts that higher education institution fall into one of four categories: world research universities, selecting universities, recruiting universities, and vocational institutes. Vocational institutes (i.e., community colleges, technical colleges) are often overlooked in enrollment management and/or college choice research due to their lenient admission policies and low-class stature within higher education. However, current events suggest that perceptions of vocational institutes are changing.

In response to the recent national recession, calls for developing a better workforce are leading states to emphasize postsecondary career and technical education (Llopis-Jepsen, 2013; Mueller, 2013). These initiatives often receive the unified support of unlikely collaborators: politicians, educators, and businesses. With public sentiment and financial support on their side, renewed interest in postsecondary technical education is growing.

Technical education's niche, college choice research, and enrollment management practices are interesting topics in their own right. The confluence of these three streams, enrollment management, college choice, and technical education, presents an intense area of interest to institutions trying to survive recent economical changes. This study explores the interaction of these topics at their point of intersection.

Statement of the Problem to be Researched

The problem addressed in this study is under-informed strategic enrollment management practices in higher education; a common shortcoming of many colleges and universities (Chow, 2012; Shaw, Kobrin, Packman & Schmidt, 2009). Enrollment management deficiencies come to the fore when institutions either suffer enrollment decline or fall short of reaching anticipated enrollment growth targets. The study of this topic is timely as enrollment decreases afflict nearly every sector of higher education (National Student Clearinghouse Research Center, 2013).

The Chronicle of Higher Education's (n.d.) "Almanac of Higher Education 2013" presents enrollment trends for Title IV degree-granting institutions. Comparing Spring 2013 with Spring 2012, total enrollment decreased by 2.3% nationwide. Enrollment declined in all sectors except one; 4-year, private non-profit institutions enjoyed a modest 0.5% increase. Hardest hit was the 4-year, for-profit sector, reportedly down 8.7% from the prior year. It is noteworthy that enrollment at 2-year public institutions, the sector that includes most technical colleges, was down 3.6%.

Hossler (1984) explains that a variety of factors affect the demand for higher education such as "economic activity and resulting employment levels, rate of return, changes in the armed forces and draft legislation, pricing policies, and demographic changes" (p. 22). Regarding economic activity, enrollments in higher education tend to drop when employment is readily available. Students also weigh the long-term, monetary benefit of postsecondary education against the total expense to receive the education. When students perceive a low rate of return on their educational investment, they elect to enter the workforce rather than enroll at the academy. Further, at times when the armed forces decide to recruit more high school graduates, college and universities compete for a smaller pool of potential students. Significant price increases are often detrimental to meeting enrollment goals. Finally, demographic changes such

as a declining number of high schools graduates typically create a significant and immediate enrollment challenge for postsecondary institutions.

Another factor influencing enrollments is consumer choice. Brint and Karabel (1989) state that historically, "the public has looked to the two-year college less for vocational education than for the opportunity to transfer to a four-year college" (p. 230). The basis for this declaration is a poll published by the American Association of Community and Junior Colleges (AACJC). At that time, 48% of the public considered the primary role of the community college to be academic training suitable for transferring to a four-year institution. Only 28% of the public considered the primary role of the community college to be vocational training (AACJC, 1981, p. 25).

Hossler (1984) states that among institutions with less selective admission policies, "the efforts in enrollment management reflect a concern for attracting a sufficient number of students to ensure health and vitality, to assure the significant survival of the institution" (p. 1). Such is the case for the technical college serving as the host site for this study. Despite an open admission policy, over 60% of the students offered entrance to the technical college do not enroll. During decades of steady enrollment growth at the institution, this poor enrollment yield rate was considered unfortunate, but hardly problematic. However, recent years of declining enrollments cause the institution to reconsider the matter.

Declining enrollment is an issue for a growing number of colleges and universities (Chronicle of Higher Education, n.d.). Scholars caution those postsecondary institutions yet to experience enrollment challenges, arguing that a day of reckoning is coming. Shaw (2011) warns colleges and universities to prepare for a forthcoming enrollment "bubble burst." Many researchers find a significant relationship between tuition price increase and enrollment decrease

(Buss, Parker & Rivenburg, 2004; Noorbakhsh & Culp, 2002; Ohern, 2010; Saxon, 2004). Hemelt and Marcotte (2011) go a step further and advise that constant tuition hikes will be a detriment to enrollment throughout higher education. Similarly, scholars are turning their attention to the study of admission yield rates in order to bolster enrollment (Duniway, 2012; Griffith & Rask, 2007; Rosenberg, 2008). As such, audiences beyond the host institution stand to benefit from this study; including colleges and universities with open admission policies as well as other technical colleges, community colleges, and vocational institutions, regardless of their admission policies.

Purpose and Significance of the Problem

The purpose of this study is to identify and address factors that deter the enrollment of students admitted to a technical college. The college choice process is complex and comprises numerous factors such as college characteristics, influential advice, predisposition, demographics, socioeconomic status, and financial aspects (Hossler, Braxton & Coopersmith, 1989). Strategic enrollment management (SEM) in higher education typically examines the full lifecycle of a student's journey from prospect through degree completion and beyond. However, this study concentrates primarily on one aspect of SEM; the college choice factors that influence enrollment decisions.

McDonough (1997) contends that research of college choice decision-making influences generally falls into one of three categories: social psychological studies, economic studies, and sociological status attainment studies. Social psychological studies typically examine students' cognitive processing of institutional characteristics in either a quantitative, qualitative, or mixed methodology; this is the primary approach utilized in the present study. Economic and

sociological status attainment studies tend to be primarily quantitative and consider return-on-investment and educational aspirations' connection with social status, respectively.

Prior research reveals that the most compelling college choice factors which students consider when selecting a postsecondary institution include: programs of study, quality of faculty, cost of attendance, reputation, facilities, and location (Connelly & Halliday, 2001; Imenda, Kongolo & Grewal, 2002; Joseph & Joseph, 2000; Klein & Washburn, 2012; Long, 2004). College choice is also linked to consumer choice based on institution-type (Moodie, 2009) or degree-type (Brint & Karabel, 1989). Research connecting socioeconomic status to college choice behavior suggests an inequality of choice, putting those in lower socioeconomic groups at a disadvantage (Engberg, 2012; Grodsky & Jones, 2007; Paulsen & St. John, 2002). Key college choice influencers include parents (Grodsky & Riegle-Crumb, 2010; Hossler, Braxton & Coopersmith, 1989), friends (Tucciarone, 2008), and high school feeder networks (Wolmak & Engberg, 2007). Determining which factors compel potential technical college students to enroll elsewhere or nowhere, coupled with actionable interventions for resolution, is the express intent of this study.

The significance of this study is to enhance strategic enrollment management efforts by informing higher education administrators about factors influencing new student enrollment. DesJardins, Dundar, and Hendel (1999) contend that "the literature on college choice is incomplete, particularly with respect to the examination of the factors affecting student choices at different types of institutions" (p. 118). They go on to suggest that understanding students' college choice factors is a critical aspect of strategic enrollment management, and that every institution has unique characteristics which influence students' college selection process.

This study fills a gap in both strategic enrollment management and college choice research by examining challenges experienced at a technical college; an institution which is part of a special mission sector of higher education (Moodie, 2009). As such, the study is clearly informative to other technical colleges, as well as a number of community colleges with a technical education emphasis. Further, the research is transferable and beneficial to any college or university with an open admission policy. When implemented properly, optimal SEM practices aid both the implementing institution and students that it serves (Hossler, 1984).

Using a well-informed strategic enrollment management plan, an institution stands to enjoy not only additional revenue, but also an enhanced reputation among prospective students, their parents, community members, and peer institutions. This is accomplished through a concurrent improvement in matriculation, retention, and graduation rates; a byproduct of the pre-enrollment attrition of financially-needy, high risk students. This in turn, creates a cyclical pattern of enrollment growth and maximization, generating additional revenue (Helmelt & Marcotte, 2011).

A well-informed enrollment management plan also serves prospective students by right-sizing aspects like cost of attendance, facility capacity, and student-to-faculty ratio. With such knowledge, students are empowered to either engage or disengage in paying what the market will bear in order to attend the institution (Carter & Curry, 2011). Further, as institutions reinvest portions of surplus revenue into student-friendly offerings such as additional academic programs, expanded support services, and upgraded amenities, students stand to benefit all the more (Bradbard, Robbins & Alvis, 2011).

Research Questions

Primary Question:

- What actions will motivate a greater proportion of admitted students to enroll at a technical college?

Secondary Questions:

- What factors influence the matriculation decision of students admitted to a technical college?
- Under what circumstances will non-enrolling students reconsider their decision?
- Which positive influences can the technical college accentuate to persuade more students to enroll?

The Conceptual Framework

Researcher stances and experiential base. The researcher's conceptual stance is a primarily postpositivist viewpoint. According to Bloomberg and Volpe (2012), this suggests a perspective that reality exists, reality is observable, and reality is objective. As such, the researcher is inclined to embrace studies that are data-driven and systematic. Bloomberg and Volpe (2012) state that "the problems studied by postpositivists typically examine causes that influence or affect outcomes" (p. 28).

The research's experiential base is set in the field of institutional research. Institutional research is difficult to define because it encompasses a variety of activities that tend to change based on the differing needs of colleges and universities. After struggling to define the occupation to a stranger in an elevator, Terenzini (1993) reviewed all known definitions and used them to establish this seminal definition of the profession:

> The underlying view of institutional research taken here comes from Wilensky (1969) and Fincher (1978), who view institutional research as "organizational intelligence," as

> "a professional, technical specialty with strong resources and capabilities for policy related research in institutions of higher education" (Fincher, 1985, p. 34). (p. 3)

Leimer (2011), citing the works of Howard (2001), Knight (2003), and Saupe (1990), offers a modern, practical definition of institutional research as "providing data and conducting research and analysis that supports the institution's enrollment goals, planning, assessment, program review, policy formation, and decision-making as well as accountability and external reporting" (p. 3). The researcher is indeed shaped by years of work dedicated to supporting the betterment of colleges and universities. It is these experiences that lead the researcher to opt for an action research design which serves the interest of the host institution.

Conceptual framework. Hossler and Gallagher (1987) find that prospective college students progress through a three-stage matriculation process. Initially, students narrow their scope of potential colleges and universities by demonstrating a predispositional affinity toward certain institutions. Next, students focus their search by comparing and contrasting finalist institutions. Finally, students arrive at a decision point and choose their preferred institution.

The conceptual framework for this research integrates Hossler and Gallagher's (1987) three-phase college choice model with elements pertinent to the study at hand. A graphical representation of this framework follows.

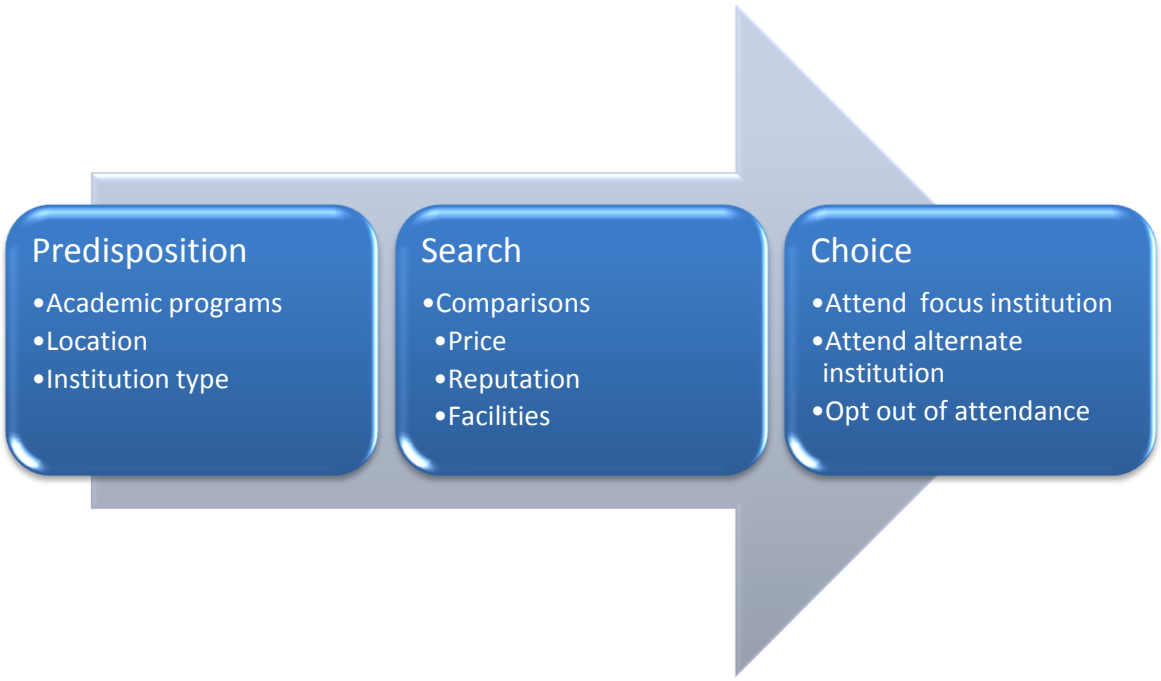

Figure 1. Concept Map.

Cabrera and La Nasa (2000) affirm this three-phase college choice model and use it as a foundation whereby they incorporate and synthesize other literature on the topic. Citing Nora and Cabrera (1992), Cabrera and La Nasa present stages, factors, and outcomes for each of the three steps in the college choice process. They suggest that the predisposition stage typically develops during grades 7-9 based on factors including parental encouragement and support, socioeconomic status, and student ability, leading to outcomes such as enrollment in college-bound curriculum and educational, career, and occupational aspirations. The search stage generally occurs during grades 10-12 involving factors like high school academic resources and saliency of potential institutions, bringing about outcomes associated with listing, narrowing, and exploring tentative institutions. The choice stage takes place during grades 11-12 with aspirations, socioeconomic status, and institutional attributes considered among other factors,

which lead to awareness, preparation, application, and attendance outcomes. Cabrera and La Nasa go on to demonstrate that many of these factors and outcomes do not operate in isolation with each stage of the college choice process; rather they interact with one another and are heavily influenced by parental encouragement and involvement and the student's educational and occupational aspirations.

The problem addressed in this study is under-informed enrollment management practices in higher education; a challenge directly confronting a technical college. Employing a mixed methods approach, this study collects data related to the problem through three vehicles. First, admitted students complete a questionnaire asking them to evaluate predisposition, search, and choice factors that comprise their decision to enroll or not enroll at a technical college. Second, select non-enrolling students are invited to participate in a brief telephone interview regarding circumstances that might persuade them to reconsider enrolling at a technical college. Third, select enrolling students are invited to participate in a focus group discussion concerning factors and influences that compelled them to attend the technical college.

Hossler and Gallagher's (1987) three-phase college choice model provides a practical framework for examining the pertinent aspect to the technical college's under-informed enrollment management problem. From these key elements emerge three, broad questions considered in this study. The following questions form the basis of this thesis' literature review.

1. Predisposition: What does the research say about the characteristics of a technical college, which may predispose the attendance of distinctive student populations?
2. Search: What does the research say about external influences and the perceived college choice factors of matriculating students?

3. Choice: What does the research say about institutional enrollment management practices, specific to the student matriculation process?

Enrollment management literature came into prominence with the contributions of Don Hossler during the 1980s and 1990s. His 1984 book titled *Enrollment Management: An Integrated Approach*, is still relevant and informative thirty years later. Today, Stephen DesJardins is among the leading scholars studying enrollment management. Though postsecondary enrollment management research is readily available, little is known about the matriculation practices of students interested in technical colleges.

Understanding the role of technical colleges in higher education is a foundational and contextual piece; appropriate considering the study setting. Arthur Cohen and Florence Brawer present vocational education as a core component of the American community college tradition. Steven Brint and Jerome Karabel argue that families pursuing the American dream desire the higher status and income potential of bachelor's degrees over associate degrees or certificates; forcing 2-year colleges to wrestle with a mission of providing transfer versus terminal education. Gavin Moodie also contributes to the classification and hierarchy of career and technical education in society today.

College choice research is a relatively new phenomenon. Several co-authored works by Michael Paulsen and Edward St. John are among the most prominent in this field of study. Their research tends to focus on the interaction of college choice and student persistence. Stephen DesJardins also pays special attention to college choice factors as a component of his enrollment management research.

Definitions of Terms

For the purpose of this research study, the following terms were selected to be identified and defined:

Career and Technical Education (CTE). The National Association of State Directors of Career Technical Education Consortium (2003) characterizes career and technical education as follows:

> Career technical education provides students and adults with the technical skills, knowledge and training necessary to succeed in specific occupations and careers. It also prepares students for the world of work by introducing them to workplace competencies that are essential no matter what career they choose. And, career technical education takes academic content and makes it accessible to students by providing it in a hand-on context. (as cited in Rojewski, Asunda & Kim, 2008, p. 57)

Enrollment Management. Hossler (1984) defines enrollment management as "a process, or an activity, that influences the size, the shape, and the characteristics of a student body by directing institutional efforts in marketing, recruitment, and admissions as well as pricing and financial aid" (pp. 5-6).

Matriculate. Admission to a group, especially a college or university (Princeton University's WordNet®, n.d.).

Strategic Enrollment Management (SEM). Dolence (1998) defines strategic enrollment management as "a comprehensive process designed to achieve and maintain the optimum recruitment, retention, and graduation rates of students, where optimum is defined within the academic context of the institution" (p. 72).

Student College Choice. Hossler, Braxton, and Coopersmith (1989) define student college choice as "a complex, multistage process during which an individual develops

aspirations to continue formal education beyond high school, followed later by a decision to attend a specific college, university or institution of advanced vocational training" (p. 234).

Assumptions, Limitations, and Delimitations

Assumptions. This study assumes that student participants share truthful, thoughtful perceptions of their college choice decision-making experiences. Further, it is assumed that the attitudes of participants about college choice factors are indicative of their actual actions taken in enrolling at a postsecondary institution. Finally, the interventions proposed by assume that future matriculating students of a technical college will behave similar to the students who participated in the study.

Limitations. Regarding the study's methodology, one limitation is that it lacks the random assignment of subjects; the entire population of admitted students was invited to participate. This creates the potential for response bias in the variables studied and limits generalization. A related limitation is the fact that no information exists about non-respondents. This raises questions about the majority of the population concerning their indifference, inability, or unwillingness to participate.

The utilization of a proprietary survey instrument limits the ability to alter the type of quantitative data collected. This problem is further limited by the fact that data collection methodology is pre-determined by the focus institution. Additionally, reliability and validity statistics are not available from the survey research firm.

Delimitations. This study is delimited by its site. The utilization of a lone, technical college limits the generalizability of the findings. This site is chosen for convenience and accessibility. Also, the methodology is restricted to the study of a single cohort of matriculating

students. This point-in-time approach is less favorable than the stabilizing effect of analyzing data across numerous cohorts over a period of years.

Summary

The central question of this study asks: What actions will spur more admitted students to enroll at a technical college? This implies a problem associated with under-informed enrollment management; a problem evident in persistent, declining enrollment totals at a technical college. The results of this study are meaningful to various constituents throughout higher education administration. Those interested in learning more about enrollment management practices, college choice factors, and technical colleges are likely to come away with a deeper understanding as these areas are further examined herein.

Chapter 2: Literature Review

Introduction

How can a technical college garner enrollment commitments from a greater percentage of its matriculating students? Any attempt to properly address this question must begin with a knowledge base drawn from existing scholarly literature related to the subject matter. As such, the purpose of this review is to explore and assess enrollment management strategies as they relate to college choice factors that influence enrollment decisions at a technical college.

This chapter expounds upon the conceptual framework presented in the preceding chapter by linking it to relevant literature topics. Three literature streams—strategic enrollment management, college choice factors and external influences, and postsecondary career and technical education—are then evaluated for research specific to student recruitment and matriculation, student characteristics and institutional characteristics, and the role of technical colleges in high education, respectively.

Conceptual Framework

The conceptual framework for this study builds upon Hossler and Gallagher's (1987) three-stage matriculation process for prospective college students. In the first stage of their model, they suggest that students demonstrate a predisposition toward certain institution-types or institutional characteristics. This allows the prospective college student to quickly narrow their list of potential postsecondary homes to a handful of attractive candidates. The second stage of their model sees the students evaluating these institutions against one another in order to arrive at a decision point. The third and final stage of Hossler and Gallagher's model is where the students choose to enroll at their preferred institution, or perhaps decided that higher education is not in their best interest at this time. These stages are depicted graphically below.

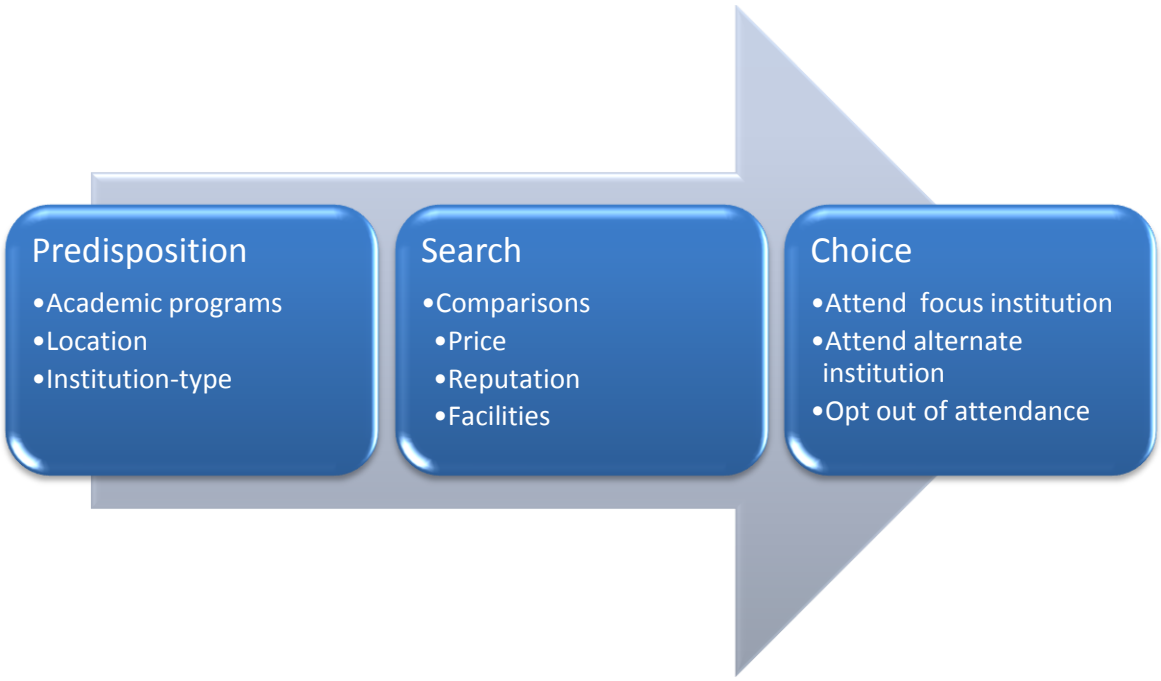

Figure 2. Concept Map.

The problem addressed in this study is under-informed, strategic enrollment management in higher education. This framework provides a practical landscape for exploring the key elements of the problem. From these key elements emerge the three broad questions considered this study. They are:

1. What is the institution's response to the problem?
2. What is the student's response to the problem?
3. How does institution-type factor into the problem?

These questions form the basis of the literature review. They are all considered under the broader context of addressing an enrollment management challenge. A graphical representation of these relationships is presented in Figure 3.

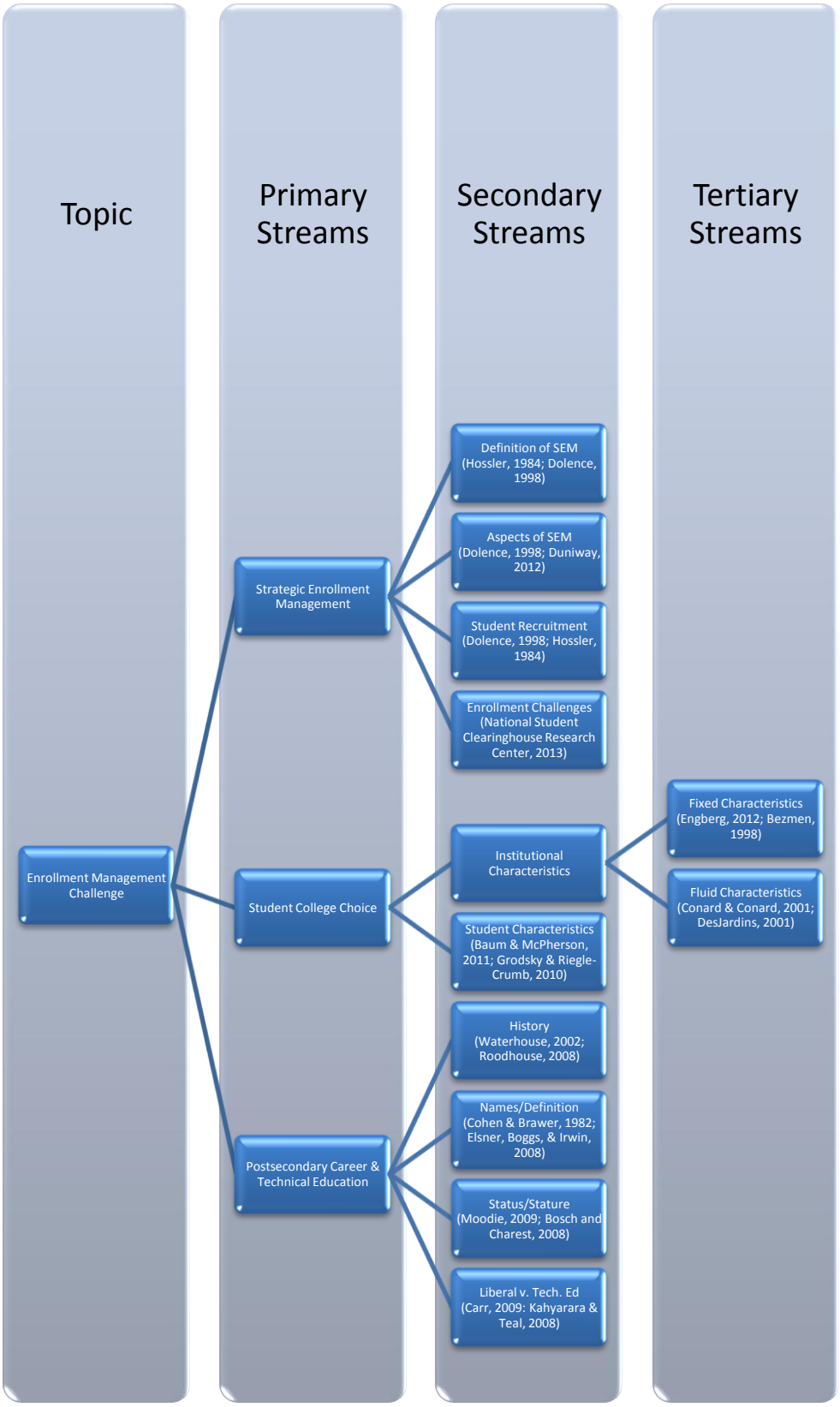

Figure 3. Literature Map.

This literature map illustrates the structure of the literature review that follows. Within the three major research streams lie sub-streams that require special attention. The strategic enrollment management stream defines the concept, explores its various aspects, further examines the student recruitment aspect, and considers enrollment challenges in higher education today. Next, student college choice research is evaluated with respect to the characteristics of students, and the fixed and fluid characteristics of institutions. Finally, the postsecondary career and technical education stream presents a historical background, discusses definitional challenges, considers positional status, and contrasts the traditional liberal arts education with the modern technical education.

Literature Review

This literature review consists of three streams or themes, each connected to an enrollment management challenge at a technical college. The first stream examines aspects of strategic enrollment management in higher education. The second stream investigates college choice factors based on student and institutional characteristics. The third stream explores the unique role of technical colleges within the context of higher education worldwide. Together the themes support the research problem by addressing the key elements of the study.

Strategic enrollment management. The first of three literature review streams considers strategic enrollment management (SEM) in higher education. This section begins by highlighting the difference between *enrollment management* and *strategic enrollment management*. This piece is followed by a description of the numerous, common aspects of SEM. Next, one aspect of SEM, student recruitment, is considered in greater detail. Finally, a landscape of declining enrollment demonstrates the growing need for SEM.

Defining strategic enrollment management. Though the terms *enrollment management* and *strategic enrollment management* are often used interchangeably, there exists a subtle but important distinction between the two concepts. *Enrollment management* occurs at every college and university as administrators conduct the routine activities associated with shepherding students through the matriculation process. *Strategic enrollment management* involves a level of intentional coordination which is absent in ordinary enrollment management processes. For example, open admission institutions historically engage in common enrollment management practices; registering students but exerting little influence on the characteristics of their student bodies. Highly selective, private institutions historically engage in strategic enrollment management practices; recruiting and enrolling students based on ability, worldview, facility capacity, institutional mission, and other factors.

These distinctions between *enrollment management* and *strategic enrollment management* are evident in the following definitions. Hossler (1984) defines enrollment management as "a process, or an activity, that influences the size, the shape, and the characteristics of a student body by directing institutional efforts in marketing, recruitment, and admissions as well as pricing and financial aid" (pp. 5-6). Dolence (1998) defines strategic enrollment management as "a comprehensive process designed to achieve and maintain the optimum recruitment, retention, and graduation rates of students, where optimum is defined within the academic context of the institution" (p. 72). Unless otherwise indicated, Dolence's definition for strategic enrollment management is utilized herein.

Aspects of strategic enrollment management. Why is strategic enrollment management important? Dolence (1998) outlines several goals of SEM which reveal its value. He contends that the goals of SEM are to sustain enrollments, manage academic program alignment, stabilize

finances, optimize resources, enhance services, advance quality, improve access to information, limit exposure to external forces, and to assess strategies and tactics.

Strategic enrollment management in higher education involves a variety of interrelated parts. Duniway (2012) suggests that the common aspects of SEM include the following: prospecting, applications, admits, yield, discounting, retention, graduation, academic progress efficiency, and managing course section offerings. Student progress tracking spans all of these areas and is an important SEM performance assessment tool. Hartunian (2011) argues that senior leadership must be intimately involved in communication, planning, and data analysis monitoring for successful strategic enrollment management.

Dolence (1998) offers examples of key performance indicators appropriate for tracking the progress strategic enrollment management goals. Some performance measures include recruitment yield, average SAT score, full-time equivalent student enrollment, net tuition revenue, student/faculty ratio, retention and graduation rates, average student debt burden, job placement rate, and the value of endowment. Duniway (2012) contends that establishing benchmarks for aspects such as these is imperative for proper self-evaluation.

The role of student recruitment in strategic enrollment management. Dolence (1998) identifies four phases of the strategic enrollment management process. The phases of the process, in their order of occurrence, are identification, recruitment, retention, and sustaining. In the identification phase, the institution emphasizes marketing efforts hoping to attract potential students to examine the school. During the recruitment phase, the institution initiates admission and matriculation procedures, seeking an enrollment commitment from the students. In the retention phase, the institution supports the students throughout their journey inside the academy.

During the sustaining phase, the relationship switches such that the institution now seeks the support of its graduates and alumni.

The student recruitment phase of strategic enrollment management receives special attention here because it is the area of focus for this study. In 1999, DesJardins, Dundar, and Hendel acknowledged that the importance of student recruitment grew considerably in the preceding two decades. Now more than a decade later, postsecondary student recruitment continues to be a compelling issue and a worldwide concern (Obermeit, 2012), due in part to declining enrollments throughout American higher education (National Student Clearinghouse Research Center, 2013); a matter taken up latter in this thesis. Another contributing factor is that U.S. colleges and universities are becoming less selective over time (Hoxby, 2009). Growing competition for a shrinking number of potential students raises the profile of recruitment efforts to an all-time high.

Duniway (2012) purports that all colleges and universities seek to optimize recruiting and enrolling new students. DesJardins, Dundar, and Hendel (1999) add that numerous institutions "engage in various forms of marketing and recruitment activities and seek ways to make themselves more attractive than other institutions in the eyes of prospective students" (p. 118). As such, informed and effective enrollment management is vital to institutional success in a competitive marketplace.

Hossler (1984) addresses this phase of the enrollment management process as "recruiting graduates" (p. 69). The implication here is that the generic recruiting of students is simply not sufficient for strategic enrollment management. Rather, he advocates for targeted recruitment initiatives based on a suitable student-institution fit. Rosen, Curran, and Greenlee (1998) find that enrollment can be influenced through targeted recruitment actions intended to generate early

awareness in the brand elimination process. More specifically, Weiler (1994) "found that the match between a student's preferences and an institution's characteristics is the most critical factor influencing the decision to apply (as cited in DesJardins, Dundar & Hendel, 1999, p. 119). Targeted recruitment efforts are determined based on the optimal qualities and characteristics of student-predecessors who successfully achieved graduate and alumni status.

Enrollment challenges. Declining enrollment is a nationwide concern across nearly all sectors of higher education. The National Student Clearinghouse Research Center (2013) reports overall enrollment decreases for three consecutive terms (see Figure 1). Most recently, enrollment for all sectors is down 2.3%. The 2-Year Public sector, accounting for most community colleges and technical colleges, endured enrollment decreases greater than the national averages each of the past three terms.

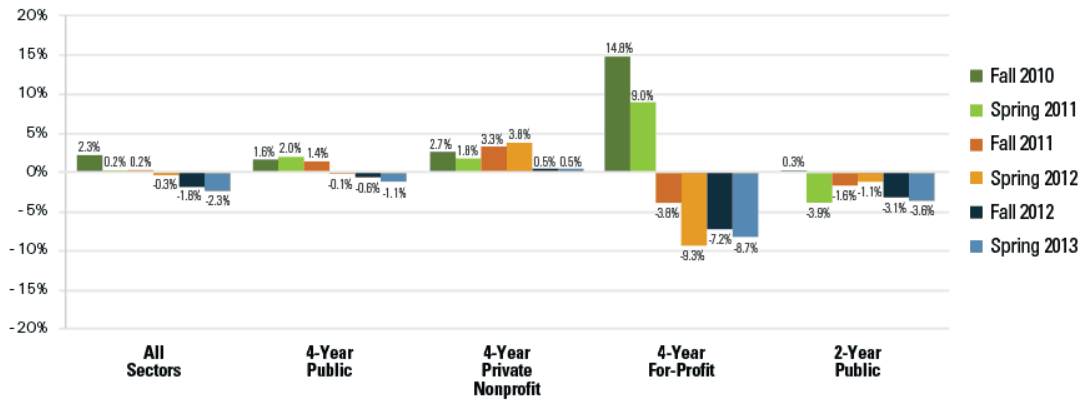

Figure 4. Percentage Change from Previous Year, Enrollment by Sector (Title IV, Degree-Granting Institutions) from the National Student Clearinghouse Research Center (2013) report *Current Term Enrollment Estimates: Spring 2013.*

It is also important to consider enrollment trends by region; lest a sector be immune to enrollment decline due to a favorable location. The National Student Clearinghouse Research Center (2013) estimates of Spring 2013 enrollment percentage changes from the prior year show

declines across all regions. Specifically, the year-to-year enrollment decreases by region are as follows: Midwest (-2.6%), Northeast (-0.9%), South (-2.2%), and West (-1.7%).

"For the small college experiencing enrollment challenges, understanding specifics that impact the efficacy of practices at the local level is crucial" (Chow, 2012, Abstract). For example, Imenda, Kongolo, and Grewal (2002) examined factors contributing to declining enrollment. They surveyed students about the decision to enroll at the University of Transkei. They found that affordability and career direction were the two primary influences in enrollment decisions.

Synopsis. Maltz (2007) suggests that SEM is a crucial process for tuition-dependent colleges and universities. As state appropriations have become a smaller percentage of the operating budgets of publically-supported institutions (Hillman, 2012; Shaw, 2011), colleges and universities are now forced to consider enrollment management strategies like never before (Lipka, 2011). As such, it is important to have a foundational understanding of this timely topic.

Dolence (1998) cautions that strategic enrollment management takes several years to fully implement and "is not a quick fix" (p. 74). Nevertheless, it is worth the effort in order to combat declining enrollments. Though SEM is a holistic, relational process, a critical aspect is student recruitment. The matriculation of likely-to-succeed students is the lifeblood of all colleges and universities.

Student college choice. This second of three literature review streams looks at existing research on the topic of college choice. College choice is an important aspect of the student recruitment phase of the strategic enrollment management process. DesJardins, Dundar, and Hendel (1999) express the importance and explain the connection between the two as follows:

> An understanding of student choice decision-making has become a primary part of effective strategic enrollment management. Effective strategic enrollment management depends on a better understanding of the timing and nature of students' search processes and knowledge about which student and institutional characteristics are most important in the student college choice process. (p. 118)

Today, college choice research is a global concern. Canada, Germany, Indonesia, South Africa, Turkey, the United Kingdom, and the United States of America are just some of the countries where college choice research is occurring. College choice research is also conducted at a variety of tertiary institutions: public and private, small and large, undergraduate and graduate.

Like DesJardins, Dundar, and Hendel (1999), Hossler (1984) suggests that the study of college choice involves two primary areas; student characteristics and institutional characteristics. Student characteristics include personological variables such as ability, socioeconomic status, significant others, aspirations and values, demographic characteristics, residence characteristics, high school characteristics, and expectations of college. Hossler (1984) delineates institutional characteristics into two groups; fixed and fluid characteristics. Fixed characteristics include aspects such as "location, the campus environment, the programs, the size, public versus private, and the relative price (high cost, moderate cost, or low cost) of the institution" (p. 41). Examples of fluid characteristics include net pricing strategies, academic program mix, and institutional communication practices.

Building on Hossler's framework, the college choice research discussed in this section is divided into two major components: institutional and student characteristics. Per Hossler, the

institutional characteristics are examined in two parts: fixed and fluid. Student characteristics are reviewed as a single unit.

Institutional characteristics. After reviewing prior college choice research, Sekely and Yates (1991) conclude that certain factors consistently appear as significant, institutional attributes in the college choice process. They suggest that "the variables which tend to be important include the academic quality of the institution, quality of the students' preferred majors, scholastic standards, cost of the education, characteristics of the campus life, and socioeconomic considerations" (p. 87). Now more than two decades later, it is time to ask: Are these still the most important factors?

Fixed institutional characteristics. Hossler (1984) identifies gross tuition price as one of several fixed institutional characteristics. Gross tuition price is also known as published price or sticker price. Although tuition changes annually at most institutions, it is relative stable when comparing one sector of higher education against another. For example, community colleges are generally considered less expensive than private colleges.

Unlike Hossler, Chapman (1981) identifies net price as a fixed institutional characteristic influencing college choice. Although the influence of gross tuition price or sticker price is addressed in other college choice literature, it is more commonly studied within the context of net price or total college cost. From the student's or parent's bottom line perspective, college cost encompasses tuition, fees, room, board, and other miscellaneous expenses less tuition discounts, scholarships, grants, loans, and all other financial aid that defrays the cost of attendance. Admittedly, actual institutional flexibility with respect to financial aid administration is a debatable point.

Researchers find a significant relationship between pre-matriculation perceptions of college costs, socioeconomic status, and attendance rates (Grodsky & Jones, 2007; Paulsen & St. John, 2002). Generally, students from lower income families are less informed about both college sticker prices and the net cost of attendance. These factors hinder many underprivileged students from pursuing higher education. Long (2004) affirms these trends while examining student enrollment behavior across three decades.

Bezmen (1998), studying 772 U.S. postsecondary institutions, finds cost to be a meaningful college choice factor relative to institutional characteristics on two fronts. She explains that high out-of-state tuition rates signal quality and yield more applicants to an institution; yet high in-state tuition rates discourage applicants away from the institution and toward lower-cost alternatives. She also finds that applicants from private high schools tend to be less price sensitive than public school applicants.

Another fixed institutional characteristic commonly studied in scholarly literature is location (Chapman, 1981; Hossler, 1984). Turley (2009) argues that an institution's proximity to likely students is a compelling college choice factor that is often overlooked. Other researchers find that nearness is an important college choice factor, but add that academically talented students are willing to travel farther away to pursue higher education (Hoxby, 2009; Wilson & Adelson, 2012). Interestingly, Simonsohn (2010) finds that inclement weather, specifically increased cloudcover, during a prospective student's campus visit, increases the likelihood of matriculation.

Hossler (1984) also suggests that institution-type and academic program orientation are universal, fixed institutional characteristics. Institution-type involves level on control (e.g., public, private) and traditional mission (e.g., research, liberal arts, technical). Academic

program orientation is closely linked to institutional mission (e.g., philosophy at a liberal arts college, welding at technical college).

Regarding institution-type, Perna and Titus (2004) contend that certain state policies impact college choice. Specifically, they confirm a relationship between institutional enrollment and state policies tied to direct appropriations, tuition, financial aid, and K-12 academic preparation. Though Perna and Titus (2004) did not find a connection with socioeconomic status, Engberg (2012) did find such a connection while comparing enrollments of institutions with differing levels of selectivity for admission. His findings align with the works of many others; the college choice decisions of students from low socioeconomic backgrounds are disproportionately represented in institutions with lower entrance requirements.

Conard & Conard (2001) address issues related to academic program orientation. They conclude that curriculum rigor and individualized attention predict high school graduates' desire to attend college. Chapman (1981) adds that "(s)tudents select colleges in which they believe they can get the courses they need to enter graduate school or to get jobs" (p. 497).

Fluid institutional characteristics. Fluid institutional characteristics are aspects of the academy which can be altered in a relatively short period of time. For example, Hossler (1984) considers institutional aid policies, academic support and social programs, and college communication strategies to be malleable characteristics of colleges and universities. Examinations of similar examples drawn from recent studies are necessary in order to determine the significance of fluid institutional characteristics on college choice.

Several researchers examine the effects of institutional aid policies (Braunstein, McGrath & Pescatrice, 1999; DesJardins, 2001; Hillman, 2012). These types of studies may also fall under the monikers of "tuition discounting" or "net tuition price." Nevertheless, they

collectively and consistently find positive correlations between aid awarded and enrollment decisions.

Conard and Conard (2001) also study the impact of certain fluid institutional characteristics. Their survey of high school seniors finds that individualized attention from faculty and curriculum rigor are predictive of a prospective student's desire to attend a postsecondary institution. However, they also find that social/cultural activities and class size do not predict desire to attend.

Chapman (1981) includes college communication efforts among his list of external influences on student college choice. He finds that growing competition among colleges and universities is driving heightened awareness of marketing efforts in order to attract students deemed unlikely to attend of their own accord. Yet he concedes that "there is very little research that actually documents its effectiveness in attracting students to make college choices they might not otherwise have made" (p. 498).

Student characteristics. Grodsky and Riegle-Crumb (2010) contend that many students do not make planned, optimal decisions about higher education. Rather, they suggest that many students are either predisposed to attend college or not based on social background. Those predisposed to attend college may also be influenced to select particular institution-types.

Socioeconomic status (SES) is arguably the most studied factor in college choice research, serving as a primary or prominent component of numerous works (Braunstein, McGrath & Pescatrice, 1999; Engberg, 2012; Grodsky & Jones, 2007; Grodsky and Riegle-Crumb, 2010; Paulsen & St. John, 2002; Perna & Titus, 2004). A common theme among these studies and others is that students from low SES families have limited postsecondary choices, whereas students from high SES families enjoy significantly better opportunities for higher

education. Further, Chapman (1981) suggests that "Socioeconomic status acts as a backdrop that influences a series of other attitudes and behaviors that, in turn are related to college choice" (p. 493).

McDonough's (1997) qualitative college choice study considers "how a student's social-class background and the high school's social and organizational contexts shape a senior's choice about higher education" (p. 8). Interviewing twelve students from four California high schools, their best friends, their parents, and their guidance counselors, McDonough finds that "(s)tudents make college choices in the context of implicit and explicit messages from their social and organizational networks" (p. 149) and that socio-economic status influences both college enrollment and college location decisions. She argues that the students' college choice process is complex and largely uninformed; rending purely rational models of consumer choice or return-on-investment, useless.

Student demographics are another frequently studied factor in college choice research (Braunstein, McGrath & Pescatrice, 1999; Geiser & Caspary, 2005; Shaw, Kobrin, Packman & Schmidt, 2009). Gender, race/ethnicity, and age are examples of typical demographic variables employed for parsing information into meaningful subgroups for analysis. Racial minorities are a particularly popular target group among researchers. Like students from low SES families, racial minority students are generally found to be disadvantaged in college choice options compared to their racial majority counterparts.

Prominent among college choice research specific to racial/ethnic groups is the work of Hurtado, Inkelas, Briggs, and Rhee (1997). Their analysis of data from the National Educational Longitudinal Study of 1988 (NELS:88/92) and the Beginning Postsecondary Student Longitudinal Study of 1990 (BPS:90/92) uncovers several interesting group differences that

compel colleges and universities to reconsider policy decisions which affect these populations. Hurtado et al. (1997) find college preparation behavior strongest among Asian/Pacific Americans and weakest among Hispanic/Latinos. They find a similar trend in the number of colleges to which students apply, with Asian/Pacific Americans likely to apply to the most institution and Hispanic/Latinos likely to apply to the fewest institutions. Finally, they determine that Black/African Americans are significantly less likely to attend their first choice institution.

Chapman (1981) identifies additional student characteristics influencing college choice: student aptitude, level of educational expectation and aspiration, and high school performance. Student aptitude influences achievement, performance, and institution selection. Level of educational expectation and aspiration is positively correlated with attendance at private undergraduate institutions and graduate study. High school performance, a known criteria colleges use to assemble their student body, is a characteristic prospective students use to self-select institutions that they perceive as likely to admit them.

Interestingly, Baum and McPherson (2011) contend that high achieving students applying to numerous prestigious colleges and universities, a common stereotype in popular culture, are the exception, not the norm. More typical is a student from a low-income family who considers a community college, a for-profit institution, the military or entry-level employment. They also note that most students, including both high achieving students and students from low-income families, apply to and are admitted to exactly one institution. This student characteristic debunks a popular myth, and suggests that abundant college choice is not a widespread phenomenon.

Synopsis. The literature pieces reviewed combine to support the proposed study by highlighting shortcomings of prior research. Inconclusive, mixed, and statistically insignificant findings are common outcomes of past studies. This information compels the proposed study to

consider the limitations of prior research and where possible, to address and correct identified weaknesses.

Did institutional characteristics change over the past couple of decades? Results from the preceding studies, tending to focus on a particular institutional attribute, are mixed. Perhaps a review of the findings from more-inclusive, comprehensive research is warranted. Such studies, presented chronologically, are briefly considered below.

Weiler (1994) identifies location, SAT scores, cost, family income, academic ability as significant college choice factors. DesJardins, Dundar, and Hendel (1999) find that the college choice process in interactional, relying on an interplay of student and institutional characteristics. Their review of existing literature reveals the following:

> Studies of college choice behavior suggest that the characteristics of students (e.g. race, gender, marital status, family income, parents' educational attainment and occupational status, academic ability and achievement), institutional characteristics (e.g., tuition, financial aid, home location, reputation, selectivity, special programs and curriculum); and contextual factors (e.g. parental encouragement, teacher encouragement and peers' plans) influence students' application decisions. (p. 119)

It is not surprising that the findings of Joseph and Joseph (2000) generally align with similar studies of college choice factors. They identify the following factors as significant: course/career information, facilities, cost, major/program, and value/return on investment. What makes these results stand out is that they studied Indonesian students; suggesting that the college choice factors of an international student population are consistent with studies conducted on American students.

Connelly and Halliday's (2001) findings are especially important because they examine college choice factors in Scottish further education colleges; the European counterpart to technical colleges in the United States. They explain that financial aid and child care were the most important college choice factors of further education students. Location, reputation, and social relationships were also significant factors.

Imenda, Kongolo, and Grewal (2002) surveyed students in order to reveal factors contributing to declining enrollment. They find that enrollment decisions were most linked to affordability and career directions. Other significant factors that they identify include reputation, staff quality/friendliness, facilities, and administrative efficiency. Most recently, Klein and Washburn (2012) find the following factors significant: major/program, reputation, ideal distance from home, family interaction with institution, cost/paying, and campus environment.

For convenience, Table 1 summarizes the findings from the preceding studies in order to compare recent, significant college choice factors with those identified by Sekely and Yates (1991).

Table 1

Significant College Choice Factors Identified in Various Studies since Sekely and Yates (1991)

College choice factors	**Sekely & Yates (1991)**	Weiler (1994)	DesJardins, Dundar & Hendel (1999)	Joseph & Joseph (2000)	Connelly & Halliday (2001)	Imenda, Kongolo & Grewal (2002)	Klein & Washburn (2012)
Academic quality of institution	●		●		●	●	●
Quality of students' preferred major	●			●		●	●
Scholastic standards	●	●	●				
Cost of the education	●	●	●	●	●	●	●
Characteristics of campus life	●	●	●	●	●	●	●
Socioeconomic considerations	●	●	●				

Note. Bold indicates benchmark study for comparison.

This simple table suggests that Sekely and Yates' (1991) summary of common college choice factors hold up quite well over time. *Cost of education* and *characteristics of campus life* are consistent factors found in all of the studies. Interestingly, *scholastic standards* and *socioeconomic considerations* are not listed after 1999. Their absence does not imply that they are no longer significant factors in the college choice decision-making process. On the contrary, these two factors are sufficiently important that they are often studied independently (Engberg, 2012; Grodsky & Jones, 2007; Grodsky & Riegle-Crumb, 2010).

It is worth noting that *location* as a college choice factor is explicitly identified in several studies. In Table 1, *location* was liberally assigned to the *characteristics of campus life* category; an arguable point. Other interesting college choice factors found in recent studies that did not appear in Sekely and Yates (1991) include *return on investment* and the influence of *family and friends.*

Hossler, Braxton, and Coopersmith's (1989) review of college choice literature offers similar summaries of variables commonly studied as they relate to stages one (predisposition) and three (choice) of Hossler and Gallager's (1987) three-stage college choice model. Regarding predisposition, the following factors consistently demonstrate a strong degree of association with college-going likelihood: ability/achievement, academic track, parental levels of education, parental encouragement, and student aspiration. Regarding choice, the following factors consistently demonstrate a strong degree of association with postsecondary institution selection: ability, parental encouragement, socio-economic status, academic quality of institution, and net cost. The commonality between these factors and those presented in Table 1 suggest a consistency and reliability in the identification of influential college choice factors spanning decades of research.

Postsecondary career and technical education. The third literature review stream considers postsecondary career and technical education. Understanding the historical development of higher education which led to various types of institutions in existence today is important for contextual purposes. This sets the stage for a closer inspection of the one institution-type examined herein, technical colleges.

Career and technical education is relevant to the present study due to the setting where the research is conducted. Specifically, the data collection occurs at college of technology. As such, the literature review considers the history of tertiary, technical education and its positional value within higher education. Further, the positional value post-secondary career and technical education is also explored; that is, the strained relationship between classical, liberal arts education, in opposition to a practical, technology-based education.

The history of technical education. Waterhouse (2002) suggests that technical education became a specific social institution when vocational techniques reached a level of complexity and sophistication that exceeded basic job training. Roodhouse (2008) adds that formal, technical education began with and grew from the apprenticeship system in Europe; a practice that continues to this day both in Europe and throughout the world.

Roodhouse (2008) goes on to describe how technical education transitioned from apprenticeships to a structured educational system. In 1775, France established the Hautes Ecoles (literally in French "higher schools"). These institutions filled a void between secondary schools and classical liberal arts universities, and are the forerunners of the modern-day technical colleges. Roodhouse explains:

> They were dedicated to practical and technical learning – astronomy, geometry, mechanics, applied arts, natural history, medicine, veterinary science and rural economy, and new industries of their day – comparable to media studies or business and management. These actions were indicative of an explosion in technical knowledge during the seventeenth and eighteenth centuries, which had occurred almost entirely outside the universities. Investigation, experimentation and learning had largely taken place without formal structures or teaching institutions; the Hautes Ecoles were designed to help put this technical knowledge into practice and fuel the Industrial Revolution. (p. 56)

Defining technical education. Elsner, Boggs, and Irwin (2008) contend that due to today's global economic interconnectedness, the demand for low-cost, open, and responsive tertiary education with close ties to business and industry, is imperative. This sector of higher education is growing worldwide; however, it goes by many different names within and among

nations. Elsner, Boggs, and Irwin offer the following list of monikers for postsecondary, technical education institutes: "community colleges, technical colleges, technical universities, polytechnics, further education (FE) institutions, technical and further education (TAFE) institutions, institutes of technology, colleges of technology, and junior colleges" (p. ix). For simplicity, these institutions are collectively and generically addressed as *technical colleges* herein.

Similarly, in discussing the career education aspect of the American community college, Cohen and Brawer (1982) explain that "The terminology of career education has never been exact: The words *terminal, vocational, technical, semiprofessional, occupational*, and *career* have all been used interchangeably or in combination, as in *vocational-technical*" (pp. 193-194). They go on to note that "*Technical* implied preparation for work in scientific and industrial fields" (p. 194). This is an important characteristic of technical colleges that distinguishes them from community colleges whose curricular functions typically include "academic transfer preparation, vocational-technical education, continuing education, remedial education, and community service" (p. 15).

The National Association of State Directors of Career Technical Education Consortium (2003) defines career and technical education as the act of providing "students and adults with the technical skills, knowledge and training necessary to succeed in specific occupations and careers" (as cited in Rojewski, Asunda & Kim, 2008, p. 57). They add that career and technical education adapts academic content into a format suitable for hands-on learning styles, and that general workplace competencies are taught which are transferrable to any career field. For the purposes of this monograph, the terms *technical education* and *career and technical education* are synonymous. However, they should not be confused with other related terms like

adult/continuing education (i.e., aimed at mature men and women) or vocational education (i.e., exclusively trade-oriented).

The status of technical education. As institutions of higher education diversified over time, they also became stratified. Moodie's (2009) qualitative, expository study drawn from historical scholarly literature suggests that nearly all tertiary educational institutions now fall into one of four categories: world research universities, selecting universities, recruiting universities, and vocational institutes. Key findings revealed that these tiers aligned with prior research, and that societal, positional values determined the hierarchical order placement of the four tiers. In essence, world research universities are thought to be more valuable than selecting universities, which are thought to be more valuable than recruiting universities, which are thought to be more valuable than vocational institutes.

Technical education is further delineated by the economic stance of the host country. Bosch and Charest (2008) argue that in coordinated market economies, technical education is considered an innovation asset to the economy. However in liberal market economies, technical education is thought to be a dumping ground for weaker pupils.

Positional value notwithstanding, technical education is a topic of global importance in recent years. Technical colleges or vocational institutes are the focus of numerous studies worldwide. For contextual purposes, a sampling of countries represented in tertiary technical education research include: Australia, Canada, Denmark, Germany, Korea, Romania, Singapore, Switzerland, Taiwan, Tanzania, the United Kingdom, and the United States of America.

The scholarly literature published about vocational education is not only global, but also varied. Rojewski, Asunda, and Kim (2008) report on this assortment when they reviewed current trends in Career and Technical Education (CTE) research. Their key findings suggest

that quantitative studies are the most prominent type of research conducted; focusing on topics of instructor recruitment and retention of CTE professionals, instructor preparation and certification, and instructional approaches.

Liberal versus technical education. What is the purpose of higher education: to develop an academically astute, well-rounded citizenry or to provide comprehensive career training? Is it possible to accomplish both at the same time? These questions have plagued technical education since its inception, and are thus worthy of consideration herein.

Carr (2009) explains that the purpose of higher education has long been a controversial subject; particularly the dichotomy between the liberal and the vocational dimensions of university education. The fundamental issue is proper preparation for civic responsibility and engagement. Bierlein Palmer and Gaunt (2007) argue that secondary CTE students perform lower academically and face greater economical challenges than non-CTE students. Another aspect of this dispute is price. Becker and Hecken (2009) contend that the cost of higher education drives some students away from expensive universities and toward cheaper technical institutes.

An additional, common consideration in the debate about liberal versus technical education concerns the economic concept of return on investment. Here, the investment is the cost of the education. Typically, a vocational education is less expensive than an academic education for reasons that include shorter degree lengths and lower paid faculty. The return on investment is based on wages earned over a period of time; typically a lifetime. Kahyarara and Teal (2008) and Keng and Lo (2011) agree that the long-term return on investment of a liberal education is greater than that of a technical education.

However, Kahyarara and Teal (2008) also assert that for lower level jobs, technical education actually yields a better long-term return on investment than traditional, academic preparation. This is significant as more and more liberally educated students enter a job market that is oversaturated with equally credentialed employment seekers. Further, Symonds (2012) suggests that these academics do not have appropriate technical skills to work in lower level jobs.

These factors led to a recent resurgence in the demand for career and technical education (Fertig, 2011). This revival stands to benefit not only qualified individuals, but also the economy as a whole. This is because Vu, Hammes, and Im (2012) argue that vocational education has a greater effect on economic growth than liberal education.

But can the dichotomy between technical and liberal education be resolved? Several recent studies suggest that common ground is available. Symonds (2012) is a proponent for offering or reemphasizing multiple career pathways to matriculating college students. Harris and Rainey (2012) and Harris and Ramos (2012) advocate for a hybrid education that fully incorporates the vocational and the academic. Tuor and Backes-Gellner (2010) add that such hybrid-educated students are well rewarded in the labor market in both employment rates and wages.

Synopsis. The American Association of Community Colleges (n.d.) asserts that the sector of higher education they represent has demonstrated throughout its history, a swift adaptability to changing societal workforce demands. As they look to the future, the Association states that "(t)echnology is the driving force behind the newest test of community college's agility" (para. 2). They acknowledge that the sector must train a labor force prepared to create, support, and adapt to rapidly changing technological advances. Technical colleges therefore, are

poised to play a major role in postsecondary career and technical education industry for years to come.

The literature pieces reviewed combine to support the present study by forming a contextual framework for the research setting. The literature demonstrates that technical colleges are underestimated, undervalued, and understudied. This research project strives to fill portions of these gaps.

Summary

Strategic enrollment management is a complex, multifaceted activity of growing importance in higher education today. Understanding impactful college choice factors based on student and institutional characteristics, is a vital component of student recruitment and sustainability. Technical colleges are an important educational sector, meeting a need for cultivating a skilled workforce.

Though presented individually, the literature review streams are not isolated entities; they overlap and interact with one another. Adams (2009), coining the term "enrollment choice," suggests that enrollment management research and college choice research must no longer remain mutually exclusive entities, but must be considered in conjunction with one another for optimal recruitment strategies. Villella and Hu (1990) link student recruitment to persistence by finding a strong positive correlation between college choice, expectations, and enrollment intent. The American Association of Community Colleges (n.d.) anticipates enrollment growth in postsecondary technical education in order to meet the emerging demands of societal advances.

These key concepts support the examination of the research problem in several ways. Optimal enrollment management practices are vital to maintain sustainable, healthy colleges and universities. Understanding that influential college choice factors are reasonably consistent over

time provides a benchmark for comparison of this study's findings. Learning that postsecondary, career and technical education is an economic asset which plays an important role in higher education suggests that a technical college is an appropriate venue for research. Hence, the nexus of these three literature streams serves as the starting point for this study.

Chapter 3: Research Methodology

Introduction

Institutional characteristics, influential advice, predisposition, demographics, socioeconomic status, financial aspects, and other factors all play a role in determining the landing site of college applicants. The purpose of this study is to identify issues which influence the enrollment decisions of students admitted to a technical college. The study addresses the following questions.

Primary Question:

- What actions will motivate a greater proportion of admitted students to enroll at a technical college?

Secondary Questions:

- What factors influence the matriculation decision of students admitted to a technical college?
- Under what circumstances will non-enrolling students reconsider their decision?
- Which positive influences can the technical college accentuate to persuade more students to enroll?

This chapter describes the methodology used to answer the preceding questions. First, the research design and rationale are explained. Second, the research site and population are considered. Next, the various research methods are presented. Finally, ethical considerations are discussed.

Research Design and Rationale

This study employed an action research design using a mixed methods approach. Stringer (2007) defines action research as "a systematic approach to investigation that enables

people to find effective solutions to problems they confront in their everyday lives" (p. 1). The rationale for utilizing an action research design was to address a local problem in a rigorous, informative manner beneficial to the educational research community. Creswell (2008) distinguishes institution-specific, "practical" action research from socially-focused, "participatory" action research (pp. 599-605). This study used a mixed methods approach to examine a problem of declining enrollment in order to present a local, practical solution.

Creswell and Plano (2007) argue that mixed methods research consists of two interrelated parts: philosophical assumptions and methods of inquiry. They contend that the philosophical assumptions "guide the direction of the collection and analysis of data and the mixture of qualitative and quantitative approaches in many phases in the research process" (p. 5). In the end, they suggest that the combination of approaches creates a synergy for understanding the research problem that is lacking using only-quantitative or only-qualitative methods.

An explanatory mixed methods design was utilized, and it involved collecting qualitative data after a quantitative phase in order to explain or follow-up on the quantitative data in greater depth (Creswell & Plano, 2007). In the quantitative phase of the study, proprietary survey data collected from applicants admitted to a technical college, revealed how college choice factors and external influences related to enrollment decisions. The second, qualitative phase was conducted to help explain or build upon initial quantitative results. In this exploratory follow-up, relevant college choice factors were tentatively explored with a population sample of both enrolling and non-enrolling students of the technical college.

More specifically, preexisting quantitative data was provided by the host site for descriptive and inferential statistical analysis of the target population. Supplemental, qualitative data was collected via interviews and a focus group. Non-matriculating students who completed

the questionnaire were invited to participate in a follow-up, telephone interview. Meanwhile, a randomly-selected group of matriculating students who completed the questionnaire were invited to participate in a follow-up, focus group discussion.

Site and Population

Population description. The general population chosen for this study included all applicants admitted to a technical college during the matriculation process leading to the beginning of the 2013-14 academic year. These admitted students were predominantly Caucasian, male, and residents of the Mid-Atlantic region of the United States. Though a majority of the population was of traditional undergraduate age (i.e., 18-22 years old), the institution did serve a sizeable adult student population who enter technical, postsecondary education seeking career advancement. The population was nearly equally split between those who intended to earn an Associate degree and those who aspired to earn a Baccalaureate degree.

The total population examined in this study included 3,248 applicants who were offered admission to the technical college. The institution administered a questionnaire to these prospective students on June 1, 2013, and the voluntary participation of these students constituted the convenience sample utilized in the study. Krejcie and Morgan (1970) suggest that an adequate, formula-driven sample size for a population of 3,248 is 344. A total of 308 students participated in the survey; thus becoming the population sample upon which this study was based.

Of the 308 respondents, 256 students indicated that they intend to enroll at the technical college, and 52 students indicated that they did not intend to enroll at the technical college. Of the 52 students who indicated that they would not enroll, 51 did not enroll. A sample drawn from this 51 student subgroup of non-enrolling students was invited to participate in interviews.

Of the 256 students who intended to enroll, 223 actually did enroll. A sample drawn from this 223 student subgroup of enrolling students was invited to participate in a focus group discussion.

Site description. The study site was a technical college in the mid-Atlantic region of the United States. The college covers nearly 1,000 acres spread across several satellite locations. The institution is publicly controlled and accredited by the Middle States Commission on Higher Education. The college provides exclusively undergraduate programming, and awards Baccalaureate degrees, Associate's degrees, and Certificates. Though the institution offers programs in over 100 different career areas, its prominent academic offerings are in the disciplines of engineering technology, health professions, mechanic and repair technologies, construction trades, computer and information sciences, and business, management, and marketing.

The technical college's total enrollment consists of nearly 6,000 undergraduates. Over 80% of its students are enrolled full-time and approximately one-third of the students live on-campus. Nearly 85% of the students are Caucasian, over 60% of the students are male, and almost all of the students are residents of the Mid-Atlantic region of the United States. While more than three-quarters of students are 24 years of age or younger, the college serves a sizable nontraditional aged student population including veterans and adults pursuing continuing education and career advancement.

Greater than 40% of all undergraduate students at the college receive federal Pell grant aid. Nearly 90% of full-time, beginning undergraduate students receive some type of financial aid. These indicators suggest that the student-body is generally comprised of students from middle- and lower-socioeconomic class families.

Enrollment in Associate degree programs is slightly greater than enrollment in Baccalaureate degree programs. These two credentials account for the vast majority of the college's students. A negligible number of students enroll as either non-degree-seeking students or in Certificate programs.

Every year, approximately 4,000 first-year students seek admission to college for the Fall semester. Typically, over 3,500 of these applicants are admitted to the institution. However, only around 1,200 choose to enroll at the college in the Fall term. This undesirable conversion or yield rate of admitted students becoming enrolled students is the central issue of the enrollment management challenge examined herein.

Site access. This study was conducted at the technical college described in the preceding text. This location was easily accessible to the researcher; one where the researcher established important relationships with top officials of the institution. Several of these college executives, including the Institutional Review Board (IRB) officer, offered preliminary, verbal permission to conduct the research at the site. This permission included the analysis of preexisting data, consent to survey students and personnel, and the use other college resources (e.g., survey software, meeting space). The researcher fully complied with all IRB procedures required by the study site.

Research Methods

The mixed methods research approach employed in this study involved one quantitative aspect and two qualitative aspects. A full description of each method follows, including instrument description, participant selection, identification and invitation, and data collection. Next, data analysis procedures are explained for each research method. Finally, the stages of data collection for each research method are presented.

Description of quantitative method used. This study drew from two preexisting quantitative data sources. The host site provided student survey data as well as related admission and enrollment data germane to the research project. These data files were subsequently merged together into one, all-encompassing data set suitable for statistical analysis.

Instrument description.

Admitted student survey data. The Admitted Student Questionnaire® (ASQ®) was the instrument providing survey data for this study. The survey was conducted by the institution prior to the commencement of the study. As such, the study examined the results generated by the survey. Nevertheless, this section presents information about the instrument selection process, the instrument content, the survey administration, and the instrument's reliability and validity.

On a three-year cycle using an internally-developed instrument, the study site institution historically conducted a survey of admitted students who elected to not enroll. This simple questionnaire asked participants to disclose factors (e.g., location, cost, facilities) that influenced their decision to not enroll at the college. As the time to deploy the survey approached, the institution took this opportunity to consider other related, proprietary instruments as potential alternatives. At this time, the institution was particularly interested in learning more about cost as a decision-making factor.

The technical college initially considered the Noel-Levitz® Price Sensitivity Analysis™ research service (Price Sensitivity Analysis, n.d.). This service consists of two elements; a competition analysis and a survey of prospective students. In the end, this option was deemed too narrowly focused and too expensive.

The institutional also considered two related-products offered by the College Board. The Admitted Student Questionnaire® and the Admitted Student Questionnaire Plus™ (ASQ PLUS™) assess factors influencing the college choice process and have been in use for over fifteen years. The questionnaires are generally administered to applicants deemed worthy of admission to the participating institution (ASQ & ASQ Plus, 2012).

Since the existing scholarly research utilizing the ASQ® and ASQ PLUS™ is almost evenly split between the two questionnaires, it is helpful to understand the difference between the instruments. The ASQ® is a wide-ranging market survey useful for broadly understanding the influences and perceptions of admitted students. A key section of the survey asks respondents to consider a series of common college characteristics (e.g., quality of faculty, variety of courses) on two levels; first rating the characteristic's level of importance (1=very important, 3=not important), and then to compare the quality of the focus institution with other institutions that the applicant considered (1=best, 5=worst). For institutions that have a clearly defined set of competing institutions, the ASQ PLUS™ survey is preferable. This tool asks many of the same questions as the ASQ®, but also allows the administrator to ask respondents to compare the focus institution with pre-selected peer institutions (ASQ & ASQ Plus, 2012).

The Admitted Student Questionnaire® was chosen as the optimal instrument for the study site (see Appendix A). The survey was administered to a cohort of students who sought admission to the college and were subsequently approved for entrance by admission officers of the institution. This population, approximately 3,500 admitted students, was invited to voluntarily participate in the electronically-conducted survey. Over 400 survey responses were collected from March 2013 to August of 2013. In September of 2013, the College Board

provided the institution with both a summary report and a student-specific raw data file suitable for additional analysis.

Reliability and validity statistics were available from the College Board's survey research firm, Applied Educational Research, Inc. Ellen Kanarek, Vice President of Applied Educational Research, Inc., explained in an email that "(t)here is no such information available for the ASQ or the ASQ Plus: the developers of the instrument more than 25 years ago felt that with this kind of opinion survey it was not necessary or appropriate" (personal communication, July 3, 2013). As such, internal reliability was tested by the researcher using Cronbach's Alpha. Implementing the methodology established by Espinoza (2001), the twenty college characteristics items listed on the survey were grouped into the following six categories:

- Academics
- Athletics
- Cost
- Location
- Service Expectations
- Student Life

Espinoza (2001) excluded the Cost category from the reliability analysis because only one of the twenty college characteristics questions addressed the issue of cost; leaving no other items for comparative purposes. The present study was compelled to remedy this problem, given the fact that cost (i.e., net price) as a college choice factor was of particular interest to the local institution. As such, the reliability of the questionnaire's single college characteristic question on cost was judged against supplemental cost-related questions that were added by the institution to the standard questionnaire (see Appendix B).

Admitted student application and enrollment data. The College's student information system tracks virtually all aspects of student-related data; ranging from prospective high school students to longstanding alumni. This resource was tapped for preexisting, student-specific demographical data (e.g., gender, race, family income) and enrollment status information (e.g., degree-type, major). This data extract was merged with the survey results data file; forming a single, all-inclusive data set suitable for analysis.

Participant selection. The participants chosen for this portion of the study included all applicants admitted to the technical college as of June 1, 2013. These potential students were uniquely qualified to provide insights regarding factors influencing the college choice decision-making process. At the moment of data collection, many of these students either recently made an enrollment decision or were on the cusp of making a decision in near future. Specifically, 3,248 of these prospective students comprised the entire population considered in this quantitative research section of the mixed methods study.

Identification and invitation. The participants selected for this study were identified through analysis of the college's admission records. The college's office of admissions determined and isolated the appropriate cohort of students required for inclusion in this study. The students each received an initial invitation to complete the questionnaire. Those students who did not respond were sent a reminder one week after the initial invitation. A final reminder was sent one week later to all remaining non-respondents.

Data collection. The quantitative data collection provided information helpful in understanding factors that influence enrollment decisions. The questionnaire asked students to rate the college on a number of categories including institutional characteristics, influential people, information sources, perceptions of the institution, and cost and financial aid. The

survey included a limited number of questions pertaining to demographical information including gender, race, distance from campus, state of residence, and family income. The data was disaggregated for the purpose of studying variances within these sub-populations and others.

Description of first qualitative method used. In order to further examine factors contributing to enrollment challenges at the technical college, it was necessary to take a closer look at a special subgroup of the research population. Students that applied and were admitted to the college but chose to not enroll were particularly compelling because they can provide first-person accounts of factors that lead to the institution's undesirable matriculation yield rate. As such, follow-up interviews conducted with a sample of these non-enrolling students who completed the questionnaire, constituted the first qualitative method utilized in this study.

Instrument description. The follow-up interviews with non-enrolling students supplemented the quantitative information in two ways. First, the interviews posed questions which were not asked during either the college's application process or the institution's Admitted Student Questionnaire® administration. Second, the interviews posed questions that could not be answered during the matriculation process. Specifically, the interviews inquired about the student's rationale for applying, the sincerity of the application, the evolving attitude toward the college, the satisfaction with the final decision, and the factors that might have caused them to reconsider their decision to not attend the technical college. The interview questions are presented in Appendix C.

Participant selection. Non-enrolling students were the participants selected for this first qualitative method of the study. They constituted the key cohort of students who once expressed interest in the technical college, but later elected to not enroll. Understanding the rationale

behind their decision provided evidence upon which to base recommended improvements in the matriculation process.

Identification and invitation. Participants in this qualitative research method were linked to the quantitative method used in this study. Their identification was based on two factors: completion of the ASQ® and confirmed, non-enrolling status at the institution. Invitations to participate were emailed to the identified students. A single email reminder was issued to any non-respondents one week following the initial invitation to participate.

Data collection. The data collection for this qualitative research method involved two aspects. Primarily, the researcher took notes of the responses during the interview. Secondarily yet simultaneously, the researcher collected an audio recording of the meeting. During transcription, the audio recording supplemented the notes taken during the interviews for the purposes of review, verification, and enhancement of notes.

Description of second qualitative method used. Understanding the issues that deter or push students away from enrolling at the technical college is valuable, albeit incomplete. Learning more about factors that persuade or pull students to enroll at the host site is equally useful information. This second qualitative research method explored such factors within the setting of a focus group discussion with matriculating students.

Instrument description. The researcher was the instrument for this second qualitative research method. The researcher convened a focus group and initiated discussion using a preplanned list of questions. However, one benefit of conducting a focus group was the ability to ask follow-up questions and seek clarification when needed.

The preplanned questions explored college choice factors that influenced decisions to enroll at the technical college. Such information was valuable as a foundation for effectively "recruiting graduates" (Hossler, 1984, p. 69). The questions are presented in Appendix D.

Participant selection. Focus group participant selection for this second qualitative research method targeted matriculating students at the technical college. Specifically, five (5) participants were randomly drawn from a population of matriculating students who completed the questionnaire prior to enrollment at the institution. These students were uniquely qualified to inform the research about factors that compel students to attend the technical college.

Identification and invitation. Participants in this qualitative research method were linked to the quantitative method used in this study. Their identification was based on two factors: completion of the ASQ® and confirmed, enrolling status at the institution. Invitations to participate were emailed to the identified students. A single email reminder was issued to any non-respondents one week following the initial invitation to participate.

Data collection. Data collection for this qualitative research method involved two aspects. Primarily, the researcher took notes of the conversation during the focus group meeting. Secondarily, the researcher collected an audio recording of the meeting. During transcription, the audio recording supplemented the notes taken during the meeting.

Data analysis procedures.

Quantitative research method. The data was analyzed with IBM® SPSS® Statistics Version 20. Descriptive and inferential statistics were generated, including Analysis of Variance (ANOVA). These statistical calculations as described by Baylis, Pereira, and Rose (1998) and Ravid (2005) served to inform the data analysis procedures conducted in this study.

The measurement scales utilized in the research impacted the analytical approach. Descriptive statistics contrast enrollment status by demographic elements such as gender, race, high school grades, high school control (e.g., public, private), SAT/ACT scores, state of residency, distance from home, family income, degree-type (i.e., Associate, Baccalaureate) and academic program. Inferential statistics, including ANOVA and Cronbach's Alpha, highlight significant differences and reliability found in the study's college choice variables as they relate to enrollment status, respectively.

First qualitative research method. The interview responses of non-enrolling students were analyzed using techniques described by Creswell (2008). These techniques included organizing, transcribing, general exploration, coding, describing, and identifying themes in the data. These steps were accomplished by hand rather than using computer analysis due the relatively small sample size; up to five (5) participants.

Second qualitative research method. The data analysis procedure for the second qualitative research method was identical to the first. Creswell (2008) again informed the techniques used to analyze the data collected from the focus group. Similarly, the small sample size of five (5) participants, lended itself to analysis by hand rather than computer-aided.

Stages of data collection.

Quantitative research method. The Admitted Student Questionnaire® was administered from March 2013 through August 2013. The first wave of email invitations were sent to 2,500 students admitted to the technical college prior to March 1, 2013. The second wave was emailed on May 1, 2013 to 500 students admitted to the institution between March 1, 2013 and April 30, 2013. The third wave was emailed on June 1, 2013 to 500 students admitted to the institution between May 1, 2013 and May 31, 2013.

Each of these cohorts was afforded a minimum of three opportunities to complete the questionnaire. Approximately one week after the initial invitations were sent to the cohorts, a reminder was sent to all non-respondents encouraging them to participate. Similarly, approximately one week after the initial reminders were sent to the cohort, a second reminder was sent to all remaining non-respondents.

Meanwhile, the college's student information system was continually being updated with new data and revisions to old data. Initially, student application data were entered into the system. As applicants progress through the matriculation process, their records in the database were updated with relevant information such as enrollment status, course registrations, tuition and fee costs, etc. Enrollment data was extracted and connected to the survey data on the college's official Fall 2013 census date at the close of business following the third week of classes.

First qualitative research method. Data collection from interviews with non-enrolling students occurred in March and April of 2014. The invitation to participate was emailed to the identified student sample on March 22, 2014. A reminder email was sent on March 26, 2014 to all non-respondents. Interviews with willing participants were conducted throughout the month of April, 2014.

A pilot study was not advisable with the target population of non-enrolling students. This group is generally not inclined to participate in study that has little relevance or direct impact on them; as evidenced by their very low response rate (4%) when invited to complete the Admitted Student Questionnaire®. As such, the instrument was vetted for applicability by the researcher's dissertation committee and for fairness by the Institutional Review Board.

Second qualitative research method. Data collection from the enrolled student focus group occurred on April 13, 2014. This timeline allowed for some analysis of the first qualitative research method, allowing the researcher to consider thematic congruence during discussion. Similar to the first qualitative research method, the preplanned questions were vetted by the researcher's dissertation committee and the Institutional Review Board.

Ethical Considerations

Participants' rights were protected as the study was scrutinized by the Institutional Review Boards (IRB) of the researcher's institution and the research site. The IRB approval process of Drexel University ensured that the researcher followed proper procedures and codes of conduct. The IRB approval process of the host institution similarly vetted the study, with a particular interest and emphasis on the protection of human subjects.

Attention was paid to ensure confidentiality and limit participant exposure. Though personally identifiable information was not needed for analysis, this information was necessary for the purpose of linking the survey data with the college's student information system data. As such, securing the student-identifiable data set used for analysis was a top priority. This was achieved by password-protecting the file during analysis and stripping away personally-identifiable information post-analysis.

Another noteworthy consideration was the possibility that analysis of sub-groups could isolate unnamed individual such that they become potentially identifiable. For example, publishing a table that reports student responses by gender and race may unduly expose individuals in underrepresented groups (e.g., a female American-Indian). Rectifying this potential problem was accomplished by perturbing results for any sub-group with fewer than three individuals.

Chapter 4: Findings, Results, and Interpretations

Introduction

The first chapter of this dissertation introduced the problem of underperforming, entering-student matriculation at a technical college. The second chapter explored relevant scholarly literature on college choice, enrollment management, and the special-mission of technical colleges. The third chapter explained the combination of quantitative and qualitative research methods employed to examine the following research questions.

Primary Question:

- What actions will motivate a greater proportion of admitted students to enroll at a technical college?

Secondary Questions:

- What factors influence the matriculation decision of students admitted to a technical college?
- Under what circumstances will non-enrolling students reconsider their decision?
- Which positive influences can the technical college accentuate to persuade more students to enroll?

This fourth chapter reveals the outcomes of the data collection and analysis. The chapter is divided into two major sections. First, the fundamental research findings are presented. Second, the results are developed and interpretations are proposed.

Findings

The findings that follow offer a deep and meaningful description of the research results. Organizationally, this section presents the findings separately for each of the three research methods; one regarding the quantitative analysis of survey results, one concerning the qualitative

analysis of interviews, and one about the qualitative analysis of a focus group discussion. Each method begins with descriptive information, providing demographics and an overview of the composition of the study participants. Then the research findings are presented. Finally, reliability and validity concerns are addressed.

Quantitative research method. The findings for the study's quantitative research method come from a statistical analysis of pre-existing survey data. During the spring and summer of 2013, the technical college surveyed all matriculating students admitted to the institution; using the College Board's *Admitted Student Questionnaire*® (see Appendix A). The questionnaire opens by asking the respondents to reflect on a series of college choice factors, rating each item on two likert-type scales. The first scale assigns level of importance and the second scale compels an institutional rating comparison. These components of the questionnaire serve as the foundation for this study and are examined herein by way of statistical analysis. This analysis begins with descriptive statistics presenting an overview of the demographical composition of the survey respondents.

Demographics. A total of 308 admitted students voluntarily submitted an actionable survey response set. Within the questionnaire, students were asked to indicate their intent to enroll at the technical college. At the time, it was the intention of 256 of the 308 respondents to attend the technical college. The remaining 52 admitted students did not intend to attend the technical college. Distinguishing these two groups and understanding meaningful differences between them is a crucial aspect of this study. Table 2 offers the first such comparison, presenting various categories of common demographical elements for the two cohorts; including statistical significance calculations.

Table 2

Survey Respondent Demographic Characteristics as a Percentage of the Sample, Compared to Host Site Norms

Characteristics	Enrolling (n=256)	Non-Enrolling (n=52)	Host Site Norm (n=5,678)
Gender			
Male	61.1	57.1	63.0
Female	38.9	42.9	37.0
Race/Ethnic Background			
Am Indian/Native	2.4	0.0	0.3
Asian/Pac Islndr	1.8	0.0	0.7
Mexican American	0.6	0.0	n/a
Puerto Rican	1.2	10.5	n/a
Other Hispanic	1.2	0.0	3.0
Black/African Amer	4.8	10.5	3.7
White	85.1	78.9	84.5
Other	3.0	0.0	7.9
Average Grades in High School			
A (90-100)	35.4	40.0	23.2
B (80-89)	52.6	45.0	56.0
C (70-79)	12.0	15.0	20.8
Type of High School Attended			
Public	91.3	75.0	n/a
Indep, Not Relig	1.7	5.0	n/a
Catholic	2.9	20.0	n/a
Indep, Oth Relig	4.0	0.0	n/a
SAT Score			
Critical Reading			
200-399	22.3	22.2	21.8
400-599	70.0	77.8	73.2
600-800	7.7	0.0	5.1
Mathematical			
200-399	24.2	11.1	15.8
400-599	60.4	77.8	75.7
600-800	15.4	11.1	8.5
Writing			
200-399	20.9	22.2	29.0
400-599	69.2	66.7	68.5
600-800	9.9	11.1	2.6
Residence			

Same State as Host Site	85.5	75.0	87.3
Other	14.5	25.0	12.7
Distance of College from Home			
Within 50 Miles	26.3	28.6	48.2
51 to 100 Miles	22.2	52.4	28.5
101 to 300 Miles	46.8	14.3	22.0
301 to 500 Miles	1.2	0.0	0.6
More than 500 Miles	3.5	4.8	0.6
Parents' Income			
Below $30,000	19.2	16.7	29.2
$30,000-$39,999	8.6	22.2	8.1
$40,000-$59,999	25.2	27.8	13.1
$60,000-$79,999	17.9	22.2	13.6
$80,000-$99,999	8.6	0.0	11.5
$100,000-$149,999	9.9	11.1	16.4
$150,000-$199,999	6.6	0.0	5.1
$200,000 & Over	4.0	0.0	3.1
Degree-Type			
Baccalaureate	34.0	23.1	47.2
Associate	63.7	73.1	48.8
Certificate	1.6	0.0	1.4
Non-Degree Seeking	0.8	3.8	2.6
Instructional Program Area			
Agriculture, Ag Operations & Related Sciences	0.8	0.0	0.7
Natural Resources and Conservation	1.2	1.9	0.8
Architecture and Related Services	1.6	1.9	2.3
Communication, Journalism & Related Prgrms	0.0	0.0	0.1
Computer and Info Sciences & Support Srvcs	7.8	0.0	6.8
Personal and Culinary Services	5.9	3.8	3.6
Engineering Tech & Eng-Related Fields	19.9	13.5	20.8
Family & Consumer Sciences/Human Sciences	1.2	3.8	0.9
Legal Professions and Studies	0.0	0.0	1.4
Liberal Arts & Sci, Gen Studies & Humanities	1.2	3.8	1.4
Multi-Interdisciplinary Studies	0.4	0.0	0.3
Parks, Recreation, Leisure, and Fitness Studies	0.8	0.0	1.0
Construction Trades	5.5	3.8	5.6
Mechanical & Repair Technologies/Techs	15.6	7.7	11.0
Precision Production	3.9	3.8	2.7
Visual and Performing Arts	2.0	3.8	2.2
Health Professions and Related Programs	26.6	30.8	29.4
Business, Mgmt, Mrkt & Related Support Srvcs	3.5	5.8	7.0
Undecided	2.3	15.4	1.9

Note. Host Site Norms is based on official student census data for the Fall 2013 semester. Instructional Program categories based on the National Center for Education Statistics' (NCES) Integrated Postsecondary Education Data System (IPEDS) Classification of Instructional Programs (CIP) codes at the two-digit level.

Non-enrolling student demographics. In Table 2, non-enrolling student demographic data contains numerous, important distinctions from enrolling student data. Regarding personal characteristics, though both enrolling and non-enrolling students are a male-majority (61.1% and 57.1%, respectively), the gender-gap disparity is less pronounced for non-enrolling students. Additionally, parents' income for non-enrolling students is generally lower (66.7% earn less than $60,000) than parents' income reported by enrolling students (53.0% earn less than $60,000). However, parents' income for non-enrolling students is less likely to be extremely high or extremely low.

The race/ethnicity of non-enrolling survey participants is more minority-heavy (21.0%) than the enrolling student mix (12.0%). A closer examination finds that 75% of these students report a family income below $40,000, and 75% live within 100 miles of the technical college. Also, 50% are female and 50% attended a private high school.

Other areas of distinction are associated with high school performance and institution-type. Non-enrolling students' high school grades (40% A's) are somewhat higher than those of enrolling students (35.4% A's). Further, a sizable proportion of non-enrolling students attended a private high school (25.0%), compared to the students surveyed who intended to enroll (10.6%).

State of residency and proximity to campus, interrelated location component, also yield interesting comparisons. Non-enrolling students are more likely to be from out-of-state (25.0%) than their enrolling counterparts (14.5%). However, non-enrolling students' distance from home

is more mid-range (52.4% live 51 to 100 miles from campus) than the farther-reaching span (101 to 300 miles) of a plurality of enrolling students (46.8% live 101 to 300 miles from campus); both greater than institutional norms.

Non-enrolling students also display unique characteristics with regard to degree-type sought and expected academic program pursuit. Although both enrolling and non-enrolling students intended to pursue an associate degree at a higher percentage (63.7% and 73.1%, respectively) than the institutional norm (44.8%), non-enrolling students even outpaced enrolling students. The instructional program areas that non-enrolling students elected to pursue are generally in line with those of enrolling students. However, one noteworthy exception is the fact that more non-enrolling students are undecided (15.4%) about their instructional program than enrolling students (2.3%).

Enrolling student demographics. Most of the data on enrolling students in Table 2 is generally consistent with institutional norms. However, a handful of exceptions are noteworthy. For one, the proportion of students reporting parent's income below $60,000 (53.0%) is somewhat larger than the institutional norm (50.4%). Also, the proportion of student reporting distance from home as 100+ miles away from campus (51.5%) is significantly larger than the norm (23.2%).

Another area of distinction involves SAT scores. The Math SAT scores at the high (600-800) and low (200-399) extremes were markedly higher for enrolling students (15.4% and 24.2%, respectively) than the institutional norms (8.5% and 15.8%, respectively). The upper-level Writing SAT scores (600-800) of both enrolling (9.9%) and non-enrolling (11.1%) students were noticeably higher than the norm (2.6%).

Finally, it is useful to consider the academic pursuits of enrolling students. The volume of enrolling students who sought to earn an associate degree (63.7%) exceeded the overall, student-body norm (48.8%). However, the mix of instructional programs that they intended to pursue generally falls in line with institutional norms.

Findings. After considering the demographical differences between enrolling and non-enrolling students who completed the Admitted Student Questionnaire®, it is now appropriate to analyze the college choice factors for these populations in order to establish meaningful findings from research. In this section, the students' level of importance ratings of the college choice factors are analyzed first, followed by their ratings of the technical college compared to other post-secondary institutions they are considering attending. In both cases, a statistical Analysis of Variance (ANOVA) is performed, and the tables that follow display mean, standard deviation, level of significance for each of the college choice factors.

Table 3 presents the findings of the level of importance that admitted students assigned to each of the college choice factors presented in the survey.

Table 3

Analysis of Variance of Mean Importance Ratings of College Choice Factors by Enrolling and Non-Enrolling Students (with Standard Deviations in Parentheses)

	Importance Rating		
College Characteristics	Enrolling (N=256)	Non-Enrolling (N=52)	*p*
Quality of faculty	1.08 (0.28)	1.15 (0.36)	.10
Quality of majors of interest to you	1.05 (0.23)	1.12 (0.32)	.07
Overall academic reputation	1.30 (0.47)	1.23 (0.43)	.36
Quality of academic facilities	1.21 (0.42)	1.23 (0.43)	.71
Variety of courses	1.43 (0.58)	1.41 (0.57)	.87
Access to faculty	1.20 (0.43)	1.28 (0.57)	.29
Concentration on undergraduate education	1.48 (0.64)	1.48 (0.65)	.98
Prominent intercollegiate athletics	2.15 (0.78)	2.14 (0.87)	.92
Cost to your family	1.13 (0.37)	1.23 (0.55)	.11
Athletic programs in which you would like to participate	2.17 (0.80)	2.13 (0.79)	.77
Availability of extracurricular activities	1.88 (0.74)	1.92 (0.74)	.71
Access to off-campus cultural and recreational opportunities	1.79 (0.72)	1.69 (0.76)	.37
Availability of religious activities	2.33 (0.77)	2.24 (0.84)	.41
Quality of social life	1.49 (0.62)	1.40 (0.63)	.34
Attractiveness of campus	1.43 (0.58)	1.42 (0.57)	.97
Surroundings	1.50 (0.57)	1.46 (0.61)	.70
Part of the country in which the college is located	1.52 (0.66)	1.56 (0.70)	.70
Quality of on-campus housing	1.40 (0.71)	1.50 (0.75)	.37
Ease of getting home	1.42 (0.62)	1.44 (0.64)	.80
Chance to be with students from different backgrounds	1.90 (0.75)	1.81 (0.82)	.43

Note. Importance Rating Scale: (1=Very Important; 2=Somewhat Important; 3=Not Important)

Data analysis reveals that no statistically significant differences ($p < .05$) exist between enrolling and non-enrolling students concerning the level of importance that they assign to the college choice factors presented. Despite this finding, there are a variety of meaningful elements

to glean from the data in the preceding table. For example, it is worth noting that those items showing the most significance differences ($p < .15$) include the following:

- Quality of majors of interest to you ($p = .07$)
- Quality of faculty ($p = .10$)
- Cost to your family ($p = .11$)

Another interesting aspect to consider is the college choice factors rated of higher importance by enrolling students than non-enrolling students. Such findings may help to identify areas that are encouraging enrolling students to matriculate at the technical college. These factors include:

- Access to faculty [$M = 1.20$ (enrolling); $M = 1.28$ (non-enrolling)]
- Quality of on-campus housing [$M = 1.40$ (enrolling); $M = 1.50$ (non-enrolling)]

Similarly, non-enrolling students assign greater importance to certain college choice factors than enrolling students. Such findings may help to identify areas that are deterring non-enrolling students from matriculating at the technical college. These factors include:

- Chance to be with students from different backgrounds [$M = 1.90$ (enrolling); $M = 1.81$ (non-enrolling)]
- Quality of social life [$M = 1.49$ (enrolling); $M = 1.40$ (non-enrolling)]
- Availability of religious activities [$M = 2.33$ (enrolling); $M = 2.24$ (non-enrolling)]
- Access to off-campus cultural and recreational opportunities [$M = 1.79$ (enrolling); $M = 1.69$ (non-enrolling)]
- Overall academic reputation [$M = 1.30$ (enrolling); $M = 1.23$ (non-enrolling)]

Another element worthy of consideration includes items rated the most important by both enrolling and non-enrolling students ($M < 1.40$). Such findings may reveal areas of critical focus for the technical college. Items very important to both groups include:

- Quality of majors of interest to you
- Quality of faculty
- Cost to your family
- Quality of academic facilities
- Access to faculty
- Overall academic reputation

Similarly, it is worth noting the items of least importance to both groups ($M > 1.80$). Such findings may reveal areas where the technical college should devote little or no resources. These items include the following factors:

- Availability of religious activities
- Athletic program in which you would like to participate
- Prominent intercollegiate athletics
- Chance to be with students from different backgrounds
- Availability of extracurricular activities

Transitioning now from importance ratings to institutional rating, Table 4 presents the findings of the comparative institutional ratings that admitted students assigned to each of the college choice factors presented in the survey.

Table 4

Analysis of Variance of Mean Institutional Ratings of College Choice Factors by Enrolling and Non-Enrolling Students (with Standard Deviations in Parentheses)

	Institutional Rating		
College Characteristics	Enrolling (n=256)	Non-Enrolling (n=52)	*p*
Quality of faculty	1.71 (0.69)	2.06 (0.95)	.01*
Quality of majors of interest to you	1.61 (0.77)	2.10 (1.05)	.00*
Overall academic reputation	1.87 (0.82)	2.05 (0.93)	.22
Quality of academic facilities	1.75 (0.78)	2.03 (0.84)	.05
Variety of courses	1.97 (0.82)	2.17 (0.92)	.19
Access to faculty	1.79 (0.79)	2.00 (0.94)	.17
Concentration on undergraduate education	1.98 (0.86)	2.21 (0.88)	.16
Prominent intercollegiate athletics	2.51 (0.98)	2.60 (1.07)	.65
Cost to your family	2.41 (1.04)	2.70 (1.20)	.12
Athletic programs in which you would like to participate	2.48 (1.01)	2.53 (0.98)	.77
Availability of extracurricular activities	2.18 (0.90)	2.42 (0.99)	.18
Access to off-campus cultural and recreational opportunities	2.22 (0.86)	2.34 (0.87)	.46
Availability of religious activities	2.44 (0.88)	2.65 (0.85)	.26
Quality of social life	2.08 (0.87)	2.37 (1.03)	.08
Attractiveness of campus	1.74 (0.83)	2.00 (1.04)	.09
Surroundings	2.29 (1.02)	2.49 (1.09)	.29
Part of the country in which the college is located	1.99 (0.90)	2.26 (1.04)	.11
Quality of on-campus housing	1.68 (0.79)	2.09 (1.16)	.01*
Ease of getting home	1.99 (1.02)	2.17 (1.16)	.34
Chance to be with students from different backgrounds	2.12 (0.89)	2.55 (0.94)	.01*

Note. Institutional Rating Scale: (1=Best; 2=Better than Most; 3=About the Same; 4=Poorer than Most; 5=Worst; 0=Can't Compare). Calculations exclude zero value associated with the "Can't Compare" scale option.
*$p < .05$.

Significant differences ($p < .05$) between enrolling and non-enrolling students regarding their opinion of institutional rating are presented in Table 4. Such differences signal meaningful divergence of opinion about the perception of the technical college relative to peer institutions that both enrolling and non-enrolling students are considering in their college choice processes.

In each case, enrolling students rated the technical college as better than peer institutions than non-enrolling students did. These significantly different institutional ratings of college choice factors include the following:

- Quality of majors of interest to you ($p = .00$)
- Quality of faculty ($p = .01$)
- Quality of on-campus housing ($p = .01$)
- Chance to be with students from different backgrounds ($p = .01$)

It is important to note that enrolling students rate the technical college higher than non-enrolling students on all institutional comparison college choice factors. Intuitively, it stands to reason that students inclined to attend the technical college would prefer its attributes more so than students inclined to attend another institution. Nevertheless, other meaningful comparisons are noteworthy. For one, college choice factors with sizable, though not significant, institutional ratings differences ($p < .15$) include:

- Quality of academic facilities ($p = .05$)
- Quality of social life ($p = .08$)
- Attractiveness of campus ($p = .09$)
- Part of the country in which the college is located ($p = .11$)
- Cost to your family ($p = .12$)

Another meaningful element to consider includes factors where enrolling students give their highest rating to the technical college. These findings may help the institution know where to build upon existing strengths. Enrolling students rated the technical college best at the following:

- Quality of majors of interest to you ($M = 1.61$)

- Quality of on-campus housing (*M* = 1.68)
- Quality of faculty (*M* = 1.71)

Conversely, enrolling students gave the technical college their lowest ratings in several areas. Although the ratings portray the technical college's offerings as the same or slightly better than other institutions, these factors suggest areas for improvement. Enrolling student rate the institution worst at the following:

- Prominent intercollegiate athletics (*M* = 2.51)
- Athletic program in which you would like to participate (*M* = 2.48)
- Availability of religious activities (*M* = 2.44)
- Cost to your family (*M* = 2.41)

After considering the factor rated highest and lowest by enrolling students, it is appropriate to present similar findings for non-enrolling students. Hence, the college choice factors where non-enrolling students rated the technical college highest follow. Such information may assist the host site by identifying strengths to accentuate in order to appeal to students unlikely to enroll. Non-enrolling students rate the institution best at the following:

- Access to faculty (*M* = 2.00)
- Attractiveness of campus (*M* = 2.00)
- Quality of academic facilities (*M* = 2.03)
- Overall academic reputation (*M* = 2.05)
- Quality of faculty (*M* = 2.06)
- Quality of majors of interest to you (*M* = 2.10)

On the other hand, non-enrolling students gave their lowest rating to technical college on several factors. Such findings may guide the host site to address shortcomings in areas that

could appeal to students who were previously unlikely to enroll. Non-enrolling students rate the institution worst at the following:

- Cost to your family (*M* = 2.70)
- Availability of religious activities (*M* = 2.65)
- Prominent intercollegiate athletics (*M* = 2.60)
- Chance to be with students from different backgrounds (*M* = 2.55)
- Athletic programs in which you would like to participate (M = 2.53)

Reliability and validity. In light of the findings presented above, it is fair to wonder if they are truly meaningful. Knowing that the findings are both consistent and accurate is paramount. Hence, establishing reliability and validity are critical aspects for ensuring that the information is consequential and actionable. It is preferable that such measures come from the research firm that owns the instrument. Regrettably, reliability and validity statistics are not available from the proprietor of the Admitted Student Questionnaire® (ASQ®), the College Board. As such, they are addressed independently by the researcher. Herein, the validity of this quantitative research method is considered first, followed by its reliability.

Is the ASQ® valid? Content validity stems from survey research experts at the College Board, a trusted leader in education research, who created the survey over 25 years ago (Ellen Karanek, personal communication, July 3, 2013). Further, leaders in higher education administration endorse the ASQ® and rely on it repeatedly (College Board, 2012). Some colleges and universities use it year after year as a tool for informing enrollment management practices, suggesting construct validity is also intact. From 2007-2012 alone, the instrument was utilized by at least 70 different institutions across numerous sectors of higher education including

Public, Private, 2-Year, 4-Year, Baccalaureate, Master's, Doctoral, Engineering, Business, Art/Music/Design, etc. (College Board, 2012).

Is the ASQ® reliable? The longevity and popularity of the instrument, 25+ years and 100+ colleges and universities, assumes a considerable level of reliability. Nevertheless, this study adapts and implements the methodology established by Espinoza (2001) to determine internal reliability. Her methodology used statistical analysis to calculate Cronbach's Alpha for the 20 college characteristics items listed on the ASQ®, grouped as follows:

- Academics
    - Q1: Quality of faculty
    - Q2: Quality of majors of interest to you
    - Q3: Overall academic impression
    - Q4: Quality of academic facilities (library, laboratories, computers, etc.)
- Athletics
    - Q8: Prominent intercollegiate athletics
    - Q10: Athletic programs in which you would like to participate
- Cost
    - Q9: Cost to your family – how much you and your family would have to pay after grants and scholarships (if any) are subtracted from total college costs
    - Supplemental Q1: Actual costs incurred each semester
    - Supplemental Q3: Value for the price
- Location of Campus
    - Q12: Access to off-campus cultural and recreational opportunities

    - Q15: Attractiveness of campus
    - Q16: Surroundings (neighborhood, town or city)
    - Q17: Part of the country in which the college is located
    - Q19: Ease of getting home
- Service Expectations
    - Q5: Variety of courses
    - Q6: Access to faculty
    - Q7: Concentration on undergraduate education
- Student Life
    - Q11: Availability of extracurricular activities (clubs, debates, drama, music, etc.)
    - Q13: Availability of religious activities
    - Q14: Quality of social life
    - Q18: Quality of on-campus housing
    - Q20: Chance to be with students from different backgrounds

Espinoza (2001) excluded the Cost category from the reliability analysis because only one of the twenty college characteristics questions in the ASQ® addressed the issue of cost; leaving no similar items for comparative purposes. Fortunately for the present study, the technical college asked admitted students supplemental questions about cost-related college choice factors; one regarding actual cost incurred each semester and another about value for the price as shown above. As such, the reliability of Cost items in this study considers the ASQ's® single college characteristic question on cost in conjunction with supplemental, cost-related questions added by the institution to the standard questionnaire (see Appendix B).

The first aspect of internal reliability to consider is how consistently all students responded to the importance ratings for the college choice factors. Table 5 displays these reliability findings.

Table 5

Coefficient Alpha Values of Importance Ratings Based on College Choice Factors for All Students

Factor Group	Factor Items	Cronbach's Alpha
Academics	Quality of faculty; Quality of majors of interest to you; Overall academic reputation; Quality of academic facilities	.49
Service Expectations	Variety of courses; Access to faculty; Concentration on undergraduate education	.57
Athletics	Prominent intercollegiate athletics; Athletic programs in which you would like to participate	.88
Cost	Cost of attendance; Actual costs incurred each semester; Value for the price	.66
Student Life	Availability of extracurricular activities; Availability of religious activities; Quality of social life; Quality of on campus housing; Chance to be with students from different backgrounds	.68
Location of Campus	Access to off campus cultural and recreational activities; Attractiveness of campus; Surroundings; Part of the country in which the college is located; Ease of getting home	.70

Note. N = 308.

Ravid (2005) explains that the desired level of reliability is largely dependent upon the intended use of the results. Broadly, she suggests the following, minimum thresholds.

- Explanatory research: $r > .50$
- Decisions about groups: $r > .60$
- Decisions regarding individuals: $r > .90$

This study seeks to conduct explanatory college choice research. It also serves to inform future decisions about groups of admitted students (i.e., enrolling and non-enrolling students). However, the study is not appropriate for making decisions about individual, admitted students. As such, a coefficient alpha greater than .50 ($r > .50$) is necessary, but a coefficient alpha greater than .60 ($r > .60$) is preferred.

In Table 5, sufficient reliability of importance ratings is established for Athletics ($r = .88$), Cost ($r = .66$), Student Life ($r = .68$), and Location of Campus ($r = .70$) question-groupings. The reliability of the Service Expectations ($r = .57$) category only reaches a minimum level acceptability. Academics ($r = .49$) falls just short of the minimum threshold.

Next, it is important to determine the reliability of the college choice factors based on the students' ratings of the institution. Table 6 presents these findings below. Here, all of the factor groups are deemed sufficiently reliable ($r > .60$).

Table 6

Coefficient Alpha Values of Institutional Ratings Based on College Choice Factors for All Students

Factor Group	Factor Items	Cronbach's Alpha
Academics	Quality of faculty; Quality of majors of interest to you; Overall academic reputation; Quality of academic facilities	.82
Service Expectations	Variety of courses; Access to faculty; Concentration on undergraduate education	.84
Athletics	Prominent intercollegiate athletics; Athletic programs in which you would like to participate	.87
Cost	Cost of attendance; Actual costs incurred each semester; Value for the price	.73
Student Life	Availability of extracurricular activities; Availability of religious activities; Quality of social life; Quality of on campus housing; Chance to be with students from different backgrounds	.87
Location of Campus	Access to off campus cultural and recreational activities; Attractiveness of campus; Surroundings; Part of the country in which the college is located; Ease of getting home	.80

Note. N = 308.

It is also important to consider internal reliability specific to the enrolling and non-enrolling sub-groups of this study. Inadequate, inter-question reliability within these sub-groups may signal inconsistencies obscured by considering both groups collectively. Further, the alphas for enrolling students are suitable for comparison with those presented by Espinoza (2001). As such, the following tables present Cronbach's Alpha for the six (6) college choice factor groups (Academics, Service Expectations, Athletics, Cost, Student Life, Location of Campus) by enrollment status (Enrolling, Non-enrolling) and rating (Importance, Institutional). Table 7 below is the first of these tables, providing coefficient alpha values for enrolling students' importance ratings of the college choice factors.

Table 7

Coefficient Alpha Values of Importance Ratings Based on College Choice Factors for Enrolling Students Only

Factor Group	Factor Items	Cronbach's Alpha, Present Study n=256	Alpha from Espinoza (2001) Study n=68,428
Academics	Quality of faculty; Quality of majors of interest to you; Overall academic reputation; Quality of academic facilities	.47	.47
Service Expectations	Variety of courses; Access to faculty; Concentration on undergraduate education	.59	.50
Athletics	Prominent intercollegiate athletics; Athletic programs in which you would like to participate	.88	.82
Cost	Cost of attendance; Actual costs incurred each semester; Value for the price	.63	N/A
Student Life	Availability of extracurricular activities; Availability of religious activities; Quality of social life; Quality of on campus housing; Chance to be with students from different backgrounds	.68	.55
Location of Campus	Access to off campus cultural and recreational activities; Attractiveness of campus; Surroundings; Part of the country in which the college is located; Ease of getting home	.67	.58

Note. N = 256.

The coefficient alphas for enrolling students in Table 7 align well with the coefficient alphas for all students in Table 5. Again, the Academics factor group alpha ($r = .47$) is suspect ($r < .50$), the Service Expectations factor group alpha ($r = .59$) is minimally acceptable ($.50 < r < .60$), and the remaining factor groups are sufficiently reliable ($r > .60$).

Table 7 also displays a favorable alpha-alignment with those calculated by Espinoza (2001). For each factor group, the alpha calculated in the present study is as strong as or stronger than those found by Espinoza. Further, the magnitudes of the calculated alphas among the factor groups in each study are similarly well-aligned. For example, Academics is least reliable in both studies, and Athletics is most reliable in both studies. The remaining factor groups are similarly, proportionally consistent with one another.

After considering the importance ratings of enrolling students, it is time to consider the reliability of the institutional ratings of this population. Table 8 presents these findings.

Table 8

Coefficient Alpha Values of Institutional Ratings Based on College Choice Factors for Enrolling Students Only

Factor Group	Factor Items	Cronbach's Alpha, Present Study n=256	Alpha from Espinoza (2001) Study n=68,428
Academics	Quality of faculty; Quality of majors of interest to you; Overall academic reputation; Quality of academic facilities	.82	.79
Service Expectations	Variety of courses; Access to faculty; Concentration on undergraduate education	.83	.67
Athletics	Prominent intercollegiate athletics; Athletic programs in which you would like to participate	.86	.74
Cost	Cost of attendance; Actual costs incurred each semester; Value for the price	.72	N/A
Student Life	Availability of extracurricular activities; Availability of religious activities; Quality of social life; Quality of on campus housing; Chance to be with students from different backgrounds	.87	.72
Location of Campus	Access to off campus cultural and recreational activities; Attractiveness of campus; Surroundings; Part of the country in which the college is located; Ease of getting home	.81	.67

Note. N = 256.

Again, the coefficient alphas of enrolling students' ratings of the institution in Table 8 are comparable to the ratings of all students presented in Table 6. Similar to Table 7, the factor group comparisons with Espinoza's (2001) findings in Table 8 are also analogous and favorable to the present study. However, the degree of reliability for certain factor groups in the present study is significantly stronger than those found by Espinoza. In the present study, Service

Expectations, Athletics, Student Life, and Location of Campus all yield alphas .12+ higher than those found by Espinoza.

After considering the reliability of enrolling student questionnaire responses, it is appropriate to reflect on the reliability of non-enrolling student responses. Again, two tables are necessary to present the findings for importance ratings and institutional ratings, respectively. Table 9 lists the coefficient alphas for non-enrolling students' views of importance ratings of college choice factors.

Table 9

Coefficient Alpha Values of Importance Ratings Based on College Choice Factors for Non-Enrolling Students Only

Factor Group	Factor Items	Cronbach's Alpha
Academics	Quality of faculty; Quality of majors of interest to you; Overall academic reputation; Quality of academic facilities	.58
Service Expectations	Variety of courses; Access to faculty; Concentration on undergraduate education	.48
Athletics	Prominent intercollegiate athletics; Athletic programs in which you would like to participate	.87
Cost	Cost of attendance; Actual costs incurred each semester; Value for the price	.78
Student Life	Availability of extracurricular activities; Availability of religious activities; Quality of social life; Quality of on campus housing; Chance to be with students from different backgrounds	.70
Location of Campus	Access to off campus cultural and recreational activities; Attractiveness of campus; Surroundings; Part of the country in which the college is located; Ease of getting home	.81

Note. N = 52.

Like Tables 5 (all students) and 7 (enrolling students) on importance ratings, Table 9 (non-enrolling students) confirms that the factor groups Athletics, Cost, Student Life, and Location of Campus are sufficiently reliable ($r > .60$); whereas Academics and Service Expectations are found wanting ($r < .60$). Unlike the finding for all students and enrolling students, non-enrolling student response reliabilities are minimally sufficient ($.50 < r < .60$) for Academics ($r = .58$) rather than insufficient ($r < .50$). Service Expectations on the other hand, dropped into the insufficient range for non-enrolling students ($r = .48$), rather than maintaining the minimally sufficient status reported for all students and enrolling students.

Last but not least, Table 10 presents reliability findings for non-enrolling students' ratings of the institution on the college choice factor groups.

Table 10

Coefficient Alpha Values of Institutional Ratings Based on College Choice Factors for Non-Enrolling Students Only

Factor Group	Factor Items	Cronbach's Alpha
Academics	Quality of faculty; Quality of majors of interest to you; Overall academic reputation; Quality of academic facilities	.79
Service Expectations	Variety of courses; Access to faculty; Concentration on undergraduate education	.92
Athletics	Prominent intercollegiate athletics; Athletic programs in which you would like to participate	.89
Cost	Cost of attendance; Actual costs incurred each semester; Value for the price	.77
Student Life	Availability of extracurricular activities; Availability of religious activities; Quality of social life; Quality of on campus housing; Chance to be with students from different backgrounds	.86
Location of Campus	Access to off campus cultural and recreational activities; Attractiveness of campus; Surroundings; Part of the country in which the college is located; Ease of getting home	.79

Note. N = 52.

Like comparable Tables 6 (all students) and 8 (enrolling students), Table 10 (non-enrolling students) establishes sufficient reliability ($r > .60$) for each of the factor groups. In fact, non-enrolling students' institutional ratings include two of the most reliable factor groups. The factor groups of Service Expectations ($r = .92$) and Athletics ($r = .89$) demonstrated superior coefficient alphas compared to all others calculated within this study.

First qualitative research method. Following the quantitative research involving analysis of preexisting survey data, the first qualitative research method involves telephone interviews with non-enrolling students who participated in the survey. Of the 308 admitted students who completed the survey, 52 indicated on the survey that they did not intend to enroll

at the technical college. All of these 52 admitted students were invited to participate in the follow-up telephone interview, with the expectation that five (5) willing individuals would be randomly selected for inclusion in the study.

Only four (4) of the 52 eligible students expressed an interest in participating in the telephone interview. Three (3) of these four (4) students completed the Informed Consent Form and were interviewed. Interviews were conducted between April 10, 2014 and April 23, 2014 and the conversations were recorded for review and analysis.

The interview responses of non-enrolling students were analyzed using techniques described by Creswell (2008). These techniques included organizing and transcribing the voice recordings, general exploration of the transcripts, coding of key response elements, and identifying and describing themes in the data. These steps were accomplished by hand rather than using computer analysis due the small, three-person sample size. A demographical overview of these study participants follows.

Demographics. Before considering the findings from the interviews, it is helpful to have a basic understanding of the composition of the participants. Table 11 presents the key demographical elements of the interviewees, pertinent to the study.

Table 11

Non-Enrolling (NE) Student Interviewee Demographic Characteristics

Name Code	Gender	Race	Residence	Degree	Instructional Program
NE1	Female	White	In-state	Assoc	Dental Hygiene/Hygienist
NE2	Male	Hispanic	In-state	Bach	Building/Construction Site Management/Manager
NE3	Male	White	In-state	Assoc	Industrial Mechanics and Maintenance Technology

Note. Instructional Program based on the National Center for Education Statistics' (NCES) Classification of Instructional Programs (CIP).

The small sample size of this qualitative research method precludes any meaningful, demographical comparison with the larger group of survey participants in the preceding, quantitative research method. As such, each interviewed individual in this study represents themselves rather than the collective whole. Nevertheless, among these interviews emerged certain, repetitive themes applicable to the study. Therefore, it is appropriate to consider the findings from the interviews conducted with theses non-enrolling students.

Findings. The non-enrolling student interviewees were asked to respond to six (6) questions, where applicable. The data collection prompts included:

1. What compelled you to apply to the technical college?
2. When you applied, how seriously did you consider attending a technical college?
3. Describe how your opinion of the technical college changed during the matriculation process (if applicable).
4. Describe how the prospect of achieving a higher socio-economic status influenced your decision to attend another institution (if applicable).
5. How satisfied are you with your decision to not attend the technical college?

6. What, if anything, could the technical college have done to persuade you to enroll?

The findings for each of these questions are presented, independently, in the following sections.

Interview question #1: What compelled you to apply to the technical college? Two (2) major themes emerged from interviewee responses to the question "What compelled you to apply to the technical college?" The availability of certain academic programs and the opportunity to build on prior experience were the ideas most often expressed during the interviews. Figure 4 presents them graphically, including the number of participants who mentioned the concept as well as interview transcript excerpts pertinent to the themes.

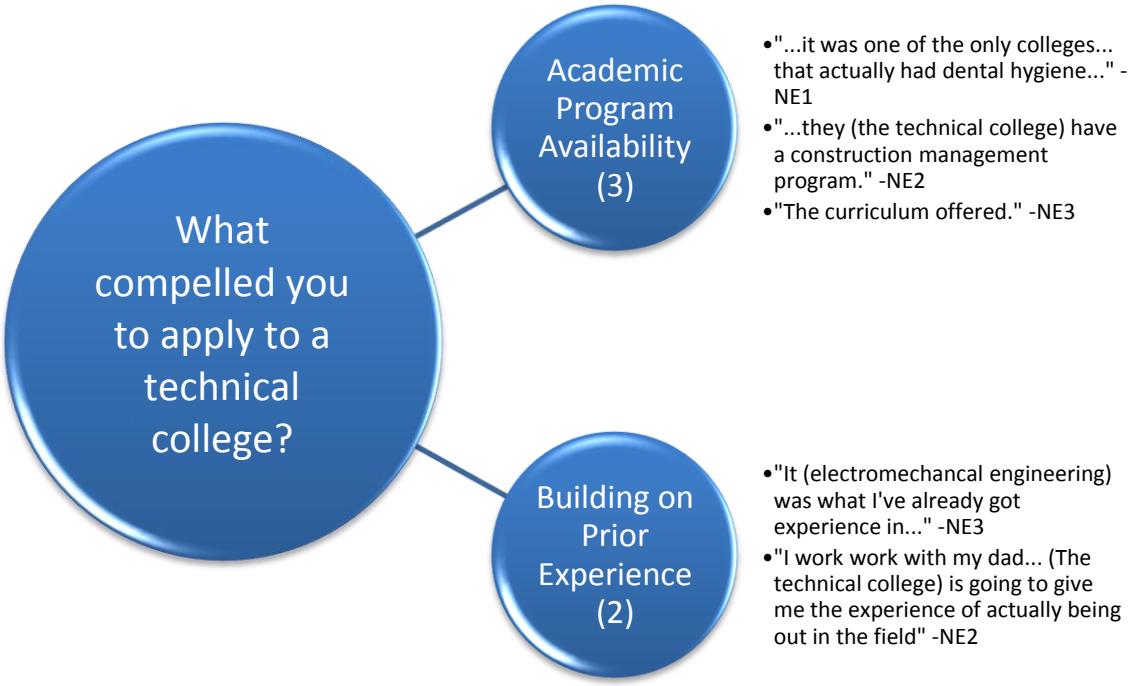

Figure 4. Themes from Non-Enrolling Admitted Students on their Reasons for Applying to a Technical College.

Academic program availability compelled all three (3) interviewees to apply to the technical college. Each non-enrolling student indicated that the technical college was attractive because it was among a small number of regional institutions offering the academic program desired. Two (2) of these applicants applied to other institutions with similar programs; the third visited a competing institution, but did not apply to it or any others.

Two (2) of the three (3) interviewees shared that the opportunity to build on prior experience was an important factor in their decision to apply to a technical college. Applicant NE2 developed experience in construction management as a high school student, working for his father's company. Applicant NE3 gained experience in electromechanical engineering while serving in the U.S. Navy.

Though other reasons for applying to the technical college were mentioned by only one interviewee, they are worthy of consideration nevertheless. Non-enrolling admitted student NE1 identified location as a factor by saying "it was one of the only colleges sort of nearby…" Applicant NE2 appreciated the applied nature of the technical college programs, stating "(t)hat's why I chose a technical college, because their degrees are hands-on and it offers more interaction with the actual thing that I'm learning." Interviewee NE3 sought out the technical college, among others, hoping it would accept numerous transfer credits. He explained, "…I was looking for options to take my SMART (Sailor-Marine American Council on Education Registry Transcript) transcript recommended credits and try to work those into a degree."

Interview question #2: When you applied, how seriously did you consider attending a technical college? All three (3) non-enrolling admitted students expressed a very serious and sincere desire to attend the technical college. Each student explained that the technical college was their first choice among the various institutions they considered attending. Applicant NE1

added “I loved the campus. I loved everything about it.” Figure 5 includes the non-enrolling students’ specific comments on the matter of their seriousness about attending a technical college.

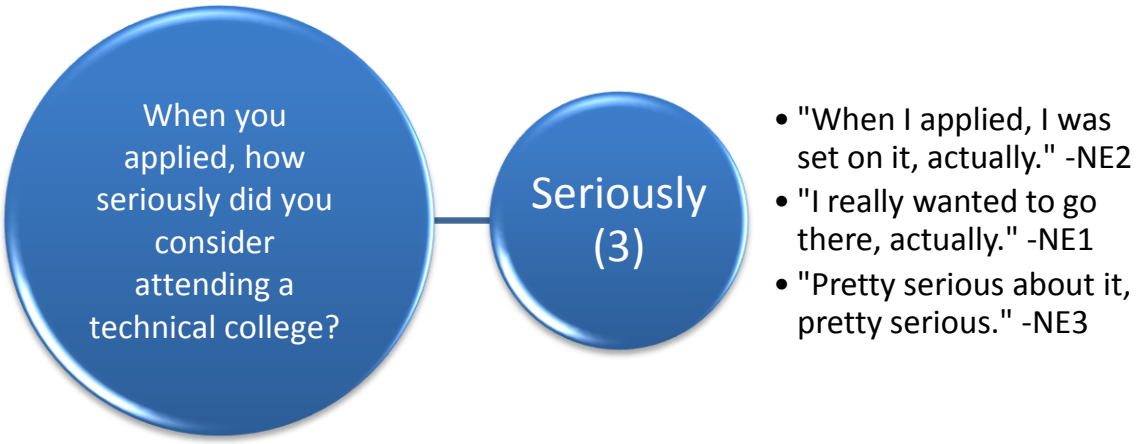

Figure 5. Themes from Non-Enrolling Admitted Students on their Willingness to Attend a Technical College.

Interview question #3: Describe how your opinion of the technical college changed during the matriculation process (if applicable). After considering the level of sincerity that the non-enrolling admitted students undertook while submitting the application, this prompt on the matriculation process probed deeper. The intent was to expose potential pitfalls of successful enrollment that may have occurred during the matriculation process, if any. Figure 6 suggests that the matriculation process was indeed a stumbling block for one applicant; however the other two (2) interviewees were enamored with the process.

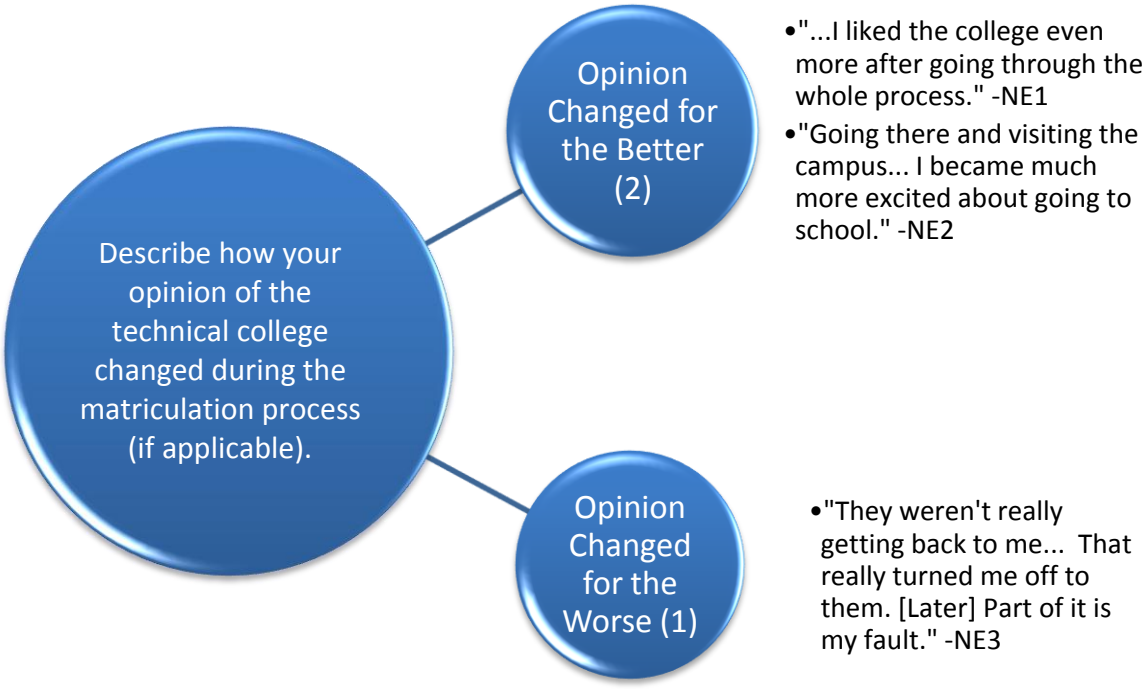

Figure 6. Themes from Non-Enrolling Admitted Students on their Changing Opinion of the Technical College during the Matriculation Process.

In two (2) cases, the non-enrolling admitted students' opinion of the technical college was enhanced by the matriculation process. Both students agreed that attending the open house and campus tour events were positive experiences. Similarly, they appreciated meeting faculty members within their chosen disciplines. Applicant NE2 also enjoyed meeting currently enrolled students and found the campus to be both friendly and attractive, saying "I really like the campus. It seemed like everyone was very cheerful… The school was very clean; it seemed so perfect."

The matriculation experience of non-enrolling admitted student NE3 was markedly different than his fellow interviewees. Like the others, he attended "a couple of open houses" and expressed no poor opinion of them. However, he became disenchanted when encountered what he perceived as waning support from administrative offices at the technical college. His primary aggravation concerned the small amount of military-transfer credits accepted by the college. Another frustration arose from a lack of guidance and support related to financial aid opportunities.

Interview question #4: Describe how the prospect of achieving a higher socio-economic status influenced your decision to attend another institution (if applicable). Did non-enrolling admitted students of the technical college choose to attend another institution because they thought that they might achieve a higher socio-economic status throughout their lifetimes? In short, their collective answer was "no influence" (see Figure 7), with one important point of clarification. All three (3) applicants considered a degree from the technical college to be somewhat better or significantly better than a similar degree from a peer institution. However, interviewee NE1 cited the expensiveness of the technical college and the long-term impact of debt as a driving factor in her decision to attend another institution. She explained, "…the biggest thing was that the college debt would affect my (socio-economic) status after graduating because I'd have so much to pay back." This topic, cost as a major college choice factor; is addressed further in Question 6 below.

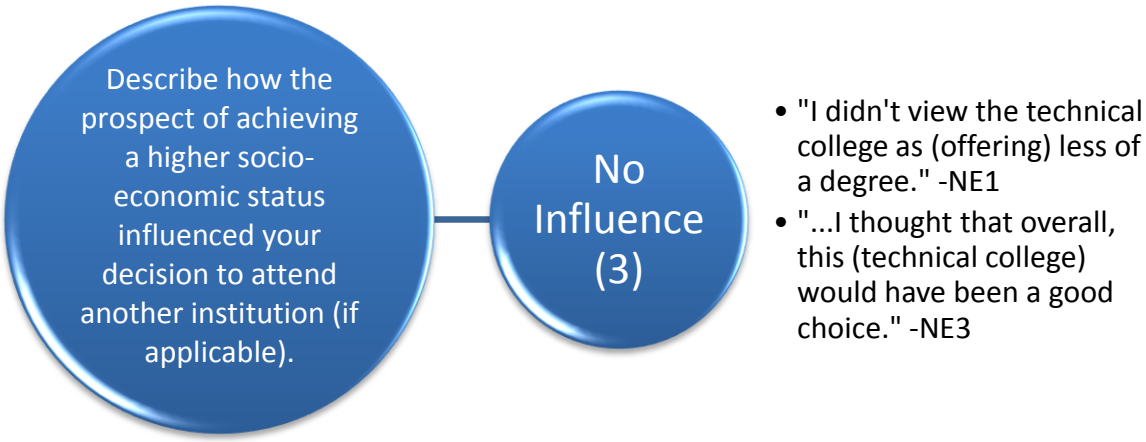

Figure 7. Themes from Non-Enrolling Admitted Students about the Influence of Achieving a Higher Socio-Economic Status on their Decision to Attend another Institution.

Interview question #5: How satisfied are you with your decision to not attend the technical college? The three (3) non-enrolling admitted students were either satisfied with their decision to attend another institution, or simply indifferent. However, their reasons were quite distinctive. Applicant NE1 was satisfied attending a close-to-home community college offering her desired academic program for roughly half the price of the technical college. Applicant NE2 was satisfied because he deferred his enrollment at the technical college to the following academic year. He explained that he was not prepared to enter the institution for a variety of reasons including maturity, finances, and work commitments.

Applicant NE3 was neither satisfied nor dissatisfied with his decision to not attend the technical college. He was disheartened by obstacles encountered during the matriculation process at the technical college, summing up his situation as “it is what it is.” At the time of the

interview, he was working full-time and was not attending another institution, though he was considering other post-secondary options. He regretted that things did not work out with the technical college because it is conveniently located between his place of employment and his home.

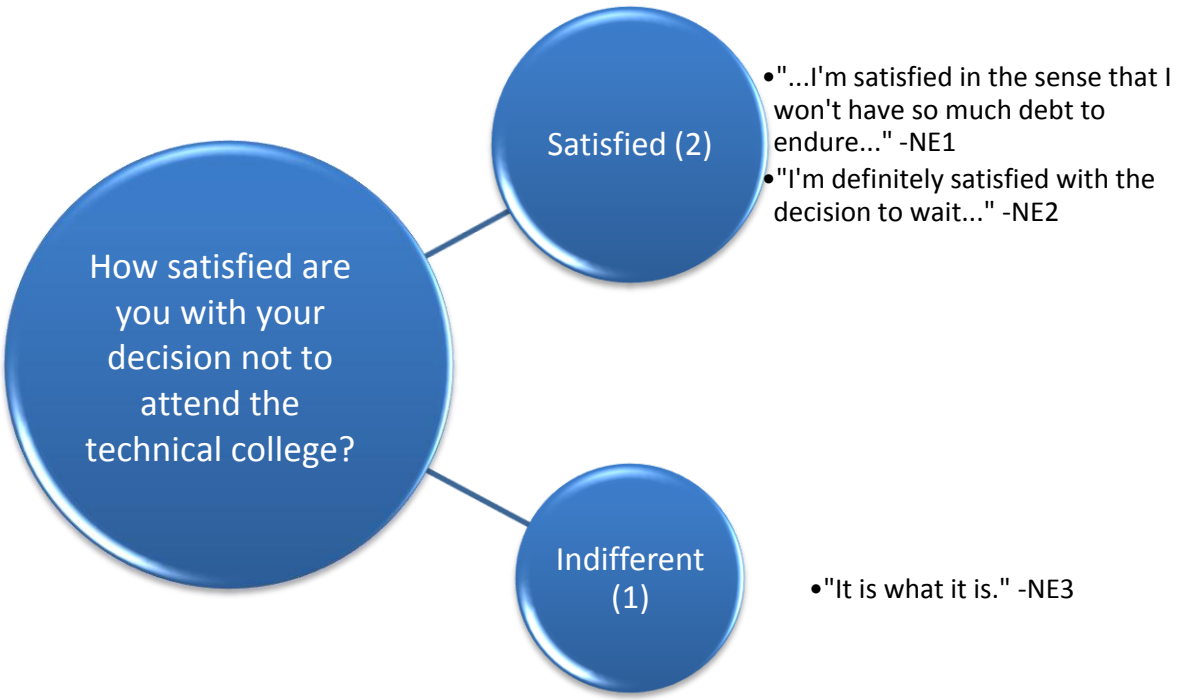

Figure 8. Themes from Non-Enrolling Admitted Students on their Level of Satisfaction with Deciding to Not Attend the Technical College.

Interview question #6: What, if anything, could the technical college have done to persuade you to enroll? The non-enrolling admitted students offered three (3) distinct responses to the question regarding efforts that the technical college could have made to garner enrollment. Considering the discourse established in the preceding questions and answers, the findings here

are not surprising. In any event, these important college choice factors are summarized in Figure 8.

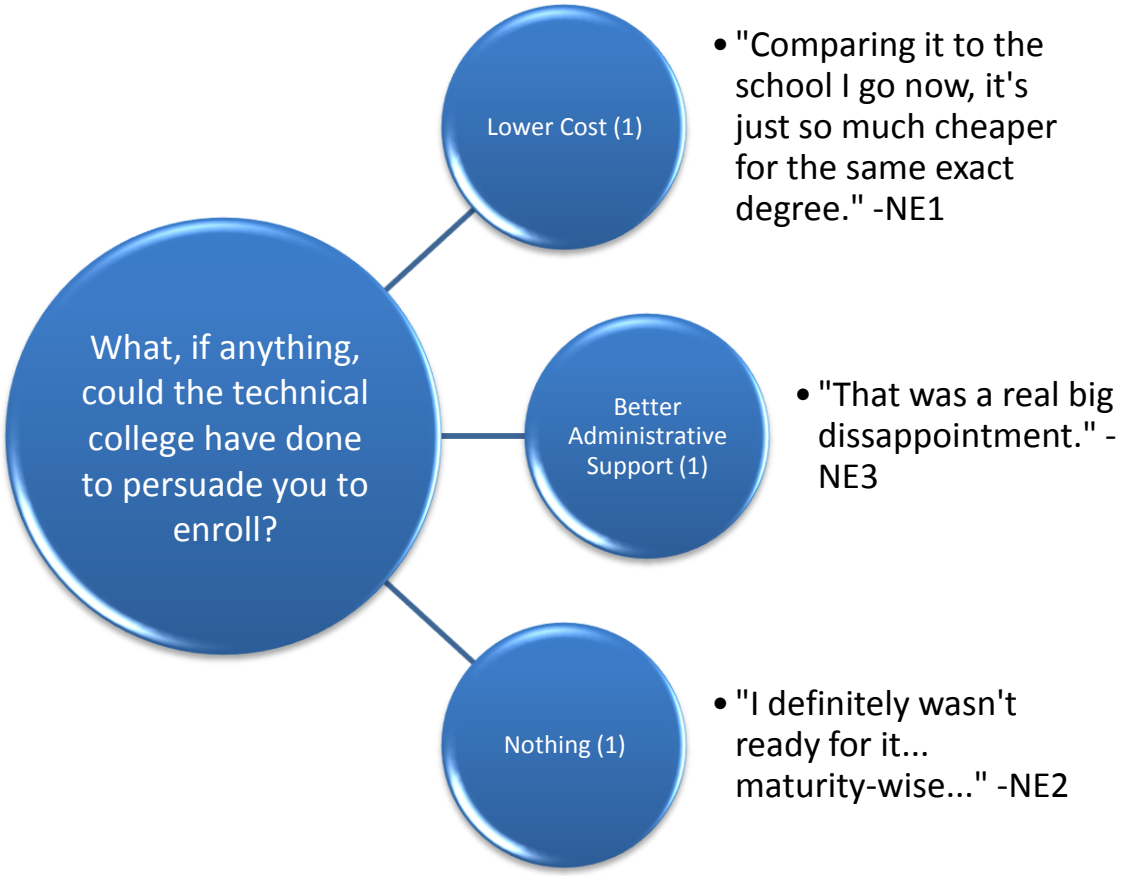

Figure 9. Themes from Non-Enrolling Admitted Students on Measures that the Technical College to Adopt to Influence Enrollment.

Non-enrolling admitted student NE1 was consistent and clear throughout the interview process that attending the technical was simply cost prohibitive. Quite directly, she explained that "(i)t would almost be stupid for me to have gone there (the technical college)… because it (the same academic program at a community college) is literally the exact same degree for half the cost. So I guess if they (the technical college) could cut the cost in half, I definitely would

have gone there." Instead, she opted for a lower-priced community college offer the same academic program.

Interviewee NE3 sincerely longed for better administrative support during the matriculation process. His frustrations with transfer credit decisions and financial aid/billing resources were evident throughout the interview. Regarding financial issues, he implored the technical college to "be more accommodating to…Veteran(s)." Concerning academic credit for transfer courses and life experience, he explained that other institutions were offering him "1/8th to… 3/8th" of the credits necessary for an associate degree in exchange for his SMART credits; whereas the technical college was only offering credit for physical fitness. "That was a real big disappointment," he concluded.

An admitted student choosing to defer their enrollment at a college or university happens with limited regularity. Such was the case for interviewee NE2, making him representative of a small, but important sub-group of non-matriculating students. However, his circumstances were somewhat unique, even within the small population of students deferring enrollment. He applied to the technical college as 16-year-old, homeschooled, high school graduate. Interviewee NE2 confessed that he simply wasn't prepared emotionally, socially, or financially to attend the technical college at the time of his initial application. As such, he declared that there was nothing that the institution could have done to persuade him to enroll at that time. He went on to praise the college for their understanding in the matter, saying "I was very impressed with the fact that they (the technical college) told me that they still wanted me to attend and that they would hold my letter of acceptance and transfer it over to 2014 (the following academic year)."

Reliability and validity. In qualitative research, data comparison and triangulation is necessary to assess reliability and validity (Maxwell, 2005). Employing such methods serve to

decrease threats to validity and increase the reliability of conclusions drawn (Merriam, 2009). This conceptual framework is applied to Creswell's (2008) guidelines to establish reliability and validity for the interview questions posed to the non-enrolling admitted students studied within the first, qualitative research method of this dissertation.

Reliability. Creswell (2008) identifies five (5) types of instrument reliability: test-retest reliability, alternate forms reliability, alternate form and test-retest reliability, interrater reliability, and internal consistency reliability. In the present study, only internal consistency reliability is applicable. While testing for internal consistency is most appropriate within the context of quantitative research through statistical analysis of correlations among similar instrument questions (Creswell, 2008), this practice is adapted and adopted for the purposes of establishing reliability for this qualitative research method.

Where applicable, the individual interviewee responses were consistent among the questions asked. For example, applicant NE1 regularly cited the technical college's high cost as a key college choice factor. Similarly, applicant NE3 discussed his difficulties he experienced with administrative aspect of the technical college.

The non-enrolling admitted student interview responses were also consistent with the findings from the study's quantitative research method analyzing results from the Admitted Student Questionnaire®. Most notably, the interviewees all affirmed the survey findings that academic program availability or "major of interest" was the most important factor in the college choice process of non-enrolling students. Likewise, cost and location of the institution, addressed by applicant NE1 as an important college choice factor, also aligns with the survey findings.

Reliability is also established when interview responses prove consistent with findings in scholarly literature. Again, the college choice factors of cost and location of the institution are relevant. Chapman (1981), Hossler (1984), and Turley (2009) affirm the interview finding that location of the institution is an important factor. Likewise, Bezman (1998), Chapman (1981), and Hossler (1984) concur that the cost of the institution is influential to enrollment decisions in higher education.

Reliability is also dependent upon the actions of the study participants. The interviewees acted in good faith, answering honestly and openly, taking the exercise seriously. As such, it reasonable to assume that other interviewees would respond similarly.

Validity. Creswell (2008) identifies three (3) aspects of validity testing: content, criterion-related, and construct. Content validity measures the appropriateness of the instrument. Criterion-related validity measures the how well the responses align with the outcomes. Construct validity measures the utility of the collected information. Each aspect of validity, as it related to the study's first qualitative research method, is addressed below.

Creswell (2008) explains that content validity requires expert oversight to ensure that "the questions are representative of the area of interest." Though the interview questions used in this study were not vetted by content-area experts, they were reviewed by respected, higher education professionals. The reviewer included doctoral program professors, doctoral program students, a dissertation committee, and the Institutional Review Boards at both the research institution and the research site. Further, students participating in the study found the questions to be reasonable and appropriate.

Criterion-related validity consists of two aspects, predictive and concurrent (Creswell, 2008). This study's interview findings have little to no predictive value, save anecdotal concepts

of the college choice experiences of non-enrolling students, applied to future applicants in similar circumstances. However, concurrent criterion-related validity is applicable because it is clear that the sentiments expressed by the interviewed, non-enrolling admitted students run parallel with their college choice decisions to not attend the technical college.

Construct validity considers the value of the gathered data (Creswell, 2008). In this study, the insightful interview responses are relevant to the purpose of the study and valuable to the technical college. Further, the value of this information benefits not just the host site, but is informative for technical and community colleges throughout higher education as it adds another, unique piece to the puzzle that scholarly literature on college choice research seeks to complete.

Second qualitative research method. The second qualitative research method utilized in this study involved conducting a focus group with students who completed the Admitted Student Questionnaire® and subsequently enrolled at the technical college. Specifically, 256 of the 308 overall survey completers met the criteria for inclusion in the focus group. All 256 enrolling students were invited to participate in the focus group, knowing that five (5) individuals would be randomly selected for the group. Thirteen (13) of the 256 students expressed a willingness to participate in the study. Five (5) individuals were chosen at random, they completed the Informed Consent Form, and the focus group was established.

The group met on Sunday, April 13, 2014 at 2:00 pm. Regrettably, two (2) of the five (5) members did not attend. The two (2) missing students agreed to attend a special meeting on Wednesday, April 16, 2014 at 11:30 am. Following this meeting, all focus group members' contributions to this study were present, accounted, and recorded for further analysis and review.

The enrolling student focus group discussions were analyzed using techniques described by Creswell (2008). These techniques included organizing and transcribing the voice recordings, general exploration of the transcripts, coding of key response elements, and identifying and describing themes in the data. These steps were completed by hand rather than using computer analysis due the small, five-person sample size. The findings from these discussions follow; beginning with an overview of the demographical composition of the focus group.

Demographics. Table 12 presents key demographic characteristics of the focus group membership, including gender, race, state of residence, degree-type sought, and instructional program.

Table 12

Enrolling (E) Student Focus Group Demographic Characteristics

Name Code	Gender	Race	Residence	Degree	Instructional Program
E1	Female	White	In-state	Bach	Physician Assistant
E2	Female	White	In-state	Assoc	Baking and Pastry Arts/Baker/Pastry Chef
E3	Male	White	Out-of-state	Bach	Industrial Production Technologies/Technicians, Other
E4	Male	White	In-state	Bach	Modeling, Virtual Environments and Simulation
E5	Male	White	In-state	Bach	Avionics Maintenance Technology/Technician

Note. Instructional Program based on the National Center for Education Statistics' (NCES) Classification of Instructional Programs (CIP) code assigned to the major by the technical college.

Comparing the demographic characteristics of the enrolling student focus group (Table 12) with student body norms (Table 2), the focus group proportion of males (60%) and females (40%) coincides nicely with the institutional-wide gender norm (63% male, 37% female).

Similarly, the focus group students' home residences (80% in-state) are well aligned with the residency of the technical college's total enrollment (87.3% in-state). All of the students in the focus group report their race as White (100%), compared to 84.5% of the total student body. Only 20% of the students in the focus group are pursuing an Associate degree, far less than the college-wide rate (48.8%). Each of the five (5) students in the focus group is enrolled in a different degree program across a variety of disciplines; representative of the overall student body instructional program mix. Knowing the composition of the focus group provides contextual information relevant to understanding the research findings that follow.

Findings. The focus group members discussed four (4) primary questions. The dialogue prompts included:

1. What is your level of satisfaction with your decision to enroll at a technical college? Explain.
2. Which college choice factors were most important to you?
3. Why were these factors the most important to you?
4. Which college choice factors can the college realistically adjust to yield a greater proportion of enrolled students from the admitted student pool?

The findings for each of these discussion questions are presented, independently, in the following sections.

Focus group question #1: What is your level of satisfaction with your decision to enroll at a technical college? Explain. All five (5) participants were generally satisfied with their decision to enroll at a technical college, as depicted in Figure 10 below.

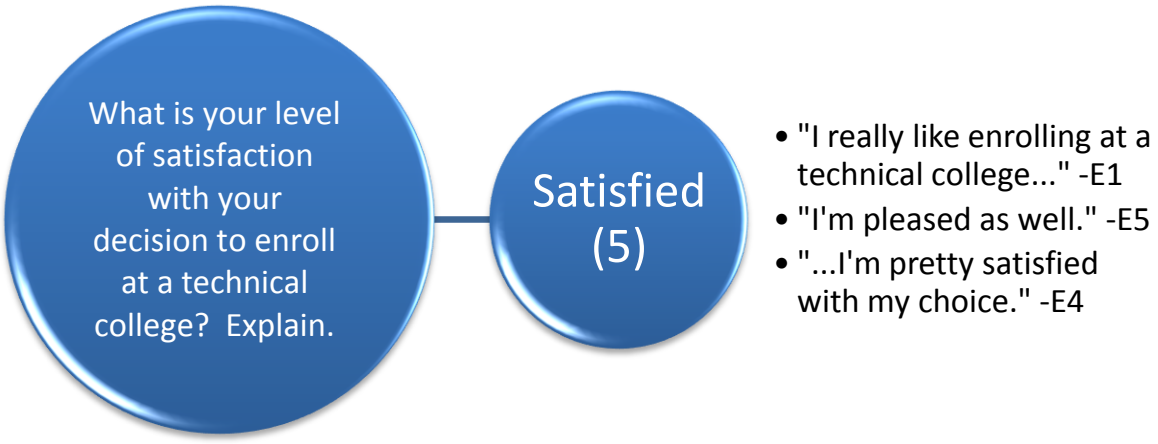

Figure 10. Themes from Enrolled Students on their Level of Satisfaction with their Decision to Enroll at a Technical College.

All members were very pleased with the quality of their academic programs and they appreciated that meaningful, hands-on, classroom experience will give them an advantage in the workforce while competing for entry-level positions. Student E2 asserted "I picked a technical school because you get a lot more hands-on experience before you go out into the world for it." Student E1 added "I'll have an advantage over people that don't have training in school." However, one participant hinted that some friends are not as happy about the faculty in their programs. Student E3, though pleased with his own academic experience, suggested that "a couple of my friends had trouble with their own professors in their own majors in shop classes who either don't know what they are doing or they don't even talk about (the subject matter)."

Several students cited faculty expertise and support among their reasons for satisfaction with the technical college. Student E2 stated "I get a lot of help from all my professors as to

what I'm doing wrong and what I'm doing right." Student E3 explained "for me, my shop classes and whatnot, my teachers know everything."

Regarding student life on campus, the reviews were mixed. Discussion of dorm life brought praise from one student, and scorn from another. Student E5 stated "I'm very happy about (the) dorms and living situation." In response, Student E3 interjected "I'm not happy with living situations. The dorms are rundown and sometimes the heat works, sometimes the A/C works." A lament about inadequate parking was also noted by Student E3.

Focus group question #2: Which college choice factors were most important to you? A variety of compelling, college choice factors were offered by the focus group of enrolled students. Note that question #3 explores "Why?" these factors were important. As such, this section is purposely limited to reporting the key factors only. Figure 11 below presents the major, recurring college choice factors thematically.

Figure 11. Themes from Enrolled Students on Most Important Technical College Choice Factors.

Overall academic reputation was espoused by four (4) of the five (5) participants as a key influence on their decision to attend a technical college. Student E1 spoke to this factor directly

saying "I like the reputation that this college has." Similarly, three (3) students were drawn to the technical college because it offered the particular academic program that they sought to study. Their experiences are addressed at length in the following section. Also, Student E3 added to the discussion about academics that the type of credential awarded was an important factor for him and his discipline. He concluded that "having a degree, instead of a certificate, is a lot better too."

Next, the campus and its facilities were discussed as important, technical college choice factors for these enrolled students. Three (3) students valued the location of the campus in proximity to their homes. Two (2) students cited the campus itself, small but open, as desirable factors. Both of these elements are addressed further in the following section. Another factor mentioned by just one participant, Student E1 presented on-campus housing as selling point. She declared "I was big on housing as far as what went well with what I wanted to have as far as what comes with college."

Finally, several of the focus group participants were influenced to enroll at the technical college based on their interactions with learned and outgoing faculty members. Student E4 stated "(t)hey (the faculty) seemed really, well, knowledgeable." Student E5 was impressed by the personal attention he received from the faculty members he met on his campus tour. He shared that the host site "is the only one I visited where I got a hand-written 'Thank You' for visiting. I was really impressed by that." Again, these faculty-specific factors are addressed in greater detail below.

Focus group question #3: Why were these factors the most important to you? The focus group participants enthusiastically explained the reasons why certain college choice factors played a vital role in their decisions to enroll at a technical college. So much so, that the

discussion naturally blended responses to question #2 (Which factors influenced you?) with question #3 (Why?). After analyzing the conversation transcript to distinguish factors from reasons, five (5) major, recurring themes emerged. These themes are presented in Figure 12 below.

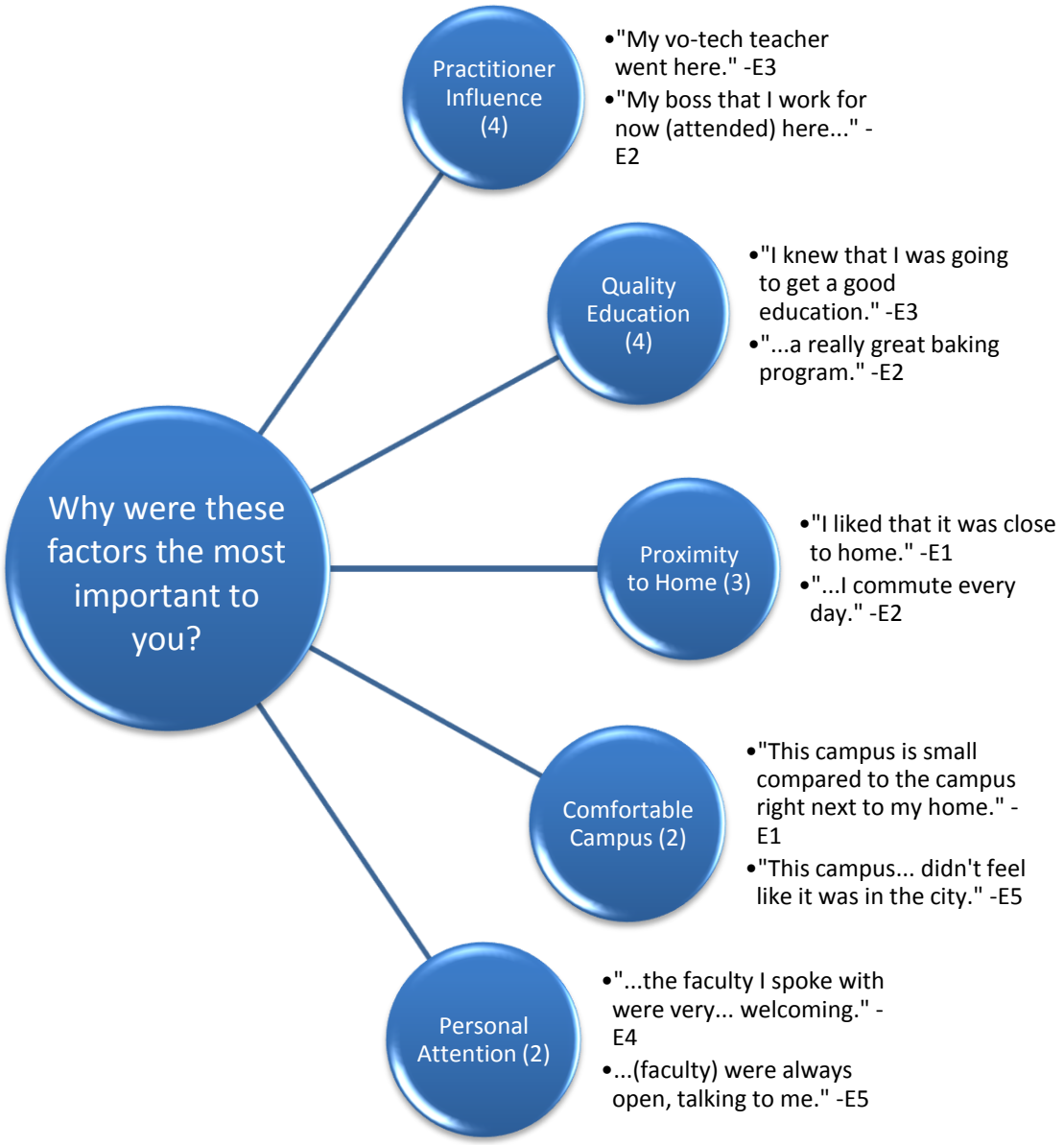

Figure 12. Themes from Enrolled Students on Reasons College Choice Factors Influenced their Enrollment Decisions.

Four (4) of the five (5) focus group members' college choice decisions were heavily influenced by practitioners they encountered. These practitioners all had ties to the technical college; either as an alumnus of the institution or as an employer of the college's graduates. Their praise of the college persuaded these four (4) individuals to apply and enroll. Student E1 stated, "I know a couple of (professionals) that attended the program here and they really liked the program." Student E2 continued, "(t)here (were) a lot of good reviews about it. My boss, that I work for now, came here and everybody that I've talked to told me that I should come here." Student E3 added, "(m)y vo-tech teacher went here. She did a very good job teaching and she referenced me here." Finally, Student E5 concluded by saying, "I was impressed by the reputation and degrees overall. Other students I've known had gone to (the host site) and enjoyed it. Just talking to people in the industries, plastics and auto and aviation, the reputation is there. People want to hire (host site) students."

The assurance of a quality education was also very important in the college choice decision-making process for four (4) of the (5) students. Student E2 declared that the technical college "was the only campus around that had a really great baking program." Student E3 emphasized the point stating "I knew that I was going to get a good education. All the other factors were… second or third to what my major was going to be."

The technical college's close proximity to the student's home was the underlying reason that campus location was popular with three (3) of the participants. However, "close to home" is a subjective concept. The home residence of Student E2 is about 20 minutes from campus and she appreciates that the college "is close to home, because I commute every day." Widening the scope a bit, Student E1 said "I liked that it was close to home, because I live about an hour from here." Moving even further from campus, Student E4 offered that "another good reason I chose

(the technical college) is ease of getting home, about two-and-one-half (2.5) hours away (by car). (It) takes a bus about three (3) hours, not too bad. I was looking at Boston as another choice, a little bit further away. Also New Jersey, also further away."

Two (2) students were drawn to campus size as a college choice factor because they valued the comfortable, inviting confines. Student E1 appreciated that "(t)his campus is small compared to the campus right next to my home." Similarly, Student E5 shared "I was impressed by the campus. I visited others, and they were in cities as well. This campus, although it is in the city surrounded by mountains, didn't feel like it was in the city. The campus, I think does a very good job of seeming open and not condense in a small area. I was impressed by that." However, Student E4 was less impressed by the campus, grumbling that the "(c)ampus is not really attractive, surrounded by mountain, next to an older city."

Two (2) students were also struck by the personal attention that they received, particularly from outgoing faculty members. Student E4 remarked that "(t)he faculty I spoke with were very well performing and welcoming, specifically for the major I wanted." Student E5 described his experience in even greater detail, saying "(w)hen I went to the Aviation Center to tour, they (the faculty) were always open; talking to me. They wanted to (get to) know me already, even though I wasn't enrolled. They wanted me to come (to the technical college)." Student E5 also noted that "(the host site) is the only one I visited where I got a hand-written 'Thank You' (letter) for visiting. I was really impressed by that." However regarding this comment, it is not clear if the letter came from the faculty she interacted with during his tour or from other personnel at the technical college.

Focus group question #4: Which college choice factors can the college realistically adjust to yield a greater proportion of enrolled students from the admitted student pool?

Drawing from their own matriculation experiences and recalling the experiences of friends and family, the focus group discussed strategies that the technical college may undertake in an effort to encourage more students to enroll. Figure 13 presents the themes that emerged from the conversation.

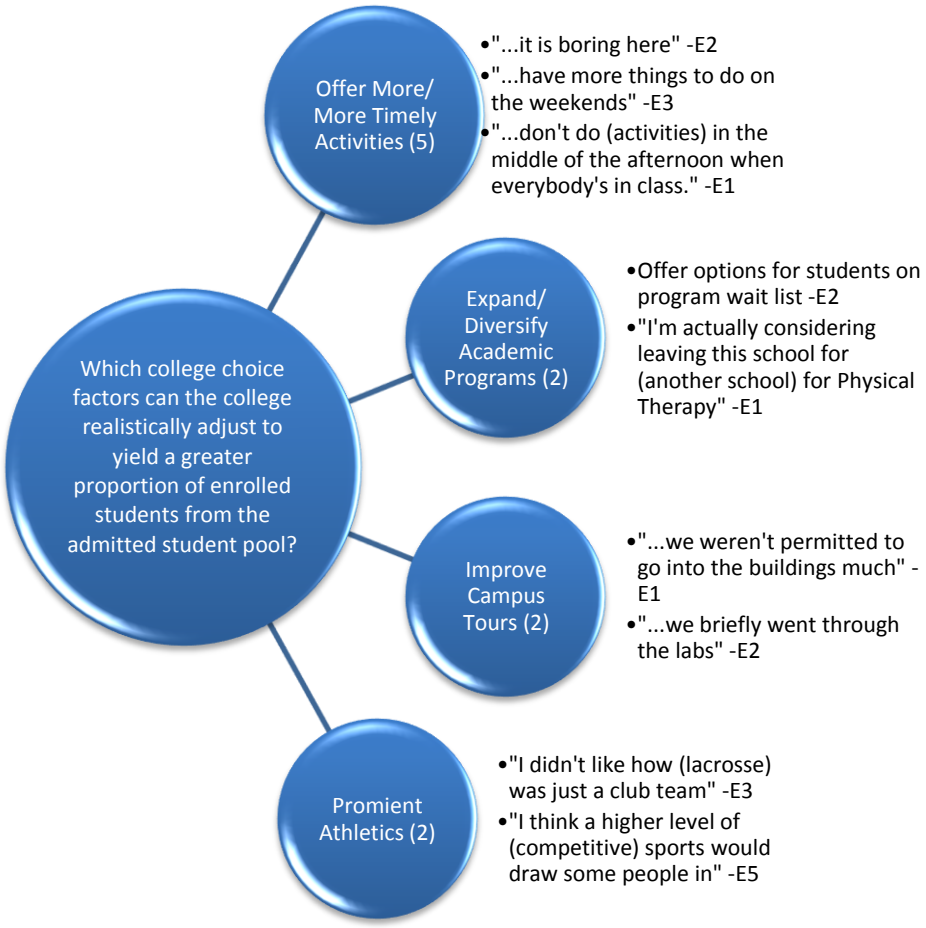

Figure 13. Themes from Enrolled Students on College Choice Factors that the College can Realistically Adjust to Yield a Greater Proportion of Enrolled Students from the Admitted Student Pool.

The students agreed that extracurricular activities on campus are welcome and appreciated, yet insufficient and ill-timed. In response to a prior question, student E4

encapsulated this shortcoming saying "(w)hen I first came, it (the host site) seemed very social. Now, I don't see it." Couching his comment somewhat, he immediately confessed "…although, I'm not really an outgoing person." Nevertheless, his sentiment was shared by all five (5) members of the focus group.

Others chimed in with similar viewpoints. Student E2 suggested that the institution offer "…more activities, maybe? I know a lot of people think that it is boring here because they don't have a lot of stuff to do." Student E3 shared that "one thing (the host site) could try, to have more students come would be… to have more of a social, friendly atmosphere. Have more things to do on the weekends…" Most blunt was student E1, who simply stated "(t)he activities, it's really boring here when there's nothing going on."

Beyond general dissatisfaction with the volume of activities, the timing of the activities was also a concern. Student E5 lamented "…I see activities and some of them are from 11:00 (am) to 2:00 (pm); times that I really can't get (to the activity). A little consideration there would be appreciated for some events." Student E1 shared the same frustration as she pled "…don't do it (activities) in the middle of the afternoon when everybody's in class."

Though clearly frustrated, the focus group members offered a variety of viable solutions to the problems associated with student activities. Broadly, student E2 suggested "…something to get people out and about and meeting more people; because… a lot of people don't talk (to one another here). It's so awkward." Piggybacking on that comment, student E1continued saying "…the rave, that was fun. I like when they had the therapy dog, because I'm a big dog person. They haven't been back much, but that makes your day a little bit better. Even if they just set up a simple game with… a Frisbee or... a water balloon fight. It doesn't have to be a big carnival…" Student E3 lobbied for "… more things to do on the weekends." Student E4

suggested that the technical college should better promote and sponsor transportation to off-campus sites, which encourages "…students going out… to the mall and stuff like that with their friends…"

Another theme raised by two (2) students, proposed expanding and/or diversifying the academic programs offered by the technical college. Student E2, speaking with enrollment capped programs in mind, suggested that the institution add "maybe a couple more (academic) programs, to try to (enroll) people that apply but don't have a program to get into." Student E1, taking to heart the preceding comment, added "I agree with that statement because I am actually considering leaving this school for (another institution that offers a) …Physical Therapy (program). They (the host site) offer Occupational Therapy here, but that's not exactly what I want."

On yet another topic, improving campus tours for prospective students, focus group members E1 and E2 were in agreement again. This time, their comments were strikingly similar. Student E2 opened, saying "When I did my open house, we briefly went through the labs. We really didn't get to see a lot of them. It (would have been) nice to be able to see more of them." Student E1 followed, sharing "I know when we were doing the tours… we weren't permitted to go in the buildings much… I would have really liked to have seen the facilities (more)."

The final theme drawn from the focus groups' comments regarding adjustments that the technical college could make to attract more students concerned more prominent athletic teams. Student E5 initiated the conversation, saying "…I love sports and competed all through high school. I think that (enhancing athletics is) …something that they (the host site) can definitely work on, because sports are huge today; good, bad, or otherwise. It's a huge part of people's lives. I think a higher level of (inter-collegiate) sports would draw some people in." Nodding

with approval, student E3 added "I agree with athletics. I was going to play lacrosse here, but I didn't like how it was just a club team. I wanted an actual college team."

Beyond the themes, other ideas expressed by only one member of the focus group are worthy of consideration. Student E1 raised concerns about the surroundings, saying "(i)f you don't know (the host site city) very well and you're kind of scared about the shady part of (the host site city), you don't know where to go (safely)." Student E1 went on, recalling time spent on-campus for a camp she attended as a high school student, suggesting that the event "actually helped me decide to come here because I got to experience the living conditions and the campus and things like that." However, Student E3 worried that a shortage of beds might make the previous point moot. He declared that "(o)ne thing to get more people to come would be more on-campus housing, because there's definitely as shortage." Finally, Student E4 believed that there may not be anything that the technical college can do to encourage more applicants to enroll; contending that several of his friends applied to institution as just one option among many that they were considering.

Reliability and validity. Much of the evidence for reliability and validity presented with the first qualitative research method (interviews) is applicable to this second qualitative research method (focus group). As such, conceptual frameworks are treated implicitly in this section, focusing instead on substantiation. Again, Creswell's (2008) guidelines for establishing reliability and validity are applied to the focus group questions posed to the enrolling students studied in this research method.

Reliability. Like the interview questions and answers, establishing reliability through internal consistency is applicable to the focus group questions and answers. Where applicable, the individual interviewee responses were consistent among the questions asked. For example,

college choice factor themes of quality education, campus location, and learned/approachable faculty were regularly mentioned by various students through the focus group discussion.

The enrolling student focus group responses were also consistent with the finding from the study's quantitative research method analyzing results from the Admitted Student Questionnaire®. Most notably, their responses to Question 1 about college choice factors most important to them align very closely with the top rated factors identified in the survey. These common factors include overall academic reputation, majors of interest, campus location and attractiveness, and faculty quality and accessibility.

Reliability is also affirmed when focus group responses are found consistent with findings in scholarly literature. As addressed with the reliability of the interviews conducted, the college choice factors of cost and location of the institution are relevant. Chapman (1981), Hossler (1984), and Turley (2009) affirm the focus group finding that location of the institution is an important factor. Likewise, Bezman (1998), Chapman (1981), and Hossler (1984) concur with the focus group that the cost of the institution is influential to enrollment decisions in higher education. Further, in addition to cost and location, the focus groups' preference for quality in their academic majors and the overall institutional reputation, are consistent with the findings of numerous other studies presented in Table 1.

Reliability is also dependent upon the actions of the study participants. Like the interviewees, the focus group students were forthright, addressing the matter sincerely. As such, it reasonable to assume that other enrolled students would respond likewise.

Validity. The content validity of the focus group questions was established in a manner identical to the interview questions employed in this study. Numerous higher education

professionals reviewed and helped to refine the focus group prompts prior to administration. Also, students participating in the study found the questions to be reasonable and appropriate.

Again, the criterion-related validity of the focus group findings mimics those of the interview findings. This study's focus group data has little to no predictive value, except perhaps where the college choice experiences of enrolling students are broadly abstracted and generically applied in the future to matriculating students going through similar circumstances. Concurrent criterion-related validity, however, is germane because it is clear that the factors and influences discussed by the enrolling students are consistent with their college choice decisions to attend the technical college.

Finally, the case for construct validity of the focus group findings is identical to the case made for the interview findings. The astute responses shared by the focus group participants are pertinent to the purpose of this study and helpful to the technical college. Additionally, the findings unmistakably benefit other technical and community colleges, and are at the very least informative to other institutions within the realm of post-secondary education.

Results and Interpretations

In order to generalize and provide a context for the emerging themes of this study, it is helpful to consider them in light of the prominent themes found in prior research. Table 1 in the literature review chapter of this dissertation presents an overview of the major college choice factors studied in important works of the past. Connelly and Halliday (2001), DesJardins, Dundar, and Hendel (1999), Imenda, Kongolo, and Grewal (2002), Joseph and Joseph (2000), Klein and Washburn (2012), Sekely and Yates (1991), and Weiler (1994) all identified scholarly research reporting significant college choice factor among one or more of the following categories:

- Academic quality of institution
- Quality of students' preferred major
- Scholastics standards
- Cost of the education
- Characteristics of campus life
- Socioeconomic considerations

The work of Espinoza (2001) is important to the present study because she undertook similar research, relying upon the Admitted Student Questionnaire® (ASQ®) as a data collection tool to study college choice factors. For reliability analysis purposes, she grouped the 20 institutional characteristics listed on the ASQ® into six thematic categories. They include:

- Academics
- Athletics
- Cost
- Location of Campus
- Service Expectations
- Student Life

These categories share several common elements with those identified by the preceding collection of scholars. Espinoza's (2001) category Academics, encompasses "academic quality of institution," "quality of students' preferred major," and "scholastic standards." Similarly, her category Cost, includes "cost of the education" and "socioeconomic considerations." Her category Student Life, is congruent with "characteristics of campus life." As such, she covers all of the categories previously identified and presents three (3) additional college choice factor categories: Athletics, Location of Campus, and Service Expectations.

Both sets of categories are suitable for a thematic analysis of the present study. However, the college choice factor groups established by Espinoza (2001) are more comprehensive and better aligned with this study's findings. As such, her six (6) themes, Academics, Athletics, Costs, Location of Campus, Service Expectations, and Student Life, become the framework upon which this study's results and interpretations are built.

Academics.

Results. The findings clearly show that academic-related institutional characteristics are collectively, the most important cluster of college choice factors for both enrolling and non-enrolling students. Consistent across all three (3) data collection methods, the desire for quality academic programs, faculty, facilities, and overall reputation is a recurring theme. Though the internal reliability of the survey findings are questionable ($.4 < r < .6$), affirmation from the qualitative findings as well as from scholarly literature negate any concerns about the reliability of the quantitative data.

Chief among the four (4) aspects within the Academics category (quality of major, quality of faculty, overall academic reputation, quality of academic facilities) is the quality of the major of interest (i.e., academic program). Though very important to both enrolling ($M = 1.05$) and non-enrolling students ($M = 1.12$), this element is vital to enrolling students. This vitality is most evident in the statistically significant difference in institutional rating ($p = .00$), where enrolling students rated the technical college appreciably higher ($M = 1.61$) than non-enrolling students ($M = 2.10$).

Quality of faculty, though only fractionally less important than major of interest, is its equal in every other respect. While enrolling ($M = 1.08$) and non-enrolling ($M = 1.15$) students appreciate the value of quality faculty members, enrolling students covet them a bit more.

Again, a statistically significant difference ($p = .01$) in the institutional rating regarding the quality of faculty highlights the distinction that enrolling students ($M = 1.71$) view the technical college faculty as higher quality than non-enrolling students ($M = 2.06$) view them.

Although statistically significant findings do not apply to the remaining two (2) aspects of Academics, overall academic reputation and quality of academic facilities, the general theme remains the same. Both enrolling and non-enrolling students consider them to be important factors, and overall academic reputation is particularly important to non-enrolling students ($M = 1.23$). As usual, enrolling students ($M = 1.87$) rate the institution higher than non-enrolling students ($M = 2.05$). The reliability of institutional ratings is quite strong across all categories ($r > .6$).

Interpretations. The interpretation of these results is that academics, especially major of interest, compel students to apply to the technical college among alternative institutions. After expressing interest in an academic program, students seek knowledgeable yet amiable faculty members to guide them through their preferred program in the coming years. Meanwhile, students consider academic facilities and institutional reputation as they begin to formulate their college choice decision based on academic matters.

When comparing the technical college with other institutions that admitted students considered attending, non-enrolling students rate the host site substantially and consistently lower than enrolling students. Understanding reasons why this occurs can lead to recommendations for attracting students to the technical college who otherwise would choose to attend another institution. Demographical information and qualitative data are particularly helpful in this regard.

Do non-enrolling students hold a lower opinion of the technical college than enrolling students because they are more discerning (i.e., smarter)? Assuming that a private high school education is somewhat more rigorous than a public high school education, non-enrolling students (25%) do attend private high schools more often than enrolling students (8.6%). Non-enrolling students (40.0% A (90-100)) also report slightly higher average grades in high school than enrolling students (35.4% A (90-100)). However, SAT score results are mixed and inconclusive. Though non-enrolling students score higher in Mathematics, enrolling students score higher in Critical Reading and Writing. As such, there is inadequate evidence to support the notion that non-enrolling students are more-discerning than enrolling students.

Do non-enrolling students hold a lower opinion of the technical college than enrolling students because they have *more* post-secondary options (i.e., shopping)? Enrolling student focus group member E4 alluded to this, suggesting that his friends applied to the technical college as just one of many options. Further, it is reasonable to suppose that high achieving students from private high schools apply to the technical college as a fallback in the event that they are not admitted to their top choice(s). However, as described in the preceding paragraph, this claim is unfounded because scholastic aptitude is not linked to high school type for students applying to the technical college. Perhaps non-enrolling students have more post-secondary options because they come from wealthier families? On the contrary, the demographical information suggests that non-enrolling students actually come from poorer families than enrolling students. [This begs the question; do non-enrolling students hold a lower opinion of the technical college than enrolling students because they have *fewer* post-secondary options due to socio-economic status? This question is addressed under the Cost section below.] Hence, the idea that non-enrolling applicants have more options is rejected.

Do non-enrolling students hold a lower opinion of the technical college than enrolling students because they are less serious about their career orientation? Two (2) pieces of evidence suggest that the answer is "yes." First, regarding instructional program area, non-enrolling students (15.4%) report Undecided substantially more often than enrolling students (2.3%). The implication here is that non-enrolling students are not as devoted to the academic programs offered by the technical college as enrolling students. Second, students demonstrate their commitment level to instructional programs based on the type of degree they intend to pursue. Non-enrolling students (23.1%) are less likely to pursue a Baccalaureate degree than enrolling students (34.0%); with most non-enrolling students settling for Associate degrees (73.1%) while others indicate that they do not intend to pursue a degree at all (3.8%).

Athletics.

Results. The quantitative findings plainly establish that athletic-related college choice factors are unimportant to enrolling and non-enrolling students at the technical college. Two (2) items from the Admitted Student Questionnaire® comprise the Athletics factor group: prominent intercollegiate athletics and athletic programs in which the student would like to participate. Regarding both aspects, enrolling and non-enrolling students agree that athletics are unimportant to them, and that the technical college's athletic offerings are woefully inadequate relative to peer institutions. Further, the questionnaire ratings, negative as they are, are reliable ($r < .6$).

However two (2) enrolled students, members of the focus group, vehemently disagreed. They spoke at length about athletics, particularly prominent intercollegiate athletics. Both students were athletes in high school, hoping to continue their athletic careers in college. Neither student was satisfied with the competitive level of athletic offerings of the technical college, so

both students did not participant in available sports programs. They recommended that the institution consider entering into a higher level of athletic competition.

Interpretations. Prospective technical college students are career-focused and value academic preparation over athletic pursuits, be they for personal enjoyment or for school pride. Further, students participating in athletics are a marginal subset of the entire student body. On the other hand, though small in number, athletes are generally fervent, motivated, engaged, and loyal to their teams and institutions; as evidenced by the impassioned plea of focus group students E3 and E5, urging the technical college to install competitive sports against a higher level of competition. Despite their frustration with athletics at the technical college, these two (2) students chose to enroll and made no indication that they might consider transferring to a different institution in order to participate in sports. Thus, athletics is not a key college choice factor for them.

Cost.

Results. The findings favor cost as a very important factor in technical college choice for both enrolling and non-enrolling students. Similar to Academics, enrolling students rate Cost higher than non-enrolling students in both importance and institutional comparison. The ratings disparities are nearly statistically significant, but not quite. Supplemental, cost-related questions added to the survey establish solid, internal reliability ($r > .6$).

Though all of the interviewed, non-enrolling students mentioned cost as a factor, for one student, it was a deal breaker. Her desire to attend the technical college was trumped by fiscal responsibility, knowing that she could obtain the same degree at a community college for roughly half the cost of the technical college. Interestingly, none of the enrolled student focus group members mentioned cost as factor.

Interpretations. Among the interpretations found in the Academics section above, it is noted that non-enrolling students come from poorer families, yet they hold a lower opinion of the technical college than enrolling students. As such, do non-enrolling students hold a lower opinion of the technical college than enrolling students because they have *fewer* post-secondary options due to socio-economic status? Asked another way, is the pricy technical college out of their reach financially? All three (3) of the non-enrolling students interviewed mentioned cost or financial challenges as a factor in their decision to not attend the technical college. For student NE1, it was the lone factor. Hence, the qualitative evidence affirms that affordability relative to socio-economic status is an enrollment deterrent for the technical college.

After considering the impact of students' current socio-economic status on their enrollment decision, it is a fitting transition to consider students' perspectives on their future earnings potential and associated socio-economic status. This topic requires connecting Academic interpretations with Cost interpretations. None of the interviewed, non-enrolling students believed that other institutions offered better quality academic programs or more impressive institutional reputations, leading to a lifetime of higher socio-economic status, than the technical college. Thus, the evidence suggests that non-enrolling students are not drawn or pulled to other institutions by the allure of achieving a higher socio-economic status, rather they are pushed to other institutions due to the high cost of technical college.

Finally, the enrolling student perspective on cost-related issues, or lack thereof, is noteworthy. The survey data suggests that cost is very important to them (M = 1.13), but that they rate the technical college poorly in this regard (M = 2.41) relative to other factors. Though disappointed, enrolling students' (M = 2.41) view of the technical college's cost is substantially better than non-enrolling students (M = 2.70), who assigned their lowest institutional rating to

this element. Perhaps this suggests that enrolling students have not done their homework by price shopping or that many are simply determined to attend the technical college regardless of the cost, so they submit their application to it alone. Further, none of the enrolled student focus group members raised the issue of cost. This may suggest that they do not care about cost, that they are resigned to the fact that the cost is high, or that they are pursuing an academic program that is simply expensive at any institution (e.g., health science majors).

Location of campus.

Results. The quantitative findings reliably suggest that location is a moderately important factor. The qualitative findings suggest that location is a very important factor. One aspect in particular, ease of getting home, is especially important to admitted students. Collectively, the Location of Campus factor group includes a variety of elements including:

- Part of the country in which the college is located
- Surroundings (neighborhood, town or city)
- Ease of getting home
- Attractiveness of campus
- Access to off-campus cultural and recreational opportunities

Quantitatively, enrolling students generally rated the importance level to be about the same or slightly lower than non-enrolling students across the Location of Campus elements. Nonetheless, enrolling students still consistently rated the institution's location-related characteristics higher than non-enrolling students. Qualitatively, among the five (5) Location of Campus elements, little or no attention was paid to two (2) items: part of the country in which the college is located and access to off-campus cultural and recreational opportunities. As such,

the remainder of this results section focuses on the three (3) most prominent aspects of Location of Campus: attractiveness of campus, surroundings, and ease of getting home.

One noteworthy theme from the findings is that both student groups give the technical college high marks for attractiveness (M = 1.74, enrolling; M = 2.00, non-enrolling), compared to peer institutions. The qualitative data supports this quantitative finding. Enrolling student E5 and non-enrolling students NE1 and NE2 all made remarks about how the attractiveness of the campus appealed to them. On the other hand, enrolling student E4, a lone voice of dissention, was entirely unimpressed by the appearance of the campus.

The quantitative data regarding the college's surroundings (neighborhood, town or city), reveals nothing special. Only moderate importance and institutional ratings were assigned to it. Yet the focus group discussion with enrolling students raised some interesting issues. While student E5 appreciated the cozy, small city setting of the institution, student E4 saw the same setting as old and boring. Further, student E1 raised concerns about safety while venturing off-campus at the technical college, because certain local neighborhoods are crime-infested.

Another Location of Campus aspect addressed in this study is the ease of students getting home. Like campus surroundings, the survey data shows that ease of getting home is only moderately important to both enrolling (M = 1.42) and non-enrolling (M = 1.44) students. Again though, the qualitative findings reveal that proximity to home is more important to students than the quantitative data suggests. Enrolling students E1, E2, and E4, and non-enrolling student NE3 all discussed the importance of the campus location relative to where they call home.

Interpretations. Implicit in ease of getting home is the part of the country in which the college is located. Both the quantitative and qualitative data affirm that 95% or more of admitted students live within 300 miles of the technical college. As such, ease of getting home travel is

primarily by car, perhaps bus or train, but unlikely to be via airplane. Hence, the factor group aspect regarding "part of the country in which the college is located" may be overlooked because its local proximity is a given for these students. Further, non-enrolling students are more likely to be from out-of-state (25.0%) than enrolling students (14.5%). The host site is centrally located within its state. Therefore it is reasonable to conclude that for out-of-state students, being a greater distance from home than in-state students makes them less likely to enroll at the technical college. [Cost may play a role here also, as out-of-state students pay a higher tuition rate than in-state students. However, the findings do not address this issue.]

The data on attractiveness of campus is another interesting matter. Surveyed, non-enrolling students gave the technical college their highest comparative rating (M = 2.00), suggesting that they are impressed with the campus. Likewise, two (2) of the three (3) interviewed, non-enrolling students raved about the attractiveness of the campus. Both enrolling (M = 1.43) and non-enrolling (M = 1.42) students agree that attractiveness of campus is reasonably important to them. The implication here is that the technical college is encouraged to continue to devote resources to campus improvement and beautification.

Service expectations.

Results. The Service Expectations category of college choice factors includes three (3) elements: access to faculty, variety of courses offered, and a concentration on undergraduate education. Collectively, they are considered to be of below average importance to enrolling and non-enrolling students. However, a closer look exposes a dichotomy. Access to faculty is considered very important to both student groups (M = 1.20, enrolling; M = 1.28, non-enrolling), affirmed by quantitative and qualitative findings. Variety of courses and undergraduate emphasis are wholly unimportant to both groups; items not even mentioned by the focus group

of enrolled students or during the interviews with non-enrolling students. Further, the reliability of importance ratings in the quantitative data is only minimally sufficient ($.5 < r < .6$).

Interpretations. Clearly, access to faculty is the dominant aspect of students' service expectations, but why? The sentiments of the enrolling student focus group are informative. They value intimate interaction with teachers demonstrating and sharing their knowledge of the students' chosen career field. In essence, these students seek a quasi-apprenticeship experience. As such, the technical college is encouraged to continue to recruit and develop accessible, learned faculty members.

Perhaps the students' lack of interest in the variety of courses offered is inversely related to their passion for accessible faculty. Knowing that most technical college students are career-oriented, their academic interests tend to be narrower than say, students who chose to attend a liberal arts institution. Thus, admitted technical college students place little value on the variety of courses that the college offers. Rather, they care most about the courses offered within their major of interest and about the quality and accessibility of the faculty who will teach these major-courses.

The fact that students overlooked the institutional characteristic dealing with a concentration on undergraduate education is understandable. The intent of this question is to distinguish colleges and universities, particularly those with graduate-level education, from one another based on the amount of attention they pay to their undergraduate students. Admitted students of the technical college simply expect the institution to focus on undergraduate education because it does not offer any graduate programs.

Student life.

Results. After Academics, no topic garnered as much attention in both quantitative and qualitative data collection as Student Life. Surprisingly though, the quantitative importance ratings only range from moderate to below average for all students, enrolling and non-enrolling. These importance ratings are found to be reliable, as are the institutional rating ($r > .6$). The Student Life category is comprised of the following college choice factors:

- Quality of on-campus housing
- Chance to be with students from different backgrounds
- Quality of social life
- Availability of religious activities
- Availability of extracurricular activities

Of the five (5) items listed above, two (2) of them stand out. A statistically significant difference between student groups is found regarding quality of on-campus housing ($p = .01$) and the chance to be with students from different backgrounds ($p = .01$). In both cases, enrolling students reliably ($r > .6$) rated the technical college much higher compared to other institutions they considered attending, than non-enrolling students rated the host site.

On-campus housing is moderately important to enrolling ($M = 1.40$) and non-enrolling ($M = 1.50$) students. The statistically significant difference ($p = .01$) between the groups lies within their institutional rating of on-campus housing. Though non-enrolling students ($M = 2.09$) thought well of the technical college in this regard, they were far surpassed by the positive opinions expressed by enrolling students ($M = 1.68$) in the survey. Qualitatively, non-enrolling students did not broach the subject. Enrolling students on the other hand, discussed the matter willingly. While student E5 articulated a positive on-campus living experience, students E3 and E4 expressed disappointment and frustration with inconsistent temperature controls.

Non-enrolling students assigned one of their worst institutional ratings (M = 2.55) to the technical college for lack of chances to be with students from different backgrounds (i.e., diversity). Not surprisingly, the gender and racial composition of non-enrolling students is more diverse than the composition of enrolling students who are primarily white (85.1%) and male (61.1%), implying that lack of diversity might be a factor in enrollment decisions. Yet both enrolling and non-enrolling students agree that diversity is among the least important college choice factors; a fact affirmed not only in quantitative findings, but also in qualitative findings as the topic went unnoticed by both the non-enrolling interviewee and the enrolling student focus group. This discrepancy suggests that further study is warranted to determine the impact, if any, of diversity on enrollment decisions at a technical college.

Quality of social life is of moderate importance to both groups, more so non-enrolling students. The institutional ratings difference between enrolling (M = 2.08) and non-enrolling (M = 2.37) students are nearly statistically significant (p = .08). As usual, enrolling students rate the technical college as having a better quality of social life than non-enrolling students. Though largely overlooked by the non-enrolling interviewees, the enrolling student focus group discussed this topic at length. Collectively, they expressed a sentiment of being duped. They contend that social life at the technical college was packaged as vibrant and engaging throughout the matriculation process, but their experience as enrolled students at the college is one of boredom and isolation.

The availability of extracurricular and religious activities is not important to either student group. However, religious activities are somewhat more important to non-enrolling students (M = 2.24 of 3.00) than enrolling students (M = 2.33 of 3.00). Both groups give the technical college low marks on the survey (M = 2.44 of 5.00, enrolling; M = 2.65 of 5.00, non-

enrolling). Not surprisingly, neither the focus group nor interviewees broached the topic of religious activities.

Interpretations. On-campus housing is important to students. They have a favorable opinion of the on-campus housing offering at the technical college pre-enrollment. Post-enrollment, reality sets in and some negative aspects of on-campus housing emerge, particularly those aspects that are not immediately recognizable during campus tours like faulty temperature controls or noise pollution. Taking a proactive approach, the technical college may consider collecting and acting upon current student concerns with on-campus housing.

Though not very important to both enrolling and non-enrolling students, the chance to be with students from different backgrounds (i.e., diversity) is still a topic worth considering based on their divergent ratings of the institution. In short, non-enrolling students have a significantly lower opinion of diversity at the technical college than enrolling students. Considering that the institution is predominately comprised of white males, perhaps it is not a coincidence that non-enrolling students tend to be more female (42.9% v. 37.0%) or a racial minority (21.0% v. 7.7%) than host site norms. The technical college may be able to attract new students from these categories by offering more majors of interest to females, and supporting racial minority student engagement with targeted social programming. However, minority students may struggle financially considering that 75% report an annual family income of $40,000 or less; a matter addressed through cost-of-the-institution adjustments.

Enrolling and non-enrolling students rate social life as moderately important; slightly more important to non-enrolling students than enrolling students. Both groups assign middling ratings to the technical college on its relative performance regarding social life. Considering the enrolling student focus groups' frustration with social life, there appears to be a disconnection

between pre-enrollment attitudes and post-enrollment reality. One possible explanation may be linked to on-campus housing. Unlike most community colleges where the student body is almost exclusively a commuter population, the technical college offers on-campus housing to roughly one-third of its students. Perhaps this distinction creates an environment that appears to be more social than a community college campus. However, appearances can be deceiving, as the enrolling student focus group explained.

The enrolling student focus group was most troubled by the social life at the technical college. They suggested that the college offer more activities at more opportune times on evenings and weekends. Fair enough, but are these the frustrated musings of uninformed or duped students now living under less-than-desirable social life conditions? Perhaps so, because non-enrolling students were more savvy, rating the institution lower (M = 2.37 of 5.00) than enrolling students (M = 2.08 of 5.00) at a nearly statistically significant clip (p = .08). Will changes here really yield more enrolling students? Will current students tell future student about the poor social life at the college and discourage them from attending? Since the focus group members indicate that they are satisfied with the technical college (see focus group question #1), it seems unlikely that their entire college experience would be tainted by a substandard social life. However, it is something for the college to examine and improve upon.

The availability of religious activities is rated the single least important college choice factor by both enrolling (M = 2.33 of 3.00) and non-enrolling (M = 2.24 of 3.00) students. Why consider it further? A sizeable portion (20.0%) of non-enrolling students attended a Catholic high school. Perhaps devoting more attention and resources to religious activities may cause the technical college to appeal to groups of students previously thought to be unreachable or unlike to enroll.

Summary

This chapter presents findings, results, and interpretations based on the research methodology described in the previous chapter. The findings are covered in three (3) parts, consistent with the three (3) research methods utilized in this study. Each of the parts includes demographics, findings, and reliability and validity information. Themes emerging from the factual evidence of the findings are presented as results. Results are followed by interpretations, necessary for enhanced understanding of the themes and for offering viable solutions.

Overall, the case is made that five (5) of the six (6) college choice factor categories (Academic, Cost, Location of Campus, Service Expectations, and Student Life) contain one or more important elements that influence college choice decisions. Athletics is the only category with little evidence of enrollment impact. The next chapter addresses the research questions in light of these discoveries, and provides suitable recommendations.

Chapter 5: Conclusions and Recommendations

Introduction

This study examines a problematic aspect of enrollment management concerning the college choice decisions of matriculating students at a technical college. Developing a better understanding these dynamics stands to enhance enrollment management practices at the host site, at other technical and community colleges, and throughout higher education. In order to boost enrollment yield from the pool of admitted students, this study explores the college choice factors that influence matriculation decisions; including factors found most appealing to enrolling students and factors non-enrolling students recommend that the technical college should strive to improve for future students.

A review of pertinent literature considers the three (3) major aspects of the study. First, enrollment management in higher education is defined and its aspects are explored. Second, matriculating student college choice, a key aspect of enrollment management, is further scrutinized. Third, the special role of technical colleges within post-secondary education is evaluated.

Like the literature review, the mixed research methodology also consists of three (3) parts. The first research method is a quantitative study of existing survey data regarding the college choice factors of enrolling and non-enrolling students at the technical college. The second research method consists of qualitative interviews with non-enrolling students who completed the survey. The third research method is also qualitative; a focus group discussion with enrolling students who completed the survey.

Next, the research findings, results, and interpretations are presented. The mixed research findings show that the college choice factor categories Academics, Cost, Location of

Campus, Service Expectations, and Student Life contain one or more important elements that influence enrollment decisions. However, the data for the factor category Athletics is varied and inconclusive.

The remainder of this chapter includes sections addressing conclusions, recommendations, and a closing summary. The study's research questions are answered in the conclusions section. Next, recommendations for purposeful actions, implementation, and future research are presented. Finally, a comprehensive summary of the study ends the dissertation.

Conclusions

Before answering each of the study's research questions individually, one final time they are presented collectively as follows.

Primary Question:

- What actions will motivate a greater proportion of admitted students to enroll at a technical college?

Secondary Questions:

- What factors influence the matriculation decision of students admitted to a technical college?
- Under what circumstances will non-enrolling students reconsider their decision?
- Which positive influences can the technical college accentuate to persuade more students to enroll?

Following this overview of the research questions, each of the secondary questions is addressed before considering the primary research question. This is necessary to lay the groundwork for speaking to the overarching question. Finally, the primary research question is considered and answered.

Secondary research question: What factors influence the matriculation decision of students admitted to a technical college? This study concludes that numerous factors influence the matriculation decision of students admitted to a technical college. It is important to note that influential factors are not limited to just those that persuade admitted students to attend the technical college. Rather, influential factors are those deemed most important to enrolling and non-enrolling students and/or those that differentiate the host site from peer institutions.

As such, it is helpful to consider those pertinent, college choice factors in meaningful groups. Once again, the factor groups established by Espinoza (2001) are useful and applicable. College choice factors found in five (5) of the six (6) groups: Academics, Cost, Location of Campus, Service Expectations, and Student Life, clearly influence the matriculation decision of students admitted to a technical college. The remaining factor group, Athletics, yields only minor, supporting qualitative evidence that it influences matriculation decisions. The remainder of this section summarizes the relevant factors within each group.

This study concludes that all four (4) factors comprising the Academics factor group influence the matriculation decision of students admitted to a technical college.

- Major of interest*
- Quality of faculty*
- Overall academic reputation
- Quality of academic facilities

Both enrolling and non-enrolling students rated each of these elements among their most important college choice factors. Further, the qualitative data strongly affirms this quantitative finding. Yet enrolling students rate the technical college statistically significantly higher than peer institutions on two (2) of the factors: major of interest and quality of faculty (designated "*"

above). Thus, all four (4) Academic factors influence the matriculation decision of students admitted to a technical college.

This study concludes that Cost influences the matriculation decision of students admitted to a technical college.

- Cost to your family

Like the Academics factors, the quantitative data shows that the cost of attendance is very important to matriculating students at the technical college, both enrolling and non-enrolling. However, enrolling students rate the technical college more-superior to peer institutions than non-enrolling students. The qualitative data affirms this sentiment, as all of the non-enrolling students interviewed mentioned cost as an influence and in one case, the cost prohibited attendance at the technical college. However, students do not enroll elsewhere because they believe that their future earning will be higher than they would be with a technical college degree. Put another way, non-enrolling students are not drawn to lower-cost alternatives but rather they are repelled to them by the high cost technical college. Hence, affordability is an enrollment deterrent for some would-be technical college students.

Interestingly, none of the enrolling student focus group members broached the subject of cost. This suggests that their post-enrollment view of cost is decidedly less important than their pre-enrollment stance. Though this may be attributable to numerous reasons, within the context of this study it is likely that these students' drive for career success trumps their concern for educational cost.

This study concludes that three (3) aspects of the Location of Campus factor group influence the matriculation decision of students admitted to a technical college.

- Attractiveness of campus

- Surroundings
- Ease of getting home

While the quantitative findings suggest that these factors are moderately important to students, the qualitative finds are more compelling. Both enrolling and non-enrolling students spoke at length about these Location of Campus factors as being influential on matriculation decisions. Nearly all admitted students live within 300 miles of the technical college, forming a specific, geographical, target market audience. Likewise, the technical college consistently receives high marks on attractiveness compared to peers from both enrolling and non-enrolling students, a mark of distinction that the institution is wise to continue.

This study concludes that one aspect of the Service Expectation factor group influences the matriculation decision of students admitted to a technical college.

- Access to faculty

Both enrolling and non-enrolling students value accessible faculty members at their institution of choice. This relationship with faculty is absolutely imperative to enrolling students. Neither variety of courses nor concentration on undergraduate education, the two (2) remaining aspects of the Service Expectation factor group, are of any import to admitted students.

This study concludes that four (4) aspects of the Student Life factor group influence the matriculation decision of students admitted to a technical college.

- Quality of on-campus housing*
- Chance to be with students from different backgrounds*
- Quality of social life
- Availability of extracurricular activities

Non-enrolling students rated the technical college statistically significantly lower than enrolling students on two (2) Student Life factors, quality of on-campus housing and chance to be with students from different backgrounds (designated "*" above). This indicates that non-enrolling students seek better accommodations and a more-diverse campus. Enrolling student focus group members spoke at length about the remaining two factors, quality of social life and availability of extracurricular activities. Though they offered several constructive suggestions to improve extracurricular activities, they generally feel duped by the appearance of a high quality of social life presented during campus tours, open houses, and orientation, only to experience a substantially less-exciting college-life. Finally, enrolling and non-enrolling students agree that the availability of religious activities is not a meaningful factor influencing their enrollment decisions.

This study concludes that neither of the two (2) factors comprising the Athletics factor group influences the matriculation decision of students admitted to a technical college. The quantitative data clearly establishes that neither athletic participation nor prominent intercollegiate athletics are compelling college choice factors for students admitted to a technical college. Despite of some qualitative data to the contrary, the students advocating for more-competitive athletic opportunities chose to enroll at the technical college even with this shortcoming. Much like the Cost factor group, it seems that technical college students' pursuit of career development trumps their desire for athletic endeavors.

Secondary question: Under what circumstances will non-enrolling students reconsider their decision? This study concludes that non-enrolling students will reconsider their decision to attend the technical college if the institution enacts the following changes.

- Increase and diversify academic program portfolio (Academics)

- Reduce the cost to the student (Cost)
- Focus campus tour on academic facilities (Service Expectations)
- Offer more extracurricular activities at opportune times for students (Student Life)

The preceding factors are themes drawn from answers to questions posed to non-enrolling interviewees and an enrolling student focus group; supported by quantitative data where applicable. Specifically, non-enrolling students were asked "What, if anything, could the technical college have done to persuade you to enroll?" Enrolling students were asked "Which college choice factors can the college realistically adjust to yield a greater proportion of enrolled students from the admitted student pool?" In many instances, the quantitative evidence supports these qualitative themes. Regarding these mixed methods, further explanation for each of the factors follows.

Study participants identified one area within the Academics college choice factor group that will entice non-enrolling students to reconsider their decision to not attend the technical college. Enrolling students recommended that the technical college expand and diversify its academic program portfolio based the disenchantment of friends' experiences with the institution and in one case, a personal dissatisfaction that the college does not offer a desired major. This conclusion is consistent with the quantitative finding that providing academic majors of interest to the students is the single most important college choice factor for both enrolling and non-enrolling students. Yet, non-enrolling students rate the technical college's majors statistically significantly lower than enrolling students, signaling that non-enrolling students are less-enamored with the academic programs offered by the college than enrolling students. Hence, institutional improvement in this area is advisable.

Non-enrolling students are willing to reconsider their college choice if the technical college reduces its cost to students. Interviewee #1 (NE1) clearly articulated her desire to attend the technical college, were it not cost-prohibitive. Interviewees #2 and #3 also mentioned cost among their reasons for not enrolling at the technical college. These comments are consistent with the survey data where non-enrolling students assign their lowest institutional rating to the college choice factor on Cost. Further, though the difference was not statistically significant, non-enrolling students rated the technical college markedly lower than enrolling students regarding Cost.

The results indicate that the technical college can reach non-enrolling students by better meeting Service Expectations prior to attendance. Enrolling student focus group members recommended expanding the campus tour to showcase the academic facilities rather than breezing through them as just one of many aspects of the campus. The quality of academic facilities are considered very important to enrolling and non-enrolling students in the quantitative findings; affirming this qualitative action item.

An adjustment to one facet of Student Life will persuade non-enrolling students to reconsider their decision. Enrolling student focus group members unanimously agreed that increasing the quantity of extracurricular activities and offering them at convenient times would be attractive features to future students. These thoughts are consistent with non-enrolling students' poor institutional rating of the technical college's availability of extracurricular activities.

While the preceding interventions may persuade some non-enrolling students to reconsider the technical college as a viable option, there is also evidence to suggest that other applicants are unaffected by these efforts. Both quantitative and qualitative data suggest that

certain prospective students apply to the technical college as a fallback option; be they high achieving students from private high schools or students whose primary major of interest is not offered at the technical college. In such cases, the institution is encouraged to identify these types of students during the matriculation process and redirect resources toward more-likely attendees, yet staying true to the college's open enrollment legacy.

Secondary question: Which positive influences can the technical college accentuate to persuade more students to enroll? This study concludes that the following factors, viewed favorably by enrolling students, are influential and worthy of attention and promotion to attract more students to the technical college.

- Interesting academic majors (Academics)
- Outstanding academic facilities (Academics)
- Distinguished academic reputation (Academics)
- Quality faculty members (Academics)
- Accessible faculty members (Service Expectations)
- Attractive campus (Location of Campus)
- Desirable on-campus housing (Student Life)

These hallmarks of the technical college, as identified by enrolling students, are derived from the mixed methods research. Quantitatively, these elements received the highest institutional ratings from enrolling students. Qualitatively, the influential factors were affirmed by the enrolling student focus group, primarily as they responded to the question "Which college choice factors were most important to you?"

Among the influences presented above, the four (4) elements comprising the Academics factor group clearly dominate the list. Top-notch academic majors, facilities, and overall

reputation compel students to attend the technical college. Students are further drawn to the institution by knowledgeable yet approachable faculty members; a convergence between Academics and Service Expectations. Enrolling students also find the on-campus housing appealing and enticing; though some in the focus group explain that their stance regarding on-campus housing changed post-enrollment. Finally, the attractiveness of the campus surprises and impresses prospective students who visit the college, enhancing their perception of the institution and bolstering their desire to attend.

Primary question: What actions will motivate a greater proportion of admitted students to enroll at a technical college? This study concludes that the following actions, ranked in order of importance, will motivate a greater proportion of admitted students to enroll at a technical college.

1. Increase and diversify the institution's academic program portfolio.
2. Employ knowledgeable and approachable faculty members.
3. Showcase impressive academic facilities to prospective students.
4. Enhance the institution's distinguished academic reputation.
5. Reduce the cost to the students.
6. Maintain and augment the attractiveness of the campus.
7. Provide ample and desirable on-campus housing.
8. Offer more extracurricular activities at opportune times for students.

These actions are derived from a comprehensive, culminating analysis of the study's mixed research methodology. Specifically, they are drawn from the overlapping aspects of the secondary research questions' conclusions. In the following section, recommendations for implementing these actions are provided.

Recommendations

This section is presented in two parts. In the first part, recommendations for action describe potential solutions to the study's problem statement: under-informed strategic enrollment management practices in higher education. Specifically, the problem is addressed, based upon the results and interpretations, as it relates to the study's primary research question regarding actions to motivate a greater proportion of admitted students to enroll at a technical college. In the second part, recommendations for future research are explained. A summary concludes this chapter and the dissertation.

Recommendations for action.

Action #1: Expand and diversify the institution's academic program portfolio.

Recommendation: This study recommends that the technical college regularly evaluate and adjust its academic program mix while considering future needs, present demands, and past performance. Regarding the future, the college should create innovative academic programs that support emerging occupations and career fields. About the present, the college might consider adopting existing programs at peer institutions, as dictated by the competitive landscape and for the sake of offering programmatic diversity. Concerning the past, it is prudent to promote programs with a successful track record, to nurture programs showing promise, and to eliminate obsolete programs.

Offering majors of interest to students is the most important college choice factor to students in this study, and non-enrolling students rate the institution significantly lower than enrolling students. With this in mind, it is not enough to simply add more majors and hope that prospective students find them attractive and elect to enroll. Rather, it is imperative to

understand the academic interests of non-enrolling students and begin to offer the majors that they desire, whenever consistent with the mission of the technical college.

Another argument for academic program expansion and diversity is to provide secondary, fallback options for students who may not succeed at their primary program of interest. While admission to the institution is open to all, admission to certain majors at the college is a competitive process due to limitations such as facility size, staffing challenges, or accreditation-related requirements. Since not all students aspiring to enter such programs will succeed, the technical college is at risk of losing students who do not foresee a viable academic alternative to pursue should their first choice become unattainable.

Similarly, it is advisable that programmatic variety consider the interests and needs of female and minority students. Per the findings, these underrepresented populations currently enroll at lower rates at the technical college. Adopting more majors that appeal to women and students of color can serve these deserving populations while bolstering the institution's enrollment.

Implementation requires consistent vision and direction from the highest levels of the college. Senior leadership should demonstrate their commitment to expanding and diversifying the academic program portfolio through the inclusion of this action item in the institution's strategic plan. Execution is primarily the responsibility of the technical college's Academic Affairs division, with support from the Institutional Research department.

Action #2: Employ knowledgeable and approachable faculty members.

Recommendation: This study recommends that the technical college hire faculty with discipline expertise and a commitment to fulfilling students' service expectations. Both

enrolling and non-enrolling students stressed the importance of quality faculty members. As such, the institution is encouraged to support current faculty members with professional development geared toward student achievement and engagement. Further, the college should integrate outstanding faculty members into the student matriculation process to the greatest extent possible. These efforts begin with the establishment of effective hiring practices through the college's Human Resources department and are sustained through the implementation of continuing education through the college's Professional Development office.

Action #3: Showcase impressive academic facilities to prospective students.

Recommendation: This study recommends that the technical college make academic facilities the centerpiece of campus tours, allowing students to walk around and interact with the disciplines that pique their interests. Enrolling and non-enrolling students rate academic facilities as very important college choice factors. Several enrolling student focus group members lamented that their campus tours did not spend a sufficient amount of time exploring academic classrooms, laboratories, and related facilities. Implementation requires coordination between the institution's Admissions, Academic Affairs, and Facilities units; with Admissions taking the lead to ensure that customers' needs are being met.

Action #4: Enhance the institution's distinguished academic reputation.

Recommendation: This study recommends that the technical college bolster its academic reputation through outreach to influential people including employers, high school teachers, parents, alumni, and current students. Overall academic reputation is an important college choice factor to enrolling students and even more so to non-enrolling students. Further, non-

enrolling students rate the technical college's overall academic reputation as worse than enrolling students. To remedy this problem, it is recommended that the college continue to educate and persuade key constituents who influence the matriculation decisions of future students, about the virtues of the technical college. This study finds that current and future employers, career and technical education high school teachers, parents and other family members, and alumni and current students of the technical college can all play a role in the college choice, decision-making process of a prospective student. Reaching these constituents requires the involvement of numerous departments within the college, including Academic Affairs, Public Relations, Admissions, Secondary School Outreach, Career Services, and Alumni Services.

Action #5: Reduce the cost to the students.

Recommendation: This study recommends that the technical college eliminate cost as a barrier to entry for students, to the greatest extent possible. Once again, cost is an important factor to both enrolling and non-enrolling students, but non-enrolling students rate the institution lower than enrolling students in this regard. As such, it is prudent for the college to enact a task force to explore cost reduction measures including, but not limited to, the following: the viability of alternative tuition and fee structures, tapping internal and external resources for endowments and scholarship monies, and offering students a variety of billing options. Exploration and implementation requires collaboration among various units within the college, namely Financial Aid, Finance, Bursar, and Advancement.

Action #6: Maintain and augment the attractiveness of the campus.

Recommendation: This study recommends that the technical college should continue to devote resources to campus improvement and beautification. Both enrolling and non-enrolling students praised the college for its attractive and tidy appearance; suggesting that this feature distinguishes the technical college from its competitors. As such, it is imperative that the college's Facilities department be properly administered, staffed, and funded.

Action #7: Provide ample and desirable on-campus housing.

Recommendation: This study recommends that the technical college should regularly assess on-campus housing needs and act accordingly. This college choice factor is moderately important to enrolling and non-enrolling students. However, non-enrolling students rate the technical college considerably worse than enrolling students. Further, the enrolled student focus group devoted considerable time to this topic. If warranted by institutional research, the college should consider adding more on-campus housing for students. Additionally, part of the assessment ought to include collecting and acting upon current student concerns with on-campus housing (e.g., faulty temperature controls). Implementation requires collaboration among Residence Life, Facilities, and Assessment offices.

Action #8: Offer more extracurricular activities at opportune times for students.

Recommendation: This study recommends that the technical college should periodically assess student interest and engagement in extracurricular activities, and adapt practices as needed. Addressing the frustrated experiences of current students shall enhance the institution's reputation as it relates generally to the quality of student life on campus. The technical college can also attract new students by supporting racial minority student engagement with targeted

social programming. Similarly, the institution could devote more attention and resources to religious activities, allowing the technical college to appeal to groups of students previously thought to be unreachable or unlike to enroll. These initiatives are implemented under the leadership of Student Affairs, with support from the institution's Assessment department.

Recommendations for future research. This study recommends that future research expand the scope to include other technical colleges. Peer comparison is one interesting element absent in this dissertation. Though understanding community colleges within this context may also be valuable, they tend to have a somewhat different mission that could be problematic (e.g., students entering with the intent to transfer to a 4-year college or university). Hence, the inclusion of technical colleges-only forms a basis for the truest peer group for comparative analysis.

This study recommends that future research utilize a questionnaire with a more-robust likert-type response scale. The pre-existing, quantitative data analyzed in this study was drawn from responses to the Admitted Student Questionnaire®. This instrument asks participants to rate college characteristics based on level of importance on a 3-point likert-type scale: 1=Very Important, 2=Somewhat Important, 3=Not Important. This narrow scale limits the ability to generate statistically significant variations between enrolling and non-enrolling students. As such, it is advisable to employ a 5-point or 7-point likert-type scale for future research.

This study recommends that future research involve a greater number of non-enrolling students. The perspectives of non-enrolling students are clearly valuable in college choice research. It is regrettable that this study was only able to recruit three (3) interview participants; a byproduct of the small number of non-enrolling students who completed the questionnaire.

Perhaps a better incentive is needed in woo non-enrolling students to participate in quantitative and qualitative research. The offer of a $25 gift card was evidently insufficient to recruit non-enrolling interviewees. However, the same incentive drew ample interest from enrolling students willing to participate in a focus group. Another aspect to consider is conducting the interviews sooner in the process, nearer the time when decisions were made.

This study recommends that future research specifically ask enrolled students about cost as a college choice factor. An interesting disconnection between quantitative and qualitative data suggests that further examination is needed. Prior to enrollment, students responding to the Admitted Student Questionnaire® indicated that cost was among the most important college choice factors. Post-enrollment, focus group members did not even broach the subject of cost as a college choice factor. This oddity prompts numerous questions such as: Is cost still important to them? Have they changed their opinion about cost? Are they now indifferent to cost? How much cost fluctuation are they willing to tolerate?

This study recommends that future research specifically ask non-enrolled students about gender and racial diversity as a college choice factor. One of the key findings in the quantitative data reveals that non-enrolling students do not believe that the technical college is as diverse as enrolling students do. Further, the demographical breakdown of the quantitative data shows that the non-enrolling students are more likely to be in a minority racial group than enrolling students. However, the topic of diversity was never mentioned by the students participating in the qualitative aspects of this study and regrettably, the researcher neglected to explore the matter. Nevertheless, it is advisable for a future study to closely examine and directly address this issue.

Summary

The conclusions and recommendations presented in this chapter bring to an end a journey that began by seeking to find a solution to a problem concerning enrollment management struggles at a technical college. In particular, the matter considered herein focuses on understanding the college choice factors of matriculating students. More pointedly, this topic is honed into the overarching question "What actions will motivate a greater proportion of admitted students to enroll at a technical college?"

From this primary research question stem secondary aspects of technical college choice regarding influential factors, interventions for non-enrolling students, and building upon the strengths of the institution. In the end, the study concludes that eight (8) actions are prudent to address the problem. The actions span across five (5) factor groups discussed throughout this dissertation: Academics, Cost, Location of Campus, Service Expectations, and Student Life. Prominent among the actions are academic items regarding a robust and diverse academic program portfolio, showcasing academic facilities, and building upon a solid academic reputation. Other important actions include reducing cost for students, providing a learned and supportive faculty, continuing campus beautification, optimizing on-campus housing, and expanding extracurricular activities.

Unto themselves, suggested actions are merely ideas. Coupling these concluding actions with practical recommendations forms a substantive endeavor. Academic recommendations involve the exploration of new majors, the procedures for developing an effective faculty, and ways to show off impressive facilities. Other recommendations include cost containment measures, supporting campus beautification efforts, gauging on-campus housing needs, and assessing the effectiveness of extracurricular activities.

The implementation of these recommendations requires the cooperation of numerous departments at the host site. Involved parties include, but are not limited to, the following: Academic Affairs, Student Affairs, Admissions, Facilities, Financial Aid, Finance, Bursar, Institutional Research, Assessment, etc. The campus' senior leadership must ensure that these units work in concert with one another to execute the necessary interventions.

These conclusions and recommendations speak directly to the purpose of this study; to identify and address factors that deter the enrollment of students admitted to a technical college. However, this topic and the proposed interventions are significant to an audience beyond merely the technical college. They contribute to the larger body of knowledge on enrollment management practices and more-specifically, college choice factors. Ultimately, it is the hope of the researcher that this study will enhance strategic enrollment management efforts throughout higher education by informing administrators about the college choice factors which influence new student enrollment.

References

Adams, A. (2009). College choice + enrollment management = enrollment choice. *College & University, 84*(4), 42-49.

American Association of Community and Junior Colleges. (1981). *A Gallup study of the image of and attitudes toward America's community and junior colleges.* Washington, D.C.: AACJC.

American Association of Community Colleges. (n.d.). A look at the future. Retrieved from http://www.aacc.nche.edu/AboutCC/history/Pages/lookatfuture.aspx

ASQ & ASQ Plus. (2012). *The College Board*. Retrieved from http://professionals.collegeboard.com/higher-ed/recruitment/asq

Barnes, B., & Harris, M. S. (2010). Privatization influences and strategic enrollment management decisions in public research universities. *College & University, 85*(4), 2-9.

Baum, S., & McPherson, M. S. (2011). Sorting to extremes. *Change: The Magazine of Higher Learning, 43*(4), 6-12.

Becker, R., & Hecken, A. E. (2009). Higher education or vocational training? An empirical test of the rational action model of educational choices suggested by Breen and Goldthorpe and Esser. *Acta Sociologica, 52*(1), 25-45. doi:10.1177/0001699308100632

Bezmen, T. (1998). School characteristics and the demand for college. *Economics of Education Review, 17*(2), 205-210. doi:10.1016/S0272-7757(97)00025-3

Bierlein Palmer, L., & Gaunt, D. (2007). Current profile of CTE and non-CTE students: Who are we serving? *Journal of Career and Technical Education, 23*(1), 35-43.

Bloomberg, L. D., & Volpe, M. (2012). *Completing your qualitative dissertation: A road map from beginning to end.* Thousand Oaks, Calif: SAGE Publications.

Bosch, G., & Charest, J. (2008). Vocational training and the labour market in liberal and coordinated economies. *Industrial Relations Journal, 39*(5), 428-447. doi:10.1111/j.1468-2338.2008.00497.x

Bradbard, D. A., Robbins, D. K., & Alvis, C. (2011). Balancing the state college budget: Why must tuition increase and by how much? *Journal of the International Academy for Case Studies, 17*(5), 41.

Braunstein, A., McGrath, M., & Pescatrice, D. (1999). Measuring the impact of income and financial aid offers on college enrollment decisions. *Research in Higher Education, 40*(3), 247-259.

Brint, S. G., & Karabel, J. (1989). *The diverted dream: Community colleges and the promise of educational opportunity in America, 1900-1985*. New York: Oxford University Press.

Buss, C., Parker, J., & Rivenburg, J. (2004). Cost, quality and enrollment demand at liberal arts colleges. *Economics of Education Review, 23*(1), 57-65. doi:10.1016/S0272-7757(03)00047-5

Cabrera, A. F., & La Nasa, S. M. (2000, October 26). Understanding the college-choice process. *New Directions for Institutional Research, 2000*, 107, 5.

Canterbury, R. M. (1999). Higher education marketing: A challenge. *Journal of Marketing for Higher Education, 9*(3), 15-24.

Carr, D. (2009). Revisiting the liberal and vocational dimensions of university education. *British Journal of Educational Studies, 57*(1), 1-17.

Carter, R. E., & Curry, D. J. (2011). Using student-choice behaviour to estimate tuition elasticity in higher education. *Journal of Marketing Management, 27*(11-12), 1186-1207. doi:10.1080/0267257X.2011.609653

Chapman, D. W. (1981, September 01). A model of student college choice. *Journal of Higher Education, 52*, 2, 490-505.

Chronicle of Higher Education. (n.d.). Enrollment by Title IV degree-granting institutions, by sector and region, spring 2013. *Almanac of Higher Education 2013*. Retrieved from http://chronicle.com.ezproxy2.library.drexel.edu/article/Enrollment-in-Title-IV/140621/

College Board. (2012). *Admitted Student Questionnaire, 2007-2012 ASQ Participants, Comparative Profile – All Institutions, Norms Report.* This report was prepared for the College Board by Applied Educational Research, Inc.

College Choice. (n.d.). In *Education Resources Information Center*. Retrieved from http://www.eric.ed.gov/

Conard, M. J., & Conard, M. A. (2001). Factors that predict academic reputation don't always predict desire to attend. *Journal of Marketing for Higher Education, 11*(4), 1-18.

Connelly, G., & Halliday, J. (2001). Reasons for choosing a further education: The views of 700 new entrants. *Journal of Vocational Education & Training: The Vocational Aspect of Education, 53*(2), 181-92.

Consumer Reports. (n.d.). Find the best colleges for you. Retrieved from http://www.consumerreports.org/cro/resources/streaming/college-choices/final/college-choices.htm

Craft, R. K., Baker, J. G., Myers, B. E., Harraf, A., & Association for Institutional Research. (2012). *Tuition Revenues and Enrollment Demand: The Case of Southern Utah University. Professional File. Number 124, Spring 2012*. Association for Institutional Research. 1435 East Piedmont Drive Suite 211, Tallahassee, FL 32308. Tel: 850-385-4155; Fax: 850-383-5180; e-mail: air@airweb.org; Web site: http://www.airweb.org.

Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, N.J: Pearson/Merrill Prentice Hall.

Creswell, J. W., & Plano, C. V. L. (2007). *Designing and conducting mixed methods research*. Thousand Oaks, Calif: SAGE Publications.

DesJardins, S. (2001). Assessing the effects of changing institutional aid policy. *Research in Higher Education, 42*(6), 653-678.

DesJardins, S. (2002). An analytic strategy to assist institutional recruitment and marketing efforts. *Research in Higher Education, 43*(5), 531-553.

DesJardins, S. L., Dundar, H., & Hendel, D. D. (1999). Modeling the college application decision process in a land-grant university. *Economics of Education Review, 18*(1), 117-132. doi:10.1016/S0272-7757(98)00023-5

Dolence, M. G. (1998). Strategic enrollment management. In Swann, C. C. & Henderson, S. E. (Eds.), *Handbook for the college admission profession*, 71-97. Washington, D.C.: American Association of Collegiate Registrars and Admissions Officers.

Duniway, R. L. (2012). Benchmarking and enrollment management. *New Directions for Institutional Research,* (156), 25-36.

Elsner, P. A., Boggs, G. R., & Irwin, J. T. (2008). *Global development of community colleges, technical colleges, and further education programs.* Washington, DC: Community College Press.

Engberg, M. E. (2012). Pervasive inequality in the stratification of four-year college destinations. *Equity & Excellence in Education, 45*(4), 575-595.

Espinoza, S. M. (2001). *College decision-making of enrolling undergraduates: The influence of institutional factors.* Retrieved from ProQuest Digital Dissertations. (AAT 3032053)

Fertig, J. (2011). Success without college. *Academic Questions, 24*(3), 291-299. doi:10.1007/s12129-011-9233-z

Fincher, C. (1978). Institutional research as organizational intelligence. *Research in Higher Education 8*: 189-192.

Fincher, C. (1985). The art and science of institutional research. In M. Corcoran and M. W. Peterson (eds.), *Institutional Research in Transition* (pp. 17-37). New Directions for Institutional Research, No. 46. San Francisco: Jossey-Bass.

Griffith, A., & Rask, K. (2007). The influence of the US News and World Report collegiate rankings on the matriculation decision of high-ability students: 1995–2004. *Economics of Education Review, 26*(2), 244-255. doi:10.1016/j.econedurev.2005.11.002

Grodsky, E., & Jones, M. (2007). Real and imagined barriers to college entry: Perceptions of cost. *Social Science Research, 36*(2), 745-766. doi:10.1016/j.ssresearch.2006.05.001

Grodsky, E., & Riegle-Crumb, C. (2010). Those who choose and those who don't: Social background and college orientation. *The Annals of the American Academy of Political and Social Science, 627*(1), 14-35. doi:10.1177/0002716209348732

Harris, R., & Rainey, L. (2012). Learning pathways between and within vocational and higher education: Towards a typology? *The Australian Educational Researcher, 39*(1), 107-123. doi:10.1007/s13384-012-0052-1

Harris, R., & Ramos, C. R. (2012). "The one less travelled": Adult learners moving from the academic sector to the vocational sector in singapore and australia. *Journal of Vocational Education and Training, 64*(4), 387-402.

Hartunian, V. (2011). *Effective strategic enrollment management: Factors influencing strategic enrollment management effectiveness at a four-year public university.* ProQuest, UMI Dissertations Publishing.

Hemelt, S. W., & Marcotte, D. E. (2011). The impact of tuition increases on enrollment at public colleges and universities. *Educational Evaluation and Policy Analysis, 33*(4), 435-457. doi:10.3102/0162373711415261

Hillman, N. W. (2012). Tuition discounting for revenue management. *Research in Higher Education, 53*(3), 263-281. doi:10.1007/s11162-011-9233-4

Hossler, D. (1984). *Enrollment management: An integrated approach.* New York: College Entrance Examination Board.

Hossler, D., Braxton, J., & Coopersmith, G. (1989). Understanding student college choice. *Higher education: Handbook of theory and research* (Vol. 5, pp. 231-288). New York: Agathon Press.

Hossler, D., & Gallagher, K. (1987). Studying student choice: a three-phase model and the implications for policymakers. *College and University 62*(3), 207-221.

Howard, R. D. (2001). *Institutional research: Decision support in higher education.* Tallahassee, FL: Association for Institutional Research.

Hoxby, C. (2009). The changing selectivity of American colleges. *Journal of Economic Perspectives, 23*(4), 95-118. doi:10.1257/jep.23.4.95

Hurtado, S., Inkelas, K. K., Briggs, C., & Rhee, B. (1997). Differences in college access and choice among racial/ethnic groups: Identifying continuing barriers. *Research in Higher Education, 38*(1), 43-75. doi:10.1023/A:1024948728792

Imenda, S. N., Kongolo, M., & Grewal, A. S. (2002). Factors contributing to declining enrollments at the University of Transkei. *South African Journal of Higher Education, 16*(2), 122-29.

Joseph, M., & Joseph, B. (2000). Indonesian students' perceptions of choice criteria in the selection of a tertiary institution: Strategic implications. *International Journal of Educational Management, 14*(1), 40-44.

Kahyarara, G., & Teal, F. (2008). The returns to vocational training and academic education: Evidence from tanzania. *World Development, 36*(11), 2223.

Keng, S., & Lo, Y. (2011). Does attendance to a four-year academic college versus vocational college affect future wages? *Asia Pacific Education Review, 12*(1), 117-127. doi:10.1007/s12564-010-9122-0

Klein, S., & Washburn, S. (2012). A case study of the search phase of college choice as experienced prospective students visiting a midwest college of agriculture. *NACTA Journal, 56*(4), 63.

Knight, W. E. (2003). *The primer for institutional research.* Tallahassee, FL: Association for Institutional Research.

Krejcie, R. V., & Morgan, D. W. (1970). *Determining sample size for research activities.* Emmitsburg, MD: National Emergency Training Center.

Leimer, C., & Association for Institutional Research. (2011). *The Rise of Institutional Effectiveness: IR Competitor, Customer, Collaborator, or Replacement? Professional File. Number 120, Spring 2011*. Association for Institutional Research. 1435 East Piedmont Drive Suite 211, Tallahassee, FL 32308. Tel: 850-385-4155; Fax: 850-383-5180; e-mail: air@airweb.org; Web site: http://www.airweb.org.

Lipka, S. (2011, November 11). 2-year colleges get strategic about enrollment. *The Chronicle of Higher Education*. Retrieved from http://chronicle.com.ezproxy2.library.drexel.edu/article/Community-Colleges-Get/142885/

Llopis-Jepsen, C. (2013, August 22). State legislation leads to boom in technical education. *The Topeka Capital-Journal.* Retrieved from http://cjonline.com/news/2013-08-22/state-legislation-leads-boom-technical-education

Long, B. (2004). How have college decisions changed over time? An application of the conditional logistic choice model. *Journal of Econometrics, 121*(1-2), 271-296. doi:10.1016/j.jeconom.2003.10.004

Matriculation. (n.d.). In Princeton University's WordNet® online. Retrieved from http://wordnetweb.princeton.edu/perl/webwn?s=matriculation

Maxwell, J.A. (2005). *Qualitative research design: An interactive approach.* Thousand Oaks, CA: Sage Publications, Inc.

McDonough, P. M. (1997). *Choosing colleges: How social class and schools structure opportunity.* Albany: State University of New York Press.

Merriam, S.B. (2009). *Qualitative research: A guide to design and implementation.* San Francisco: Wiley Publications.

Moodie, G. (2009). Four tiers. *Higher Education, 58*(3), 307-320. doi:10.1007/s10734-008-9195-4

Mueller, S. (2013, August 29). Workforce round table shows technical college benefits. *The Times*, Gainesville, GA. Retrieved from http://www.gainesvilletimes.com/section/6/article/87936/

National Student Clearinghouse Research Center. (2013, May 16). *Current term enrollment estimates: Spring 2013*. Retrieved from http://nscresearchcenter.org/currenttermenrollmentestimate-spring2013/#more-852

Nora, A., & Cabrera, A. F. (1992). *Measuring program outcomes: What impacts are important to assess and what impacts are possible to measure?* Paper prepared for the Design Conference for the Evaluation of Talent Research. Washington D.C.: Office of Policy and Planning, U.S. Department of Education.

Noorbakhsh, A., & Culp, D. (2002). The demand for higher education: Pennsylvania's nonresident tuition experience. *Economics of Education Review, 21*(3), 277-286. doi:10.1016/S0272-7757(00)00064-9

Obermeit, K. (2012). Students' choice of universities in Germany: Structure, factors and information sources used. *Journal of Marketing for Higher Education, 22*(2), 206-230.

O'Connor, K. M. (2007). *Exploring the relationship between student college choice and student persistence.*

Ohern, S. (2010). *The impact of tuition pricing changes on the balance of enrollment among christian religious colleges.* ProQuest, UMI Dissertations Publishing).

Paulsen, M. B., & St. John, E. P. (1997). The financial nexus between college choice and persistence. *New Directions for Institutional Research, 95,* Fall, 65-82.

Paulsen, M. B., & St. John, E. P. (2002). *Social class and college costs: Examining the financial nexus between college choice and persistence*. Columbus: Ohio State University Press. doi:10.1353/jhe.2002.0023

Perna, L., & Titus, M. (2004). Understanding differences in, the choice of college attended: The role of state public policies. *Review of Higher Education, 27*(4), 501-501.

Price Sensitivity Analysis. (n.d.). *Noel-Levitz.* Retrieved from https://www.noellevitz.com/higher-education-market-research/higher-education-market-research-services/college-price-sensitivity-analysis

Ravid, R. (2005). *Practical statistics for educators*. Lanham: University Press of America.

Rojewski, J. W., Asunda, P., & Kim, S. J. (2008). Trends in career and technical education research. *Journal of Career and Technical Education, 24*(2), 57-68.

Roodhouse, S. (2008). Revisiting "technical" education. *Education + Training, 50*(1), 55-58. doi:10.1108/00400910810855513

Rosen, D. E., Curran, J. M., & Greenlee, T. B. (1998). College choice in a brand elimination framework: The high school student's perspective. *Journal of Marketing for Higher Education, 8*(3), 73-92.

Rosenberg, R. D. (2008). *An analysis of factors that influence matriculation at the masters level.* ProQuest, UMI Dissertations Publishing).

Saupe, J. L. (1990). *The functions of institutional research (2nd ed.).* Tallahassee, FL: Association for Institutional Research. Retrieved from http://www.airweb.org/page.asp?page=85

Saxon, R. J. (2004). *An assessment of the use of student price response models to predict changes in undergraduate enrollment at a metropolitan university.* ProQuest, UMI Dissertations Publishing).

Sekely, W. S., & Yates, R. M. J. (1991). Multiple positions for an academic institution: A factor analysis approach. *Journal of Marketing for Higher Education, 3*(2), 87-104.

Shaw, J. S. (2011). What will colleges do when the bubble bursts? *Academic Questions, 24*(4), 438-448. doi:10.1007/s12129-011-9253-8

Shaw, E. J., Kobrin, J. L., Packman, S. F., & Schmidt, A. E. (2009). Describing students involved in the search phase of the college choice process: A cluster analysis study. *Journal of Advanced Academics, 20*(4), 662-700.

Simonsohn, U. (2010). Weather to go to college. *The Economic Journal, 120*(543), 270-280.

Snyder, T. D., Dillow, S. A., United States., & National Center for Education Statistics. (2012). *Digest of Education Statistics 2011.* Washington, D.C: U.S. Dept. of Education.

Stringer, E. T. (2007). *Action research.* Los Angeles: Sage Publications.

Symonds, W. C. (2012). Pathways to prosperity. *Educational Leadership, 69*(7), 35-39.

Terenzini, P. T. (1993, February 1). On the nature of institutional research and the knowledge and skills it requires. *Research in Higher Education, 34*, 1, 1-10.

Tucciarone, K. (2008). Advertising's effect on community college search and choice. *Community College Enterprise, 14*(2), 73-91.

Tuor, S. N., & Backes-Gellner, U. (2010). Risk-return trade-offs to different educational paths: Vocational, academic and mixed. *International Journal of Manpower, 31*(5), 495-519. doi:10.1108/01437721011066335

Turley, R. (2009). College proximity: Mapping access to opportunity. *Sociology of Education, 82*(2), 126-146.

U.S. News & World Report. (n.d.). Finding the right school. Retrieved from http://www.usnews.com/education/best-colleges/right-school

Villella, E. F., & Hu, M. (1990). College choice as a linking variable between recruitment and retention. *Journal of Marketing for Higher Education, 3*(1), 79-88.

Vu, T. B., Hammes, D. L., & Im, E. I. (2012). Vocational or university education? A new look at their effects on economic growth. *Economics Letters, 117*(2), 426. doi:10.1016/j.econlet.2012.06.027

Waterhouse, R. (2002), "Widening participation and the distributed university", in Roodhouse, S. and Hemsworth, D. (Eds), *Widening Participation in the Workplace: A New Agenda for Further and Higher Education, Proceedings of the University Vocational Awards Council Annual Conference.*

Weiler, W. C. (1994). Transition from consideration of college to the decision to apply. *Research in Higher Education, 35*(6), 631-646.

Wilensky, H. L. (1969). *Organizational Intelligence: Knowledge and Policy in Government and Industry.* New York: Basic Books.

Wilson, H. E., & Adelson, J. L. (2012). College choices of academically talented secondary students. *Journal of Advanced Academics, 23*(1), 32-52.

Wolmak, G., & Engberg, M. (2007). The effects of high school feeder networks on college enrollment. *Review of Higher Education, 31*(1), 27-53.

Appendix A: Admitted Student Questionnaire®

ADMITTED STUDENT QUESTIONNAIRE ©

Many characteristics of colleges are important to students in making college choices. Some of these characteristics are listed below. Please indicate in column A how important each college characteristic was to you in choosing the college that you will attend. In column B indicate how our college compared to other colleges that you considered *seriously*. Circle the numbers that best represent your ratings.

COLLEGE CHARACTERISTICS	A. IMPORTANCE TO YOU			B. HOW OUR COLLEGE COMPARED TO OTHERS YOU CONSIDERED					
	Very Important	Somewhat Important	Not Important	Best	Better than Most	About the Same	Poorer than Most	Worst	Can't Compare
1. Quality of faculty	1	2	3	1	2	3	4	5	0
2. Quality of majors of interest to you	1	2	3	1	2	3	4	5	0
3. Overall academic reputation	1	2	3	1	2	3	4	5	0
4. Quality of academic facilities (library, laboratories, computers, etc.)	1	2	3	1	2	3	4	5	0
5. Variety of courses	1	2	3	1	2	3	4	5	0
6. Access to faculty	1	2	3	1	2	3	4	5	0
7. Concentration on undergraduate education	1	2	3	1	2	3	4	5	0
8. Prominent intercollegiate athletics	1	2	3	1	2	3	4	5	0
9. Cost to your family - how much you and your family would have to pay after grants and scholarships (if any) are subtracted from total college costs	1	2	3	1	2	3	4	5	0
10. Athletic programs in which you would like to participate	1	2	3	1	2	3	4	5	0
11. Availability of extracurricular activities (clubs, debate, drama, music, etc.)	1	2	3	1	2	3	4	5	0
12. Access to off-campus cultural and recreational opportunities	1	2	3	1	2	3	4	5	0
13. Availability of religious activities	1	2	3	1	2	3	4	5	0
14. Quality of social life	1	2	3	1	2	3	4	5	0
15. Attractiveness of campus	1	2	3	1	2	3	4	5	0
16. Surroundings (neighborhood, town or city)	1	2	3	1	2	3	4	5	0
17. Part of the country in which the college is located	1	2	3	1	2	3	4	5	0
18. Quality of on-campus housing	1	2	3	1	2	3	4	5	0
19. Ease of getting home	1	2	3	1	2	3	4	5	0
20. Chance to be with students from different backgrounds	1	2	3	1	2	3	4	5	0

[40]

Students often take into account the opinions of other people when making college choices. They may also take into account how they think colleges are viewed by potential employers or by graduate schools. Please indicate in column A how important such opinions were to you in choosing the college that you will attend. In column B indicate how our college tends to be compared to other colleges that you considered *seriously*. Circle the numbers that best represent your ratings.

OPINIONS	A. IMPORTANCE TO YOU			B. HOW OUR COLLEGE TENDS TO BE COMPARED TO OTHERS YOU CONSIDERED					
	Very Important	Somewhat Important	Not Important	Best	Better than Most	About the Same	Poorer than Most	Worst	Don't Know
21. My parents or guardians	1	2	3	1	2	3	4	5	0
22. My guidance counselor	1	2	3	1	2	3	4	5	0
23. My high school teacher(s)	1	2	3	1	2	3	4	5	0
24. My friends	1	2	3	1	2	3	4	5	0
25. Potential future employers	1	2	3	1	2	3	4	5	0
26. Graduate and professional schools	1	2	3	1	2	3	4	5	0

[52]

To help improve the information we make available to students, please rate the quality of the information we provided to you. For each source listed, indicate how our information compared to that provided by other colleges you considered *seriously*. Circle the number that represents your rating for each information source. If a given type of information was not available from our college or not used by you, circle zero.

INFORMATION SOURCES	HOW OUR COLLEGE COMPARED TO OTHERS YOU CONSIDERED					
	Not Offered or Not Used	Best	Better than Most	About the Same	Poorer than Most	Worst
27. Visits by admissions staff at your high school	0	1	2	3	4	5
28. College-sponsored meetings in your home area	0	1	2	3	4	5
29. College publications (catalogs, brochures, etc.)	0	1	2	3	4	5
30. College videos or CD-ROMs	0	1	2	3	4	5
31. College web site	0	1	2	3	4	5
32. Communications about financial aid (not the aid decision)	0	1	2	3	4	5
33. Electronic communication with the college	0	1	2	3	4	5
34. Visit to campus	0	1	2	3	4	5
35. On-campus interview with admissions staff	0	1	2	3	4	5
36. Contact with the college after you were admitted	0	1	2	3	4	5
37. Contact with faculty from the college	0	1	2	3	4	5
38. Contact with coaches	0	1	2	3	4	5
39. Contact with graduates of the college	0	1	2	3	4	5
40. Contact with students who attend the college	0	1	2	3	4	5

[66]

From the list below, please circle all words or phrases that you would say are the most widely-held images of our college.

41. Career-oriented	47. Relaxed	53. Liberal	59. Partying
42. Personal	48. Snobbish	54. Challenging	60. Intellectual
43. Conservative	49. Fun	55. Not well-known	61. Athletics
44. Social	50. Impersonal	56. Friendly	62. Comfortable
45. Intense	51. Prestigious	57. Average	63. Exciting
46. Isolated	52. Back-up school	58. Close-knit	64. Other _____

[90]

NE

Please provide the following information about the colleges to which you applied.

65. **Including our college**, to how many institutions did you apply? _____

66. **Including our college**, to how many of these institutions were you admitted? _____

67. Do you plan to enroll in college within the next 12 months? 1 Yes 2 No

If "yes," please indicate the name of the college you plan to attend. _____ (College Name) _____ (City/State)

Please list below up to five **other** colleges to which you applied and indicate the actions taken by these colleges on your applications. If you applied to more than five other colleges, list those you were most interested in attending. **Do not list our college or the college you plan to attend.**

		Admitted	Wait-Listed	Not Admitted	Withdrew Application	Haven't Heard
68.	_____ (College Name) _____ (City/State)	1	2	3	4	5
69.	_____ (College Name) _____ (City/State)	1	2	3	4	5
70.	_____ (College Name) _____ (City/State)	1	2	3	4	5
71.	_____ (College Name) _____ (City/State)	1	2	3	4	5
72.	_____ (College Name) _____ (City/State)	1	2	3	4	5

[124]

Please provide the following information about college costs and financial aid, where applicable.

	OUR COLLEGE	ANY OTHER COLLEGE
73. Did you apply to any college for financial aid?	1 Yes 2 No	1 Yes 2 No
74. Were you offered financial aid by any college?	1 Yes 2 No	1 Yes 2 No
75. Did any college offer you a scholarship specifically in recognition of your athletic, musical, or academic talent?	1 Yes 2 No	1 Yes 2 No

76. Were either financial aid or college costs significant factors in your decision to enroll in the college you plan to attend?
1 Yes 2 No

[131]

Please describe how our college compared to other colleges you considered in terms of cost and financial aid amounts. Circle the numbers that best reflect comparative cost and aid amounts. If you did not apply for financial aid or if you have not yet been notified about aid awards, circle zero.

COST AND FINANCIAL AID	HOW OUR COLLEGE COMPARED TO OTHERS YOU CONSIDERED					
	Highest Amount	Higher than Most	About the Same	Lower than Most	Lowest Amount	Does Not Apply
77. Total institutional price (before financial aid)	1	2	3	4	5	
78. Total cost to you and your family after grants and scholarships	1	2	3	4	5	0
79. Total dollar amount of financial aid offered	1	2	3	4	5	0
80. Portion of total financial aid that was scholarship or grant	1	2	3	4	5	0
81. Amount of financial aid given in recognition of athletic, musical, or academic talent	1	2	3	4	5	0

82. Please answer the following questions specifically about **the college you are planning to attend:**

Check here ☐ if you did not apply for financial aid at the college you will attend. OR

Check here ☐ if you applied for but did not receive any financial aid from the college you will attend.

If you DID receive financial aid from the college you will attend, please list the amounts of financial aid awarded by that college **for the first year:**

Work $_____ Need-based scholarship/grant $_____

Student loan $_____ Merit-based scholarship $_____

TOTAL $_____

[162]

83. How are your parents/guardians financing their contribution toward your college education? (Circle all that apply)

1 From current income
2 From past savings (including tuition prepayment plans, Uniform Gifts to Minors, etc.)
3 From parent educational loans (e.g., Federal PLUS, etc.)
4 From other parent loans (including home equity credit line, credit cards, etc.)
5 Help from relatives, friends, etc.
6 Employer's tuition benefit

84. What is your gender? 1 Female 2 Male

85. Which of the following categories best represents your average grades in high school? (Circle one answer)

1 A (90-100) 2 B (80-89) 3 C (70-79) 4 D or below (69 or below)

86. What were your highest scores on the following college admission tests?

SAT-Critical Reading _____ SAT-Math _____ SAT-Writing _____ ACT Composite _____

87. How do you describe yourself? (Circle one answer)

1 American Indian or Alaskan Native
2 Asian, Asian American, or Pacific Islander
3 Mexican American or Chicano
4 Puerto Rican
5 Latin American, South American, Central American, or other Hispanic
6 Black or African American
7 White
8 Other

88. Are you a resident of the state in which our college is located? 1 Yes 2 No

89. How far is our college from your home? (Circle one answer)

1 Less than 50 miles 2 51 to 100 miles 3 101 to 300 miles 4 301 to 500 miles 5 More than 500 miles

90. Which of the following best describes the type of high school you attended? (Circle one answer)

1 Public 2 Independent, Not Religiously Affiliated 3 Independent, Catholic 4 Other Independent, Religiously Affiliated

91. What was the approximate income of your parents or guardians before taxes last year? (Circle one answer)

1 Less than $30,000
2 $30,000 to $39,000
3 $40,000 to $59,999
4 $60,000 to $79,999
5 $80,000 to $99,999
6 $100,000 to $149,000
7 $150,000 to $199,999
8 $200,000 or higher

92. What is the zip code of your home address? _____ [191]

Please use the space below for any comments you would like to share with us about our college's admission program.

Thank you very much for completing this questionnaire.

Appendix B: Supplemental Questionnaire Items

Additional Questions

Question	A. Importance To You			B. How Our College Compared to Others You Considered					
	Very Important	Somewhat Important	Not Important	Best	Better than Most	About the Same	Poorer than Most	Worst	Can't Compare
Actual costs incurred each semester	1	2	3	1	2	3	4	5	0
On-time graduation (i.e., earn associate degree in two years, earn bachelor's degree in four years)	1	2	3	1	2	3	4	5	0
Value for the price	1	2	3	1	2	3	4	5	0

How did [ ] College's advertised price align with your expectation of what college would cost?

1 Advertised price was less than expected
2 Advertised price met expectation
3 Advertised price was more than expected

How did the fact that [ ] College is a technical college influence whether or not you chose to enroll at our college?

1 Made me more likely to enroll
2 No influence
3 Made me less likely to enroll

Appendix C: Interview Questions

Invitation:
In the springtime of 2013, you participated in a survey conducted by a technical college. The survey asked applicants who were admitted to the college to rate the institution on a variety of items including characteristics, images, and cost. Though you chose to not enroll at the technical college conducting the survey, your participation was informative and sincerely appreciated.

Now that some time has passed since you provided feedback in the midst of your decision-making process, it would be helpful to learn a bit more about your circumstances. Please consider participating in telephone interview to discuss the following questions. Your input will assist the college to better support future students. Your responses will be treated confidentially and shall only be reported in non-identifiable, summary format.

Additional information about the study (e.g., rationale, risks, options) shall be shared with interested participants. Your involvement in this project will be contingent upon the submission of a signed informed consent form. Upon successful completion of the study, participants will receive a $25 gift for Amazon.com.

Thank you for your time and consideration. If you have any questions, please contact Mr. Brian Cygan by email at brian.cygan@gmail.com or by phone at 724-822-2409.

1. What compelled you to apply to the technical college?
2. When you applied, how seriously did you consider attending a technical college?
3. Describe how your opinion of the technical college changed during the matriculation process (if applicable).
4. Describe how the prospect of achieving a higher socio-economic status influenced your decision to attend another institution (if applicable).
5. How satisfied are you with your decision to not attend the technical college?
6. What, if anything, could the technical college have done to persuade you to enroll?

Appendix D: Focus Group Questions

Invitation:
In the springtime of 2013, you participated in a survey conducted by a technical college. The survey asked applicants who were admitted to the college to rate the institution on a variety of items including characteristics, images, and cost. Your participation in the survey was informative and sincerely appreciated.

Now that some time has passed since you provided feedback in the midst of your decision-making process, it would be helpful to learn a bit more about your circumstances. Please consider participating in focus group to discuss the following questions. Your input will assist the college to better support future students. Your responses will be treated confidentially and shall only be reported in non-identifiable, summary format.

Additional information about the study (e.g., rationale, risks, options) shall be shared with interested participants. Your involvement in this project will be contingent upon the submission of a signed informed consent form. Upon successful completion of the study, participants will receive a $25 gift for Amazon.com.

Thank you for your time and consideration. If you have any questions, please contact Mr. Brian Cygan by email at brian.cygan@gmail.com or by phone at 724-822-2409.

Questions for matriculating students of the technical college who completed the ASQ®:

1. What is your level of satisfaction with your decision to enroll at a technical college? Explain.
2. Which college choice factors were most important to you?
3. Why were these factors the most important to you?
4. Which college choice factors can the college realistically adjust to yield a greater proportion of enrolled students from the admitted student pool?