

**Determinants of Junior College Student Transfer Predisposition:
Student Transfer from Austin Community College to
Texas State University-San Marcos**

Craig Howard

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Faculty Approval:

Patricia M. Shields, Ph. D.

Hassan Tajalli, Ph. D.

Ana Lisa Garza, MPA, Ph. D.

About the Author

Craig Howard has worked at Texas State University-San Marcos for the past three years as the Admissions Counselor responsible for recruiting transfer students from Austin Community College. Prior to this position, he worked for two years as an Enrollment Management Counselor at the University of Houston-Clear Lake where he recruited transfer students and graduate students from the Houston area. He graduated from Denison University in 2006 with a major in history and a minor in political science. He is originally from Buffalo, NY. Craig can be contacted at howard.ce@gmail.com.

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Abstract

This applied research seeks to accomplish two purposes. The first purpose is to describe transfer students who successfully earn admission to and enroll at Texas State University-San Marcos from Austin Community College (ACC). The second purpose is to explain the factors that predict a student's successful transfer and enrollment from ACC to Texas State.

This study examines the effects of the total number of transferable credit hours earned by the student, student grade point average (GPA), student ethnicity and student's parent education level to determine which factors play the greatest role in the decision of an admitted student to enroll at Texas State. Descriptive statistics are used to identify important characteristics about the students included in the sample, and logistic regression is used to identify which variables play the greatest role in transfer student's decision to enroll. Logistic regression is preferred due to the dichotomous nature of the dependent variable. All of the data used for this study was obtained from the Texas State University Office of Institutional Research.

The results of the logistic regression find no significant relationship between predisposition to transfer and number of transfer credit hours or parent level of education. A small significant relationship is found between ethnicity and predisposition to transfer, and a significant, negative relationship is found regarding student transfer GPA. Admitted students with a higher GPA are less likely to enroll at Texas State. Additionally, during the time period for which data was collected, 89% of ACC transfer students admitted to Texas State chose to enroll for coursework.

Chapter 1: Introduction

Since its inception during the Progressive Era of the early 20th century, the two-year college has grown and evolved rapidly into a critical mainstay of today's higher education landscape (Ratcliff, 1987, 151). The junior college¹ traditionally offers open-door access to higher education for students who would not otherwise have an opportunity to earn a college degree, and typically does so for a lower price than four-year colleges and universities (Brint, 2003, 17).

Because it has gained prominence and mainstream acceptance so quickly, the junior college is now at a precarious historical juncture. There is strong debate on what the primary purpose of the junior college should be. Some advocate for the junior college as a taxpayer supported technical and vocational training facility, while others believe that the junior college should focus on offering a general education curriculum that facilitates the transfer of students and their credits to the four-year university (Grubb, 1991, 195). In reality, most junior colleges offer a mixture of resources for students seeking either career or bachelor's degree preparation.

Additionally, junior colleges are perpetually overburdened and under resourced in their efforts to serve their communities (Brint, 2003, 24). In the hierarchy of higher education, community colleges often face some of the highest expectations while they stand at the back of the line for public funding. Students often do not get the attention that they need in order to navigate the rules, requirements and red tape, causing many of them to leave the junior college prior to attaining an associate's degree or earning the requisite credit hours and GPA needed to gain entrance to the four-year college or university (Brint, 2003, 19). In recent years, successful movements to encourage more people to attend college combined with an economy that has

¹ Although the terms "junior college," "community college," and "two-year college" have sometimes had specific meanings in certain contexts, they are typically used interchangeably by most people throughout higher education and American culture. For the purpose of this study, they are also used interchangeably.

prompted many people to return to school in hopes of increasing their marketability to find work have left junior colleges bursting at the seams. Enrollment has rocketed while funding has plummeted, making it more difficult for junior college administrators and staff to assist students in accomplishing their goals (Brint, 2003, 24).

At many public four-year universities, the financial situation is much the same. In order to balance the decrease in government funding, four-year schools have had to raise tuition and increase enrollment. Students graduating from high school are difficult to recruit because they typically have more options and flexibility than most junior college students. Many high school seniors increasingly choose to attend junior college instead of matriculating to a four-year school right away in order to save money and maintain certain conveniences. Because so many junior college students start with the intention to transfer and earn a bachelor's degree, four-year colleges and universities are increasingly looking towards transfer students to bolster their enrollment numbers.

Texas State University – San Marcos is in this same predicament. According to the *Texas Tribune*: “Texas State is the fastest-growing university system in the state. In the last 10 years it has seen a 22 percent increase in six-year graduation rates and an 81 percent boost in the number of degrees it awards. And it's a lean operation: The average per-student appropriation is the lowest in the state.” The University has had to make up the lack of funding by growing the student population, often relying on transfer students who come primarily from the Austin, San Antonio, Houston and rural Central Texas areas.

Research Purpose

With funds and resources diminished, the Office of Undergraduate Admissions at Texas State needs to be able to find out who their prospective transfer students are, and which ones are most likely to complete the application process, qualify for admission, and enroll in the University. The Admissions Office can then find the most efficient and cost-effective way to market and reach out to these students to meet enrollment goals. Thus, the purpose of this research is two-fold. The first purpose is to describe transfer students who successfully earn admission to Texas State from Austin Community College (ACC). The second purpose is to explain the factors that predict a student's enrollment at Texas State from ACC.

Conclusion

The relationship between ACC and Texas State is critical to both institutions as well as the students who travel between them. The next chapter describes the background and the current day status of ACC and Texas State and provides important information necessary to understand why a successful transfer function is key to the success of both schools. Chapter 4 introduces the conceptual framework and how the literature is directly related to the hypotheses explored in this study. The hypotheses and expected relationships between the variables examined are operationalized in Chapter 5, where the methodology is also discussed in detail. Chapter 6 describes the students studied in this research and reveals the results of the logistic regression. Chapter 7 concludes the research and provides recommendations for future research as well as how higher education officials can use the methods and results of this study for future recruitment and enrollment planning.

Chapter 2: Setting

Purpose

This chapter is intended to provide some institutional background information on Texas State University-San Marcos and Austin Community College as well as the context of their relationship. Some important developments between the two institutions in recent years are also detailed in this chapter.

Austin Community College

According to their website, the creation of Austin Community College (ACC) was approved by voters in the Austin Independent School District area in 1972.² The college opened its doors on September 17, 1973 to 1,726 students enrolled in 30 degree programs. As of the fall 2011 semester, ACC enrollment has grown significantly to 45,100 students enrolled in over 235 associate's degrees and certificate programs. Another 15,000 students are pursuing non-credit, continuing education courses. ACC features eight primary campuses spread throughout Austin, 11 smaller centers and covers a 7,000 mile service area over eight counties. Two more campuses are currently being planned. Forty three percent of ACC students transfer or earn an associate's degree within three years of enrollment. ACC is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools and several individual departments hold additional accreditations.

² All information in this paragraph is taken from the Austin Community College website at the following web address: <http://www.austincc.edu/about/>.

Texas State University-San Marcos

Texas State University was authorized by the state legislature in 1899 and opened in 1903 as Southwest Texas State Normal College, a school for training future teachers.³ Throughout its history, the University has changed its name six different times, most recently in 2003 from Southwest Texas State University to its current name. As of the fall 2011 semester, Texas State enrolls 34,087 students in 97 bachelor's degree programs.⁴ An additional 4,313 students are enrolled in 88 masters and doctoral degrees. Enrollment at Texas State has increased between 3% and 10% on a yearly basis due to the need to make up for decreasing state funding with greater student tuition and fee revenue. Additionally, the University has recently attained Hispanic Serving Institution (HSI) status resulting from the achievement of at least 25% Hispanic student undergraduate enrollment, which brings the opportunity for increased federal funding.

Texas State received 7,971 transfer student applications for the fall 2011 semester. Of those applications, 5,467 were admitted and 3,826 students enrolled. This represents a 3.8% increase in applications from the fall 2010 semester and a 6% growth in transfer student enrollment. Transfer students are 59% white, 29% Hispanic, 6% African American and 4% "other." The top five institutions sending students to Texas State, in order of enrollment, are Austin Community College, Alamo Community College District, Blinn College, Lone Star College and the University of Texas-San Antonio.

³ Texas State background and historical information is taken from the Texas State website at the following web address: <http://www.txstate.edu/about/history-traditions.html>.

⁴ Texas State enrollment data can be found via the Enrollment Management and Marketing website at the following web address: <http://www.emm.txstate.edu/marketing-resources/enrollment-reports.html>

The Relationship between Texas State and ACC

Texas State University is located in San Marcos, TX, which is approximately 30 miles south of Austin. Between 600 and 1,000 students typically transfer and enroll from ACC to Texas State each fall semester, with additional students transferring in the spring and summer semesters. Students transferring from ACC are typically commuter students who prefer to live in Austin and commute to campus for classes. Many students drive themselves to campus, parking in perimeter commuter lots, and some students take advantage of the Texas State Inter-urban shuttle system that runs between Austin and San Marcos on weekdays.

Austin has a diverse array of higher education opportunities for transfer students to consider. First and foremost is the University of Texas at Austin (UT). UT is the largest and most prominent educational institution in the State of Texas, and as such is attractive to many potential transfer students and graduating high school students state wide. Due to the high competitiveness of many of its programs, however, enrollment of new transfer students is severely limited. Most programs officially require a minimum cumulative transfer GPA of 3.0, but students realistically need to accomplish closer to a 4.0 to gain admission to many programs. There are also several private colleges and universities in and around Austin, including St. Edwards University, Southwestern University, Huston-Tillotson University, Concordia University, and several proprietary for-profit institutions. Many of these schools make a strong effort to recruit transfer students and even feature degree programs for non-traditional students. However, the price tag for tuition at private colleges is, at first glance, significantly higher than any Texas public university, leading to “sticker shock” for many prospective transfer students.

Because of the high selectivity of programs at the University of Texas and the high price of earning a degree from a private college, Texas State fills the void for students looking for the

best combination of tuition cost and competitiveness. The tuition at Texas State is one of the lowest for a flagship state university in Texas, and the Office of Undergraduate Admissions guarantees transfer student admissions to any student with at least 30 transferable credit hours and a minimum 2.25 GPA. As such, the vast majority of students transferring out of ACC choose to attend Texas State, and the vast majority of students transferring into Texas State originate from ACC.

Prospective students enrolled at ACC have several resources to help plan their transfer to four-year institutions, including Texas State. Each campus features a transfer center with literature, technology and staff resources to counsel students individually towards taking transferable credits and earning the proper qualifications to get into the four-year college and university of their choice. University representatives are also welcome on all ACC campuses to recruit and counsel individual students on what is required to transfer to their institution.

Recently, ACC has initiated two programs directed toward aiding student transfer. The first is their Transfer Academy program, which provides specialized information seminars for potential transfer students as well as question and answer sessions with students and university representatives. This program was started in 2010 by a two-year grant provided from the State of Texas and has continued after the grant with funding entirely from ACC. The second program has been a reverse transfer agreement with Texas State and other Texas universities. Reverse transfer allows students to transfer to a university before earning an associate's degree, and then send credits earned at the university back to ACC to achieve the associate's. As a result, students don't have to take classes for an associate's that might not transfer or apply to their bachelor's degree, wasting time and money, and ACC is rewarded additional funding from the State for producing greater numbers of associate's degrees.

Conclusion

Due to geographical and financial matters, the majority of students that transfer from ACC go to Texas State, and the majority of Texas State transfer students are from ACC. This has resulted in a close professional relationship between the two institutions, which have implemented plans and processes that are mutually beneficial. ACC works hard to advise and aid transfer students with their educational and career goals, and is very accommodating when it comes to allowing four-year universities in general, and Texas State in particular, to recruit their students. The transfer admission process at Texas State is very simple and straightforward, as well as personalized, in order to make sure ACC students receive all the assistance they need to navigate their transfer successfully.

Chapter 3: Literature Review

Purpose

The purpose of this chapter is to review the relevant literature that describes the primary determinants that influence junior college student's decisions to transfer to a four-year university and places those factors in the social, historical and theoretical context of the junior college movement in the United States. The first section details the origin of the two-year college and uses two case studies to illustrate how the nation's first junior colleges were established. Five generations of junior college development are highlighted, followed by a discussion of the competing theories surrounding the roles and responsibilities of the modern junior college. The next section discusses trends related to the transfer function of junior colleges, leading into an analysis of the factors that influence transfer predisposition of junior college students.

Origins of the Junior College

At the beginning of the 20th century in the United States, the Progressive Era was at its height and reformers were pushing for many widespread societal changes. Among them was a movement to drastically reduce the high rate of child labor and pass measures mandating compulsory education for the nation's youth (Ratcliff, 1987, 151). In the late 1800s and early 1900s, children and teenagers were removed from textile mills and placed in primary and secondary schools. "In 1890, 7 per cent of our youth of high-school age were in school; by 1940 this had increased nearly tenfold, to 66 per cent" (Johnson, 1944, 606). In 1924, the graduation rate for high school students was 30%, growing to 75% by 1960 (Cohen and Brawer, 2003, 6). As high school attendance and graduation rates soared, the demand for higher education dramatically increased as well.

Many private colleges and universities had been founded in the earliest days of the United States colonial and post-Revolutionary War periods. During the 19th century, a movement for state-supported universities resulted in the Morrill Acts of 1862 and 1890 (Cohen and Brawer, 2003, 2). Public universities were established in every state, initially for the purpose of agricultural and technical training or teacher preparation. As more students began graduating from high school, however, the demand for study in a greater number of subject areas grew substantially. “Access for a wider range of the population was increasing as programs to teach an ever-increasing number of subjects and occupations were introduced. Schools of business, forestry, journalism and social work became widespread” (Cohen and Brawer, 2003, 2). At the outset, demand was difficult to meet for colleges and universities. Education was too expensive for many people, and a lot of potential students did not live close enough to their state’s public institution of higher learning. As citizens clamored for access to equitable and local education, the idea of the junior college was born.

By most accounts, there were no junior colleges in the United States in 1900. In 1919, only six public junior colleges had been established, growing to 258 by the end of the 1920’s (Ratcliff, 1987, 152). It is difficult to say why the public two-year colleges quickly became one of the most popular sources of higher education in the U.S. A couple of competing theories have emerged to explain the rising prominence of the public junior college in the first half of the 1900’s. “Two interesting positions which seem to be major assumptions in virtually all the reporting of this movement: (1) that the movement is best explained by the great man theory, and (2) that the community junior college grew in response to cultural changes” (Ratcliff, 1987, 154). The so called “great man theory” posits that community colleges were primarily the idea of a handful of university presidents who were trying to divert the rising number of perceived lesser-

qualified students from their institutions. The “cultural change” theory supports the idea that junior colleges resulted from a mix of political and economic factors in communities across the country.

Case Study: Springfield Junior College, Massachusetts

In reality, the early development of public junior colleges was very complex and owed to a combination of both influential individuals and local roots movements. Perhaps the best way to examine the historical origins of the community college is to review two case studies. The first public junior college in Massachusetts was established in Springfield in 1917 (Ratcliff, 1987, 159). The population of Springfield increased dramatically between 1910 and 1914 as manufacturing firms were relocating and starting up in what was becoming a major training center. “The *Springfield Daily Republican* reported that the capital investment in Springfield industries increased 59% from 1910 to 1915, and that during the same period, total salaries and wages paid by Springfield employers expanded by 36 percent” (Ratcliff, 1987, 159). The city was even building and renovating along its “Main Street,” in its parks, and developing new neighborhoods to meet the population increases.

As the local economy grew, demand for education increased too. The local board of education was no stranger to the educational experiments of the Progressive Era, and by 1916, four junior high schools had been formed in Springfield. The separation between junior and senior high schools allowed for students to leave the education system for the abundant employment opportunities surrounding them, or to continue on in a college preparatory path. This helped ease the overcrowding that Springfield high schools were experiencing, and gave teachers the flexibility to focus on college-bound students.

It quickly became apparent, however, that many citizens who were locally employed and taking advantage of the booming Springfield economy were also interested in access to further education. “During 1917 the school board received a number of requests for evening classes for adults. The local machinists’ union requested classes in technical subjects. Salesmanship was added to the evening curriculum at the request of several Springfield employers” (Ratcliff, 1987, 161). A small selection of technical classes for adults had been offered at a local high school since 1897, and the move to establish more junior high schools and ease overcrowding allowed the school board greater ability to respond to such requests.

With one successful educational experiment completed, the Springfield Board of Education decided to create the state’s first junior college, also in 1917. The Springfield junior high schools featured a specific course plan, or “articulation” that students were required to take to move up to the senior high schools. This served as a starting model for the newly-designated Springfield Junior College. Also supplying a model was the local Y.M.C.A., which for several years had offered a two-year college transfer program along with some technical coursework since 1885 (Ratcliff, 1987, 162). Often referred to as “Springfield College,” the Y.M.C.A. program was not a true public junior college, but operated on much the same premise that public junior colleges have throughout their history.

Using these models, Springfield Junior College (SJC) began as an extension of Springfield Central High School, whose facilities it shared. SJC quickly managed to form a beneficial relationship with nearby Wesleyan University and designed a one-year curriculum that easily transferred toward and complemented Wesleyan’s institutional requirements. Students also successfully completed classes at SJC and transferred to colleges like Harvard and Dartmouth (Ratcliff, 1987, 164).

The Progressive attitudes of the Springfield Board of Education and many community members lead to educational innovations that were able to serve individuals and find new ways to grow economically. Cooperation between educational and industry leaders put Springfield at the forefront of the community college movement that continues to function strongly today. It was a combination of local “great men” and roots activists who demanded access to the benefits of higher education at a time when various economic and demographic factors provided the resources necessary to create Massachusetts’ first junior college.

Case Study: McCook Junior College, Nebraska

The second case study focuses on the establishment of McCook Junior College in McCook, Nebraska in 1926. Similar to the circumstances in Springfield, Massachusetts, McCook was expanding its economy rapidly. In contrast to Springfield, however, was the fact that a lot of this development was brand new to the area. Nebraska had only been a state for a little over 50 years, and much of the infrastructure around the state was being planned and constructed for the first time (Ratcliff, 1987, 166). The University of Nebraska was an established institution at this time, but was located in Lincoln in the southeast corner of a vast state. “The educational and civic leaders of McCook believed that the University of Nebraska... was too distant, and that McCook students who wished to remain at or near home were discouraged from attending college” (Ratcliff, 1987, 166). City leaders were eager to transform McCook into a major center of commerce for southwestern Nebraska. Quick implementation of attractions such as a museum, public library, country club, and educational facilities was an important way to show regional competitors how important the city was. Building a higher education campus, it was believed, would further reinforce this sentiment.

The idea caught on and quickly found numerous supporters. So many rural communities throughout Nebraska were interested in founding their own junior colleges that a competition of sorts ignited, and McCook officials knew they needed to act quickly to shore up the necessary resources to win. They were successful in enlisting the help of the local press. “The editors of the *McCook Daily Gazette*, H.C. Strunk and Mark H. Knight, sparked the promotion of a junior college in McCook. The paper ran a series of stories on the problems students face in going away from home to college and on the success of junior colleges in other communities. It also profiled Port Huron Junior College (Mich.) and Burlington Junior College (Iowa), and included assurances from Burlington’s superintendent that „McCook is ideally located for a junior college” (Ratcliff, 1987, 167). The *Gazette* concluded its series with an article by A.C. Olney, who had served as the founding dean of the first two junior colleges in California. City leaders and officials were strongly devoted to learning as much as they could from those who were leading the junior college movement in other states and cities. The primary rationale for the creation of a junior college in McCook was to boost the city’s economic profile and increase its power and influence, and by extension, the power and influence of its leaders. It was clear, however, that those who championed the movement were genuinely serious about making quality education available to the citizens of McCook.

Several obstacles were presented throughout the process though. The movement to create a junior college was very popular amongst the leaders and citizens of McCook, but at the state level, there was no active legislation allowing for the creation of such an entity. Several other towns in Nebraska also sought to create junior colleges and worked together to show state legislators that there was a popular mandate for the establishment of these schools statewide (Ratcliff, 1987, 169). Many state legislators supported the movement and drafted enabling

legislation in January 1927 to allow for the creation of a state-supported junior college system. Unfortunately, a group of legislators led by members who represented districts where colleges and universities had already been established opposed the bill and voted to indefinitely postpone further consideration of it by a vote of 51 to 37 (Ratcliff, 1987, 170).

Another bill was brought to a vote in 1929, this time under much different social and economic conditions. “By 1929 agricultural crop prices had declined and the agricultural economy was heading for the depression that was soon to grip the entire nation. Opponents of the junior college legislation claimed that the local tax base of many communities was insufficient to support the colleges, and that the creation of junior colleges would ultimately compete for the limited resources already devoted to the state normal schools and the state university” (Ratcliff, 1987, 170). The bill was once again postponed in the same manner as the 1927 attempt, albeit by slimmer margins.

Regardless, McCook Junior College (MJC) had still been founded in 1927 by the authority of the McCook Board of Education via local referendum, another Progressive innovation. It was reinforced by accreditation from the North Central Association accrediting agency. MJC even came to an agreement with the Extension Director at the University of Nebraska to allow credits to be transferred from the former institution to the latter. The model became so successful that it was emulated in the town of Scotsbluff in the western portion of the state. Towns across the state started to join the movement and clamor again for state support of the rising junior college movement. Unfortunately, with economic conditions deteriorating in 1929 and competition increasing for scarce resources, the University of Nebraska reversed course and its Board of Regents informed junior college officials that the University would no longer accept their transfer credits.

Legislation was eventually passed that supported a statewide junior college system in Nebraska. The establishment of McCook Junior College compares and contrasts in several ways with the development of Springfield Junior College. Both junior colleges were conceived in small towns that were experiencing an economic renaissance. The expanding business and employment opportunities led to the demand for greater access to education, not just for young children, but adults as well. As Progressive Era ideals flourished and education became not just compulsory, but a highly valued commodity, people clamored for accessible higher education opportunities close to home.

In Springfield, it was the citizens themselves who believed that further technical and college level education would prepare them for the employment prospects in their community. In McCook, local politicians and civic leaders understood the potential economic advancement that would take place if their citizens could access a resource for increased education, and if other communities around the state recognized the town for its growing prestige and opportunities. Both communities experienced some similar and many different contributing factors to their respective junior college creation. Although important leaders did exist in each circumstance, it is impossible to boil down the early movement to a simple “great man” theory. It seems that not just cultural, but economic and social changes spurred the establishment of this nation’s junior college system, bringing accessible and equitable higher education closer to many citizens.

Evolution of the Junior College

Some researchers break the history and advancement of junior colleges into several separate eras or generations. The first generation is acknowledged as being from 1900 to 1930,

where many of the earliest junior colleges were an extension of local secondary schools, such as the case of Springfield Junior College. (Geller, 2001, 3) Educational and political leaders had difficulty labeling and defining this new two-year college trend. These institutions were almost universally referred to as “junior colleges” during the earliest years (Cohen and Brawer, 2003, 3). The American Association of Junior College (AAJC) was convened in the 1920s to promote the interests of junior colleges and serve as a resource for their continued expansion. In 1925, the AAJC stated that: “the junior college may, and is likely to, develop a different type of curriculum suited to the larger and ever changing civic, social, religious, and vocational needs of the entire community in which the college is located. It is understood that in this case, also, the work offered shall be on a level appropriate for high-school graduates” (Cohen and Brawer, 2003, 4). Additionally, the AAJC felt it important to note that simple skill and vocational development was not enough to designate a particular institution as a junior college. A general education requirement focused on the liberal arts was also essential.

The second generation of junior colleges lasted from 1930 to 1950 and saw the institutions become increasingly mainstream. This generation was dubbed the “junior college generation” (Geller, 2001, 2). They began to assume their own identity and distinguish themselves physically and philosophically from the high schools that many junior colleges evolved from. “By 1930, there were 440 junior colleges, found in all but five states. Total enrollment was around 70,000, an average of about 160 students per institution” (Cohen and Brawer, 2003, 14). The states leading in junior college enrollments during this era included California, Illinois, Texas and Missouri.

Part of the expansion during this period was a result of the Great Depression. Desperate for access to economic opportunities, many saw education as a way to retrain and increase their

skills to improve their employment prospects. Junior college enrollments leveled off nationwide as a result of soldiers leaving for World War II, but in the years immediately following the conflict, a vast number of returning vets sought the educational opportunities newly afforded them by the GI Bill of 1944. General Omar Bradley proclaimed that “the junior colleges of America are well equipped to furnish the answer to the educational problems of our young veterans” (Geller, 2001, 5). In fact, the 1947 President’s Commission on Higher Education, also referred to as the Truman Commission, promoted junior colleges at length and coined the term “community college” (Geller, 2001, 5).

The third generation of junior colleges lasted from 1950 to 1970 and was referred to as the “community college generation” (Geller, 2001, 3). Junior colleges were quickly becoming community-centered institutions, thus the changing designation. “Throughout the nation, in city after city, as community colleges opened their doors, the percentage of students beginning college expanded dramatically” (Cohen and Brawer, 2003, 16). Towns and communities where a community college was founded typically saw a 50% increase in high school graduates attending college following the establishment of the institution. A high birthrate during the late 1940’s and early 1950s also fueled increased demand for community college education. Additionally, college attendance throughout the country saw a spike in the early 1950s as potential draftees went to college to avoid conscription into the Korean War. This occurred again during the Vietnam War during the late 1960s and early 1970s (Geller, 2001, 6-7).

The period from 1970 to 1985 was the fourth generation of junior colleges and is known as the era of the “comprehensive community college” (Geller, 2001, 3). During this time, the number of junior colleges in the United States grew to about 1,200 and then remained flat through the 1990s (Cohen and Brawer, 2003, 15). As the junior college was now a well-

established and popular concept, many junior college leaders began to focus less on establishment and growth and more on their purpose and function. The nationwide concept of these institutions was vague and lacked direction for how to embark on carrying out such a task, leading many junior colleges to try too hard to be all things to all people. Legislation from state to state did attempt to define a common purpose and structure for their respective junior colleges. “The various curricular functions noted in each state’s legislation usually include academic transfer preparation, developmental education, and community service” (Cohen and Brawer, 2003, 20). These loose functions have evolved to serve as the primary purpose of essentially all American junior colleges, although many leaders still do not agree which purposes deserve priority over the others.

The most recent, and current generation of junior colleges started in 1985 (Geller, 2001, 3). As previously noted, growth in the number of junior colleges has remained flat since the 1970s, although institutional enrollments have continued to grow. The junior college has been established and considered mainstream for some time now, even popular in many locales. The current struggle for the institutions has been to forge a strong, consistent identity so as to figure out what services should be offered to their students and community partners, and how best to deliver them. Scholars have sought to define and describe the modern era of the junior college, and several opposing views have surfaced.

The Modern Junior College: Competing Theories

Historically, some scholars and leaders have characterized junior colleges as “the lowest rung in postsecondary education, both in terms of student composition and student life chances” where “student ambitions were softly lowered to fit with the opportunities actually available in

the labor market” (Brint, 2003, 17). Others argue that America’s junior colleges “led to a democratization of higher education – by bringing in students who would not otherwise have attended a postsecondary institution” (Brint, 2003, 17). Elements of the “great man” theory and the “cultural changes” theory are present in both of these sentiments. Recently, much of the scholarship focused on junior college education in the US has fit into three major theoretical schools of thought. They include human capital economics, sociological contradictions analysis, and the new structural critics (Brint, 2003, 18).

Human capital economics theorists compare junior college students with students pursuing all higher education possibilities and examine the rate of return students earn for achieving varying levels of education at varying institutions. Based on data from the National Longitudinal Study of the High School Class of 1972, “human capital economists have found that rates of return to the B.A. are nearly twice that of the A.A. for men and nearly 60 percent higher for women sixteen years out of high school” (Brint, 2003, 18-19).⁵

Unfortunately, they also find that about 70% of two-year college entrants and even more four-year college students aspire to earn a bachelor’s degree, while only 15% of junior college students actually do attain this goal (Brint, 2003, 19). This phenomenon is referred to as the “cooling off hypothesis” (Pascarella et al., 2003, 301). It suggests that “public community college systems are a form of *tracking* in which the disproportionate number of nonwhite, working-class, and lower-middle-class students who attend community colleges are „cooled out“ by being led away from the path to a bachelor’s degree” (Pascarella et al., 2003, 301). More

⁵ The Longitudinal Study of the High School Class of 1972 was conducted by the National Center for Education Statistics (NCES) under the US Department of Education. It measured the educational progress of a vast number of students from 1972 to 1986. The NCES refers to the study as “the grandmother of longitudinal studies” and says that it is “probably the richest archive ever assembled on a single generation of Americans.” Studies concerning transfer students from the late 1980’s to present day have relied heavily on the information and findings derived from this study as there exists no other comparable source of educational data. Further information regarding the study can be found at the NCES website at the following web address: <http://nces.ed.gov/surveys/nls72/> .

recent data indicates that cooling out is not a stealthy, pre-meditated ploy by government or education officials designed to maintain selectivity at four-year universities. Instead, it has been found that “there may be considerable variation among community college environments with respect to impacts on student change and growth” (Pascarella et al., 2003, 310). Pascarella performed a regression analysis using a variety of variables that were to effect the level of education that a student aspired to. They found a “relatively large number of significant conditional effects,” which suggested “a much greater complexity to the between- and within-institution impact of community colleges on students than is revealed by general effects specifications” (2003, 310). Essentially, there are just too many variables that possibly explain why students are prone to cooling out at junior colleges, and the reasons for this occurring are very different from one campus to another.

The high numbers of students who do cool out and drop out of junior college coursework receive a negligible return on investment in the labor market for the work they have completed. This data seems to indicate that, while junior colleges offer affordable classes convenient to local residents, merely attending these institutions reduces the chance that many students will reach their educational goals. Interestingly, human capital economists have found that returns on investment for technical and vocational associates degrees are significantly higher than those earned for completion of a traditional academic A.A. degree. “Some fields of study, especially business and health occupations for women, and business and technical subjects for men, have high rates of return” (Brint, 2003, 20).

Sociological contradictions analysis examines many of the issues the junior colleges face in regard to competing external factors, as well as conflicting structural problems faced by many institutions. Sociological contradictions theorists look back to the early history of the junior

college and emphasize the roles that state government and local business actors had in the development of many junior colleges. As educational leaders sought to institute a system of local colleges that would meet the demands and needs of smaller communities, it was also apparent that “local government officials thought of community colleges as a potential boon for their communities, that state government officials found community colleges appealing on opportunity and efficiency grounds, and that the state, in general, has an economic interest in providing trained man-power for private business” (Brint, 2003, 21). In some places, such as McCook, Nebraska, these forces combined to build an enduring institution that effectively served its students.

Sociological contradictions analysts also focus on many of the structural issues created by competing mandates and priorities in the modern junior college. “The position of two-year colleges in the middle of the education system, between mass institutions of secondary education and the selective four-year colleges with their different traditions, causes various problems” (Brint, 2003, 22). Simply speaking, the modern junior college is pulled in too many different directions by institutions who think that it should be serving their purposes. Two of the most obvious functions are transfer of students to four-year institutions and vocational training. Since attainment of the four-year degree is vastly superior in the labor market to the two-year degree, it can be argued that transfer is the most important function of the junior college. “Because transfer is a particularly complex task, given the greater interest of the colleges in vocational training and weak academic preparation of most students, the transfer function is the most seriously affected by these problems” (Brint, 2003, 21-22). With so many students failing to complete the transfer and earn a bachelor’s degree, many states find it more cost effective to fund vocational training to generate added value in the labor market (Alfonso, 2006, 894).

If the sociological contradictions theorists seem highly critical of the role and product of American junior colleges, the new structural critics are much more severe:

In this view, community colleges primarily provide credentials to students rather than concrete skills. These credentials are symbols that students deserve a certain status in society. These credentials are meaningful in the labor market, and the colleges do not, therefore, feel the need to help their students more directly by developing direct ties either to gatekeepers in four-year colleges or to employers in the labor market (Brint, 2003, 24).

Essentially, students should not attend junior college and expect to learn new skills or gain necessary information applicable to higher level studies or better job opportunities. According to the new structural critics, students are entitled to better educational and economic opportunities simply by completing required coursework at a minimally satisfactory level. In good economic times, this arrangement often works. Business and colleges are more likely to hire and admit students with an educational background that they might not otherwise have if not for the junior college. When economic conditions deteriorate, this expectation breaks down, leaving many students with minimal college coursework completed and feeling disillusioned about the benefits and value of higher education. Brint suggests that junior colleges do not work enough with four-year colleges and potential employers in order to set their students' expectations appropriately (2003, 24).

The new structural critics also point out that junior colleges are "large and complex institutions, considerably understaffed, and their counseling staffs have relatively little time to offer to individual students" (Brint, 2003, 24). This results in a culture of inclusiveness where junior college faculty and staff focus on building students' self-esteem in an effort to avoid the awkwardness and difficulty of delivering bad news to them. Students who are not performing at a satisfactory level are nonetheless encouraged to keep trying. Students who are consistently

unable to demonstrate the minimal necessary achievement eventually become frustrated and drop out, but not before dedicating a great amount of time and money in pursuit of their education.

Trends and Demographics in Junior College Education

Despite the many difficulties faced, and sometimes created by junior colleges, the great experiment in democratizing the nation's education system has been a success by many measures. As of the 2000-2001 academic year 1,076 public junior colleges had been established throughout the US (Kasper, 2003, 14). As junior colleges became firmly established in the 1960's, total nationwide enrollment increased from 1 million students in 1965 to 2.2 million in 1970. This number quickly increased to 4.3 million in 1980 and 5.3 million in 1999 (Kasper, 2003, 15-16). As these trends continue, the "non-traditional" college student is quickly becoming the traditional college student. "In 1965, 74 percent of all students in public, degree-granting institutions attended 4-year schools, while 26 percent attended 2-year community colleges. By 1992, however, the percentage of all public college students enrolled in community colleges had nearly doubled, to 48 percent" (Kasper, 2003, 19). As four-year colleges continue to increase selectivity and improve academic quality, this trend is expected to continue. During the latter half of the 20th century, trends made it clear that many college students believed that junior colleges were best suited to help them meet their educational goals.

A disproportionate number of students seeking the benefits and opportunities offered by junior colleges have historically been minorities and women. Viewed in the most positive light, junior colleges have helped provide educational access and equality to historically underprivileged populations who did not have access to such resources for much of this country's history. Examined more critically, however, many would agree that these

disadvantaged groups have in fact been pushed toward the “lowest rung” of higher education. Regardless, junior colleges offer an educational system that is capable of meeting the needs of people who often don’t have any college alternatives.

In 1970, men comprised 60% of all junior college attendees. By 1980, however, women made up 55% of junior college enrollment. That number increased slightly to 57% by the 1990’s. Between 1976 and 1999, the percentage of students enrolled in US junior colleges who were ethnic minorities increased from 20% to 33% (Kasper, 2003, 20). As of 1997, the largest minority group enrolled in junior colleges was Hispanic students at 12.5% of the total student body, with Black students at 11.8%, Asian and Pacific Islander (6.2%) and American Indian and Alaskan Natives (1.3%) (Bryant, 2001, 81-82). Interestingly, minority students often distinguish benefits of junior college attendance that are not recognized by White students. “African-American community college students, for example, perceive greater increases in personal and social development than do their White peers. In addition, Asian-American students identify developing perspectives on the world as a benefit more often than do White students” (Bryant, 2001, 82).

Other interesting trends are also observed. African American students are more successful at transferring to four-year colleges when they attend larger, more established junior colleges, many of which offer child-care facilities. African American students attending predominantly White two-year colleges transfer at lower rates (Bryant, 2001, 82). Hispanic and Latino students’ attitudes toward their junior college experiences are closely related to their interactions with college staff and faculty and self-image (Bryant, 2001, 82). Asian-American students find that the junior college helps them to make greater progress in math, science and technology prior to attending a four-year college (Bryant, 2001, 82).

Hagedorn et al. looked at factors that promote success for community college students attending campuses in the Los Angeles Community College District (LACCD), which is “one of the largest districts in the country” as well as “one of the most highly diverse with respect to ethnicity, socioeconomic status, and native language” (2008, 649). Students in a diverse and high minority population who successfully completed transfer to a four-year university were more likely to take a greater number of credit hours per semester, focus on enrolling in transferable coursework as part of an organized plan and earn higher grades in their coursework (Hagedorn et al., 2008, 659). Their research concluded that the primary keys to success included “strong and consistent academic advising” and recommended that students “should progress through the remedial/developmental work as quickly as possible and should remain continuously enrolled through completion of the transfer-ready sequence” (Hagedorn et al., 2008, 660).

A very important development in higher education is the rise of the undocumented student. “There are an estimated 11 million of these individuals living in the United States, with 12% of the total living in Texas” (Jauregui et al., 2008, 346). Texas is second only to California in the number of undocumented immigrants coming primarily from Mexico. Many young people whose parents brought them into the US without legal documents choose to pursue education at junior colleges because the open admissions process is seen as friendly toward racially diverse student populations. Junior colleges are also preferred for their affordability and geographic convenience (Jauregui et al., 2008, 347). In Texas, undocumented students are protected by Senate Bill 1528, which allows them to enter higher education without the fear of deportation and the ability to pay in-state tuition and receive financial aid (Jauregui et al., 2008, 348). The top three junior colleges in Texas with the highest number of undocumented students include Houston Community College, Austin Community College, and Dallas County

Community College-Brookhaven (Jauregui et al., 2008, 351). As this trend continues, greater numbers of undocumented students will start to transfer to four-year universities, requiring them to adjust application and transfer processes accordingly.

Beyond demographics, there are three emerging trends that many colleges are seeking to capitalize on. The first is dual enrollment courses offered to high school students. Many high school students on an accelerated academic track have the opportunity to take college level courses through the nearest junior college during their senior year. In 1993, almost 97,000 students in the US were dual enrolled, increasing to about 123,000 by 1995 (Bryant, 2001, 83). Dual enrollment extends many advantages to both the junior college institution and the student. Students have the opportunity to slowly wade into the rigors of college coursework from the comfort of home while saving money and providing meaning to a year of school where many students are plagued by “senioritis.” The junior college benefits by enrolling students who are often talented and gifted or accelerated. Bringing more high-achieving students to campus helps to break some of the stereotypes of the junior college as an institution of last resort. Some students, once experiencing the junior college atmosphere, may develop a level of comfort and decide to continue taking courses to eventually transfer.

Another important trend is the development of reverse-transfer agreements between many two- and four-year colleges. Reverse-transfer students represented 16% of all junior college students in the 1990’s. Most junior colleges receive state funding commensurate with the number of completed associate’s degrees they produce annually. Because earning an associate’s degree may require students to take courses that are not required for transfer to the four-year college, reverse-transfer programs allow students to move on to the bachelor’s program and send coursework back to the junior college. The student can work to advance their primary goal of

earning a four-year degree while still being awarded their associate's. Junior colleges receive their state funding and students are able to receive credit for the work they've accomplished without wasting time and money on unnecessary coursework. Other students who have previously completed a bachelor's degree may also choose to return to the junior college to retrain, add skill sets, or take courses for enjoyment. These students often act as mentors for first-time junior college students, and are favored by faculty for their experience and maturity. Some worry, however, that these students consume scarce resources that would be better used for students who lack a degree (Bryant, 2001, 84).

Additionally, Kearney identified a growing number of "multiple transfer" students who attend more than one junior college prior to transferring to a four-year university (1995, 326). Some of these students transfer from junior college to university to another university, or perhaps back to junior college before trying a different university. Kearney's study looked at 420 multiple transfer students and found that the majority "were white (64%), were 18-22 years old (57%), were enrolled full-time (78%), and were classified as sophomores or juniors when they matriculated at the university (76%). In addition, 64 percent were enrolled in the College of Liberal Arts and 68 percent had earned cumulative GPAs in the 3.0-3.9 range (on a 5.0 scale) after three academic quarters" (Kearney et al., 1995, 326).

During the early 21st century as economic conditions have deteriorated, this is a trend that has continued. Goldrick-Rab notes that 15% to 19% of undergraduate students will attend more than two institutions within six years of starting their college career (2006, 62). The pattern of transferring to two or more institutions is often referred to as "fragmentation," "discovery," or "rebounding," while the students themselves are termed "serial transfers" (Goldrick-Rab, 2006, 63). Middle-class and upper-middle-class students looking to save some money before

completing their bachelor's degree have been able to rely on the junior college system to earn core curriculum credits at reduced prices. They have had the money and resources to try out different majors and change their minds about their college curriculum, allowing them to test the waters at multiple institutions before making a final selection.

The Transfer Function of Junior Colleges

Transfer has been one of the primary functions of US junior colleges since their inception, as evidenced by the aforementioned McCook and Springfield Junior College case studies. While dual credit and reverse-transfer programs have proven popular in recent years, overall transfer rates from two- to four-year colleges have remained flat and even occasionally decreased since the 1970s. As mentioned previously, the confusion, complexity and problems frequently experienced by many junior college students are significantly magnified for those seeking transfer to a four-year college, more so than for those receiving vocational training. Students intending to transfer have to navigate all of the structural deficiencies of the junior college and then figure out the unique transfer admissions requirements and processes for each of the four-year colleges they apply to.

First, it is important, though very difficult to define exactly what is meant by “transfer,” and to calculate transfer rates. Some studies comparing transfer rates examine students who have graduated from high school, but only track the students for a limited length of time. Junior college students are much more likely to require greater periods of time for transfer and degree attainment due to socioeconomic pressures that are not experienced by most traditional college students (Grubb, 1991, 197). Perhaps there is an increase in students whose aspirations don't include earning a bachelor's degree, making the trend less grave than it initially appears. Also,

much data is institution specific, and some junior colleges do not track the transfer of their students to private colleges, or may count students who transfer between junior colleges, which skew the overall data (Grubb, 1991, 196).

Grubb addresses this problem by using data collected from the National Longitudinal Study of the Class of 1972, as well as the high school class of 1980. This longitudinal data follows the surveyed students among institutions for a period of four years and is nationally representative (1991, 197). Grubb tries to account for every possible transfer situation and circumstance. He reviews students transferring with and without associate's degrees, students with academic or vocational coursework, students attending private and public two-year schools, students transferring with some credits earned short of a degree, students transferring having earned no credit and several other possibilities. In 1972, 68.7% of students completing an academic associate's degree at a junior college transferred within four years. In 1980, that number decreased to 48.9%. In 1972, 18.3% students earning credit at junior college without attaining the associate's degree transferred within four years. That number decreased to 14.7% by 1980. The decline in transfer rates was similar across the board for students enrolled in technical institutes, as well as those pursuing vocational degrees (Grubb, 1991, 200).

Transfer rates declined throughout the 1980s and recovered only slightly by the mid-1990s. The National Center for Education Statistics tracked transfer student data from 1984 to 1995 and compared transfer rates for all junior colleges in their sample with transfer rates for students in the sample who had earned twelve or more credit hours (Cohen and Brawer, 2003, 59). In 1984, 23.7% of all junior college students transferred within four years of initial enrollment. By 1989, this number decreased to 21.5%. In 1995, it increased to 25.2%, for a net 1.5% gain over fifteen years. For sampled students enrolled in twelve or more credit hours,

50.5% transferred in 1984, declining to 44.3% in 1989, and returning to 52.5% in 1995 for a net 2% rise in transfer rates over 15 years (Cohen and Brawer, 2003, 59). For proponents of transfer as a primary function of the nation's junior colleges, these numbers are not promising.

On the other hand, McIntyre argues that perhaps the seeming decline of student transfer owes more to the complexity of accurately tracking and recording this phenomenon than the phenomenon itself (1987, 143). He notes that:

A number of studies have been conducted by local community colleges on their transfer performance, but most colleges find the exercise extremely difficult and expensive. The basic tasks lie in identifying potential transfer students, assessing their entering capabilities, monitoring their progress through the college and analyzing their performance in upper division – particularly in comparison to the four-year natives (those who began their work at the four-year institution as freshmen) (1987, 143).

A lot of the literature regarding transfer student trends “is based either on subjective or anecdotal evidence, omits or fails to quantitatively control key factors such as student motivation or capability, or is admittedly deficient in specifying and measuring certain other variables” (McIntyre, 1987, 145).

McIntyre finds several important trends that affected transfer enrollment from the 1960s to the 1980s (1987, 156). First, it appears that students overall began to lose interest for traditional liberal arts degrees, choosing technical and vocational trades instead. Social and economic events played an important role as well. A growth in high school graduates in the 1960s and 1970s fueled a likewise growth in junior college attendance and transfer rates during this time period. Also important to consider is the effect of the Vietnam War. During the 1960s, junior college and university attendance increased as students chose to attend college in order to avoid the draft. In the 1970's, returning Vietnam veterans moved quickly into higher education as many were eager to apply their veterans benefits to starting their post-war lives over again (McIntyre, 1987, 156). The transfer rate dip, according to McIntyre, was more likely a

regression to the mean one would expect absent the social conditions that previously pushed many people to junior colleges in the first place.

Some could argue that junior colleges should emphasize technical and vocational education in light of these trends. There are some good reasons for supporting and working to build the transfer function of junior colleges. First “a strong transfer program is confirmation of the academic purposes of community colleges and strengthens their claims to being colleges” (Grubb, 1991, 195). Junior colleges are held in higher esteem by their peers and become better established when their students can successfully transfer to four-year universities and achieve on the same level as native university students. Second, a substantial number (70%) of students who enroll at a junior college do so with the primary goal of receiving a bachelor’s degree (Brint, 2003, 19). Junior colleges should be responsive to the needs and goals of their surrounding communities. Even if transfer rates have declined somewhat, transfer is still the initial motivator for students to enroll in two-year institutions. The final reason is important for the sake of philosophical consistency. Junior college leaders enjoy proclaiming the democratic and egalitarian values of the junior college system, but this assertion rings hollow if students cannot find an institution that will offer them a “second chance” or just a simple entry point into higher education when one does not exist elsewhere (Grubb, 1991, 196). Despite the noted flaws in the junior college system, motivated students can find the resources necessary to meet their educational and professional goals.

Conclusion

The literature reviewed here reflects the complexity of the origins, history, trends and role of the junior college in the United States. The junior college system has a lot to offer

community residents and citizens throughout the country and presents valuable resources for local educational and economic development (Cohen and Brawer, 2003). The advantages, however, are intertwined with some disadvantages that affect the services and reputation of the junior college nationwide (Brint, 2003). Also commonly referred to as the community college (Geller, 2001), perhaps this is fitting as junior colleges reflect the culture, needs and population of the cities and towns they are located in. Educational and sociological scholars often attempt to reduce the idea of the junior college to a singular purpose, goal or service that they believe should be applied consistently throughout the two-year college system. Perhaps this is the wrong approach.

The literature reveals that early junior colleges were established in different places for different reasons (Ratcliff, 1987). The modern junior college is caught between the powerful, active and well-financed institutions of four-year colleges and universities, and the secondary school system (Brint, 2003). It is also frequently the least adequately funded institution in all of education (Kasper, 2002). From those actively working in higher education to the scholars observing these schools, many people have different ideas and opinions of what the junior college should be. Instead of reducing all of these institutions to a handful of pre-determined services and priorities, perhaps a market based approach should be allowed wherein every community college is exactly that; a reflection of the needs and demands of individual communities. The needs and priorities of communities around the country are vastly different from region to region, state to state. Making generalizations about what the junior college should be or do short-changes the individual campuses.

As junior colleges differ from one another, so do their students. The literature summarizes trends and demographics to describe “typical” junior college students and their educational

behaviors (Cohen, 1988). This doesn't fully capture the diversity of those seeking their education at the two-year school. Students attending colleges in one part of the country have different goals, experiences and backgrounds than students in other parts of the country. Junior college officials and staff, as well as four-year university recruiters have a deep interest and investment in knowing exactly who their students are, and what students are most likely to attend their schools. Identifying key characteristics of junior college students and determinants of their transfer to four-year institutions allows educational leaders and workers to figure out how to best serve a population of students that is critical to the future of American higher education.

Chapter 4: The Conceptual Framework

Purpose

The purpose of this chapter is to link the literature to the hypotheses examined in this study through the conceptual framework discussion and table. Each of the hypotheses are discussed and justified by the literature. The end of the chapter features the framework table which directly shows the literature relevant to each predicted hypothesis.

College Credit Hours Earned (H₁)

The historical structure of the junior college transfer arrangement is frequently referred to as a 2+2 system, where students attend junior college for two years, followed by two years at the four-year university where the bachelor's degree is earned in theory. In reality, junior college students are more likely to balance school with family and employment obligations, and the time required to earn a "four-year degree" is often much longer. A study of six public universities in Virginia "indicated that 38% had transferred community college credit to the institution that awarded the baccalaureate degree. However, only 6% of the graduates followed the traditional path of completing the associate degree then the bachelor's degree" (Cejda and Kaylor, 2001, 621-622). Since attainment of the associate's degree is not an accurate determinant of predisposition to transfer, it is necessary to examine just the earned credit hours themselves.

Lee and Frank found that "regardless of how many credits were transferable, students who transferred earned almost twice as many credits during their first two years of college as those who did not (an average of 37 versus 20 semester-hours)" (1990, 186). Students who were able to earn greater numbers of credit hours were typically those individuals who were able to enroll full-time for a greater number of semesters. A study of over 15,000 students attending 30

different junior college institutions during the 1992-1993 academic year found that “approximately half of the students had earned 63 or more semester hours of credit before transferring” (Palmer, 1994, 5). Additionally, “two-thirds of the students had earned between 49 and 84 semester hours at the community college before transferring. Only a small number of students transferred with either fewer or more credits” (Palmer, 1994, 5). The evidence appears to indicate that the more credit hours a student earns at the junior college, the higher their potential for successful transfer, to a point.

H₁: Probability of Austin Community College student transferring to Texas State University increases with the number of completed course credits.

Race and Ethnicity (H₂)

Minority status is likely the most controversial factor affecting students’ transfer to the four-year college. Since their inception, minority students have comprised an incongruent proportion of total junior college enrollment in comparison to White students. The success of minority access to and enrollment in these institutions has not been matched by their transfer rates. One study that sampled almost 3,000 students attending 24 urban community colleges found that the students with the lowest predisposition to transfer to a four-year college were African American, followed by Hispanic. White and Asian-American students showed the highest predisposition to transfer (Bensimon and Riley, 1984, 38).

Results from a longitudinal survey of high school students who graduated in 1980 indicated that a group of students who had attended junior college and successfully transferred contained about 4% fewer African Americans than Hispanics than a group that did not

successfully transfer (Lee and Frank, 1990, 184). The study goes on to elaborate that “higher social class, lower probabilities of being minority or female, a higher probability of being minority or female... characterize the background of those who transfer compared to those who do not” (Lee and Frank, 1990, 184).

Another study examined students enrolled within the California junior college system and tracked them for six years to monitor their transfer activity. A regression analyses of these students used three different definitions of “transfer rate,” each more narrow than the previous, to determine what factors affected the transfer rates of California junior college students. Under the most restrictive definition of transfer rate, the study finds “negative influences on transfer rates of increasing shares of students in the cohort that are Latino, African American or female,” though these relationships are not as strong in more inclusive transfer rate models (Wassmer et al., 2004, 663). Despite years of progress, strong barriers still exist to racial equality in education.

H₂: Minority students are less likely than Caucasian students to transfer from Austin Community College to Texas State University.

Grade Point Average (H₃)

Another key determinant of successful transfer is student grade point average (GPA). This is considered one of the most significant indicators for academic success as proper GPA attainment is the cornerstone of transfer admission to the majority of four-year colleges and universities in the United States. A study of Triton College students who transferred to Northern Illinois University closely examined the importance of students GPA as part of a successful

transfer experience. “The results indicated that students who transferred with a grade point average... of less than 2.5 were not as apt to be academically successful (defined as degree persistence or completion and attainment of a high GPA at Northern) as those who transferred with a GPA of more than 2.5” (Townsend et al., 1993, 436). The study completed by Townsend et al. found that “the most significant predictor of GPA at the university was GPA at the community college... The higher the cumulative GPA at the community college, the higher the GPA was at the university” (Townsend et al., 1993, 438). Junior college GPA is possibly the most important factor indicating the likeliness of a student to transfer successfully to a bachelor’s degree program.

H₃: Students with a higher grade point average are more likely to transfer from Austin Community College to Texas State University.

Parent Level of Education (H₄)

Finally, parental education plays an essential role in determining transfer and success of two-year college students. Students who are planning to attend college often rely heavily on their parents not only for advice and guidance, but also for transportation and financial support. “Parental involvement may be directly associated with the information that parents have about college. Parents with firsthand knowledge of postsecondary education may provide their children with better access to information about college” (Lee et al., 2004, 2). Parents with no college experience, however, will not be in a good position to help their students with the admissions, financial aid and enrollment process. Some parents even actively discourage their children from attending because they are unaware of the value of higher education. “Parents

who have not attended college, on the other hand, tend to have less direct knowledge of the economic and social benefits of a postsecondary education. Thus, some of these parents may prefer that their children work rather than attend college” (Lee et al., 2004, 2).

One study of first generation junior college students in Kentucky found that first generation students encounter unique impediments to achieving their education at the college level. These students are more likely to be female, 20 years old or older, have more financial dependents, earn a lower personal and family income and work longer hours than non-first generation students (Inman and Mayes, 1999, 8-10). First generation students are also more likely than non-first generation students to value attending a junior college that is close to home, offered evening courses that could accommodate their work schedule, and take courses that provide the means to compensate for a poor previous academic record in order to transfer to a state university (Inman and Mayes, 1999, 12-13).

Another study examined a group of 348 junior college transfer students, 50-60% of whom were first generation. Contrary to anecdotal evidence, 98% of these students had parents who were supportive of their efforts to pursue a four-year college education. Ninety percent of the students in the study considered staying in college to be “very important,” while “over 60% indicated they studied eight or more hours per week while enrolled at a community college. Approximately three-fourths expected to receive a university GPA of 3.0 or higher, with the majority, 56%, anticipating a GPA of 3.0-3.4” (Hughes and Graham, 1992, 39-40). However, the students were tracked from their junior college through their transfer to the four-year university. The study found that nearly 42% of the students earned less than a 2.0 GPA and dropped out of the university prior to completing their first semester. This was despite the fact that over 70% of the sample had used transfer advising services at their junior college prior to

completing the transfer process (Hughes and Graham, 1992, 40). Not only are there key barriers to first generation transfer in the first place, but successful transfer after the transition period is a serious issue for first generation students as well.

Some of this trend also has to do with the way colleges and universities react toward the first generation college student. Many college institutions only see students according to a binary standard of first-generation or not first-generation categorization. However, research findings indicate that student college attendance is affected by varying levels of education a parent may have attained, and is strongly influenced by socioeconomic status and race (Lee et al., 2004, 11). For example, “Black/African American students are 2.9 times more likely than other racial groups to have parents who attended high school, while Mexican/Mexican American and Latino/a students tend to have less educated parents... compared to all other racial groups” (Lee et al., 2004, 11). Parent education level as well as parent ethnicity play important roles in students pursuit of transfer and attainment of the bachelor’s degree.

H₄: Students who have a parent that attended college are more likely to transfer from Austin Community College to Texas State University.

Conceptual Framework Table

The conceptual framework provided in Table 4.1 helps to link the literature directly to the hypotheses discussed earlier in this chapter. The relationships between the dependent variable and independent variables outlined by the hypotheses are clearly supported by multiple scholarly and peer reviewed publications. The conceptual framework creates the foundation for the

operationalization of the dependent and independent variables, as well as the methodology discussed in the next chapter.

Table 4.1: Conceptual Framework Table

Formal Hypothesis	Supporting Literature
<p>H₁: Probability of Austin Community College student transferring to Texas State University increases with the number of completed course credits.</p>	<p>Bensimon 1984 Cejda and Kaylor 2001 Grubb 1991 Lee and Frank 1990 Palmer 1994 Pascarella et al. 2003</p>
<p>H₂: Minority students are less likely than Caucasian students to transfer from Austin Community College to Texas State University.</p>	<p>Bensimon 1984 Bryant 2011 Cohen 1988 Grubb 1991 Lee 2001 Lee and Frank 1990 Pascarella et al. 2003 McIntyre 1987 Wassmer et al. 2004</p>
<p>H₃: Students with a higher grade point average are more likely to transfer from Austin Community College to Texas State University.</p>	<p>Lee and Frank 1990 McIntyre 1987 Nora and Rendon 1990 Townsend et al. 1993</p>
<p>H₄: Students who have a parent that attended college are more likely to transfer from Austin Community College to Texas State University.</p>	<p>Hughes and Graham 1992 Inman and Mayes 1999 Lee et al. 2004 Nora and Rendon 1990 Townsend et al. 1993</p>

Conclusion

A review of the literature indicates four factors that commonly affect a student's predisposition to transfer from a two-year school to a four-year school. Four hypotheses have been developed based on the findings from the literature review. It indicated that earned college credit hours, transfer grade point average, ethnicity, and parent college attendance are all factors that determine a prospective student's predisposition to transfer from ACC to Texas State University -San Marcos. The purpose of this research is to describe students who successfully transfer from ACC to Texas State, and then determine if these factors predict the predisposition of ACC students to enroll at Texas State.

This research purpose is explanatory and relies on the use of formal hypotheses. According to Shields and Tajalli, "explanatory research and the formal hypothesis are the mainstay of social and policy science" (2006, 328). Explanatory research answers the "why" question and is essential in program evaluation, where policies and programs require proper justification that rely on empirical data (Shields and Tajalli, 2006, 329).

Chapter 5: Methodology

Purpose

The purpose of this chapter is to discuss the methodology that was used to explain student's predisposition to transfer from Austin Community College to Texas State. The data for this study was originally provided to the Office of Undergraduate Admissions by student applicants via the ApplyTexas common application. Upon completing the application process, student data is sent to and stored in the Office of Institutional Research at Texas State. It was requested for the purpose of this research from that office.

The unit of analysis for this study is individual student records requested from and provided by Institutional Research. The information used for this research is self-reported by students who are prompted to answer various personal background questions by the ApplyTexas application in order to successfully submit their application for admissions consideration. Only students who earned admission to the University were examined.

The dependent variable is the student's decision to enroll or not enroll after gaining admission to Texas State. The independent variables are student ethnicity, parent education level, transferable credit hours and transfer GPA. The research hypotheses are operationalized in Table 5.1. The operationalization of the dependent and independent variables indicate how they are related to the hypothesis.

Table 5.1: Operationalization Table

<i>Dependent Variable</i>	<i>+ / -</i>	<i>Measurement</i>	<i>Data Source</i>
Enrollment at Texas State University (Yes / No)		Enrollment is determined by students' registration status. Registration for class indicates a decision to enroll. 0 = Not enrolled 1 = Enrolled	Texas State Institutional Research report
<i>Independent Variables</i>	<i>+ / -</i>	<i>Measurement</i>	<i>Data Source</i>
Completed credit hours	+	0 - 264	ApplyTexas admissions application, via Texas State Institutional Research report
Minority status		0 = White (reference group) 1 = Hispanic 1 = Black 1 = Other	ApplyTexas admissions application, via Texas State Institutional Research report
Student grade point average (GPA)	+	0 – 4.00	Students official college transcripts, via Texas State Institutional Research report
Parent education level 1. Father education level 2. Mother education level	+	0 = Father has not earned BA 1 = Father has earned BA or higher 0 = Mother has not earned BA 1 = Mother has earned BA or higher	ApplyTexas admissions application, via Texas State Institutional Research report

Operationalization of the Dependent Variable

Table 5.1 operationalizes the dependent and independent variables as they relate to the hypotheses previously outlined in Table 4.1. The dependent variable is dichotomous and indicates whether the student enrolled in Texas State coursework after earning admission or did not. A decision to enroll is coded 0 and a decision not to enroll is coded 1.

Operationalization of the Independent Variables

The first independent variable is completed credit hours. H_1 states that students who have a higher number of credit hours are more likely to transfer than students who have earned fewer hours. Credit hours are on a scale of 0 to 264, which is the highest number of hours earned by a student in this study. The relationship with enrollment is positive.

H_2 predicts that admitted minority students are less likely to transfer to Texas State than White students. Students are classified as White, Hispanic, Black or other. Students falling into the “other” category include Asians, Pacific Islanders, Native Americans and students who selected “other” on their admissions applications. White students are coded 0, Hispanic students are coded 1, black students are coded 2 and other students are coded 3. The scale of measurement for this variable is nominal, so there is not a direction of change.

H_3 indicates that students with a higher GPA will be more likely to transfer than students with a lower GPA. The GPA is measured on a scale of 0 to 4.0. GPA at Texas State is calculated by summing the total earned grade points and dividing that number by the total transferable credit hours. The minimum required GPA to earn admission to Texas State as a transfer student is 2.25. The relationship with enrollment is also positive.

Finally, H₄ predicts that students who have a parent who has completed college will be more likely to transfer to Texas State following their admission. Father's education level and mother's education level are measured separately. Each parent has been designated as either not having earned a bachelor's degree or as having earned a bachelor's degree or higher. A parent who has not earned a bachelor's degree is coded as 0, while a parent who has earned a bachelor's degree or higher is coded as 1. The direction of change is positive.

Data Source

This study analyzed existing data from students who were admitted to Texas State for each fall semester from 2005 to 2010. It is available via an electronic request form on the Texas State Institutional Research Office website. Fall semesters were chosen because that is when the vast majority of students transfer and start at four-year institutions. The period from fall 2005 to fall 2010 was selected for several reasons. First, this time frame would allow for an appropriately sized sample. Second, it would include time prior to, and just after the severe economic decline of 2008, which could have skewed enrollment data. Finally, data collected after fall 2010 is stored in a new student information system separate from all previous student data. Merging information from both systems may have resulted in inconsistencies that could distort the results; therefore, student applicant data collected after fall 2010 was not used.

Existing data is valuable because it is easy to obtain and highly reliable. The data for this research was derived from the ApplyTexas application for admission as well as official college transcripts provided from Austin Community College and other institutions previously attended. Students filling out a college application are motivated to provide the most honest and precise information possible. Additionally, the questions are not ambiguous or subject to interpretation.

It is likely that students can properly record their own ethnicity, gender or parent education level. Transfer hours and GPA are recorded on a transcript, which is an official and legal representation of student's academic history and is highly accurate.

This existing data also allowed for gathering a large sample over an extended period of time, which increased the validity of any significant findings and the possibility that those findings may be generalized from a sample to the population. Every student who meets the conventions of the research purpose can be pulled from the student information system, which prevents the sample from being biased or unintentionally skewed.

Human Subjects Protection

This study has received an exemption⁶ from the Texas State Institutional Review Board and does not represent any possible harm to any past Texas State students or applicants. The data provided by the Office of Institutional Research included only the independent and dependent variable information with no student names, addresses, birth dates, social security or student identification numbers to link the data back to particular individuals. Students were not directly contacted, questioned, surveyed or otherwise interacted with during the course of this research.

Statistics

The results of this study rely on two layers of statistical analysis. The first is the use of descriptive statistics to provide frequency tables and cross-tabulations that summarize characteristics of the sample's dependent and independent variables. Austin Community College

⁶ IRB exemption number: EXP2012P8329

students who did and did not enroll at Texas State can be examined according to transferable hours, transfer GPA, ethnicity and parent education level.

The second procedure in this study is the use of logistic regression to figure out which independent variables predict the predisposition of students to transfer from ACC to Texas State. Since the dependent variable is dichotomous, the logistic regression reveals which independent variables are statistically significant concerning the decision of students to enroll, and how much predictive power significant variables have.

Conclusion

This chapter took the hypotheses outlined in the previous chapter and discussed how the dependent and independent variables are defined and operationalized for the purpose of this research using the operationalization table. The data for this research was collected by request from the Texas State Office of Institutional Research and analyzed using descriptive statistics and logistic regression to predict the effect of transfer hours, GPA, ethnicity and parent level of education on the transfer student's decision to enroll. This study required no interaction with any human subjects and accessed no information that could be used to identify individual students.

Chapter 6: Results

Purpose

The purpose of this chapter is to test the hypotheses regarding the affect that the independent variables have on Austin Community College student's decision to enroll at Texas State. Descriptive statistics were used to summarize key characteristics of the sample, and then logistic regression are performed to find which independent variables are statistically significant and predict the predisposition of admitted students to transfer and enroll for coursework at Texas State. The hypotheses are summarized here:

- H₁: Probability of Austin Community College student transferring to Texas State University increases with the number of completed course credits.
- H₂: Minority students are less likely than Caucasian students to transfer from Austin Community College to Texas State University.
- H₃: Students with a higher grade point average are more likely to transfer from Austin Community College to Texas State University.
- H₄: Students who have a parent that attended college are more likely to transfer from Austin Community College to Texas State University.

Description of the Sample

The sample for this study was 5,679 admitted Austin Community College students. The study relied on a sample of students and not a population of all students from the fall 2005 to fall 2010 semesters because over 100 student records had to be deleted due to incomplete information. Out of the total sample, 5,039 students, or almost 89%, chose to enroll at Texas State once they were admitted to the University. Table 6.1 describes admitted ACC transfer students who chose to enroll for coursework at Texas State. The ethnic composition of admitted transfer students who chose to enroll at Texas State was 68% White, 23% Hispanic, 5% black and 5% other. Students who chose to enroll had a higher percentage of fathers that had obtained

at least a bachelor's degree (41.3%) than mothers (34.4%). 94.6% of ACC students who transferred to Texas State did so with more than 30 credit hours. Most students (64.9%) entered with somewhere between 30 and 69 credit hours, although 29.6% of students transferred with more than 70 credit hours. Some students managed to earn admission with less than the minimum 2.25 GPA requirement, although the majority transferred with a GPA between 2.25 and 2.99. Only 8.4% of ACC students earned a 3.5 GPA or higher prior to transfer.

Table 6.1: Frequency Statistics for Dependent and Independent Variables

Variable	Status	Percent Enrolled	Total Enrolled
Father Education Level	No college degree (less than BA)	58.7%	2,958
	College degree (BA and up)	41.3%	2,081
Mother Education Level	No college degree (less than BA)	65.6%	3,306
	College degree (BA and up)	34.4%	1,733
Ethnicity	White	68.1%	3,430
	Hispanic	23%	1,160
	Black	4.7%	238
	Other	4.2%	211
Transferable Hours	0-29 hours	5.4%	274
	30-39 hours	14.2%	715
	40-49 hours	16.8%	845
	50-59 hours	17.4%	878
	60-69 hours	16.5%	833
	70+ hours	29.6%	1,494
Transfer GPA	0-2.24 GPA	2.4 %	123
	2.25-2.99 GPA	61.6%	3,102
	3.00-3.49 GPA	27.6%	1,393
	3.50-4.00 GPA	8.4%	421

Table 6.2 shows the frequencies regarding ACC students' transfer hours and GPA at the time of transfer. The average admitted ACC student enrolls at Texas State with approximately 59 transferable credit hours and a 2.87 GPA. Students who fall within one standard deviation of the mean credit hours transfer with anywhere between 35 and 83 credits, while students who fall within one standard deviation of the mean GPA transfer with between a 2.44 and 3.30.

**Table 6.2: Transfer Hours and GPA
Frequencies**

	Transfer Hours	Transfer GPA
Mean	59.19	2.87
Median	57	2.84
Mode	30	3.00
Std. Deviation	23.544	0.43431

Factors that Influence Enrollment

The existing student data collected was used to perform a logistic regression in order to determine if the hypothesized factors influenced the enrollment decision of Austin Community College students transferring to Texas State. A logistic regression is appropriate due to the binary nature of the dependent variable where the only choices are enrolled/not enrolled. The results of the logistic regression are indicated in Table 6.3.

Table 6.3: Factors that Influence Enrollment

Ind. Variables	Sig.	S.E.	Wald	df	B	Exp(B)
Transfer GPA (H ₃)	0	0.096	87.298	1	-0.894	0.409
Transfer Hours (H ₁)	0.241	0.002	1.377	1	0.002	1.002
Ethnicity (H ₂)	0.017		10.141	3		
Hispanic (H ₂)	0.354	0.106	0.86	1	-0.099	0.906
Black (H ₂)	0.086	0.192	2.943	1	-0.329	0.72
Other (H ₂)	0.005	0.179	7.851	1	-0.502	0.605
Father Education (H ₄)	0.634	0.095	0.227	1	0.045	1.046
Mother Education (H ₄)	0.191	0.097	1.714	1	-0.127	0.881
Constant	0	0.319	211.636	1	4.646	104.207

Source: SPSS analysis of Texas State University enrollment data provided by Texas State Office of Institutional Research.

Conclusion

The results of the logistic regression indicate that only two independent variables significantly related to the enrollment of Austin Community College transfer students (-2 Log Likelihood = 3902.007; Cox & Snell $R^2 = .017$). The model correctly classified 88.7% of cases. The regression results are shown in Table 6.3. For each point that the GPA increases, the odds of transfer student enrollment decline by about 59%. Alternatively, an increase in GPA reduces the chance that admitted ACC students will enroll at Texas State. There was not a significant difference in the odds of Hispanic and Black student's enrollment compared to White students. However, there is a higher chance that White students will enroll when compared to students classified as "other" for their ethnicity when other variables in the regression are controlled for. Students categorized as "other" include American Indians, Alaskans, Asians and Pacific Islanders. The Cox and Snell R Square shows that even the independent variables that resulted in statistical significance only predict a small part of the admitted ACC transfer student's decision to enroll at Texas State. H₁ (credit hours), H₃ (student GPA) and H₄ (parent education

level) were not supported by the logistic regression results. H₂ (minority status) was supported, although only partially. Ethnicity did influence the decision of Austin Community College students to transfer to Texas State, but only for students categorized as “Other.”

Chapter 7: Conclusion

The purpose of this study was to explain the determinants that affect admitted Austin Community College students' predisposition to enroll for coursework at Texas State. The first chapter described why it is important to understand transfer student behavior in the context of current social and economic conditions. It highlighted the competing functions of technical training and student transfer present at many junior colleges, as well as the scarcity of resources at the junior college and university levels that serve as obstacles to successful transfer and retention. Chapter 1 also mentions the unique situation Texas State University finds itself in as one of the largest and fastest growing universities in Texas while simultaneously being one of the lowest-funded institutions.

Chapter 3 reviewed the relevant literature regarding transfer student history, trends and enrollment patterns, linking the literature to the independent variables examined in this study through the conceptual framework. The literature was used to support the research hypotheses and provide a foundation for the operationalization of the dependent and independent variables as well as the research methodology. Chapter 3 also relied on case study analysis of early junior colleges to provide context for the current trends and environment of the modern junior college.

Chapter 5 introduced the research methodology and the operationalization of the hypotheses. It describes what data was collected, where the data was collected from and how it was analyzed. Chapter 5 explained the necessity of examining descriptive statistics as well as performing a logistic regression on the data in order to determine the predictive capacity of the independent variables on the dependent variable of the student enrollment decision. Existing data was used to complete this analysis.

Chapter 6 presented the descriptive statistic summary of the data as well as the results of the logistic regression analysis. Descriptive statistics revealed that a high number of Austin Community College students who gain admission to Texas State do make the decision to enroll, which is good news for the yield efforts of the Undergraduate Admissions Office. Regardless of the admitted students' ethnicity, GPA, transferable credit hours or parent education level, ACC students who are accepted to Texas State typically do decide to enroll the vast majority of the time.

Results of the logistic regression were interesting and unexpected. The only variables that were found to be statistically significant, and thus were likely to affect transfer students' predisposition to enroll were transfer GPA and students who were ethnically categorized as "Other" when compared with White students. The relationship between enrollment and GPA was negative, meaning that the higher a student's GPA, the less likely they were to enroll at Texas State and possibly transfer to another institution. Students classified as "Other" for ethnicity were less likely to enroll than White students, which only partially supports H₂ (minority status). The study concludes that H₁ (credit hours) was not supported, H₂ (minority status) was only partially supported, H₃ (student GPA) was not only unsupported, but opposite of the prediction made by the hypothesis, and H₄ (parent education level) was not supported. These results are summarized in Table 7.1.

Table 7.1: Summary of Results

Hypotheses	Supported
H₁: Probability of Austin Community College student transferring to Texas State University increases with the number of completed course credits.	No
H₂: Minority students are less likely than Caucasian students to transfer from Austin Community College to Texas State University.	Yes (partially)
H₃: Students with a higher grade point average are more likely to transfer from Austin Community College to Texas State University.	No
H₄: Students who have a parent that attended college are more likely to transfer from Austin Community College to Texas State University.	No

There may be good reason for these results, however. Students attending Austin Community College are immediately surrounded by four-year institutions that are either more expensive tuition-wise than Texas State, are much more competitive and selective during the admissions process than Texas State, or both. For ACC students, Texas State offers a combination of achievable admission standards and low tuition that is not found at any other college or university in the immediate Austin area. Texas State University is long established throughout the State of Texas and enjoys a somewhat high level of visibility that allows it to compete for students with the University of Texas at Austin or Texas A&M University. Students who apply to these schools will often also apply to Texas State as a dependable back-up school. Students who do manage to successfully navigate the extremely selective admissions processes to these schools often choose to enroll there over Texas State. This could explain why the students with the highest GPA's are least likely to enroll; because they can gain access to the top level institutions in the state. Students who cannot earn admission to these schools and do not wish to pay the high tuition rates at Austin area private colleges such as Southwestern University and St. Edward's University see Texas State as their most realistic choice for pursuing a bachelor's degree program.

Suggestions for Future Research

Because there are no real competing institutions nearby that can offer Texas State's combination of affordable tuition and achievable admission requirements to students in the Austin area, the findings might come out more significant if a junior college where students had more reasonable transfer options were analyzed. Using Texas State as the transfer institution, perhaps examining transfer students from Blinn College or the northern Alamo district colleges would yield more meaningful results. Students at Blinn College can look to Texas State, Texas A&M and Houston-area colleges and universities as realistic transfer options. Students in the Alamo colleges north of San Antonio can easily choose between Texas State and the University of Texas at San Antonio which is institutionally and academically similar to Texas State in many ways.

It may also be worthwhile to perform this analysis on schools in different settings to see if statistically significant results depend on a school's geographical location. Perhaps urban junior colleges may produce different results than suburban or rural junior colleges. Maybe even the location of the transfer institution plays an important role. Considering these possibilities might do more to help produce data that is statistically relevant and generalizable to specific junior college populations. This information would assist university and junior college personnel in their work to help students transfer and achieve academic success as well as bachelor's degree attainment.

Future researchers may also want to conduct this research by adding a couple of new variables. It is possible that student income may be significant in affecting the decision of a transfer student to enroll at a four-year university. Income was not initially considered in this study because transfer students can include traditional age college students whose parents are

funding their education, as well as middle age students or single parents who are trying to pursue their college degree while supporting a family. This unequal comparison could create results that are non-representative of the trends that are actually occurring, although it may be possible to also factor in student age in order to decrease this effect. It may also be worthwhile to include student gender in future analyses.

Recommendations for Admissions Professionals

The methodology detailed in this research can be applied from one four-year university toward any junior college in the country. The ability of an admission counselor to identify what factors affect the predisposition of a student to enroll in coursework at their university has many useful applications. First and foremost, it can help the individual recruiter and the admissions office to develop marketing strategies and recruitment plans that will hold the greatest amount of appeal for the students most likely to enroll. Alternatively, it can also help counselors identify the students least likely to enroll and develop strategies to target those students in an effort to meet certain enrollment goals. The ability to target market to specific populations of students helps the admissions office to the pursue strategies that are both time and cost efficient, instead of just sending generalized literature out to vast numbers of students using a scattered “shot gun” approach. Counselors should be able to rely on the methods here to help them more efficiently meet enrollment and budgetary goals, saving resources and minimizing waste. However, admissions personnel do need to be ethically and legally conscientious in how they use information regarding student race and minority status as they develop recruiting plans and strategies.

For future Texas State admission counselors recruiting Austin Community College, it would make sense to highlight the ease of the application process, the simplicity of credit transfer and the cost benefits of attending Texas State over other local universities when speaking with prospective students. To compete against the University of Texas, admission counselors should focus on talking about the strength of Texas State academics, especially in programs that have received national recognition for various accomplishments. As enrollment goals have been met consistently over the last several years, it is time to focus on recruiting higher talent students and improving selectivity. Although minority status doesn't significantly affect the predisposition of most ACC students to enroll at Texas State, special efforts to recruit minorities should still be made by all campus offices.

Appendix

Logistic Regression Support Information

Table 8.1: Case Processing Summary

Unweighted Cases ^a		N	Percent
Selected Cases	Included in Analysis	5679	92.1
	Missing Cases	489	7.9
	Total	6168	100.0
Unselected Cases		0	.0
Total		6168	100.0

a. If weight is in effect, see classification table for the total number of cases.

Table 8.2: Categorical Variables Codings

		Frequency	Parameter coding		
			(1)	(2)	(3)
Ethnicity	White	3851	.000	.000	.000
	Hispanic	1302	1.000	.000	.000
	Black	273	.000	1.000	.000
	Other	253	.000	.000	1.000
Mother Education Level	No College Degree (less than BA)	3716	.000		
	College Degree (BA and higher)	1963	1.000		
Father Education Level	No College Degree (less than BA)	3338	.000		
	College Degree (BA and higher)	2341	1.000		

Table 8.3: Classification Table^{a,b}

Observed			Predicted		
			Enrol		Percentage Correct
			Not Enrolled	Enrolled	
Step 0	Enrollment	Not Enrolled	0	640	.0
		Enrolled	0	5039	100.0
Overall Percentage					88.7

a. Constant is included in the model.

b. The cut value is .500

Table 8.4: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	3902.007 ^a	.017	.034

a. Estimation terminated at iteration number 5 because parameter estimates changed by less than .001.

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