

**A COMPARATIVE STUDY OF ACADEMIC SUCCESS AND PERSISTENCE
BETWEEN KANSAS PUBLIC COMMUNITY COLLEGE TRANSFER
STUDENTS AND NATIVE STUDENTS AT THE UNIVERSITY OF KANSAS**

Randall T. Weber

BSE-University of Kansas

MSE-University of Kansas

Submitted to the Graduate Department and Faculty

Of the School of Education of Baker University

In partial fulfillment of the requirements for the degree

Doctor of Education

in

Educational Leadership

April 2009

Copyright 2009 by Randy Weber

Clinical Research Study Committee

Major Advisor

Abstract

The purpose of this study was to compare academic success and persistence between community college transfer students and students native to the University of Kansas. The study measured academic success based on first semester and cumulative GPAs and persistence based on completion of a bachelor's degree.

The study identified transfer students who (a) entered the University of Kansas (KU) for the first time with at least 24 and no more than 65 credit hours transferred from a public community college in Kansas, and (b) were at least one semester removed from high school. Students identified as native to KU were those who (a) entered directly from high school, or (b) had completed less than 24 hours prior to being admitted. Native students earned between 24 and 65 credit hours at KU prior to being selected for the study. All students in the study were enrolled at KU and had a declared major in a traditional 4-year graduation program through The College of Liberal Arts and Sciences. The sample included 184 transfer and 200 native students randomly selected from the population. For each subject in the study, information gathered included student enrollment history, hours earned at beginning of study, semester GPAs, cumulative GPAs, whether a degree was conferred, age at beginning of study, ethnic background, and gender.

The first hypothesis was tested by performing two-way ANOVAs using status, gender, and ethnicity as variables. No difference was found between the status of native students and transfer students for first semester GPA or cumulative GPA. Gender showed significant difference for both first semester GPA and cumulative GPA. The interaction between status and gender was marginally significant and was depicted. No difference

was found in the first semester GPA based on ethnicity. A marginally significant difference was found for the cumulative GPA between minority and non-minority students. No difference was found for first semester GPA or cumulative GPA based on the interaction of status and ethnicity.

The second hypothesis was tested by performing a chi-square test using enrollment status and persistence as variables. No difference was found in the persistence to a baccalaureate degree between native students and transfer students.

Dedication

I would like to take the opportunity of dedicating this chapter in my life to those who have sacrificed with me through the doctoral journey. This includes the abundance of family and friends who tolerated the hectic schedule I kept while trying to balance a career, education, and personal life. Those friends and family closest to me were the ones who I relied on most to provide an outlet and emotional guidance. I cannot begin to identify everyone by name, because there were so many who provided critical support in times of need.

The one individual I must specifically recognize in this dedication is mom. You are an amazing person who selflessly raised three children as a single parent. You helped each of us become independent thinkers and positive contributors to society. Through all of the educational encounters I have had in my lifetime, you have been my greatest teacher. The values you embedded into my core belief system are what made me who I am today. You taught me how to care about others more than myself, and that I cannot sit on the sidelines if I want to make a difference. For these life lessons, and a myriad of other reasons, I am eternally grateful to you.

Acknowledgments

I would be remiss if I didn't take the opportunity to acknowledge those who have worked with me to make sure I achieve this milestone. The support provided by being in such an amazing cohort group at Baker was a key to having such a high persistence rate through coursework. I hope that my peers also have the opportunity to work with such a quality committee while embarking upon their dissertation journeys.

The first person I must recognize, though she is not on my committee, is Peg Waterman. Without her insightful feedback in such a timely manner, I would not be where I am today. I have been blessed to be able to rely on her terrific statistical knowledge.

The second person who made this goal a reality is Dr. Lee Furbeck. Because of her expressed desire to work on research with local community college personnel, I was able to conjure up this project. Lee was also vital in gaining permission from the University of Kansas to gather data for the project. I appreciate her willingness to work with me on this project and to serve on my defense committee.

The next two committee members I'd like to recognize are Dr. Bill Neuenswander and Dr. Kathleen Harr. I appreciate the multiple proofs Dr. Neuenswander did of my document, and the insight he provided on paragraph structure. Dr. Harr provided a fresh set of eyes and specific feedback to help fill some voids missed by those of us who were so intimately involved with the document from its infancy.

Finally, I must thank Dr. Tate. I appreciate the role you served as my major advisor and the regular feedback you gave. I had a great reliance on your knowledge of the process, and could not have made it through without you.

Table of Contents

Abstract.....	iii
Dedication.....	v
Acknowledgements.....	vi
TABLE OF CONTENTS.....	vii
List of Tables	ix
List of Figures.....	x
CHAPTER ONE: INTRODUCTION AND RATIONALE	1
Background.....	1
Problem Statement.....	5
Purpose Statement.....	7
Research Questions and Hypotheses	7
Significance of the Study.....	8
Overview of Methods	9
Definition of Terms.....	11
Summary.....	12
CHAPTER TWO: REVIEW OF LITERATURE.....	13
Historical Perspectives on the Community College	13
Academic Success.....	17
Persistence.....	23
Summary.....	28
CHAPTER THREE: METHODS.....	29
Research Design.....	29

Population and Sample	31
Data Collection Procedures.....	31
Data Analysis and Hypothesis Tests.....	32
Limitations	34
Summary	35
CHAPTER FOUR: RESULTS	36
Descriptive Statistics.....	36
Hypothesis Testing.....	40
Summary.....	46
CHAPTER FIVE: INTERPRETATION AND RECOMMENDATIONS.....	48
Study Summary.....	48
Findings Related to the Literature.....	50
Implications and Recommendations for Future Research	53
Summary.....	55
REFERENCES	57

List of Tables

Table 1 First Semester and Cumulative GPAs by Status.....	38
Table 2 Gender by Enrollment Status.....	38
Table 3 Ethnicity of Sample Population.....	39
Table 4 ANOVA of Status and Gender for First Semester GPA.....	41
Table 5 ANOVA of Status and Ethnicity for First Semester GPA.....	42
Table 6 ANOVA of Status and Gender for Cumulative GPA.....	43
Table 7 Comparison of Means Using Tukey's Honestly Significant Difference.....	44
Table 8 ANOVA of Status and Ethnicity for Cumulative GPA.....	45
Table 9 Status * Graduate Crosstabulation.....	46

List of Figures

Figure 1 Gender interaction for cumulative GPA of native and transfer students.....	43
---	----

CHAPTER ONE

INTRODUCTION AND RATIONALE

The current study provides an analysis of the differences existing between two university student population samples. As students matriculate from the community college to the university, many experience lower grade point averages (GPAs) and lower rates of baccalaureate attainment (Pascarella & Terenzini, 2005). The study may help to determine whether the perception that transfer students have less ability than students native to the university is accurate to the extent that it is confirmed by their lack of academic performance and failure to persist to a bachelor's degree at the University of Kansas.

Background

Since its inception in 1901, the community college has focused on providing post-secondary opportunities to those who aspire to learn. Students who enroll at various 2-year institutions typically do so because of the low-cost open enrollment and variety of curricula offered. The initial rationale for creating 2-year junior colleges, which have since evolved into community colleges, was to provide the first 2 years of a student's baccalaureate program, thus creating the "transfer experience."

Escalated admission requirements and increases in tuition costs have continued to make matriculation from high school directly to the 4-year colleges and universities less feasible. Students are now becoming more dependent on the community college as a route to the baccalaureate degree (Cohen & Brawer, 2003).

As the burden of financing postsecondary education has shifted from the government to the students, 4-year institutions have increased the cost of tuition, creating a gap in the cost of attendance between the different institution types. According to the American Association of Community Colleges (n.d.), the average annual cost of tuition and fees at a public community college, \$2,272 in 2007, was less than 40% of the cost of tuition and fees at a public 4-year college, \$5,836.

For many who start at a community college, the transition to the 4-year institution has not been as smooth as they may have hoped. Some of the difficulties faced by transfer students include having to repeat courses already taken and not being initially admitted to the school to which they applied within the university, despite being accepted to the baccalaureate institution. In many instances, these challenges stem from a lack of clear course articulation (Cohen & Brawer, 2003).

One explanation for the difficulty of course transfer is the multiple foci of the mission of 2-year institutions. During the 20th century, junior colleges responded to the needs of vocational, or terminal occupational education, by creating programs tailored to trades. The additional mission resulted in coursework in many programs that was not designed for transfer. The courses in most of these programs would not transfer to the 4-year institutions because most of the programs were designed for entry into the workforce after completion at the 2-year (Vaughan, 2003).

When the Vocational Education Act of 1963 helped provide the financial support necessary to meet the requirements of vocational training, junior colleges responded by placing an even stronger emphasis on these technical programs. The Vocational Act of

1993 further encouraged this emphasis on technical programs, which continued to add to the difficulty of transferring coursework (Cohen & Brawer, 2003).

Responding to the need of skilled training for a local workforce was the inaugural step of junior colleges meeting the diverse needs of their communities. The groundwork had been laid for a partnership between the 2-year college and the community, creating what was ultimately recognized as the community college (Cohen & Brawer, 2003). As a result, baccalaureate institutions began to have less confidence that community college coursework could be transferred as the 2-year schools broadened their mission to include workforce programs (Government Accountability Office, 2005).

However, the additional mission of the 2-year college is not the only reason transfer students face challenges upon entering the baccalaureate institution. Community college transfer students face many more issues while attempting to earn a bachelor's degree than do their counterparts who initially enroll in a 4-year institution. Many of the struggles identified are in the area of student services, such as admissions, advising, registration, financial aid, and counseling. Registration concerns sometimes result in lower GPAs and lower rates of baccalaureate attainment because of challenges faced when students try to enroll in courses needed for their major. Many have no choice except to take unnecessary elective courses in addition to prerequisites so they can maintain full-time status, which frequently results in a lower GPA and creates a longer route to the baccalaureate degree (Dougherty, 2001). Because of the prolonged enrollment, transfer students sometimes have trouble securing financial aid near the end of their tenure at the university (Cohen & Brawer, 2003).

The increase in aspiring baccalaureate students starting at the community college has caused many universities, and even statewide systems, to examine their articulation processes to handle the influx in enrollment of transfer students. Depending upon a state's postsecondary system, articulation may be done at the institutional level or the statewide level (Dougherty & Townsend, 2006).

Students who enter the community college with the intent to earn a bachelor's degree are heavily reliant on articulation, or the transferability of course credits. The lack of a clear articulation agreement between institutions has a negative impact on students who depend on course transfer if they start their postsecondary education at a community college (Cohen & Brawer, 2003). Students expect that the college level courses they take at a community college will count directly toward their bachelors' degrees. Articulation and 2+2 partnership agreements increase the probability that transfer students will graduate with a bachelor's degree in 2 additional years (Wellman, 2002).

An evaluation of postsecondary opportunities in the state of Kansas shows that students may choose from multiple types of institutions. The seven public universities include six state schools and one municipal school. Kansas has 19 public community colleges, six technical colleges, and 22 independent, or private, institutions (Kansas Board of Regents, 2007). These bodies offer educational opportunities that range from licensure programs to bachelors', masters', and doctoral degree programs.

During the fall semester of 2007, 25,214 first-time freshmen were enrolled at colleges and universities in the state of Kansas. Fifty-one percent (12,846) of these students were enrolled at public community colleges. Thirty-nine percent (9,862) were enrolled at the state and municipal universities. Four percent (1,057) were enrolled at

technical colleges, and six percent (1,449) were enrolled at independent (private) institutions (Kansas Board of Regents, 2007).

A total of 17,982 transfer students were enrolled in Kansas colleges and universities during the fall semester of 2007. Forty-three percent (7,800) of these students were enrolled at public community colleges. Forty-two percent (7,489) were enrolled at the state and municipal universities. Three percent (530) were enrolled at technical colleges, and twelve percent (2,163) were enrolled at independent institutions (Kansas Board of Regents, 2007).

Though the formation of junior colleges was initially a positive influence for 2-year and 4-year schools alike, the addition of vocational education and the resultant obstacles to transferring credit eventually created a perceived lower status that the community college has not outgrown. This situation has created dilemmas for students who have the aspiration to transfer and earn a baccalaureate degree (Cohen & Brawer, 2003).

Problem Statement

Stricter admissions standards and strains on financial assistance at the national, state, and local levels have forced more aspiring baccalaureate students to begin their postsecondary education at a community college. Because of these developments, many states have created a systemized transfer process to support students' goal of baccalaureate attainment (Dougherty & Townsend, 2006). Four-year colleges and universities in these states have created processes to help increase student success upon transfer from the community college. Universities in the state of Kansas are behind many

of their peer institutions in other states when it comes to implementing transfer programs and statewide articulation procedures (U.S. Department of Education, 2005). At the University of Kansas, each course is independently evaluated and may not transfer the same as it would to another institution.

With the increased number of students planning to transfer from a community college to a baccalaureate institution (Kansas Board of Regents, 2007), it is important to compare the performance of transfer students to native students at the University of Kansas to determine if additional measures should be taken at the institutional or state level. It is also important to determine if community college students who transfer to the University of Kansas earn a lower GPA and persist at a lower rate than do students who initially start their college career at the university.

Factors that may play a role in persistence and academic success should be addressed by decision makers at community colleges and universities in order to help transfer students attain bachelors' degrees at the same rate as students who started their postsecondary career at the 4-year schools. Faculty and administrative personnel in postsecondary education must face the reality that, because of a lack of academic preparedness, or financial limitations, transfer students comprise a large part of higher education in the state of Kansas. By performing a comparison of transfer students and their native peers at the largest research institution in the state, Kansas's educational leaders can better determine if a statewide evaluation may be appropriate.

Purpose Statement

The purpose of this study was to compare academic success and persistence between community college transfer students and students native to the University of Kansas. The study measured academic success based on first semester and cumulative GPAs and persistence based on completion of a bachelor's degree.

Research Questions and Hypotheses

The research questions guiding this study were:

1. Is there a difference in academic success between transfer students and native students?
2. Is there a difference in persistence between transfer students and native students?

Based on the stated research questions, and on the work of other researchers, the following research hypotheses were proposed by the researcher:

- H1: There is a difference between transfer students and native students in academic success, as measured by the first semester GPA and the cumulative GPA, at the .05 level of significance.
- H2: There is a difference between the persistence of transfer students and native students, as measured by baccalaureate degree attainment, at the .05 level of significance.

Significance of the Study

The significance of this study was to provide comparative data on the academic success and persistence of transfer students and students native to the University of Kansas so that differences among the populations can be identified and addressed. Hungar and Lieberman (2001) suggest that community college students have consistently shown a lack of academic success when transferring to 4-year colleges and universities.

Some states have placed an emphasis on articulation agreements and transfer programs to ease the process of the transfer experience and to ensure student success beyond transfer. Articulation efforts have been designed to allow community college graduates to transfer in at a junior status and ensure that by earning an associate's degree, they will not have to take additional general education courses. Transfer programs are designed to help the specific population of transfer students become integrated to the university culture (Hungar & Lieberman, 2001).

At the University of Kansas, like other baccalaureate institutions in the state, courses have been evaluated at the departmental level and may not have the same transferability as they would at other institutions across the state. This inconsistency in course transfer has been tremendously challenging to students who enter the community college and take classes without knowing which 4-year institution they will eventually attend.

Upon transfer to the 4-year school, students commonly experience a dip in their GPA, inspiring the term "transfer shock" (Hills, 1965, p. 203). An analysis performed for the current study determined whether transfer students experienced lower GPAs than native students during the first semester examined at the University of Kansas. The

results of the current research should assist administrators in developing policies and programs that increase the probability of transfer students performing as well as their native peers at 4-year institutions.

Overview of Methods

The design of the current study was a cross-sectional descriptive analysis of academic success and persistence for transfer students and native students at the University of Kansas. Two dependent variables (academic success and persistence) and three independent variables (enrollment status, gender, and ethnicity) were determined for the study.

The study identified transfer students who (a) entered the University of Kansas (KU) for the first time with at least 24 and no more than 65 credit hours transferred from a public community college in Kansas, and (b) were at least a semester removed from high school. Students identified as native to KU were those who entered directly from high school and had accumulated between 24 and 65 credit hours prior to the start of the study. All students in the study were enrolled at KU and had a declared major in a traditional 4-year graduation program through the College of Liberal Arts and Sciences.

Subjects for the study were selected from transfer students who enrolled at KU's main campus with a transfer status from a Kansas public community college during the fall semesters of 2003 and 2004, and native students who had enrolled at the university's main campus with a first-time freshman status and who had accumulated an equivalent number of credit hours prior to the same semesters. A random sample was performed to select 184 transfer and 200 native students, totaling 384 subjects for the study. Students

were selected using existing data stored in the student information system in the Office of the Registrar at the University of Kansas. Individual subjects were not identifiable by the researcher. Data for transfer and native students was gathered by the Associate Director of Admissions through the Office of the Registrar.

Academic success had two measurements, including first semester GPA and cumulative GPA throughout the study. Transfer GPAs for incoming students and cumulative GPAs prior to the time of the study for native students were not used in the research. Only GPAs earned during the time of the study were measured. Persistence was determined by whether the student completed a bachelor's degree in the time allotted for the study. Demographic information provided on the application for admission to the university was compared to determine if differences existed among different populations. This data included gender, age, and ethnicity.

Data collected for the study was entered in the SPSS statistical software program to conduct descriptive and inferential analyses. Analysis of variance (ANOVA) was utilized to test the hypothesis about academic success because it is a numerical variable. Chi-square tests were performed to test the hypothesis about persistence because it is a categorical variable. The hypothesis tests were followed by exploratory analyses to investigate the potential influence of the demographic variables. The hypotheses were tested at the .05 level of significance. Findings are presented in tables and graphs to assist the reader in understanding the data.

Definition of Terms

Following is a list of terms used in the study that have been defined for their specific application to this research.

Academic success. The first semester and cumulative grade point average (GPA) for a student during the time of the study.

Articulation. The extent to which a particular course transfers to another institution. Specifically, if a course transfers as an elective, general education requirement, or degree requirement.

Concurrent enrollment. College courses taken while also enrolled in high school.

Cumulative GPA. The cumulative GPA earned during semesters used in the study.

First semester GPA. The first semester GPA at KU for transfers, and the first semester used for native students who had already earned between 24 and 65 credit hours at KU.

Native student. A student who enrolled at the university directly after high school or who had completed less than 24 credit hours prior to being admitted.

Nontraditional student. A student whose age was 25 or older at the time of initial enrollment at the University of Kansas.

Persistence. Completion of a baccalaureate degree.

Status. The determination of whether a student is classified as transfer or native.

Traditional student. A student whose age was between 18 and 24 at the time of initial enrollment at the University of Kansas.

Transfer student. A student who enrolled at KU after completing at least 24 credit hours prior to being admitted and was more than 1 semester removed from high school.

Summary

Junior colleges were initially created with the intent of providing students additional access to the baccalaureate degree. Since the evolution into community colleges broadened the mission of the 2-year schools, these institutions had lost some of their ability to matriculate students seamlessly to the baccalaureate schools. Increased efforts had been made by some states and baccalaureate institutions in the areas of articulation processes and student transfer programs to help improve the success rate of transfer students, but many of the students still faced barriers once they transferred. Without continued support, transfer students may have to repeat courses already taken and may not be on track to graduate upon transfer, resulting in lower GPAs and a more difficult route to baccalaureate attainment (Dougherty, 2001).

The current study was designed to measure the academic performance and persistence of transfer students and to compare them to their native peers. By examining GPA and persistence to a bachelor's degree, the two variables were compared between transfer and native students at the University of Kansas. Findings from this research may help administrators develop policies and programs to assist transfer students achieve their goal of earning a bachelor's degree.

The remaining chapters provide additional information on the current study. Chapter Two is a review of literature relevant to the study. Chapter Three outlines the methodology. The fourth chapter provides findings of the research and is presented in tables and figures. The fifth chapter is devoted to interpretation of the findings and recommendations for future study.

CHAPTER TWO

REVIEW OF LITERATURE

Today's community college has evolved from the original junior college created in Chicago, Illinois. What was once designed as an alternative that allowed universities to increase admission standards for freshmen turned into an educational institution serving many foci (Cohen & Brawer, 2003). Amidst these changes, students who entered community college with the intent of transferring to a baccalaureate institution and earning a degree faced many challenges. Specifically, findings suggested that transfer students earn lower GPAs and persist to a bachelor's degree at a lower rate than their peers who began their postsecondary education at the 4-year school (Pascarella & Terenzini, 2005).

For over eight decades, researchers have investigated how a changing mission of the 2-year college has impacted the performance of students upon transfer. Much of the research performed has been done by comparing transfer students to their native peers. The findings presented in this chapter detail the history of community colleges, evaluate the academic success of transfer and native students, and compare the persistence of transfer and native students.

Historical Perspective on the Community College

The first junior college in the United States was founded in 1901 by William Rainey Harper, the president of the University of Chicago. Joliet Junior College was established with the intent to prepare students for transfer to the University of Chicago.

Students enrolled their first 2 years of their undergraduate studies at the junior college, and then transferred to the university for completion of their upper level coursework. Harper's goal was to allow students to focus upon advanced studies and research after transferring to the university (Witt, Watternbarger, Gollattscheck, & Suppiger, 1994).

Townsend supported the initial purpose for the creation of the 2-year college: "When the community college was created in 1901, its central mission was transfer education" (2001, p. 29). Joining in Harper's belief that universities should be responsible for the higher-level courses, while the lower schools would provide general and vocational scholarship, were Edmund James of the University of Illinois, David Starr Jordan of Stanford, and Alexis Lange of the University of California (Cohen & Brawer, 2003).

Cohen and Brawer (2003) asserted that universities believed that the role of junior colleges was to teach lower-division courses. The lower-division colleges were developed to prepare students for the upper-division work at the universities upon transfer. The founders of these lower-division institutions were of the belief that the success of their transfer mission would be reflected by the success of their students at 4-year institutions (Banks, 1990). Despite the purpose of establishing the schools, the mission of these junior colleges quickly grew from providing freshman and sophomore general education courses to providing a variety of curricula in response to community needs.

Funding for the initial junior colleges was provided through the high school systems until 1921. However, as the number of community colleges increased, so did the means of financing them. Many were organized into districts separate from the high

schools that were funded by different methods. The most consistent forms of revenue were through student and state sources until local governance and funding entered the picture (Cohen & Brawer, 2003). Many states were adding 2-year colleges at a rapid rate. One of the most comprehensive state systems created was on the west coast. By 1930, there were 35 junior colleges in California, serving approximately one-third of the total postsecondary students in the state (Brint & Karabel, 1989).

Franklin Roosevelt's New Deal legislation in 1934 established funds through the Federal Emergency Relief Administration to establish emergency junior colleges. The state with the largest number of junior college programs was Michigan, which included 100 colleges supervised by state universities. Michigan's colleges were separated into "freshman colleges, for the larger number of schools that offered only one year of coursework, and community colleges for those that offered two years." This is the first known use of the term "community college" (Witt et al., 1994, p. 97).

One of the greatest changes in the 2-year college's mission and enrollment came as a result of World War II. Veterans were returning home to a country that did not have enough jobs for them. Because of this, the former soldiers were encouraged to attend school and learn a trade. The junior colleges recognized the opportunity to train a skilled workforce and quickly expanded to 610 public and private institutions shortly after the war. The average enrollment at these evolving institutions was 400 students (Vaughan, 2003).

The Servicemen's Readjustment Act (GI Bill) in 1944 opened the door to additional educational opportunities for veterans by providing financial means for them to pursue postsecondary education. Though the majority of community colleges did not

organize financial aid offices until 1972, community colleges still recognized a need to train a workforce returning from war (Cohen & Brawer, 2003).

The continued growth of public 2-year schools has been often attributed to the recommendation made in the 1947 Commission of Higher Education for American Democracy Report, commonly known as the Truman Commission Report. The report expressed the need for all Americans to have the opportunity to pursue postsecondary education if they so desired (Vaughan, 2000). As a result, new facilities and faculty could be procured.

Not only were the junior colleges evolving in the sense that they were placing vocational focus in addition to transfer, but they were also changing in governance. Instead of being run by the state education bodies that held oversight of public secondary education, local boards were given legal authority to levy taxes and establish programs and standards. The local boards helped to secure funds in addition to those already received from state and national sources. These local taxes were often used to fund regional vocation initiatives (Vaughan, 2003).

According to Cohen and Brawer (2003), the curricular functions of the community college are consistent through each of the states. The researchers attested that states' legislation usually included academic transfer preparation, vocational-technical education, continuing education, developmental education, and community service as roles of the community college.

By the late 1970s, 40% of first-time full-time freshmen were enrolled at 2-year institutions. This represented a lower proportion than early prognosticators envisioned because the universities showed little interest in being relieved of their responsibilities for

educating freshman and sophomore level students (Cohen & Brawer, 2003). By 2007, community colleges enrolled a greater proportion of undergraduate students. According to the American Association of Community Colleges (n.d.), 2-year institutions enroll 46% of all undergraduates, including 45% of first-time freshmen. Funding for community colleges has also grown in diversity. Thirty-eight percent of 2-year colleges' revenue sources are state funds, 20% are tuition and fees, 19% are local funds, 7% are federal funds, and 16% are other funds (American Association of Community Colleges, n.d.).

Academic Success

Academic success has been evaluated in many ways when studying higher education. A common form of analysis includes measuring students' grade point averages. In doing so, many methods should be considered: cumulative, semester, transfer, major, upper division, and others. In this section, specific considerations have been given for the transfer students' first semester GPA and the cumulative GPAs of transfer and native students. The section devoted to transfer students' initial performance is followed by a review of early and recent studies that have compared transfer and native students' academic success.

Research has shown that for both native and transfer students at the 4-year institution, the first semester GPA is important to students' persistence to graduation (Gao, Hughes, O'Rear, & Fendley, 2002). In their descriptive study including all undergraduates who entered the University of Alabama in the fall of 1994, the researchers compared the results of 3,739 students (2,545 natives and 1,194 transfers). The study examined differences between native students and transfer students in terms of

graduation and retention rates, sought to discover factors impacting students' persistence in higher education, such as a student's first-term GPA, overall average GPA, age, gender, race, and residency (in-state versus out-of-state). The study aimed to develop a systematic and comprehensive model to determine the extent to which these factors interact and influence graduation and retention rates. Findings concluded that student ethnicity, sex, and age had no effect on student graduation or retention rates, but student academic performance was influential. First-term academic performance was crucial in regards to retention and graduation (Gao et al., 2002).

The initial drop in GPA was first coined “transfer shock” by Hills (1965, p. 203) and was measured between 0.30 and 0.50 grade points. Hills conducted 38 studies from 1928 to 1964 and determined that students eventually recovered from the drop in 34 instances. This led Hills to three conclusions: (a) An appreciable drop in grades should be expected by transfer students in the first semester after transferring, (b) The grades of transfer students will likely improve relative to the amount of time they remain at the institution, and (c) Students who began at the 4-year university usually perform better than students who transfer there. The conclusions were supported by his findings that out of the 33 sets of data comparing the grades of transfer students to natives, 22 indicated native students performed better, seven indicated no difference in performance, and four indicated transfer students performed better than the native students.

Following Hills’s assertion, a significant amount of research was done in relation to transfer shock. House’s (1989) evaluation of 14,689 transfer students discovered that the drop in GPA at the senior institution was dependent upon the amount of hours completed upon transfer. If more hours were taken prior to transfer, the drop was smaller.

This claim was supported by other researchers (Cedja, Rewey, & Kaylor, 1998; Graham & Hughes, 1994).

House (1989) determined that after the initial drop in the first semester, there was a steady increase in GPA until it was equivalent to that of the native student. Dougherty (1992) claimed that transfers still faced academic risks after they transferred to the university. Approximately a third of the transfer students dropped out within 3-5 years, a rate significantly higher than that of the native students.

One of the most comprehensive studies done to examine transfer shock was performed by Diaz (1992). He conducted a meta-analysis of 62 studies that reported a change in GPA for transfer students and discovered that 79% of studies showed a GPA change, and that most cases fell in the range determined by Hills. Additionally, 67% of the studies stated that transfer shock wore off, typically after the first year of transfer. Diaz found that transfer students reestablished their GPA and often finished in better standing than their native counterparts. According to 60% of the studies, students eventually recovered and experienced “transfer ecstasy,” a post-transfer shock increase in GPA (Diaz, 1992, p. 279).

Sanchez and Laanan (1998) argued that transfer shock was only examined through the student’s academic transition and that it paid little attention to emotional or social development at the university. Townsend (1993) reported a significantly different academic environment at the community college than at the university. Students reported experiences with university faculty that led them to believe faculty was not as willing to help when students experienced difficulty with coursework as faculty had been at the previous institution.

Some critics blamed community colleges for the lack of success experienced by transfer students. Carlan and Byxbe (2000) argued that performance levels were reduced and students were not ready for work at the university because of the open access philosophy at the community college. They also claimed students were nurtured too much at the community college level, creating a false sense of confidence for transfer students.

Laanan's (2004) study pointed out a cultural shock as students attempted to adjust to a new environment consisting of new instructors and advisors, different opportunities, and the social demands of a school that was not like the 2-year college. Transfer students must become acclimated to larger classes, the larger campus, increased rigor, and a new location. A similar claim was supported by research that signified community college transfer students had a lower level of satisfaction with the university than did native students (Berger & Malaney, 2003). Because very few changes were made to deal with the phenomenon of transfer shock, some universities are still reluctant to enroll transfer students because they are not persuaded that community colleges have adequately prepared students. Carlan and Byxbe's (2000) research supported the phenomenon of transfer shock, but also showed that transfer students and native students had similar GPAs by the time they graduated.

Numerous studies have been designed to analyze the perils of transfer students and their academic success beyond the first semester of enrollment. The comparison of GPAs for transfers and natives tends to have different outcomes and a myriad of explanations for them. One of the earliest to explore the differences between 2-year transfers and native students was by Koos (1924), who compared grade percentages

between junior college students and students native to the University of Minnesota. His study consisted of 95 transfer students and 75 native students. Koos discovered that transfer students performed comparably to their peers who started at the university. This was the first of many studies to compare the success of native students to junior college transfer students.

Eells (1927) studied 2-year transfer students and students native to Stanford University. He measured academic success by using cumulative grade point averages after the first quarter of attendance and concluded that transfer students had slightly higher grade point averages than their peers who started at Stanford. His study in 1943 included 2,080 2-year transfer students who entered 319 junior colleges between 1934 and 1940. Of the 2,080 individuals tracked, Eells discovered that 1,165 (56%) earned a greater GPA than all other subjects in the study, 16% were below the overall GPA, and 38% were consistent with the entire student group based on GPA.

Allen (1930) evaluated 330 2-year transfers from 26 junior colleges and compared them to students native to Baylor University. His findings concluded that there was no difference between the cumulative grade point averages of the two populations. In contrast, Fichtenbaum (1941) evaluated 900 transfers from junior colleges who entered the University of Texas between 1935 and 1938. He discovered that the cumulative grade point averages of native students were higher than those of the junior college transfers after their junior year at the university.

Martorana and Williams (1954) assessed 251 students who transferred from junior colleges to the State College of Washington between 1947 and 1949. The group was matched with native students by gender, major subject area, high school size, age at time

of entrance to college, ACT scores, and high school grade point averages. The researchers determined there was no significant difference between the performance levels of the transfer students compared to the performance levels of the native students. Transfer students did as well as, or better than, the native students in terms of grade point average when the groups were evaluated as a whole.

Klitzke's (1961) evaluation of 231 transfer students who entered Colorado State University between 1953 and 1957 found no significant differences between the cumulative GPAs of transfer students and native students. However, he discovered that transfer students' GPAs declined in their upper-division coursework at the 4-year college, whereas native students' GPAs rose during their upper division coursework.

More recently, Tripp (2006) performed an analysis between transfer students and students native to a private urban university, finding no statistically significant difference in the academic performance between transfer and native students. Sessions's (2007) evaluation of 300 transfer students and students native to Troy University ascertained that transfer students took longer to graduate, but they had a slightly higher mean cumulative GPA than their native counterparts.

As a result of the numerous institution-wide studies performed, researchers have been able to perform meta-analyses designed to analyze the perils of transfer students and their academic success beyond the first semester of enrollment. Many of these researchers have compared transfer students and native students (Best & Gehring, 1993; Carlan & Byxbe, 2000; Porter, 1999).

Porter's findings (1999) discovered that transfer students did not perform as well as natives on measures of academic achievement and retention, but he found one unique

characteristic about both populations. His research revealed that the academic performance of both transfers and natives improved as they progressed from juniors to seniors. This was also found in previous research by Best and Gehring (1993). Their study showed that students who transferred from community colleges as upper division students achieved similar GPAs to their native counterparts.

An examination of transfer students' grade point averages prior to transfer and its effects on academic achievement was performed by Townsend, McNerney, and Arnold (1993). Their findings specified that students who transferred with a GPA greater than 2.5 were more likely to be academically successful than their counterparts whose GPAs were lower. Gao et al. (2002) learned that the first semester GPA for both native students and transfer students was critical to retention and graduation efforts.

A number of researchers have attributed the necessity of developmental education to the lack of academic success for some transfer students (Brawer, 1996; Cohen & Brawer, 2003; Hungar & Lieberman, 2001). Such developmental courses are designed to help students prepare for college level course work but do not count toward graduation. Hungar and Lieberman's findings caused them to encourage colleges to implement developmental education programs in courses across the curriculum so students could stay on track to graduate.

Persistence

Persistence to a baccalaureate degree is fundamental in measuring a student's success at a 4-year college or university. The ultimate goal of students who enroll at 4-year institutions is nearly always to receive at least a bachelor's degree. Graduation rates

of transfer students have been studied thoroughly and frequently have been compared to their native peers. This section provides background for the myriad ways to determine persistence, a historical approach to persistence research, and a list of characteristics that have been found as predictors of persistence.

Reasons why students select specific institutions and why they choose to remain at or leave a school have been studied by researchers for several decades (Astin, 1975; Dougherty, 2001; Terenzini & Pascarella, 1991; Tinto, 1975, 1987, 1993). Tinto, long regarded as a pioneer in retention research, developed three areas he believed were influential in student persistence. The first area, student entry characteristics, consisted of family background (socioeconomic status, parents' education, and expectations), individual attributes (academic ability, race, and gender), and pre-college educational experience (high school academic achievements). The second and third areas were academic and social integration at the postsecondary institution (1975).

In all three of his texts evaluating student persistence (1975, 1987, 1993), Tinto stated that departure could be attributed to a shortfall in one of these areas. Tinto's 1993 research evaluated the integration perspective of his initial model and applied it to community college students. Findings suggested that the change in environment, such as academic and social system changes, for transfer students could cause intimidation, leading to dropout from the institution.

Dougherty (2001) listed three reasons why students who enroll at the community college with the intent of earning a bachelor's degree might not reach their goal. The first is attrition within the community college. The second is difficulty transferring to 4-year colleges, and the third reason is attrition after transfer. In the persistence of transfer

students, only the third factor plays a role. Much like studies on academic success, diverse findings have been revealed when comparing the persistence of transfer and native students.

Initial reports on student persistence date back to 1937, when half of all students in college were retained until graduation (Wyman, 1997). Knoell and Medsker's (1964) research compiled data for 10,000 students who attended 43 baccalaureate institutions in 10 states during the 1950s. Results showed that native students at the junior level earned more baccalaureate degrees after 2 years than did transfer students. Sixty-two percent of the transfer students who enrolled full-time were able to graduate within 2 years of transfer, and 75% graduated within 3 years. Of the part-time enrollees, only 19% had earned their baccalaureate degree in 3 years (Knoell & Medsker, 1965).

A 1967 study performed by Hergenroeder compared the baccalaureate degree attainment of transfer students with native students in Michigan. He found that at four of the six universities studied, native student graduation rate was 61.7%, whereas only 35.1% of the transfer students graduated (Hergenroeder, 1967).

During the 1970s, Holmstrom and Bisconti (1974) used data collected by the Council of Education to perform an analysis of full-time freshmen who entered 2-year and 4-year colleges across the United States. Their findings concluded that students native to the 4-year schools were 20% more likely to earn a bachelor's degree in 4 years than their peers who enrolled at 2-year institutions. These findings were opposite of those implied by Garcia's (1994) longitudinal study of students enrolled at California State University in 1978 and 1979. In the first 6 years, students who had acquired junior level

status prior to transferring were 19% more likely to graduate than were students native to California State University.

Research over the past 15 years has continued to provide an inconsistent comparison between transfer and native students. In 1995, Nurkowski concluded that students who graduated from community colleges were consistently more persistent than other student types. Her study showed that institutional persistence rates were 55%, the native students persisted at 49%, and the community college graduates persisted at 68%. As a result of her research, Nurkowski (1995) determined that support services for transfer students correlated to transfer persistence, and ultimately, transfer success.

Chenoweth (1998) asserted that transfer students graduated at a much lower rate (38.4%) than did native students (60%). Similar findings were discovered in a U.S. Department of Education (2001) study that revealed 44% of transfer students in a 1995-1996 cohort had earned their bachelor's degree within a 6-year period. This is somewhat less than the 53% of native students who earned their degree during the same time frame (Adelman, 2004).

Researchers have determined a number of other characteristics play a role in student persistence. For all students, there are predictors of those most likely to persist to a baccalaureate degree. Students who are enrolled full time, have continuous enrollment, come from higher socioeconomic backgrounds, have greater educational goals, and have higher high school and community college GPAs are more likely to persist than students who don't meet these criteria (Cohen & Brawer, 2003). Some studies have shown race and gender have a correlation with earning a bachelor's degree, but others have asserted there is no correlation (Tinto, 1993). Some researchers claim that student characteristics

influence baccalaureate attainment most heavily (Pascarella & Terenzini, 2005). This could support the theory that 2-year colleges, with their open admissions policy and large numbers of part-time, low-achieving, and low socioeconomic students, will have low persistence rates, regardless of the effectiveness of any deliberate interventions (Cohen & Brawer, 2003).

Dougherty's "institutional obstacles" (2001, p. 87) theory describes a series of predictable crises or barriers a transfer student must navigate in order to succeed. These include such measures as "cooling out" (2001, p. 219) and surviving the transition and adjustment to the upper level institution. One of the most difficult adjustments transfer students face is that the fundamental "open-door, supportive, second chance institutional culture" approach of a community college is considerably different from that of the 4-year school (American Association of Community Colleges and American Association of State Colleges and Universities [AACC & AASCU], 2004, p. 4).

Student advisement is a critical aspect when considering a student's ability to perform in college. Students and researchers alike criticize academic advising for transfers because of inconsistencies and a lack of information on course transfer (AACC & AASCU, 2004; Davies & Dickman, 1998). Inadequate advising has led to students losing credit upon transfer, which has been a significant barrier to graduation.

Adelman (2006) evaluated the likelihood of students earning a bachelor's degree by their mid-20s. He used data provided in three U.S. Department of Education longitudinal studies. His findings alleged that remaining continuously enrolled had the most positive impact on degree attainment. Adelman also asserted that the ability to

withdraw from courses without penalty was one of the most degree crippling features of undergraduate histories.

Summary

The first junior college in the United States was created to serve as a gateway to a bachelor's degree for students. The focus of the school was to provide the first two years of education to students so they could transfer to the university. Since its inception, the 2-year school has evolved into a community college that has moved to serve the diverse vocational needs of its service area. With the community college's expansion in mission, researchers have spent decades determining the impact of attendance at a 2-year college on students' baccalaureate aspirations.

Studies designed to compare the academic success and persistence of transfer and native students have had findings that often contradict one another. These studies included comparisons of first semester and cumulative GPAs, as well as baccalaureate attainment. Some researchers asserted that transfer students who experienced transfer shock had the ability to recover; others claim they never catch up to their native peers.

The current study contributed to this research by determining how transfer students at the University of Kansas (KU) compared to their native counterparts who had already earned an equivalent amount of hours at KU prior to the study. The results of the study should assist administrators in developing policies and programs that increase the probability of transfer students performing as well as their native peers at KU and other 4-year institutions in the state of Kansas.

CHAPTER THREE

METHODS

Chapter Three is focused on the methodology of the current study. It details how the study was conducted and who was included in the sample. A brief overview of the purpose of the study and the description of the problem is followed by five comprehensive sections: research design, population and sample, data collection procedures, statistical analysis, and limitations.

The purpose of this study was to compare academic success and persistence between community college transfer students versus native students at the University of Kansas. The study measured academic success based on first semester and cumulative GPAs and persistence based on completion of a bachelor's degree. The research analyzed specific factors relating to students who transferred from in-state public community colleges and compared them to students who started their postsecondary education at the University of Kansas.

Research Design

The basic design of this study was a cross-sectional descriptive analysis of academic success and persistence for transfer students and native students at the University of Kansas. In cross-sectional studies, variables of interest in a sample of subjects are evaluated once and the differences between them are determined (Hopkins, 2008). This method was chosen because the data used in the study was already stored in

the student information system at KU. The chosen design allowed the researcher to gather data specific to the population involved in the study and ensured data reliability.

In order to perform the research, information had to be extracted from the KU student information system, based on the study's specific research criteria. The focus of the study was to examine the results of student performance at KU. Quantitative analyses were performed to determine if differences existed among the groups represented in the sample. These measures included multiple analyses of variances and a chi-square test. Demographic data provided by students on the application for admission to the university was collected to perform further exploratory analyses. These characteristics included gender, age, and ethnicity.

The study was guided by the use of two dependent variables and three independent variables. One of the dependent variables, academic success, was measured by using first semester GPAs and cumulative GPAs for all students. The second dependent variable, persistence, was measured by whether students earned a bachelor's degree in the time allotted for the study. Only the semesters completed at the University of Kansas during the period of the study were measured. The first independent variable was student enrollment status, which had two categories: transfer and native to the university. The other two independent variables were gender and ethnicity. As defined for the study, a transfer student is one who enrolled at the university after completing at least 24 credit hours prior to being admitted and was more than one year removed from high school. A native student was one who enrolled at the university directly after high school or who had completed less than 24 hours prior to being admitted to the university.

Population and Sample

The population for the study included students enrolled at the University of Kansas in the fall semesters of 2003 and 2004. Only students enrolled in The College of Liberal Arts and Science (The College) at the University of Kansas main campus, located in Lawrence, Kansas, were identified in the population. Students tracked from the start of the 2003 or the 2004 academic year were allotted 10 and 8 semesters, respectively, to complete a bachelor's degree. The data provided to the researcher from KU included information for 965 students who met the criteria of the study. The sample used for the study totaled 384 students randomly selected by using Microsoft Excel data selection tools. There were 184 transfer students and 200 native students chosen from the fall 2003 semester and fall 2004 semester enrollees. Student identification numbers were cross-checked to prevent duplication.

Data Collection Procedures

Permission to perform the study was obtained through formal completion of a Human Subjects Committee proposal at the University of Kansas and an Institutional Research Board proposal at Baker University. Once permission was granted by both committees to perform the research, the data collection began.

Data used for the current study was gathered through cooperation with the Office of Admissions and Scholarships at the University of Kansas. Information collected was provided to the Associate Director of Admissions and was generated from the student information system in the Office of the Registrar. Subjects were selected and provided to the researcher without names in order to protect identity. For each subject in the study,

information gathered included student enrollment history, hours earned at beginning of study, semester GPAs, cumulative GPAs, whether a degree was conferred, age at beginning of study, ethnic background, and gender.

The Associate Director of Admissions provided a spreadsheet generated from the university's student information system in an Excel format. Numerical values were assigned for each of the variables. The first value assigned was for the variable of enrollment history. Transfer students were assigned a value of 1 and native students a value of 2. Each possible semester of attendance (i.e., FA03, SP04, FA04, SP05, FA05, SP06, FA06, SP07, FA07, and SP08) had a column listing the cumulative GPA earned through that semester. Students were coded a value of 1 if they earned a degree and 2 if they did not earn a degree. Males were assigned a value of 1 and females were assigned a value of 2. Age was indicated by actual age when data was first captured for the student. Traditional aged students (18-24) were assigned a value of 1 and nontraditional (25 and older) were assigned a value of 2. Ethnic background was coded for 1 for African American, 2 for Hispanic, 3 for American Indian or Alaskan Native, 4 for Asian or Pacific Islander, 5 for White, and 6 for Non-U.S. citizen.

Data Analysis and Hypothesis Tests

Data was gathered and entered into the SPSS statistical software program to test the hypotheses and answer the research questions. Prior to performing the hypothesis tests, descriptive analyses were performed to describe the characteristics of the sample. After testing the hypotheses, follow-up exploratory analyses were performed to determine if ethnic background or gender influenced the results of the hypothesis tests.

The first research question, “Is there a difference in academic success between transfer students and native students,” was addressed by conducting hypothesis tests using analysis of variance. The ANOVA was the statistical analysis utilized because it determines the difference between the means of numerical variables. One was performed using only the first semester GPAs for transfer and native students, and one was performed using the cumulative GPAs for transfer and native students. Both tests separated transfer students from native students and compared the specified GPAs of the groups. Results of the tests identified whether the first research hypothesis, “There is a difference in academic success between transfer students and students native to the University of Kansas, as measured by first semester and cumulative grade point average, at the .05 level of significance,” could be supported. The ANOVAs were performed by splitting the sample into subgroups based on ethnic background, and gender to identify further differences.

The second research question, “Is there a difference in persistence between transfer students and students native to the University of Kansas,” was addressed by conducting a chi-square test for the difference between two proportions. The chi-square test was used because it determines the difference between categorical variables. Results of the analysis identified whether the second research hypothesis, “There is a difference between the persistence of transfer students and students native to the University of Kansas, as measured by baccalaureate degree attainment, at the .05 level of significance,” could be supported.

Limitations

Six limitations were identified for this study. First was the limitation that this study was performed for only one institution. Results for this study were connected only to those students at the University of Kansas for the time frame and variables to be analyzed. Findings may not be generalized to other institutions.

The second limitation was that survey research was not performed for each participant. Information on the application for admission did not include students' perception prior to attendance, academic preparedness, employment, or family support. The effects of these outside factors remained undetermined by this study, because the only way to gather this information was to administer a survey or to conduct qualitative research.

Third, the data observed in this study was based on incomplete records for some students. The ethnicity area on the application for admissions was optional, leaving a high probability that this value may have been blank on some applications. Although some of the statistical procedures accommodated for the absence, other analyses required the omission of entire student records because they contained the missing value.

Fourth, some transfer and native students included in the study completed credit hours while concurrently enrolled in high school. These students did not take many of the 100-level courses designed for the first-year experience. The effect of concurrent enrollment in high school was not measured in the results of this research.

The fifth limitation was the option for a student to change a preferred major course of study once admitted to the university. This was a common occurrence for both sets of students, but may have been greater for students who had completed fewer credit

hours. The research was based on the assumption that all students were initially enrolled in The College of Liberal Arts and Sciences at KU.

Finally, the level of students' academic preparedness was not evaluated in this study. The students' standardized test scores and GPAs prior to the study were not considered in the measurements. Without these, the research was limited to the assumption that there was not a significant variance among any of the population groups in the sample.

Summary

The current research measured the performance of students who transferred to the University of Kansas from in-state public community colleges and compared the performance to that of their native peers. Students were split into groups and cohorts to capture a better understanding of whether having a transfer status, or hours earned prior to transfer, affected how a student performed at the university. Follow-up exploratory analyses were identified to determine additional differences among the sample populations. The tests used to address the research questions and hypotheses were detailed.

Results from the tests performed are presented in Chapter Four of the study. They include charts and graphs to help the reader understand outcomes of the research. Recommendations for further studies are shared in Chapter Five. These entail recommended improvements to the existing study and recommended measurements for other future studies.

CHAPTER FOUR

RESULTS

As stated in Chapter One, this study examined in detail whether students who transferred to the University of Kansas from public community colleges in Kansas earned a lower GPA and persisted at a lower rate than did students who initially began their college career at KU. The descriptive statistics identified to characterize the population are listed. A comparison of the first semester GPAs and the cumulative GPAs for transfer students and for students native to KU was performed to address the first research question; the persistence rates for the two populations address the second research question. The inferential statistics are organized by research question. Further exploratory analyses are included in the areas of both GPA and persistence.

Descriptive Statistics

There were 384 students in the sample who were identified for the study, which included student data first captured for the fall semester of 2003 ($n = 130$) and student data first captured for the fall semester of 2004 ($n = 254$). All subjects identified for the study earned between 24 and 65 credit hours prior to their selection. Transfer students earned hours at a community college prior to university admission, and native students earned hours at KU prior to selection for the study.

Every student was enrolled in a baccalaureate program of study in the College of Liberal Arts and Sciences at the KU Lawrence Campus at the time of selection. For each subject in the study, information gathered included student enrollment status, hours

earned at beginning of study, semester GPAs, cumulative GPA, whether a degree was conferred, age at beginning of study, gender, ethnic background, and last school attended. Information pertaining to enrollment status and hours earned at the beginning of the study were used to determine the sample. The students' age and last school attended were not useful for measurements because there was not enough discrepancy within the sample.

Despite the allowance of 8 full semesters for the 2004 cohort and 10 full semesters for the 2003 cohort to complete their degrees, 35 students (9.1% of the sample) were still enrolled at KU after the fall 2008 semester. Those still enrolled included eight of the 200 native students (4%), and 27 of the 184 transfer students (14.6%).

The mean GPA for the sample's first semester was 2.74, with a standard deviation (*SD*) of 0.64877; females earned a 2.82 GPA with a 0.61137 *SD*, and males earned a 2.67 GPA with a 0.67267 *SD*. The sample's cumulative GPA was 2.88 with a 0.51795 *SD*; females earned a 2.99 GPA with a 0.50713 *SD*, and males earned a 2.79 GPA with a 0.50915 *SD*. Table 1 depicts the GPAs earned by the groups and the standard deviations as they are later evaluated in the section addressing the first research question.

Persistence was determined by whether a student earned a bachelor's degree in the time allotted during the study. Of the 384 students identified, 249 earned a degree. There were 133 (69.3%) native students and 115 (73.2%) transfer students who graduated by the spring semester of 2008. Further analyses of these students are presented in the section that addresses the second hypothesis test. There were a total of 210 males and 174 females selected for the study. Table 2 displays the breakdown of gender by enrollment status.

Table 1

First Semester and Cumulative GPAs by Status

Status	Gender	<i>M</i>	<i>SD</i>
Native-First Semester	F	2.80	.47973
	M	2.74	.53920
	Combined	2.77	.51085
Native-Cumulative	F	2.94	.44137
	M	2.82	.45285
	Combined	2.88	.45046
Transfer-First Semester	F	2.88	.74788
	M	2.61	.77712
	Combined	2.71	.77133
Transfer-Cumulative	F	3.06	.57538
	M	2.76	.55863
	Combined	2.89	.58377

Table 2

Gender by Enrollment Status

<i>Gender</i>	<i>Transfer Students</i>	<i>Native Students</i>
Male	107	103
Female	77	97

Table 3 displays the ethnicity of the sample. Because all minorities combined represented only 11% of the sample, hypothesis testing that involved ethnicity was performed by comparing all minority groups to non-minority students, rather than comparing each ethnic group separately. Students with a “not specified” ethnicity were not included in the inferential statistics involving ethnicity.

Table 3

Ethnicity of Sample

Race	<i>N</i>	%
American Indian	3	.8
Asian	11	2.9
Black	12	3.1
Hispanic	16	4.2
White	316	82.3
Not specified	26	6.8

Prior to selection for the study, the sample earned an average of 41 credit hours that were posted on their KU transcript. Transfer students averaged 43 credit hours that they transferred to KU, and native students earned an average of 40 credit hours at KU prior to their selection for the study. The mean age for the sample was 20 years old, with a standard deviation was 2.61 years. Because of the lack of disparity, no additional analysis was performed using age as a variable.

Hypothesis Testing

Two hypothesis tests were performed to address the research questions identified for the study. The first test required the use of ANOVA for first semester GPA and cumulative GPA. The second test was done using a chi-square test to measure persistence.

Two-factor ANOVAs were used to test the first hypothesis, with first semester GPA as the dependent variable. Each ANOVA provided three tests and allowed for comparison of differences in means across two separate factors. The first two tests provided analyses of means for the main effects of the independent variables. The third test was an analysis of the interaction between the two independent variables. The results indicated whether the differences reached the .05 level of significance. Status, which is the determination of whether a student is classified as transfer or native, was crossed with gender and ethnicity.

The first ANOVA involved status and gender. The main effect for status was not statistically significant, $F(1,380) = .494, p = .48$, indicating no difference in first semester GPA for native students and transfer students. This analysis was the test for the first research question in regard to comparing the first semester GPA for transfer students and native students.

The main effect for gender was statistically significant, $F(1,380) = 4.770, p = .03$, indicating a difference in first semester GPA based on gender. Females earned a higher first semester GPA (2.82) than did males (2.67). Performances of the groups based on gender are presented in Table 4. The interaction between status and gender for first

semester GPA was not significant, $F(1,380) = 1.609$, $p = .20$, indicating no difference based on status and gender. Table 4 shows the results for the status and gender ANOVA.

Table 4

ANOVA of Status and Gender for First Semester GPA

	<i>Type III SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Sig.</i>
Status	.206	1	.206	.494	.483
Gender	1.989	1	1.987	4.770	.030
Status*Gender	.670	1	.670	1.609	.205
Error	158.271	380	.417		

A second ANOVA for first semester GPA was performed to compare status and ethnicity. This analysis omitted the 26 students in the sample with unspecified ethnicities. The main effect for status was not statistically significant, $F(1,354) = .015$, $p = .90$, indicating no difference in the first semester GPA for native students and transfer students. The main effect for ethnicity was not statistically significant, $F(1,354) = 1.012$, $p = .31$, indicating no difference in the first semester GPA based on ethnicity. The interaction between status and ethnicity for first semester GPA was not significant, $F(1,354) = .087$, $p = .76$, indicating no difference based on status and ethnicity. Table 5 shows the results for the status and ethnicity ANOVA.

Table 5

ANOVA of Status and Ethnicity for First Semester GPA

	<i>Type III SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Sig.</i>
Status	.006	1	.006	.015	.904
Ethnicity	.427	1	.427	1.012	.315
Status*Ethnicity	.037	1	.037	.087	.768
Error	149.231	354	.422		

The second analysis of the first research question addressed the cumulative GPAs for native students and transfer students. Two separate two-factor ANOVAs were used with cumulative GPA as the dependent variable. The first ANOVA for cumulative GPA included an analysis using status and gender. The main effect for status was not statistically significant, $F(1,380) = .354, p = .55$, indicating no difference in cumulative GPA for native students and transfer students. This analysis was the test for the first research question in regard to comparing the cumulative GPA for transfer students and native students.

The main effect for gender was statistically significant, $F(1,380) = 16.706, p = .00$, indicating a difference in cumulative GPA for native students and transfer students based on gender. Females earned a higher cumulative GPA (2.99) than did males (2.79). Performances of the groups based on gender were presented in Table 1. The interaction between gender and status, $F(1,380) = .2974, p = .08$, indicated a marginally significant difference in cumulative GPA based on gender and status. Results of the analysis are presented in Table 6.

Table 6

ANOVA of Status and Gender for Cumulative GPA

	<i>Type III SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Sig.</i>
Status	.091	1	.091	.354	.552
Gender	4.302	1	4.302	16.706	.000
Status*Gender	.766	1	.766	2.974	.085
Error	97.859	380	.258		

Figure 1 displays the interaction between the cumulative GPAs for female native students, male native students, female transfer students, and male transfer students.

Female transfer students were the highest performing group (3.06), and male transfers were the lowest performing group (2.76).

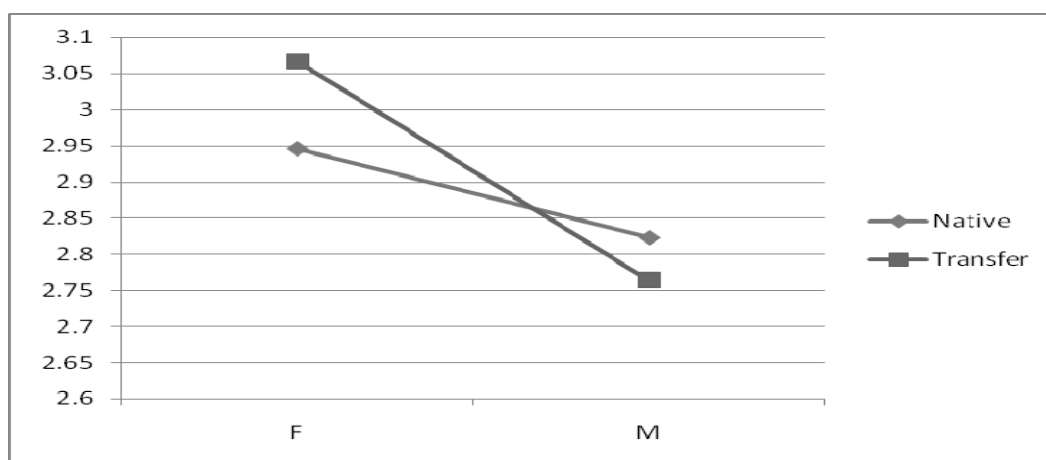


Figure 1. Gender interaction for cumulative GPA of native and transfer students

A post hoc analysis was performed to determine which means were significantly different in the interaction effect between gender and status. In order to test for the differences, the mean cumulative GPAs for both genders listed in Table 1 were analyzed using Tukey's HSD (honestly significant difference), which tested for significant differences between all possible pairwise comparisons of the four means. The HSD is the smallest difference that can be called a significant difference between two means at $\alpha = .05$. The HSD showed that any difference between pairs of the means was significant if it was greater than 0.189731. Table 7 shows the results of the HSD analysis. The italicized entries indicate that female transfer students differ significantly from male native students and male transfer students.

Table 7

Comparison of Means Using Tukey's Honestly Significant Difference

		<i>M Native</i>	<i>M Transfer</i>	<i>F Native</i>	<i>F Transfer</i>
		2.8229	2.7639	2.9463	3.0674
M Native	2.8229	0			
M Transfer	2.7639	0.0590	0		
F Native	2.9463	0.1234	0.1824	0	
F Transfer	3.0674	<i>0.244</i>	<i>0.3035</i>	0.1211	0

A second ANOVA for cumulative GPA was performed to compare status and ethnicity. This analysis omitted the 26 students in the sample with unspecified ethnicities. The main effect for status was not statistically significant, $F(1,354) = .053, p = .817$,

indicating no difference in the cumulative GPA for native students and transfer students. The main effect for ethnicity was marginally significant, $F(1,354) = .3.264, p = .072$, indicating a marginally significant difference in the cumulative GPA of minority students (2.74) and non-minority students (2.90). The interaction between status and ethnicity for cumulative GPA was not significant, $F(1,354) = .455, p = .50$, indicating no difference in the cumulative GPA based on status and ethnicity. Table 8 shows the results for the status and ethnicity ANOVA.

Table 8

ANOVA of Status and Ethnicity for Cumulative GPA

	<i>Type III SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>Sig.</i>
Status	.015	1	.015	.053	.817
Ethnicity	.894	1	.894	3.264	.072
Status*Ethnicity	.125	1	.125	.455	.501
Error	96.919	354	.274		

The second hypothesis was evaluated by performing a chi-square test using the categorical variables enrollment status and persistence. Because 35 (8 native and 27 transfer) of the 384 students in the sample were still enrolled after the spring 2008 semester, only the 349 students who had either graduated or dropped out were used in the analysis. The results of the chi-square test revealed that the difference in persistence between native and transfer students was not statistically significant $X^2 = .664, p = .41$. Native students represented 55.0% of the sample and 53.6% of the students who persisted

to a bachelor's degree; transfer students represented 45.0% of the sample and 46.4% of the students who persisted to a bachelor's degree. Table 9 displays the results of the sample population.

Table 9

*Status * Graduate Crosstabulation*

<i>Status</i>		<i>Persisted</i>	<i>Did Not Persist</i>	<i>Total</i>
Native	Count	133	59	192
	% within Native	69.3%	30.7%	100.0%
	% within Status	53.6%	58.4%	55.0%
	% of Total	38.1%	16.9%	55.0%
Transfer	Count	115	42	157
	% within Transfer	73.2%	26.8%	100.0%
	% within Status	46.4%	41.6%	45.0%
	% of Total	33.0%	12.0%	45.0%
Total	Count	248	101	349
	% of Total	71.1%	28.9%	100.0%

Summary

The first hypothesis presented in Chapter One of the study was tested by performing two-way ANOVAs using status, gender, and ethnicity as variables. No

difference was found between the status of native students and transfer students for first semester GPA or cumulative GPA. Gender showed significant difference for both first semester GPA and cumulative GPA. The interaction between status and gender was marginally significant and was depicted. No difference was found in the first semester GPA based on ethnicity. A marginally significant difference was found for the cumulative GPA between minority and non-minority students. No difference was found for first semester GPA or cumulative GPA based on the interaction of status and ethnicity.

The second hypothesis presented in Chapter One of the study was tested by performing a chi-square test using enrollment status and persistence as variables. No difference was found in the persistence to a baccalaureate degree between native students and transfer students.

Chapter Five includes an interpretation of the research findings and recommendations for future study. Discussion includes how results from the present study compared to findings of previous studies and how future research may be conducted to continue support for the comparison of transfers students and native students.

CHAPTER FIVE

INTERPRETATION AND RECOMMENDATIONS

Chapter Five presents a summary of the study based on content from the first three chapters and important conclusions drawn from the results presented in Chapter Four. The implications are discussed and recommendations are provided for further research comparing native students and transfer students in postsecondary education. The chapter summary provides concluding remarks for the study.

Study Summary

As stricter admissions standards and strains on financial assistance have forced more aspiring baccalaureate students to begin their postsecondary education at a community college, many states have created a systemized transfer process to support baccalaureate attainment (Dougherty & Townsend, 2006). In Kansas, transfer is handled differently by each university, and inconsistencies are often found within departments at each university.

The purpose of this study was to compare academic success and persistence between community college transfer students and students native to the University of Kansas. The study measured academic success based on first semester and cumulative GPAs and persistence based on completion of a bachelor's degree by the end of the spring semester in 2008. Two research questions guided the study. The first research question asked, "Is there a difference in academic success between transfer students and

native students?” The second research question asked, “Is there a difference in persistence between transfer students and native students?”

The study identified transfer students who (a) entered the University of Kansas (KU) for the first time with at least 24 and no more than 65 credit hours transferred from a public community college in Kansas, and (b) were at least one semester removed from high school. Students identified as native to KU were those who (a) entered directly from high school, or (b) had completed less than 24 hours prior to being admitted. Native students earned between 24 and 65 credit hours at KU prior to being selected for the study. All students in the study were enrolled at KU and had a declared major in a traditional 4-year graduation program through the College of Liberal Arts and Sciences. The sample included 184 transfer and 200 native students randomly selected from the population.

Two measures of the first semester GPA and cumulative GPA were used throughout the study. Persistence was defined as whether the student completed a bachelor’s degree during the study. Demographic information gathered for further analysis included gender, age, and ethnicity. Data collected for the study was entered in the SPSS statistical software program to conduct descriptive and inferential statistics. Two hypothesis tests were performed to answer the research questions. Analysis of variance (ANOVA) was utilized to gauge academic success, and a chi-square test measured persistence. The hypotheses were tested at the .05 level of significance.

No difference was found between native students and transfer students for first semester GPA or cumulative GPA. A significant difference was found in the test for the main effect of gender based on first semester GPA and cumulative GPA. The interaction

between gender and status for cumulative GPA indicated a marginally significant difference. A post hoc analysis revealed that female transfer students' GPAs were significantly higher than those of male native students and male transfer students.

No difference was found in the persistence to a baccalaureate degree between native students and transfer students. Native students represented 55.0% of the original sample and 53.6% of the students who persisted to a bachelor's degree; transfer students represented 45.0% of the original sample and 46.4% of the students who persisted to a bachelor's degree.

Findings Related to the Literature

Previous research that used first semester GPA of transfer students typically compared the results to the students' transfer GPA. Fichtenbaum (1941), Hills (1965), and House (1989) each determined that transfer students experienced transfer shock, which is a dip in GPA upon initial entry to the baccalaureate institution. The present study was designed to compare the semester GPA of native students who were enrolled in at least their third semester at KU, and transfer students who were enrolled in their first semester at KU.

The comparison of cumulative GPAs between transfer students and native students has been much more extensive, but no more definitive. Two of the earliest researchers to compare the performance of the two populations, Koos (1924) and Eells (1927), were unable to agree which population outperformed the other. Koos's research included the comparison of grade percentages between junior college transfer students and students native to the University of Minnesota. His study consisted of 95 transfer

students and 75 native students. Results indicated that transfer students performed comparably to their peers who started at the University. Eels studied 2-year transfer students and students native to Stanford University. He measured academic success by using cumulative grade point averages after the first quarter of attendance and concluded that transfer students had slightly higher grade point averages than their peers who started at Stanford.

More recent researchers, Pascarella & Terenzini (2005), Tripp (2006) and Sessions (2007), continued to provide inconsistent results. Pascarella & Terenzini's text stated that their previous research supported the theory of native students outperforming transfer students. Tripp's causal comparative study examined a cohort of students at a private 4-year institution. Tripp identified a cohort of students in the fall of 1999, examined their academic outcomes 6 years later, and found no difference between the populations. Sessions's research included a comparison of 300 students with education, business, or nursing majors at Troy University. Sessions discovered that transfer students earned a higher mean cumulative GPA than their native counterparts. The present study's analysis of 384 students at the University of Kansas best aligns with the results discovered by Tripp; there was no measurable difference in the mean cumulative GPAs of transfer students and native students.

Carlan and Byxbe's (2000) study of 1,000 students at a major university in the southern United States identified that transfer students experienced a first semester decline in GPA compared to their prior work completed at the community college. However, the researchers found no appreciable differences between the overall grades of transfer students and native students in upper level coursework. These findings were

consistent with the results of the present study, in that there was no measurable difference in the cumulative GPAs of transfer students and native students.

In terms of persistence, every study provided in the earlier chapters stated that transfer students persisted to a baccalaureate degree at a lower rate than did native students. Hergenroeder's (1967) early research of community college transfers and native students in six public 4-year colleges and universities of Michigan found that native students experienced a graduation rate of 61.7%, whereas only 35.1% of the transfer students graduated. The U.S. Department of Education (2001) later found similar results. Chenowith's (1994) findings stated that transfer students' graduation rate (38.4%) was lower than that of their native peers (60%). The U.S. Department of Education found baccalaureate attainment rates of 44% for transfers and 53% for natives in its analysis of the Integrated Postsecondary Education Data System (IPEDS). Results from the present study indicated a much higher rate of persistence to a bachelor's degree for transfer students (73.2%) than what was identified in previous studies.

Dougherty's (1992) meta-analysis of 14 longitudinal studies of student education attainment found that a third of transfer students dropped out within 3-5 years of enrollment at the baccalaureate institution. By combining the 115 students who persisted to a degree, plus the 27 still enrolled at the conclusion of the current study, 77.1% of the 184 transfer students in the sample could not be counted as dropouts. The 22.9% dropout rate was lower than what Dougherty found.

Implications and Recommendations for Future Research

The present study provided a comparison of transfer students and native students using quantitative analyses to determine differences between academic achievement and persistence for students at the University of Kansas. Though no significant differences were found in the variables measured for the research questions guiding the study, implications were present that could benefit administrators at KU and further researchers in the field. To gain an additional portrayal of students in this study, performing longitudinal measurements and qualitative analyses would have been effective methods of determining predictors and causes for student success. The current study only allowed for the comparison of a random sample during a short period of time.

Based on the findings of the present study, no measurable difference was found in the academic success or persistence of transfer students and native students at the University of Kansas. There was, however, a marginally significant difference based on the interaction of gender with status for cumulative GPA. Female transfer students had a higher cumulative GPA than all males. It may benefit administrators at KU to evaluate the academic performance of all students based on gender in an attempt to identify why some females are outperforming males. Since male transfer students had the lowest cumulative GPAs of all groups in the study, the University could look at specific characteristics of this population to determine why they do not perform as well as their peers. This may include evaluating academic preparedness through quantitative measures, or social and/or academic integration through qualitative measures.

The University of Kansas might also consider taking a comprehensive look at length of time it takes a student to earn a degree. With a higher number of transfer

students in the study still enrolled (27 compared to 8 native students), it may be of interest to determine why such a high number of transfer students are still enrolled. This may be done by examining student advisement prior to transfer and student advisement upon transfer, or evaluating student transcripts to determine course history.

The University of Kansas should expand the research to include a comparison of all transfer students and native students. The current findings are representative only of students enrolled in The College of Liberal Arts and Science at the Lawrence campus. If an investigation of the University's entire student body showed no difference in the academic success and persistence between transfer students and native students, then the findings could more thoroughly support the notion that KU is taking appropriate measures in its approach to articulation and transfer student orientation.

Future researchers might explore numerous avenues in order to conduct further research on the topics of academic success and persistence in postsecondary education. These include delving deeper into the comparison of transfer students and native students, choosing to examine more deeply the differences in academic achievement among gender, or exploring additional student and institutional characteristics that were not considered for this study. Some specific student characteristics that may be contributors to success are preparation for college work, standardized test scores, motivation to succeed, financial resources, study skills, job demands, social integration, and whether a student lives on campus. Institutional characteristics that may impact student outcomes are amount of financial aid available to students, number and variety of courses offered, student engagement in the classroom, academic advising, and admissions practices and requirements.

Considerations for transfer and native students may range from expanding institutional studies to performing the same study at multiple schools. The transfer student's transition into the 4-year institution plays a vital role in his or her success. Possible measures to use as predictors of success include quality of orientation programming, student support services, academic advising, and social integration. These measurements can be performed by determining frequency of use or measuring student satisfaction with the appropriate departments. An evaluation of hours earned prior to transfer may help to determine if students who earn more hours are more likely to persist to a baccalaureate degree. A study using the same research at multiple schools would eliminate one limitation of research performed at a single institution.

Further research should be conducted on the differences in academic achievement discovered between genders. Since female transfer students outperformed male transfer and native students in cumulative GPA, additional evaluations at KU and other institutions should identify whether these findings are consistent. If so, continued research should be performed to determine whether student or institutional characteristics are the cause for the differences.

Summary

As transfer students enter baccalaureate institutions in increasing numbers, continued support should be provided to ensure these students can succeed at the same rate, and in the same time, as their native peers. Chapter One discussed how states and schools with articulation processes and transfer programs frequently demonstrate higher levels of student success than schools without these measures. By comparing the first

semester GPA, cumulative GPA, and persistence of transfer students and native students at the University of Kansas, it was determined that transfer students in the sample population experienced similar levels of achievements as their native counterparts.

Results indicated that there was no difference in first semester GPA, cumulative GPA, or persistence between transfer students and native students. The sample's cumulative GPA was marginally different when the interaction between gender and status was examined. Female transfer students earned a higher cumulative GPA (3.06) than male transfer students (2.76) and male native students (2.82).

Implications of the study were that transfer students performed similarly to native students in academic success and persistence, but female transfer students outperformed all male students. The University of Kansas should conduct further investigations to determine if the findings are consistent beyond The College of Liberal Arts and Science. If so, interventions may be necessary to improve the academic achievement of all males at the University of Kansas.

REFERENCES

- Adelman, C. (2004). *Principal indicators of student academic histories in postsecondary education, 1972-2000*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Adelman, C. (2006). *The toolbox revisited: paths to degree completion from high school through college*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.
- Allen, W. S. (1930). University success of junior college graduates. *Junior College Journal, 1*, 147-148.
- American Association of Community Colleges. (n.d.). *Community college fact sheet*. Retrieved June 28, 2007, from http://www.aacc.nche.edu?Content?NavigationMenu/AboutCommunityColleges/Fast_Facts1/Fast_Facts.htm
- American Association of Community Colleges and American Association of State Colleges and Universities. (2004). *Improving access to the baccalaureate*. Washington, DC: Community College Press.
- Astin, A. W. (1975). *Preventing students from dropping out*. San Francisco: Jossey-Bass.
- Banks, D. L. (1990). Why a consistent definition of transfer? An ERIC review. *Community College Review, 18*(2), 47-53.
- Berger, J. B., & Malaney, G. D. (2003). Assessing the transition of transfer students from community colleges to a university. *NASPA Journal, 40*(4), 1-23.
- Best, G. A., & Gehring, D. (1993). The academic performance of community college transfer students at a major state university in Kentucky. *Community College Review, 21*(2), 32-41.

- Brawer, F. B. (1996). *Retention-attrition in the nineties*. Retrieved December 29, 2007, from ERIC Digest.
- Brint, S., & Karabel, J. (1989). *The diverted dream: Community colleges and the promise of educational opportunity in America, 1900-1985*. New York: Oxford University Press.
- Carlan, P. E., & Byxbe, F. R. (2000). Community colleges under the microscope: An analysis of performance predictors for native and transfer students. *Community College Review*, 28(2), 27-43.
- Cedja, B. D., Rewey, K. L., & Kaylor, A. J. (1998). The effect of academic factors on transfer student persistence and graduation: A community college to liberal arts college case study. *Community College Journal of Research and Practice*, 22, 679-686.
- Chenoweth, K. (1998). Race and success. *Black Issues in Higher Education*, 15(20), 32-33.
- Cohen, A. M., & Brawer, F. B. (2003). *The American community college* (4th ed.). San Francisco: Jossey-Bass.
- Davies, T. G., & Dickman, E. M. (1998). Student voices in the transfer process: Do we hear them? Do we listen? *Community College Journal of Research and Practice*, 22, 541-558.
- Diaz, P. E. (1992). Effects of transfer on academic performance of community college students at the four-year institutions. *Community/Junior College Quarterly of Research and Practice*, 10, 279-291.

- Dougherty, K. J. (1992). Community colleges and baccalaureate attainment. *Journal of Higher Education, 63*, 188-214.
- Dougherty, K. J. (2001). *The contradictory college: The conflicting origins, impacts, and futures of the community college*. Albany: State University of New York Press.
- Dougherty, K. J., & Townsend, B. K. (2006). Community college missions: A theoretical and historical perspective. *New Directions for Community Colleges, 136*, 5-13.
- Eells, W. C. (1927). Record of junior college transfers in the university. *School Review, 37*, 187-197.
- Eells, W. C. (1943). *Associates' degree and graduation practices in junior colleges*. Washington, D.C.: American Association of Junior Colleges.
- Fichtenbaum, M. (1941). Junior college graduates versus senior college juniors. *Journal of American Association of College Registrars, 16*, 144-154.
- Gao, H., Hughes, W. W., O'Rear, M. R., & Fendley, W. R., Jr. (2002, June). *Developing structural equation models to determine factors contributing to student graduation and retention: Are there differences for native students and transfers?* Paper presented at the annual research forum of the Association for Institutional Research, Toronto, Ontario, Canada.
- Garcia, P. (1994). *Graduation and time to degree: A research note from the California State University AIR 1994 Annual Forum Paper*. Paper presented at the Annual Meeting of the Association for Institutional Research, New Orleans, LA. (ERIC Document Reproduction Services No. ED 373 643).

- Government Accountability Office. (2005, August). *College textbooks: Enhanced offerings appear to drive recent price increases. Report to congressional requesters*. Retrieved December 29, 2007, from ERIC Digest.
- Graham, S. W., & Hughes, J. C. (1994). Moving down the road: Community college students' academic performance at the university. *Community College Journal of Research and Practice*, 18, 449-464.
- Hills, J. R. (1965). Transfer shock: The academic performance of the junior college transfer. *Journal of Experimental Education*, 33, 200-215.
- Hergenroeder, S. J. (1967). *A comparative study of the academic performance of community college transfers and native students in six public four-year colleges and universities of Michigan*. Unpublished doctoral dissertation, University of Michigan, Ann Arbor.
- Holmstrom, E. I., & Bisconti, A. S. (1974). *Transfers from junior to senior colleges. Final report*. Revised August 1974. Washington, DC: American Council on Education Office Research. (ERIC Document Reproduction Services No. ED 093 422).
- Hopkins, W. (2008). *Quantitative research design*. Retrieved February 22, 2009, from <http://www.sportsci.org/jour/0001/wghdesign.html#types>
- House, J. D. (1989). The effect of time of transfer on academic performance of community college transfer students. *Journal of College Student Development*, 30, 144-147.
- Hungar, J. Y., & Lieberman, J. (2001). *The road to equality: Report on transfer for the Ford Foundation*. New York: Ford Foundation.

- Kansas Board of Regents. (2007). *Fall 2007 enrollment reports*. Retrieved July 12, 2008, from <http://www.kpspsd.org/IR/KHEER/report2007fa.shtml>
- Klitzke, L. L. (1961). Academic records of transfers in teacher training. *Junior College Journal, 31*, 225-257.
- Knoell, D. M., & Medsker, L. L. (1964). *Articulation between two-year and four-year colleges*. Berkeley: University of California Press.
- Koos, L. V. (1924). *The junior college*. Minneapolis: University of Minnesota Press.
- Laanan, F. S. (2004). Studying transfer students: Part I: Instrumentation design and implications. *Community College Journal of Research and Practice, 28*, 331-351.
- Martorana, S. V., & Williams, L. L. (1954). Academic success of junior college transfers at the State College of Washington. *Junior College Journal, 24*, 402-415.
- Nurkowski, L. C. (1995). Transfer student persistence and academic success. (Doctoral dissertation, Widener University, 1995). *Dissertation Abstracts International, 56-10A*, 3851.
- Pascarella, E., & Terenzini, P. (2005). *How college affects students: A third decade of research* (2nd ed.). San Francisco: Jossey-Bass.
- Porter, S. (1999, May). *Assessing transfer and native student performance at four-year institutions*. Paper presented at the 43rd Annual Forum of the Association for Institutional Research, Seattle, WA.
- Sanchez, J. R., & Laanan, F. S. (Eds.). (1998). *Determining the economic benefits of attending community college: New directions for community colleges, no. 104*. San Francisco: Jossey Bass.

- Sessions, K. (2007). *Academic success of transfer students and native students in southeast Alabama*. (Doctoral dissertation, Auburn University, 2007). Retrieved from *Proquest Dissertations and Theses*. (AAT 3265521)
- Terenzini, P. T., & Pascarella, E. T. (1991). Twenty years of research on college students: Lessons for future research. *Research in Higher Education*, 32(1), 83-92.
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45, 89-125.
- Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition*. University of Chicago Press.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago Press.
- Townsend, B. K. (1993, November). *University practices that hinder the academic success of community college transfer students*. Paper presented at the Annual Meeting of the Association for the Study of Higher Education, Pittsburgh, PA.
- Townsend, B. K. (2001). Redefining the community college mission. *Community College Review*, 29(2), 29-42.
- Townsend, B. K., McNerny, N., & Arnold, A. (1993). Will this community college transfer student succeed? Factors affecting transfer student performance. *Community College Journal of Research and Practice*, 17, 433-443.
- Tripp, A. (2006). *A comparison of the academic success of transfer students and native students at a private urban institution*. (Doctoral dissertation, Morgan State University, 2006). Retrieved from *ProQuest Dissertations & Theses*. (AAT 32116241)

- U.S. Department of Education. (2001, February). *Transfer and articulation policies*. Retrieved January 7, 2008, from ERIC Digest.
- U.S. Department of Education, National Center for Education Statistics. (2005). *The condition of education 2005*. NCES 2005-094. Washington, DC: U.S. Government Printing Office
- Vaughan, G. B. (2000). *The community college story*. Washington, DC: Community College Press.
- Vaughan, G. B. (2003). *The community college story* (2nd ed.). Washington, DC: Community College Press.
- Wellman, J. V. (2002). *State policy and community college-baccalaureate transfer*. The National Center for Public Policy and Higher Education Institute for Higher Education Policy. Retrieved June 16th, 2008, from <http://www.highereducation.org/reports/transfer/transfer1.shtml>
- Witt, A. A., Watternbarger, J. L., Gollattscheck, J. F., & Suppiger, J. E. (1994). *America's community colleges: The first century*. Washington, DC: Community College Press.
- Wyman, F. J. (1997). A predictive model of retention rate at a regional two-year college *Community College Review*, 25(1), 29-45.