Examining the Persistence and Graduation of 2011-12 First-Time Freshmen Recipients of the Nebraska Opportunity Grant

A Dissertation submitted

by

Amber Ann Adair-Morrow

to

College of Saint Mary

in partial fulfillment of the requirement

for the degree of

DOCTOR OF EDUCATION

with an emphasis on

Educational Leadership

This Dissertation has been accepted for the faculty of

College of Saint Mary by:

May 15, 2016

We hereby certify that this Dissertation, submitted by Amber Ann Adair-Morrow, conforms to acceptable standards and fully fulfills the Dissertation requirements for the degree of Doctor of Education from College of Saint Mary

Pamela Humphrey, Ph.D.
Chair

Christy Hutchison, J.D.
Committee Member

Joy Martin, Ph.D.
Committee Member

ACKNOWLEDGMENTS

When it comes to the acknowledgments for this study, there are so many people that have been influential along this educational journey. This journey has been one with many trials and triumphs. It all began when I was a child while my family assured that I was receiving the best education in my formative years of childhood, teenage, and early adulthood. Whenever I had problems learning, they were the ones who gave me confidence to know that I was on the right track. As my journey continued into higher education, it was a great challenge and one that I did not feel was a part of my future. However, my parents believed in me to think higher and better than I ever thought I could. They were the ones who told me receiving a Bachelor of Science degree was the only way to enter the workforce.

The irony was after receiving my bachelor degree more people came into my life who believed that a Master of Arts in Education was even better. These people were my advisors in my undergraduate years, and they believed in me. They believed I had the capability of teaching in higher education. As time went by and I learned everything I could from them, they encouraged me to work toward my doctorate. However, it was at this point in my life that I found my husband whom I have now been married to for almost 21 years. He knew I desired my doctorate, but I wanted his career to come first and I wanted my Mrs. degree. As we focused on his career, I always continued working in higher education. He has supported me through so many adventures in my life that there are too many to mention. It was my hope this study would help him further his career in financial aid.

My greatest joy, however, came the day I became a mother. Becoming a wife and a mother has been the most exciting part of my life because I had the opportunity to have time to be both. But when the opportunity came for me to work toward the doctorate, I decided it was time to complete this life-long goal. The fascinating part of this journey is my son and I have

been able to share some of the same joys and concerns as we have worked on our education together. He, unfortunately, could never say that I did not understand what he was going through during his elementary, junior, or high school years.

Throughout this journey, I am very grateful for many people. I will not mention them by name because I hope I have told them how important they have been to me. Also, I fear that if I have not told them I hope they realize just how important they were to me. While there are so many people's names I could list, the most influential person in my life has been my God. For in my weakness, He was strong. Without Him, I could not have done any of this work. I pray that it will be beneficial and be used for the greater good.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

FIGURE PAGE

ABSTRACT

EXAMINING THE PERSISTENCE AND GRADUATION OF THE 2011-12 NEBRASKA OPPORTUNITY GRANT RECIPIENTS

Amber A. Adair-Morrow, Ed.D.

College of Saint Mary

Advisor: Dr. Pamela Humphrey

Beginning July 1, 2021, the State of Nebraska could witness a decrease in the funding for the Nebraska Opportunity Grant. State grants offer low-income students the opportunity to access, afford, persist, progress, and graduate from college. If state grant funding decreases, this may adversely affect the persistence and graduation of low-income students.

The purpose of this longitudinal study was to examine persistence and graduation of low-income, first-time freshmen recipients of the Nebraska Opportunity Grant in 2011-12 among the five sectors of higher education from 2012-13 through 2014-15. It offered descriptive information on this state grant program which is supported with state general and lottery funding. This was the first study to analyze the effectiveness of the Nebraska Opportunity Grant.

The review of the literature supported how state grants relate to student persistence to graduation. St. John et al.'s (1996) nexus theory asserted a relationship existed between state grants and persistence in college. This study was to examine how the Nebraska Opportunity Grant is correlated to student persistence while it expanded upon the nexus theory by including graduation.

The correlational research design was to examine the persistence and graduation of recipients by age, gender, ethnicity, educational level of father and mother, enrollment status,

family income and sector of higher education. The sample size for this study was 3,257 low-income, first-time freshmen recipients of the Nebraska Opportunity Grant. Findings showed significant relationships between the Nebraska Opportunity Grant recipients on persistence, graduation, and sector of higher education. Among the controlled variables, there were significant relationships between age, gender, ethnicity, educational level of father and mother, enrollment status, family income on persistence. Also, there were significant relationships between age, gender, family income, and sector of higher education on graduation.

The recommendations from this study suggested requiring all Nebraska institutions to report to the National Student Clearinghouse, sharing access to Nebraska's Statewide Longitudinal Data System (SLDS), and changing the Nebraska Opportunity Grant program to an incentive program. The information provided from this study may provide state policy makers an initial overview of the Nebraska Opportunity Grant program while financially securing a way for students to persist and graduate through higher education.

CHAPTER I

INTRODUCTION

According to the *Trends in Student Aid 2014* report, approximately $122.7 billion in grant aid was offered in 2012-13 to students in higher education (College Board, 2014). There are four types of grants available to students: federal, institutional, private, and state. State grants are generally given to low-income students but at a much lower percentage rate than all other types of grants (College Board, 2014). The national average for state grants awarded in the 2012-13 academic year was $710 with a range from $0 to $1,890 for a full-time equivalent undergraduate student (College Board, 2014; NASSGAP, 2013). Research has shown low-income students who receive state grants are more likely to persist and graduate from college than low-income students who do not receive state grants (Holcombe, Bordoloi, Desjardins, & Purcell, 2014; Mendoza, Mendez, & Malcom, 2009; St. John, Musoba, & Simmons, 2003). State grants are beneficial because they offer free financial assistance to low-income students without the burden of accumulating college debt.

State grants are a form of financial aid that offer students the opportunity to access, afford, persist, progress, and graduate from college. Beginning July 1, 2021, the State of Nebraska could witness a decrease in the funding for the Nebraska Opportunity Grant which is the only need-based state grant program for low-income students (Coordinating Commission for Postsecondary Education, 2014). If state grant funding decreases while the cost of attendance increases, this may adversely affect the persistence and graduation rates of low-income students because it decreases accessibility and affordability to higher education (Carlson & Zaback, 2012; Holcombe et al., 2014; Stoll, Maha, & Bradley, 2014). For this specific study, while the 2011-12 Nebraska Opportunity Grant recipients received other forms of financial assistance such as the

Pell Grant, it seemed appropriate to measure the effectiveness of the Nebraska Opportunity Grant before possibly reducing or eliminating its funding. For that reason, this study was to examine the persistence and graduation of low-income, first-time freshmen who were recipients of the 2011-12 Nebraska Opportunity Grant among the five sectors of higher education from 2012-13 through 2014-15.

Background of the Problem

The review of the literature thematically focused on three primary areas: foundations of financial aid, benefits of financial aid, and an overview of a state grant financial aid program. First, the foundations of financial aid offered a historical context of how financial aid began in the United States. While the first mention of financial aid was made in 1643, its mission has remained the same throughout history by offering financial assistance to those who want to attend college but may not have the financial means to do so (Fuller, 2014; Gladieus, 1995;; Institute for Higher Education Policy, 2014, Kantrowitz, 2010). With the passing of the Higher Education Act in 1965, many types of financial aid were created in order for members of society to become better educated and to be able to contribute back to society (Institute for Higher Education Policy, 2014; Kantrowitz, 2010). The different types of financial aid consisted of loans, federal work study, and grants. While all types of financial aid were designed to help students access and afford college, grants were created as a means to help support students and their families who typically could not afford college, which was referred to in the literature as low-income students.

Secondly, the literature revealed both the students and the states benefit from financial aid. In regard to student benefits, several researchers found financial aid related to student access and affordability which increased the number of students persisting and progressing

through to college graduation (Cabrera, Nora, & Castaneda, 1992b; Dynarski, 2003; Holcombe et al., 2014). In turn, research found financial aid benefits the states by increasing the recruitment, retention and completion rates of students (Hossler, Gross, & Ziskin, 2006). Often, the reports discussed the areas of access, affordability, persistence, progression, and graduation which were terms used from a student perspective. Meanwhile, the areas of recruitment, retention and completion were terms used by the institution or state perspective. Regardless of the mirrored perspectives of the student and state benefits, research has shown financial aid, such as grants, positively affects students' persistence and graduation in higher education (Ganem & Manasse, 2011; Hutto, 2002; Robbins, Lauver, Davis, Davis, & Langley, 2004). The literature consistently discussed how policies should be reviewed at the federal, state, and institutional levels to know how financial aid could continue to benefit both the students and the states.

Lastly, the literature considered an overview of a state grant financial aid program by first considering the history of grants leading to, specifically, the background of the Nebraska Opportunity Grant. In 1965, the federal government created a grant program for low-income students, but it was the assumed that the state governments would eventually create their own grant programs to award to their own low-income students. By 2011, the federal government stopped assisting in matching state grants (Institute for Higher Education Policy, 2014; "Live & On Demand: State Government," 2014). With the exception of Georgia, New Hampshire, South Dakota and Wyoming, all other state governments awarded a total of $4.9 billion in need-based grants to low-income students in the 2012-13 academic year (NASSGAP, 2013). Of the $4.9 billion, the State of Nebraska, through the Nebraska Opportunity Grant, offered almost $16 million to low-income, undergraduate students in the 2012-13 academic year (Coordinating Commission for Postsecondary Education, 2014). Under the current law, the Nebraska

Opportunity Grant, which has been the only state grant available for low-income students, may no longer receive funding from the state lottery program beginning July 1, 2021. The state reports have shown this would decrease the funding by almost $10 million which would deny almost 9,700 low-income students from receiving state grant aid (Coordinating Commission for Postsecondary Education, 2014). With changes in financial aid policy both at the federal and state level, it was evident further research needed to be conducted on how state grants, such as the Nebraska Opportunity Grant, correlated to the persistence and graduation among low-income students.

The deficiencies in the literature are numerous where the effects of state grants on persistence and graduation rates are limited to various governmental reports rather than empirical, peer-reviewed research studies. Specifically, most of the current research has been conducted through state and federal accountability reports that document how much financial aid has been utilized by different sectors in higher education. For example, Alaska (Rae, 2011), California (Johnson, 2014), Indiana (Johnson, & Yanagiura, 2012), Tennessee (Ness, & Tucker, 2008), Texas (Holcombe et al., 2014), and Washington (Burley, 2014) have been assessing the effectiveness of their own state grant financial aid programs. While the objective of financial aid is to keep the cost of higher education at a minimum for the student, the research has been deficient in demonstrating how financial aid truly affects students in accessing, affording, persisting, progressing, and graduating from college (Carlson & Zaback, 2012; HCM Strategists, 2014; Long, 2010; Noel-Levitz, 2013; Rasmussen, 2006). Overall, there were few empirical studies that examined the effects of financial aid in higher education, especially with a focus on state grants. Researchers have indicated further research is needed to examine how grant money correlated to persistence and graduation (Holcombe et al., 2014; Texas Higher Education

Coordinating Board, 2014). The next section discusses the statement of the problem for this study on the effectiveness of the Nebraska Opportunity Grant.

Statement of the Problem

In 1975, the State of Nebraska received $175,000 in federal funds which was in turn matched by the state general fund for the Federal-State Student Incentive Grants (P. Hovis, personal communication, October 9, 2014). Originally, the funds were designated for three sectors: public, private non-profit and private for-profit institutions of higher education. The Nebraska State Grant was created in 2003 and then renamed the Nebraska Opportunity Grant in 2010. The Nebraska Opportunity Grant (NOG) is given to students from low-income families based on their Expected Family Contribution (EFC). The EFC is determined when a student's family completes the Free Application for Federal Student Aid (FAFSA). When the student applies for financial assistance through an institution of higher education, they are considered for this grant if they are a Nebraska-resident, attending an eligible institution, and meeting the EFC guidelines set by the institution. For the 2014-15 academic year, the State of Nebraska awarded approximately $16 million to low-income, Nebraska resident students with $6.6 in state general funds and $9.8 in state lottery funds (Coordinating Commission for Postsecondary Education, 2014).

Originally, with the passage of Legislative Bill 497 ("Nebraska Legislature-Legislative Document," 2013), the state lottery funding for the Nebraska Opportunity Grant was expected to be reduced by almost $10 million on June 30, 2016 (P. Hovis, personal communication, October 9, 2014). This would have meant an estimated 9,700 low-income students in Nebraska might not have been awarded a grant which could have impacted them being able to attend college (Coordinating Commission for Postsecondary Education, 2014). However, on May 7, 2015 with

the passage of Legislative Bill 519 ("Nebraska Legislature-Legislative Document," 2015), the legislature extended the date to June 30, 2021. The problem remains that if students are not able to access and afford college, they will likely not be able to persist and progress to graduate with their degrees. Since the Nebraska Opportunity Grant is the only need-based state grant available to low-income students in the State of Nebraska, this may influence the persistence and graduation of low-income, first-time freshmen students.

The problem in the literature was that very few studies have examined the effectiveness of financial aid programs in higher education. Specifically, past research has not adequately addressed the effects of state grants on student persistence and graduation rates among students from low-income families. A gap in the literature was that a study has never been conducted on the effectiveness of Nebraska Opportunity Grant on persistence and graduation among low-income, first-time freshmen students.

Purpose and Significance of the Study

The purpose of this longitudinal study was to examine the persistence and graduation of low-income, first-time freshmen recipients of the Nebraska Opportunity Grant in 2011-12 among the five sectors of higher education from 2012-13 through 2014-15. The significance of this study is that the results may enable the State of Nebraska government the opportunity to make better informed decisions on the levels of state general and lottery funding that is appropriated for this state grant. Additionally, state agencies and other constituents that offer financial aid grant programs in higher education may benefit from the research analyzed in this study.

For this study, the Nebraska Opportunity Grant recipients who were low-income, first-time freshmen college students and residents of Nebraska was the independent variable. The dependent variables were defined by the persistence and graduation of the Nebraska Opportunity

Grant recipients who have attended five sectors of higher education in the State of Nebraska. The controlled variables were the following: age, gender, ethnicity, educational level of father and mother, enrollment status, family income level and sector of higher education. Persistence was measured for students enrolled in college beginning their sophomore year through to graduation. Graduation was measured for students graduated from college and earned a degree (US Department of Education, 2015). Based on the St. John, Paulsen, and Starkey's (1996) nexus theory of financial aid, this study was to examine how the Nebraska Opportunity Grant correlated to persistence and graduation of low-income, first-time freshmen students. The next section states the research questions and hypotheses for this study.

Research Questions and Hypotheses

Creswell (2014) asserted that quantitative research questions and hypotheses are important in understanding the relationship among variables, such as the recipients of the Nebraska Opportunity Grant on persistence and graduation. Two research question and hypotheses for this study are as follows:

1. Is there a statistically significant relationship between the 2011-12 first-time freshmen recipients (awarded) of the Nebraska Opportunity Grant and their persistence (persisted or not persisted) through 2012 and 2015?

   H_0: There is no statistically significant relationship between recipients and persistence.

   H1: There is a statistically significant relationship between recipients and persistence.

2. Is there a statistically significant relationship between the 2011-12 first-time freshmen recipients (awarded) of the Nebraska Opportunity Grant and their graduation (graduated or not graduated) between 2012 and 2015?

   H_0: There is no statistically significant relationship between recipients and graduation.

   H1: There is a statistically significant relationship between recipients and graduation.

Sub questions include:

a. Is there a relationship between age and persistence?
b. Is there a relationship between age and graduation?
c. Is there a relationship between gender and persistence?
d. Is there a relationship between gender and graduation?
e. Is there a relationship between ethnicity and persistence?
f. Is there a relationship between ethnicity and graduation?
g. Is there a relationship between educational level of father/mother and persistence?
h. Is there a relationship between educational level of father/mother and graduation?
i. Is there a relationship between enrollment status and persistence?
j. Is there a relationship between enrollment status and graduation?
k. Is there a relationship between family income level and persistence?
l. Is there a relationship between family income level and graduation?
m. Is there a difference between sector of higher education and recipients
n. Is there a difference between sector of higher education and persistence?
o. Is there a difference between sector of higher education and graduation?

Through the application of statistical methods, the researcher gained a better understanding of the relationships that existed among these variables. The following section provides the definition of terms, including the operational definitions that were used throughout the study.

Definition of Terms

Access. Access is a term used in higher education to imply students have the right to further their education. It is usually implied that financial assistance is one aspect to offering access to college. Many policies in higher education focus on the under-represented population of students in terms of access. Access to financial assistance is obtained from grants, scholarships, loans and work-study programs (Ness & Tucker, 2008; Ziderman, 2009).

Affordability. Affordability is a term used in higher education to imply students have the right to cost-savings ways to further their education. It is usually implied that financial assistance needs to be improved by offering more affordable options to students. Many policies in higher education focus on ways to improve affordability through offering more grants or scholarships rather than loans. Affordability is made possible through financial assistance that keeps the cost of higher education at a minimum (Long, 2010; Rasmussen, 2006).

Cost of Attendance (COA). Cost of attendance is an amount determined by the financial aid administrators at each individual college and university. It is an estimated amount of what it would cost a student to attend the institution of higher education. The COA consists of five variables: tuition and fees, room and board, books and supplies, transportation, and miscellaneous expenses (Kantrowitz, 2010).

Expected Family Contribution (EFC). Expected Family Contribution (EFC) is an amount that is calculated by the US Department of Education for students who completed the Free Application for Federal Student Aid (FAFSA). The calculation, officially called Federal methodology, is determined through federal statute (Kantrowitz, 2010).

Financial need. Financial need is determined by subtracting the EFC from the COA. Financial aid administrators attempt to meet as much of the student's financial need as possible with the available financial aid programs (Kantrowitz, 2010).

First-time freshmen. First-time freshmen were operationally defined as students who are enrolling and attending an institution of higher education for the first-time. These students are identified by the self-reported responses on the Free Application for Federal Student Aid where the students are asked, "When you begin the 2011-12 school year, what will be your grade level?" First-time freshmen self-report on the FAFSA that they have, "Never attended college and 1st year undergraduate" ("Federal Student Aid," 2014).

Full-time equivalent: Full-time equivalent (FTE) is a term when the enrollment of one or more students is equivalent to the number of hours that equal full time status. The Integrated Postsecondary Education Data System (IPEDS) states, "The full-time equivalent (FTE) of students is a single value providing a meaningful combination of full-time and part-time students" (US Department of Education, 2015). Twelve credit hours are considered full-time for undergraduate students attending a semester based institution.

Graduation. Graduation was operationally defined as the number of students who have completed coursework and earned a college degree. According to the Integrated Postsecondary Education Data System (IPEDS), graduation rates are "the number completing their program within 150% of normal time to completion" (US Department of Education, 2015). These students are reported by the accrediting institution of higher education to the National Student Clearinghouse (NSC). The National Student Clearinghouse provided information on the graduation status of the recipients of the Nebraska Opportunity Grant. Graduation and

completion rates may be used interchangeably depending on the individual or organization using the term (Voigt & Hundrieser, 2008).

Low-income students. Low-income students were operationally defined as students who qualify for the need-based Nebraska Opportunity Grant. Low-income students were identified by the Expected Family Contribution (EFC) of $6350 or less for the 2011-12 academic year. This calculation is estimated by the US Department of Education from the submitted information provided on the Free Application for Federal Student Aid (FAFSA) (Coordinating Commission for Postsecondary Education, 2014).

Nebraska Opportunity Grant (NOG). Nebraska Opportunity Grant, also known as the NOG, was operationally defined as a need-based grant given to eligible low-income, Nebraska-resident students who are attending an eligible Nebraska institution of higher education and to students who are working on their first undergraduate degree (Coordinating Commission for Postsecondary Education, 2014).

Persistence. Persistence was operationally defined as students enrolling in classes every term (i.e., year, semester, quarter, or clock hour) following the first year of college (i.e., sophomore, junior, or senior years) (Coordinating Commission for Postsecondary Education, Noel-Levitz, 2013; Voigt & Hundrieser, 2008). Students who persist are reported by the accrediting institution of high education to the National Student Clearinghouse (NSC). The National Student Clearinghouse provided the information on the number of students who were enrolled in each term. In some studies, the persistence of the student in higher education relates to the retention rates of the institution (Ganem & Manasse, 2011; Voigt & Hundrieser, 2008). For this study, persistence is defined as students "…continuing to do something or try to do something even though it is difficult or opposed by other people" ("Persistence," 2014).

Progression. Progression is a term used when defining the success of a student. It involves the commitment of the student to accumulate credit hours per quarter, per semester, per year or by clock hours. The progression of students in higher education also relates to the overall retention rates of the institutions (Ganem & Manasse, 2011; Voigt & Hundrieser, 2008).

Retention. Retention is defined as students enrolling in classes every term (i.e., year, semester, quarter or clock hour) for the first year of college (i.e., freshman year). The official federal definition of retention, which is utilized by the Integrated Postsecondary Education Data System (IPEDS), states that retention involves the commitment of the student to enroll in classes every term from the beginning of their fall semester to the proceeding fall semester (Coordinating Commission for Postsecondary Education, 2014; US Department of Education, 2015; Voigt & Hundreiser, 2008). However, retention has different meanings depending on the organization (Voigt & Hundrieser, 2008). For example, institutions of higher education may define retention as the act of retaining the college student from the time of enrollment through completion (Berger & Lyon, 2005; Demetriou & Schmitz-Sciborski, 2011; Hagedorn, 2005). For this study, retention will reflect the institutional definition where it is defined as "the act of keeping someone" ("Retention," 2014).

Recipients. Recipients were operationally defined as students who met the eligibility criteria and who were awarded the Nebraska Opportunity Grant in the 2011-12 academic year. To measure the number of NOG recipients, each institution of higher education that has been assigned to a sector submits a file of NOG recipients to the Nebraska Opportunity Grant submission website which is administered by the Coordinating Commission for Postsecondary Education (Coordinating Commission for Postsecondary Education, 2014).

Sectors of Higher Education. The five sectors of higher education were operationally defined in the State of Nebraska as the following: five campuses of a public university system, three state colleges, six community colleges, 11 private for-profit career colleges and universities, and 16 private not-for-profit independent colleges and universities. The Coordinating Commission assigns 41 separate institutions into the five sectors of higher education that award undergraduate degrees in the State of Nebraska (Coordinating Commission for Postsecondary Education, 2014). The following section discusses the assumptions, limitations and delimitations of the study.

Assumptions / Limitations / Delimitations

The assumptions for this study were based on the information obtained from the secondary databases as reliable and valid. To justify this assumption, it was supposed that all institutions reported into these secondary databases. Then it was supposed that if there were errors in the secondary databases, it would be undetectable for they are used quite extensively by researchers. It was also assumed these secondary databases would be able to provide, with confidence, the information they have collected from their constituents.

The limitations for this study were based on the problems that surrounded self-reporting. First, the persistence and graduation data were obtained from the National Student Clearinghouse. While the National Student Clearinghouse (NSC) is a well utilized database, institutions may or may not report the enrollment and graduation statuses of their students which may have caused problems in the accuracy of the data. Second, the grade level status of students, such as first-time freshmen, were obtained from the Free Application for Federal Student Aid (FAFSA). While the FAFSA is a required application to apply for federal financial aid, students may or may not accurately report their grade level which may have caused

problems in knowing if they were first-time freshmen. Third, the Nebraska Opportunity Grant data was limited on available controlled variables, such as other forms of financial aid received, which could have the outcomes of this study. Fourth, this study only examined the 2011-2012 Nebraska Opportunity Grant recipients, regardless if they received the state grant every year. Students are not guaranteed to receive the Nebraska Opportunity Grant on a year-to-year basis.

The delimitations for this study were based on the population. This study focused on the 2011-12 first-time freshmen. Focusing on first-time freshmen allowed the researcher to examine the persistence and graduation of students over time. This longitudinal study was to examine how first-time freshmen enrolled in and attended college beginning for the fall 2011-12 academic year. The data showed if they continued through the 2014-15 academic year (persisted) and if they completed college (graduated) in that same time period. The following section summarizes this chapter by offering the purpose, significance, and scope of this study.

Summary

The purpose of this longitudinal study was to examine persistence and graduation of low-income, first-time freshmen recipients of the Nebraska Opportunity Grant in 2011-12 among the five sectors of higher education from 2012-13 through 2014-15. The significance of this study promotes broadening the breadth and depth in the field of financial aid in higher education through studying the effectiveness of state grants on the persistence and graduations rates for low income students. The scope of the review of the literature examines the foundation of financial aid, benefits of financial aid, and an overview of a state grant financial aid program. Following the literature review, the methodology, results, discussion and summary confirms whether correlations existed between persistence and graduation of the 2011-12 Nebraska Opportunity Grant recipients.

CHAPTER II

REVIEW OF THE LITERATURE

In the review of the literature, few studies have examined the effects of financial aid in higher education. More specifically, past research does not adequately address how state grants influence the persistence and graduation of college students (Holcombe et al., 2014). There has never been a study examining the persistence and graduation of the 2011-12 Nebraska Opportunity Grant recipients who were low-income, first-time freshmen students (Coordinating Commission for Postsecondary Education, 2014). By studying the effectiveness of this state grant on students' persistence and graduation, the State of Nebraska government would be able to make better informed decisions on the levels of state general and lottery funding that was appropriated for this state grant.

In the first section, the literature review offers the foundation of financial aid in higher education from a historical context to the types of financial aid. The second section offers the benefits of financial aid in higher education for both the students and the state. The third section offers an overview of a state grant financial aid program by providing a brief review of the history of grants, specifically the Nebraska Opportunity Grant, along with the guidelines and benefits for the students and the state. The fourth section provides justification for the use of the nexus theory offering a theoretical framework how financial aid affects a student's college choice and persistence in higher education. Lastly, a summary of the review of the literature provided support for the research study. The following section offers a literature map (Figure 1) and then begins the review of the literature by focusing on the foundation of financial aid.

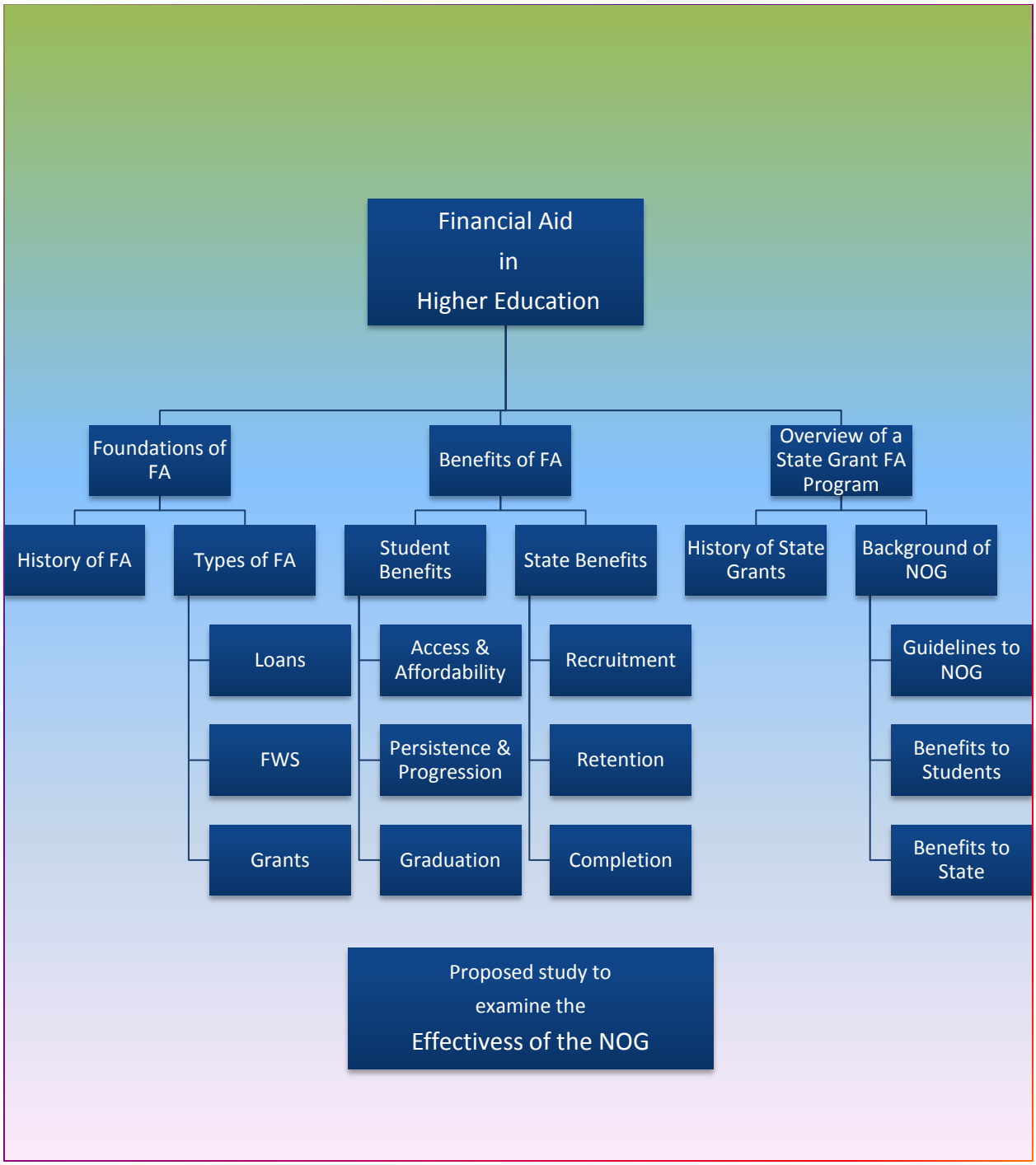


Figure 1. A literature map of financial aid in higher education. This figure illustrates a conceptual layout of the topics researched and discussed in the Review of the Literature (Creswell, 2002).

Foundation of Financial Aid

The foundation of financial aid has a long history in the United States. Many financial aid initiatives have been proposed over the years influencing the direction of higher education institutions. The following sections offer insight into the historical context of financial aid along with the types of financial aid that currently exist for students in higher education.

Historical Context of Financial Aid

In 1643, an affluent woman named Lady Ann Radcliffe Mowlson understood the financial need that students experienced in attending Harvard College. After her husband's death, she decided to have 100 English Pounds, equivalent to $157.00 US dollars, of her inheritance to be placed into an endowed scholarship fund for students with financial need (Fuller, 2014; Kantrowitz, 2010). This was the very first historical mention of financial aid being offered to low-income students in the literature. While over the next 300 years only a few financial aid initiatives were created, one of the most important initiatives passed was the Servicemen's Readjustment Act of 1944, more commonly known as the GI Bill. The GI Bill encouraged veterans, both men and women, from World War II to attend college (Gladieus, 1995). This bill allowed veterans the opportunity to become educated who, otherwise, might not have had the opportunity without that freely-given, financial support.

Another important initiative in history was the National Defense Education Act of 1958 that created the National Defense Student Loan Program which later became the familiar Perkins Loan (Kantrowitz, 2010). Originally, the purpose of this low interest loan was to continue promoting national security education by providing financial support to students who were interested in the fields of science, math and engineering. If students became educators after graduating, their loan debt was forgiven. Gladieus (1995) commented that up to this point in

history, all of these initiatives met resistance because Congress believed college should not be financially supported by the government, and the people did not want the federal government to have control over education. Since that time, the government has realized the need to support students and their families in attending college. So, while financial aid initiatives have been met with a lot of opposition over time through governmental debates, the importance of financial aid has remained important to, not only institutions of higher education, but for students and their families.

In an effort to equalize the opportunity for all to access to higher education, the United States Congress passed the Higher Education Act in 1965. With the Higher Education Act, Title IV on Student Assistance was specifically created to financially support students and their families to attend any institution of higher education (Gladieus, 1995; Kantrowitz, 2010; Institute for Higher Education Policy, 2014). Today, many types of financial aid are available for students to attend a college of their choice offering them access and affordability. Title IV, Part A, was created to offer federal grants to support students and their families who typically could not afford college. If this type of financial aid did not exist, accessing, affording, persisting, progressing, or completing college would not be an option for many students from low-income families.

In the signing of the Higher Education Act of 1965, President Lyndon B. Johnson proclaimed,

> So to thousands of young people, education will be available. And it is a truism that education is no longer a luxury. Education in this day and age is a necessity… And in my judgment, this Nation can never make a wiser or a more profitable investment anywhere (Johnson, 1965, p. 1103; as cited in Kantrowitz, 2010).

This declaration made over 50 years ago is still the premise of why financial aid is so important in helping students become educated with the hopes of contributing back to society. With this in mind, it seems important to begin by examining the types of financial aid that are presently available to students in higher education. The following section discusses the three primary types of financial aid currently available for students who attend an institution of higher education: loans, federal work study, and grants.

Types of Financial Aid

Title IV of the Higher Education Act is where financial aid administrators find the rules and regulations written by the federal government to govern federal financial aid programs. Within this piece of legislature, the federal government has created and amended financial aid options primarily consisting of loans, federal work study, and grants (Institute for Higher Education Policy, 2014). It is important to mention that scholarships and other types of aid are also available, but they are awarded by private organizations and the institutions, not by the government. The first sections discusses the types of loans available to students in higher education.

Loans. Loans have become a major source of funding for students in higher education. Student loans are the most common type of financial aid awarded $106 billion was borrowed by students in the 2013-14 academic year (College Board, 2014). According to the *Trends in Student Aid 2014* report, there are currently 40 million Americans that owe over $1.08 trillion in federal student loan debt (College Board, 2014; Institute for Higher Education Policy, 2014). Loans were designed to help students be able to attend college, persist in college, and complete college. There are currently five types of federal loans along with private loans available to students in higher education.

Perkins Loan. The Perkins Loan Program was created in 1958 under the National Defense Act (Institute for Higher Education Policy, 2014) for undergraduate and graduate students who demonstrate financial need. For 2014-15, the maximum Perkins Loan amount for undergraduates was $5,500 while graduates could borrow up to $8,000 per academic year. The best advantage for this type of loan is the low, fixed interest rate of 5% (US Department of Education, 2014c). In addition, the interest is paid by the federal government while the student is enrolled in college and up to nine months after they leave or graduate from college. The Perkins Loan was expected to be eliminated as a program in 2015 because it is not financially sustainable; however, it has been reauthorized for two more years (Institute for Higher Education Policy, 2014). Without financial support, this may prevent students from being able to persist and progress through completion.

Direct Subsidized and Unsubsidized Loans. The federally funded Direct Loan Programs was created for undergraduate and graduate students. There are two types of Direct Loans available to students: Subsidized and Unsubsidized. For 2014-15, the maximum Direct Loan amount a student can borrow ranges from $5,500 to $20,500 depending upon eligibility, grade level, and dependency status. A Subsidized Direct loan is available only to undergraduate students who demonstrate financial need, but they may also receive an Unsubsidized Direct Loan. The direct loan for the student is determined by the institution's financial aid office that follows the rules and regulations provided in Title IV of the Higher Education Act. Graduate students are eligible to receive only Unsubsidized Direct Loans. One significant advantage to these government loans is the low interest rate ranges of 3.86% - 6.21%, depending on whether it is subsidized or unsubsidized and the date of disbursement (US Department of Education, 2014a). If a student qualifies for the subsidized direct loan, the federal government pays the

interest while the student is enrolled in college and up to six months after the student graduates or leaves college.

Direct PLUS Loans. There are two program types of federally funded Direct PLUS Loans: PLUS loan and Graduate PLUS loan. Students do not need to demonstrate need to be eligible for these loans. The Direct PLUS loan is available to parents of dependent undergraduate students only after all financial aid has been awarded and the financial aid does not cover the students' expenses to attend the institutions. This is known as borrowing up to the student's cost of attendance (COA) (US Department of Education, 2014b). The award amount is determined by the institution and it is based on the cost of attendance less the other financial aid awarded to the student. The Graduate PLUS loans guidelines are comparable to the PLUS loans, but these are only available to graduate and professional students. For this type of federal governmental loan the interest rate range is from 6.41% - 7.21%, depending on the type of loan and date of disbursement (US Department of Education, 2014b). The best advantage of Direct PLUS loans are the low interest rates and repayment options allowing low-income families to afford college.

Private loans. Private loans, which are not part of the federal loan program, were created by private lenders for undergraduate and graduate students. These are very important types of loans because they are used to pay for the educational costs that are not covered by federal or state financial aid options. With this type of loan, the interest rates vary and may be higher depending on the program or lender. Since they are private loans, there is no set standard for these rates. To qualify for these private loans, the student must typically have good credit and other requirements set by the private lender. The advantages of private loans are that they are available to students when they do not qualify for financial aid (Kantrowitz, 2010). Private loans

also make it possible for students to access and afford college when federal financial aid does not cover the total cost of attendance.

Federal Work Study. The Federal Work Study Program began in 1964 under the Economic Opportunity Act (Institute for Higher Education Policy, 2014), as another type of financial aid offered by the federal government. The Federal Work Study program was created for undergraduate and graduate students. This program offers students the opportunity to work on or off campus and earn money based on his or her financial need. One advantage to this type of financial aid is it may reduce the amount students may have to borrow to pay for their education. For 2014-15, the amount awarded in the Federal Work Study can vary from institution to institution.

Grants. Grants have also become an increasingly important source of financial aid for students. According to the *Trends in Student Aid 2014* report, approximately $122.7 billion in grant aid was offered to students in higher education from 2013-14 academic year (College Board, 2014). There are currently four types of grants available to students: federal, institutional, private, and state. Federal grants are given at a considerably higher percentage rate than the others; however, institutional grants are very comparable (College Board, 2014). Private grants and state grants are given at a much lower percentage rate overall. The following section highlighted the two federally funded grants along with institutional, private, and state grants.

Federal Pell Grant. The Federal Pell Grant created in 1965 with the passage of the Higher Education Act (Institute for Higher Education Policy, 2014) is available to low-income students who are working toward an undergraduate degree. For 2014-15, the minimum Pell Grant award was $587 while the maximum was $5,730 for qualified, full-time students (Federal

Student Aid, 2014). Students enrolled less than full-time may also qualify for the Pell Grant, but it would be for lesser award amounts. One of the greatest benefits of this grant is the student is not required to pay the money back to the federal government.

According to research conducted in financial aid, over 9 million students received $30 billion annually in Pell Grants (Institute for Higher Education Policy, 2014). This is the largest federal grant program available in the United States and, undoubtedly, it would be reviewed for its sustainability. Tebbs and Turner (2005) wrote that Pell Grants may be quite helpful for low-income students, but they asserted programs need to be assessed to know if this type of financial aid is truly working. The Pell Grant has been, for the most part, a stable type of financial aid available to students in helping persist through college (Nelson, 2013). Regardless, if funding for the Pell Grant is increased, other programs may receive less funding or be eliminated.

Federal Supplemental Educational Opportunity Grant (FSEOG). The Federal Supplemental Educational Opportunity Grant (FSEOG) was designed for low-income students from exceedingly disadvantaged backgrounds who are working toward an undergraduate degree. For 2014-15, the minimum FSEOG award was $100 while the maximum was $4,000 (Federal Student Aid, 2014). The institution determines the amount awarded per student. Each institution has an allotment of funds to award during an academic year, so its availability is limited to students in financial need. Like the Pell Grant, the benefit of this grant is the student is not required to pay the money back to the federal government.

Institutional grant. Institutional grants were designed for both undergraduate and graduate students. Institutional grants are not funded by the federal government but rather are financially supported by tuition and state dollars at public institutions. Each institution has the discretion to determine the eligibility requirements of an institutional grant, such as if there is a

need or non-need based component. According to the *Trends in Student Aid 2014* report, the institutional grants ranged from $790 to $1770 where dependent, low-income students received more financial assistance. Additionally, this research has shown that institutional grants offer almost as much grant aid as do federal grants, 39% and 40% respectively, in the total amount of financial aid offered yearly to students (College Board, 2014). The pressure for institutions to secure grant funding for their students from the tuition and state dollars is critical.

Private grant. Private grants are awarded by private organizations. It is very difficult to track private grants because there are numerous organizations that provide support to students. The criteria for private grants are wide-ranging. However, according to the *Trends in Student Aid 2014*, private grants account for 13% of the total grant aid that supported students in 2013-14 academic year (College Board, 2014). This figure is of significance as state grants account for only 8% of the total grant support.

State grant. State grants were designed mostly for low-income, undergraduate students; however, there are some grants for graduate students. According to the *Trends in Student Aid 2014* report, the state grants ranged from $0 to $1890 with the average grant awarded being approximately $710 for a full-time undergraduate student (College Board, 2014). State grants can be awarded based on need or merit. Need-based grants are given to low-income students who demonstrate financial need. Merit-based grants are given to students who excel academically in college ("About Financial Aid," 2014). Each state can set its own criteria for the money that it awards. Some states consider need only, other states consider merit only, and some consider both need and merit. Research has shown that state grants do not provide as much aid to students as do federal, institutional, or private grants (College Board, 2014).

However, state grants are very important in offering students the opportunity to earn a degree in higher education.

Overall, the foundation of financial aid, historically, has seen many legislative changes. It is important to understand what role financial aid has played in American history and what it offers today to the students in higher education. In review of the types of financial aid, researchers stated, "Gift aid in the form of scholarships and grants and work-study as contrasted with loans are associated with higher retention and graduate rates, especially for low-income and minority students" (as cited in Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006, p. 24). Undoubtedly, the future of financial aid in higher education has continued to change. The following section of this literature review thematically discusses what financial aid benefits exist for both the student and the state.

Benefits of Financial Aid

The benefits of financial aid are important to both the student and the state. Students extensively rely on financial aid to help pay for their educational expenses. Research has shown that financial aid influences student access and affordability are strongly and positively correlated by persistence and progression which all lead to graduation (Dynarski, 2003; Holcombe et al., 2014). Likewise, research has shown that financial aid may influence institutional recruitment, retention and completion rates (Hossler et al., 2006). When taking all of these factors into consideration, they are all interrelated to the success of the student and state.

The relationship between the student and the state is cyclical: the student attends college, earns a college degree, enters the workforce, contributes to the funding of the state tax base, and the state contributes those funds back into the future education of students who need financial assistance. While the students expect the states to support them with financial support through

graduation, the states expect the students to support them with financial support after completion. With financial aid being an integral part of higher education, this first section discusses student benefits in the areas of access and affordability along with persistence and progression.

Student Benefits

The benefits of financial aid to students in higher education are important. Financial aid offers students the opportunity to be able to attend and pay for college. It also allows students the opportunity to continue and move forward toward a college degree. After they have earned a college degree and graduate, students have the opportunity to be considered for many careers in society. The first section discusses the benefits for students to be able to access and afford higher education and then the importance of how students persist and progress in higher education.

Access and affordability. Financial aid in higher education is one of the ways *access* and *affordability* for a student occurs. The terms *access* and *affordability* are commonly used throughout the literature. As a point of clarification, the terms access and affordability are defined from a student perspective; whereas, the parallel term from a state perspective would be recruitment. When colleges or universities are recruiting, they are persuading students they can offer them access and affordability to their college of choice.

Access is a term used in higher education to imply students have the right to further their education. Financial assistance is one way accessing a degree in higher education may be accomplished. Many policies in higher education focus on the under-represented or low-income populations of students in terms of access (HCM Strategists, 2014). Access is supported by financial assistance from grants, scholarships, loans and work-study programs (Ness & Tucker,

2008; Ziderman, 2009). While financial assistance, especially grants, has been found to influence access and affordability, the problem is some types of financial aid funding have decreased, while the cost of attendance has increased causing an access and affordability issue in higher education (Carlson & Zaback, 2012; Holcombe et al., 2014; SHEEO, 2014). Students and their families need to be able to access and afford college, but in today's society, this is becoming more challenging due to the increases the cost in higher education.

Affordability is a term used in higher education to imply students have the right to cost-savings ways to further their education (Coordinating Commission for Postsecondary Education, 2014). Since this topic is a priority for most institutions of higher education, many policies focus on ways to improve affordability by offering more grants or scholarships rather than loans (HCM Strategists, 2014). Throughout the literature, it is clear that financial assistance needs to be improved by offering better affordable options to students. The objective of financial assistance has been to keep the cost of higher education at a minimum for the student (Long, 2010; Rasmussen, 2006). One type of financial aid that keeps costs low is grants. Grants are used to assist students in affording a college education, and they are not required to be repaid back by the student to the institution or the state from which they were received.

In a study for the Texas Higher Education Coordinating Board, Holcombe et al. (2014) examined how grant money influences persistence and found first year students are more likely to benefit from receiving grant aid than students who do not receive grant aid. This particular study allowed policymakers in the state of Texas to understand the effectiveness of grant aid, especially Pell Grants, to first time first year students (Texas Higher Education Coordinating Board., 2014). The results of this study found that more research was needed on the effects of grants on student persistence (Holcombe et al., 2014). In one research article, Gillen (1998)

argued the current financial aid system is not working, and the government is not doing everything it can to keep higher education affordable. He asserted that colleges and universities inflate the costs, and the governments adjust the financial assistance based on that inflation. Most of the literature reveals that the current financial aid system needs to be evaluated on its effectiveness in higher education and in society.

Many research studies emphasize that access and affordability are a necessity in the realm of higher education (Cabrera et al., 1992b). In one coalition study, *The American Dream 2.0*, the researchers stated, "…by 2018, the nation will need 22 million new workers with postsecondary credentials, yet we'll fall at least 3 million short" (HCM Strategists, 2014, p. 5). If students do not realize they can access and afford a college or university, they would not attend. Handel (2008) supported this assumption by offering the reasons students use for not going to college: no debt, no time, no qualifications, and no understanding of financial aid. Students need to realize they can afford college, they can find time to go to college, they can be qualified in college, and they can learn to understand financial aid for college. In support of this line of thought, Barr (2005) stated there were "dual causes of the exclusion of the economically disadvantaged from higher education: financial poverty and information poverty" (as cited in Ziderman, 2009, p. 240). While students need to realize that they can access and afford college, they might have to take some initiative in learning how the financial aid system works in a higher education institution.

On the other hand, it is also important for higher education institutions to have plans in place through recruitment and retention to show students and their families how accessible and affordable a college education can be for them through financial assistance. If students and their families do not believe a college they choose is affordable, the student would be less likely to

attend a chosen college. One example of an outreach program is the SUNY Smart Track program in New York that educates students on many of the questions they might have regarding financial aid (Zimpher, 2014). These types of outreach programs on financial aid are proving to be valuable, not only to students, but to their families because it gives them the opportunity to learn how to apply for financial aid and how to avoid college debt.

College debt is very burdensome, not only to the state, but to the student. Ironically, one qualitative study found that being in debt was of no significance to the student in choosing a college (Rasmussen, 2006). While it may be true that students do not immediately consider how debt might affect them, it is true that they would soon realize that debt can impact their futures. The literature strongly indicates that legislative policies on financial debt are one predictor of the access and affordability for college students and their families (Long, 2010; Ness & Tucker, 2008; Rasmussen, 2006; St. John, Cabrera, Nora, & Asker, 2000; Stoll, Maha, & Bradley, 2014). With that being said, it is important for the government to continually assess the role of financial aid in higher education. Meanwhile, students and their families need to educate themselves on how to access and afford college in the most financially responsible manner. The next section examined the benefits of persistence and progression in college for the student.

Persistence and progression. After a student realizes he or she can access and afford college, then the prospect for persistence and progression occurs in the process of attaining a college degree. Most research has not considered how financial aid influences student persistence or progression (Cabrera et al., 1992b; St. John et al., 1996, 2000, 2003). Persistence and progression are terms commonly used throughout the literature. For the intentions of this study, the terms persistence and progression are taken from the student perspective; whereas, the parallel term from a state perspective would be retention. When colleges or universities are

looking at retention rates, they are analyzing whether students are persisting and progressing through the first year of college and enroll the following year (Voigt & Hundrieser, 2008).

Persistence is a term used when defining the success of the student. It involves the commitment of the student to enroll in classes every term, year after year until courses are completed and a degree is earned. The persistence of the student in higher education relates to the overall retention rates of the institution (Ganem & Manasse, 2011; Noel-Levitz, 2013; Robbins et al., 2004; Voigt & Hundrieser, 2008). The term "persistence" means "the quality that allows someone to continue doing something or trying to do something even though it is difficult or opposed by other people" ("Persistence," 2014). Through persistence, a student is continuing to go to college and trying something that may be very difficult whether it be financially, socially, or academically. Persistence is one important attribute of the student, but it precedes the attribute of progression.

Progression is also a term used when defining the success of the student. It involves the commitment of the student to accumulate credit hours toward the degree every term, year after year until graduation. The progression of a student in higher education also relates to the overall retention rates of the institution (Ganem & Manasse, 2011; Noel-Levitz, 2013; Voigt & Hundrieser, 2008). In some studies, students who received financial aid, especially merit-based, were more likely to have higher academic performance, and they were able to progress through their college courses with student support such as offered through academic achievement offices (Angrist, Lang, & Oreopoulos, 2009; Barrow & Rouse, 2012). For this reason, it may be logical to presume that when students are rewarded for their academic performance, whether through incentive or merit-based awards, there is a positive correlation with progression.

Some institutions promote persistence and progression by offering incentive programs that encourage students to strive to be successful in higher education (Angrist et al., 2009). Incentive programs are performance-based awards given for the progression of coursework. In one example, Farkas (2012) reflected on how money motivates students to be successful at one community college in Ohio. In this 2008 study, there were 5600 students awarded $1,800 as a performance-based scholarship but only after successfully completing a semester of courses. Success was measured by the progression of 12 credits earned along with a C grade point average. The results from this study demonstrated incentive programs increase the persistence and progression of students. Similarly, Scott-Clayton (2011) conducted a quantitative study on the West Virginia PROMISE scholarship where the research found incentive programs strongly influenced the time it took to complete the degree. The results of this study showed that incentive programs allowed students to graduate from an institution within 150 percent of the normal expected time frame from enrollment through graduation. Throughout the literature, incentive programs have been used as a way to measure success because of the higher completion among students who received the funding.

Additionally, Arzy, Davies, and Harbour (2006) conducted a qualitative study supporting the concept of incentives to promote persistence and progression by offering private scholarships to low-income students. The themes of their study focused around an affirmation of experience, cautious engagement, vulnerability, and transformation. The researchers found that the financial aid received helped the students persist in their academic studies. These findings were consistent with theories of student persistence and success (Arzy et al., 2006). For students to benefit from financial aid, they need to be able to know that college is affordable and accessible. Likewise, they also need to be able to believe they can persist and progress through the college coursework.

On the contrary, Coonrod (2008) believed that financial aid was not likely to increase academic performance. He supported this assumption by stating how some students would use financial aid, such as grant awards, inappropriately towards things that are not educationally-related while other students may use it to complete their college education (Coonrod, 2008). Coonrod's (2008) argument was convincing especially when considering need based grants that are given to students who demonstrate financial need, unlike merit-based grants that are given to students who demonstrate academic performance. The question to ponder is whether students value need-based grants differently than merit-based grants. Perhaps the answer lies in combining the two types of grants, both need-based and merit-based, to making it an incentive for the students to persist and progress through college.

It is evident that policies should be reviewed to gain a better understanding how different types of financial aid, such as need-based or merit-based grants, could be most beneficial in helping students persist and progress through to completion. Castleman and Page (2014) conducted a quantitative study on low-income students in relation to level of persistence and concluded, "For these students their ability to persist in college may be particularly dependent on whether they are able to maintain need-based financial aid" (p. 13). So, it is evident that grants are important regardless of the type awarded to the student. If a student receives financial aid, the student may choose how to apply those funds to persist and progress through their educational process. As the literature review continues, the benefits for the state would prove to be just as valuable but through a mirrored perspective of the student.

State Benefits

The benefits of financial aid to the states reflect those of the student benefits. By offering the students the opportunity to access college, afford college, persist in college, progress in college and graduate from college, the states that financially support their students can eventually reap the rewards of an educated society (Alon, 2011; Carlson & Zaback, 2012). As Cini & Fritz (1996) asserted from their study, high levels of commitment are associated with high levels of rewards, few costs, few alternatives and a high degree of investment. If states are committed to the students, the benefits to the students and the state would be significant. The second section discusses the benefits for the state to be able to recruit and retain students in higher education.

Recruitment of students. In higher education, the recruitment of students is a top priority for the institutions of the state. The term recruitment from a state perspective is parallel to the term access from a student perspective. Recruitment of students requires the state to offer the opportunity to students to attend a college of their choice with financial support (Soule & Pliska, 2014). Financial aid is one tool institutions of higher education may use in recruiting students to attend the college of choice (St. John et al., 2000). In some respects, the financial well-being of an institution relies on the recruitment of students. Institutions would not exist without students. For example, the more students that are recruited at a given institution the more revenue that is generated. This revenue is then used to pay the expenses of the institution including current institutional grant dollars given back to the students (Noel-Levitz, 2013). While the cause and effect is evident, Hossler, Ziskin, Gross, Sooyeon, and Cekic (2009) stated, "Access to postsecondary education is achieved not solely by admitting students, but also by enhancing their odds of earning a degree or certificate" (p. 389). In recruiting students, the institutions also need to be able to retain the students.

In recruiting students, many institutions of higher education have enrollment management teams, made from admissions and financial aid offices, that work together to help students realize they can be successful within their institution. Soule and Pliska (2014) emphasized that it was important to understand students, especially from low-income families, in order to recruit them to their institution. Soule (2014), who is Director of Admissions at Bowdoin College in Maine, believed "…recruitment of these students is both a priority and a challenge," and she continued by supporting this idea by stating, "…low-income students have fewer natural opportunities…which actually makes them less likely to graduate" (p. 1). When recruitment or retention goes down at any given institution, there is always going to be a question of "why?" It is important to understand the needs of the student for successful recruitment and retention to occur at the institutional level. With that being said, the primary goal is to have a proactive, communicative enrollment management team that can convince students that they can offer them access, affordability, and completion at the college of his or her choosing.

Because of the hardship of access and affordability for some students to attend an institution of higher education, many state governments have created grant programs that help recruit students to attend college (Heller & Marin, 2004; Mendoza et al., 2009; Perna & Titus; 2004; St. John et al., 2003). The recruitment of students, therefore, relies on the ability of the student to obtain financial aid. Mendoza et al. (2009) found that state grant programs have a significant relationship to the persistence of students. While studying the the effects of financial aid on persistence of full-time students in some Oklahoma community colleges, the researchers found scholarships, Pell Grants and Direct Loans were significant predictors of persistence for students progressing from their first year to second year of college. Mendoza et al. (2009) also

supported the constructs of student retention that are found throughout the literature: a student's background, a student's educational goals, and a student's financial status. In support of considering the constructs of student retention, Tebbs (2005) asserted that institutions of higher education need policies to assess what factors influence low-income students such as the institution or college choice through the financial aid process such as grants available. After understanding these factors, Tebbs (2005) supported the importance of creating programs that support the low-income students. When reflecting on this information, it could be proposed that financial aid was a precursor to the recruitment of students and may lead to retention.

Research has shown that the recruitment and retention of students is positively correlated to financial aid (Ganem & Manasse, 2011; Hutto, 2002; Robbins et al., 2004). While states are responsible for funding many initiatives, such as Medicaid, corrections, and roads, the state grants for the education of the students being recruiting to attend college must also be important. To fund any of these initiatives, the state relies on income and sales tax for the state general fund along with state lottery funds (Coordinating Commission for Postsecondary Education, 2014). It is imperative for the state to have an educated workforce capable of generating the taxes needed by the state. Providing financial assistance, especially in the form of state grants, to students in higher education is one way the state can help produce that educated workforce. While the research has shown financial aid to be very effective with the retention of students, the recruitment of students logically precedes retention (College Board, 2014; Noel-Levitz, 2013). After the successful recruitment of students in higher education, retention becomes a priority, not only to the institution, but to the state.

Retention of students. *Retention* is a term used at the institutional level where it focuses on retaining the college student from the time of enrollment through completion. It is typically used as a way to measure student success in higher education. In some research studies, retention has different meanings depending on the organization that uses the term (Noel-Levitz, 2013; Voigt & Hundrieser, 2008). For the intentions of this study, retention would be used from the institutional perspective; however, it would be a parallel term to persistence from the student perspective. To support this assertion, it is important to distinguish the term from persistence and to understand the term "retention" means "the act of keeping someone" ("Retention," 2014). Through retention, an institution of higher education is attempting to keep a student enrolled after they have been recruited.

The study of retention of students in higher education began in the 1930s but publications began in the 1960s (Berger & Lyon, 2005; Demetriou & Schmitz-Sciborski, 2011; Feldman & Newcomb, 1969; Gekoski & Schwartz, 1961; Panos & Astin, 1968). Retention at the institutional level is important because it may eventually lead to students graduating. The state would benefit when the students become employed. One of the ways institutions recruit and retain students is through the awarding of financial aid. In support of financial aid, many studies assert that in order for retention rates to improve the focus needs to be on helping students afford college (Carlson & Zaback, 2012; Dynarski, 2003; Field, 2007, 2009 2013; Filkins, Kehoe, & McLaughlin, 2001; Gillen, 1998; Goldrick-Rab, Harris, & Trostel, 2009; Hardi, 2000; Moore & Fetzner, 2009; Noel-Levitz, 2013; Voigt & Hundrieser, 2008). To emphasize this point, Filkins et al. (2001) asserted from their study that institutions need to think of retention as a strategic issue. The question that has be answered is what retains a student. One answer found in the research was that financial aid positively influences student retention (Astin, 1975; Hutto, 2002).

When thinking on behalf of state benefits, retention was important because students who are retained and graduate would be able to give back to the state through working and offering their educational experiences to society.

One of the strategic initiatives for retention is rethinking how institutions of higher education inform and prepare students for college. According to a recent Fact Sheet from the White House (2014), the Accelerated Study in Associate Programs (ASAP) at the City University of New York (CUNY), which focuses on college readiness and opportunity, has been so successful in the retention for low-income students that it might be implemented at other colleges (The White House: Office of the Press Secretary, 2014). In positive reference to the ASAP program at CUNY, one editor (2014) stated, "The American Institutes of Research estimates the cost of (those) dropouts, measures in lost earning and taxes at $4.5 billion" and he continued by stating that education is a "savings in crime, welfare, and health costs" (Kirp, 2014, p. 1). Learning how to retain students in higher education, it truly benefits, not only the state, but the society as a whole.

In a 3-year study on ASAP program, Hutchins (2014) found that low-income students who attended college full-time were more likely to complete their courses. In relation to full-time versus part-time students, this is certainly an interesting finding in the student retention research warranting further exploration. Retention in institutions of higher education require that financial aid programs be assessed to know they are meeting the needs of the students by helping them persist and progress effectively and efficiently through the academic, social, and financial process. Researchers have found that academic support was one of the highest effective strategies in student retention (Cuseo, 2007; Noel-Levitz, 2013; Tinto, 1993; Voigt &

Hundrieser, 2008). The next section discusses how students proceed from retention to the ultimate phase of graduation or completion from higher education.

Graduation and Completion of Students

While studying higher education policies that lead to timely completion, Carlson and Zaback (2012) reported, "…costs also have a significant negative impact on timely college completion, particularly for low-income students" (p. 1). In many ways, the term completion from a state perspective is parallel to the term graduation from a student perspective. More important is the overall definition leading to the success of the student and the state where the student attains his or her college degree. In support of this definition, Kuh et al. (2006) stated, "Student success is ultimately achieved after a student has graduated with an earned degree" (p. 5). In a review of student success in higher education, Moore and Fetzner (2009) believed that supportive leadership at the institutional level was necessary in order for students to be successful.

Generally, researchers upheld the idea that graduation and completion are important for the future of our "country's success and global competiveness" (Carlson & Zaback, 2012, p. 31). Porter (2014) asserted that college graduation rates are not where they need to be in the nation, while Tinto (2002) along with Demetriou and Schmitz-Sciborski (2011) supported this statement by mentioning only about 50% of students who start in higher education actually graduate. In continued support of the problem with graduation and completion, Shapiro et al. (2014) stated, "Over the past 20 years, more than 31 million students have enrolled in college and left without receiving a degree or certificate" (p. 2). With these detrimental statistics, it demonstrates a great loss, not only for the state, but for our nation. Bidwell (2014), who wrote an informative article reflecting on Shapiro et al's (2014) research, stated that the while the original data came from the

National Student Clearinghouse, the focus should now be on helping the returning adult learners who left college before receiving a degree. In agreement, Shapiro et al. (2014) stated that it is important for a national strategic plan be in place to help students to return and complete their college education.

With the need for inventive strategic plans for success in higher education, Bernal (2014), believed the problem of completion begins from not fully preparing the K-12 students, especially those from low-income families, for college. Based in Houston, Texas, the Yes Prep charter high school students are placed in cohorts and, eventually, they attend college as a cohort. From the academic support they receive, especially from financial aid programs, the students have been able to persist and complete their degrees in higher education (Bernal, 2014). Studies that focus on the effect of financial aid on student success, which ultimately lead to graduation and completion, are important since few studies have been conducted in this area (Alon, 2011; Goldrick-Rab, Harris, & Trostel, 2009). One study found that students were more likely to persist if they are well-informed of financial aid prior to college (Ethington, 1990). In additional support, Tinto (2006) stated it is valuable to, "…join forces with larger educational movements that seek to restructure the way we go about the task of educating all not just some of our students" (p. 18). Throughout the literature, institutions have an important role in influencing the persistence and graduation of their students.

According to a policy paper written by the Texas Higher Education Coordinating Board (2014), there have been a some strategic plans reported regarding the influence of grant aid on student retention where completion could be implied. For example, the first study from the University of Minnesota in 2002 reported higher persistence rates for first-year students who received grants. The second study from a Wisconsin public institution in 2012 reported students

were less likely to persist after losing grant funding. The third study from some Texas public 4-year institutions reported students were more likely to persist in college if they had received a grant (Texas Higher Education Coordinating Board, 2014). From these studies, the question of persistence has been answered, but it seems logical that persistence would precede completion. The implications of these studies demonstrate that financial assistance in the form of grant aid influences persistence or retention of students. Further research would need to be considered on how persistence might influence graduation and completion rates for the students. The following section begins to narrow the focus of the literature by studying the effectiveness of how one state grant financial aid program, the Nebraska Opportunity Grant, might benefit the students and the state.

Overview of a State Grant Financial Aid Program

In review of the literature, the foundational aspects and benefits of financial aid play a significant role in higher education. It is clear there are limited studies on the effects of financial aid in higher education, especially in the area of state grant financial aid programs. One of the gaps in literature would be addressed by studying the effectiveness of how one state grant financial aid program, the Nebraska Opportunity Grant, benefits the students and the state. In support of this study, many other states are also beginning to assess the effectiveness of their own state grants programs such as Alaska (Rae, 2011), California (Johnson, 2014), Indiana (Johnson & Yanagiura, 2012), Tennessee (Ness & Tucker, 2008), Texas (Holcombe et al., 2014), and Washington (Burley, 2014). State grant financial aid programs are important to study because they allow students the opportunity to access, afford, persist, progress and graduate. The following section continues by providing a brief review of the history of grants, specifically the Nebraska Opportunity Grant along with the guidelines and benefits for the students and the state.

History of Grants

While the American history of financial aid is fairly cumbersome in nature, this literature review will now take the focus from the broad historical context and benefits of financial aid to a more narrow view on the history of grants. In 1965, the first grant was originally named the Educational Opportunity Grant Program, and by 1972, it was renamed the Federal Supplemental Educational Opportunity Grant (FSEOG) (Institute for Higher Education Policy, 2014). In addition to the FSEOG, the Basic Educational Opportunity Grant was created, and by 1980, it was renamed the renowned Pell Grant. While FSEOG and Pell Grants are still in existence, their federal funding is always contingent upon the changes that occur in the government.

While the federal government has strived to maintain these grants for low-income students, it was assumed that states would begin to support their students (Institute for Higher Education Policy, 2014; "Live & On Demand: State Government," 2014). In 1972, the federal government passed an educational amendment creating the State Student Incentive Grant Program (SSIG) (Kantrowitz, 2014). With the SSIG, the federal government would match dollar-for-dollar the amount states placed in these grant programs (P. Hovis, personal communication, October 9, 2014; Institute for Higher Education Policy, 2014). In 1991, the SSIG was renamed the State Scholarship Award Program (SSAP). While the federal government determined the SSAP program had successfully encouraged states to create their own grant programs, they ended their support in 2011 (Institute for Higher Education Policy, 2014). Without the support of the federal government, the state governments have been striving to provide financial assistance to students.

In the 2012-13 academic year, there were 46 state governments that awarded a total of $4.9 billion in need-based grants (Coordinating Commission for Postsecondary Education, 2014;

Kantrowitz, 2010; NASSGAP, 2013). While some states have no minimum award amounts, other states have maximum award amounts for need-based grants. The average amount award per student, per year varies from state-to-state. While many changes have occurred in the history of grants, it is important to recall where the nation has been in the context of financial assistance for students in order to have a better understanding of what changes can be made to improve upon it in the future. It is evident that one of those changes is in understanding state grants and how effective they can be for the students and the state. The next section begins by focusing on the state financial aid program called the Nebraska Opportunity Grant.

Background of the Nebraska Opportunity Grant

In 1975 with the passage of Legislative Bill 651, the State of Nebraska received $175,000 in federal funds which was in turn matched by the state general fund for the Nebraska's State Student Incentive Grant (SSIG) (P. Hovis, personal communication, October 9, 2014). According to some financial aid historians, the federal government was striving to encourage the states to take some responsibility in the education of their students (Institute for Higher Education Policy, 2014; "Live & On Demand: State Government," 2014). These state grant funds were designated for three sectors: public, private non-profit and private for-profit institutions of higher education. By 1991, three programs existed in Nebraska: the SSIG renamed the State Scholarship Award Program (SSAP), the Scholarship Assistance Program (SAP), and the Postsecondary Education Award Program (PEAP). The State Scholarship Award Program was the only Nebraska state grant program that received matching funds from the federal government (P. Hovis, personal communication, October 9, 2014). With the passage of Legislative Bill 574 in 2003, all three of these financial aid programs ended, but the Community Scholarship Foundation and the Nebraska State Grant were created.

Beginning in 2003-04, the grant was supported with $2 million in state lottery funds, $1 million in federal funds and $5.7 million from state general funds totaling $8.7 million in need-based grant funds. However, by 2010-11 the federal government stopped matching funds to support the state grants (P. Hovis, personal communication, October 9, 2014; Institute for Higher Education Policy, 2014). With the passage of Legislative Bill 956, the Nebraska State Grant was renamed the Nebraska Opportunity Grant (NOG) in 2010. Today, the Nebraska Opportunity Grant is currently funded by two sources: state lottery funds contributing approximately 60% or $9.8 million and state general funds contributing the other 40% or $6.6 million which totals $16.4 million in need-based grant funding (Coordinating Commission for Postsecondary Education, 2014). The Nebraska Opportunity Grant is available to low-income students attending one of the five sectors of higher education: five campuses of a public university system, three state colleges, six community colleges, 11 private for-profit career colleges and universities, and 16 private not-for-profit independent colleges and universities. The Nebraska Opportunity Grant is the only need-based grant offered by the state to low-income students who want to attend an institution of higher education in the State of Nebraska.

For 2014-15 academic year, the State of Nebraska awarded approximately $16 million from the Nebraska Opportunity Grant where $6.6 million or 40% came from state general funds and $9.8 million or 60% came from state lottery funds. The state currently anticipates being able to award the same amount of approximately $16 million during the 2015-16 academic year (Coordinating Commission for Postsecondary Education, 2014). The Education Committee for the Nebraska Legislature held a hearing on Legislative Bill 497 called, “Change provisions relating to funding for education from lottery funds” (“Nebraska Legislature - Legislative Document,” 2013), and specifically discussed the future of the funding for the Nebraska

Opportunity Grant ("Live & On Demand: State Government," 2014). During this hearing, many Nebraska constituents suggested how the legislature could appropriate the lottery funds to different programs. This may lead to a significant funding change for the Nebraska Opportunity Grant.

Originally, with the passage of Legislative Bill 497 ("Nebraska Legislature - Legislative Document," 2013), the Nebraska Opportunity Grant would no longer receive funding from the state lottery program effective June 30, 2016 (P. Hovis, personal communication, October 9, 2014). This bill would have reduced the funding for the Nebraska Opportunity Grant by almost $10 million which would have impacted almost 9,700 low-income students in the State of Nebraska (P. Hovis, personal communication, October 9, 2014). However, on May 7, 2015 with the passage of Legislative Bill 519 ("Nebraska Legislature-Legislative Document," 2015), the legislature extended the date for the cessation of the funding to June 30, 2021. While the loss of state lottery funding for the Nebraska Opportunity Grant may result in changes to this need-based state grant program in the future, this chapter presents the current guidelines and benefits.

Guidelines for the Nebraska Opportunity Grant. The Coordinating Commission for Postsecondary Education (CCPE) currently administers the Nebraska Opportunity Grant (NOG) based on the statute passed by the Nebraska Legislature. While students do not apply for this grant, the institutions award this financial aid on a discretionary basis. Students must meet the following guidelines to be considered for the Nebraska Opportunity Grant: be a Nebraska resident, be an undergraduate student who has not previously earned a degree, be a student at an eligible institution, and be considered low-income by having an Expected Family Contribution (EFC) equal to or less than the yearly maximum established in the state statute (Coordinating Commission for Postsecondary Education, 2014). The EFC is determined when a student

completes the Free Application for Federal Student Aid (FAFSA) which is an application provided by the US Department of Education. The maximum EFC for low-income recipients of the Nebraska Opportunity Grant was $5672 for the 2014-15 academic year. Additionally, low-income, first-time freshman Nebraska Opportunity Grant recipients' adjusted incomes ranged from $-3,348 to $144,639 with a mean $30,134, median $27,396 and a mode of $0. After all of these considerations, the maximum amount for the Nebraska Opportunity Grant awarded to a student for the 2014-15 is $3,987 (Coordinating Commission for Postsecondary Education, 2014). The estimated average grant awarded to a student for the 2013-14 academic year was around $1000. This means out of the $16 million in available funding approximately 16,000 students currently received the Nebraska Opportunity Grant. This state grant money is given to low-income students offering them the opportunity to access and afford college and, hopefully, the incentive to persist and progress through to completion.

Benefits of the Nebraska Opportunity Grant for the students. The benefits of the Nebraska Opportunity Grant for the students depend on their success. The success of the students depends on them being able to access, afford, persist, progress, and complete their degrees. In much of the research on retention of students, the focus has been on the academic and social supports that are available for students through the college process (Tinto, 2002). However, a gap in the literature is how financial assistance, especially state grants, influences student persistence through to graduation. Tinto (2002), a well-known theorist on retention, believed that commitment was the key to retaining students in higher education. He defined commitment as "…the willingness to invest the resources and provide the incentives and rewards needed to enhance student retention" (Tinto, 2002, p. 3). Long (2010) supported the research by asserting grants influence students in deciding if they would go to college and where they would

go to college. Research had found that grants, especially need-based grants, provided a way for students to access and afford college (Long, 2010; Ziderman, 2009). If the students benefited from the Nebraska Opportunity Grant then the state would benefit as well.

Benefits of the Nebraska Opportunity Grant for the state. The benefits of the Nebraska Opportunity Grant for the state depend on the success of the student. The success of the state is depending on students being able to be recruited and retained through completion. Research has shown that state grant programs help recruit students to attend college (Heller & Marin, 2004; Mendoza et al., 2009; Perna & Titus; 2004; St. John et al., 2003). In the same regard, research studies have found financial aid, like state grants, positively influences student retention (Astin, 1975; Hutto, 2002). Recruitment and retention are two very important factors that states can benefit from in offering the Nebraska Opportunity Grant because it shows the state is committed to the education of the students. If students are recruited and retained, then they would be able to complete their college education. The state would benefit when the students are able to find employment after graduating and able to contribute back into the revenue of the state. When contributions are given back to the state, the state is then able to continue supporting the education of future students and providing a society that is educated and productive. This section of the literature reviewed how a state grant financial aid program such as the Nebraska Opportunity Grant relates to the students and the state. The following section offers a brief history on the theories of student retention which have led to the theoretical framework for this study.

Theoretical Framework

Many theories on student retention have been developed over the years from sociological, psychological, organizational, and economic perspectives (Braxton & Hirschy, 2005). One of the most prominent theories is from the original work of Tinto's Student Integration Model of 1975. Tinto (1975) proposed there were two common predictors for student persistence: academic and social integration. He believed students came to college with individual attributes that were formed from their family backgrounds, prior educational experiences, and overall life experiences (Seidman, 2004). He believed students' attributes related to how they would integrate academically and socially into higher education, both from a formal and informal standpoint (Andres & Carpenter, 1997). The term "student fit" or "institutional fit" have become quite common throughout the literature (Tinto, 2002). The theory suggests that if there is a good "fit" between the student and institution, the student would more likely be able to persist while the institution would more likely be able to retain the student.

While there have been many theorists on retention, Tinto's model has been used to determine the persistence of students in higher education (Andres & Carpenter, 1997). However, in 1985, one theorist took Tinto's social model and applied more organizational and psychological constructs known as Bean's Student Attrition Model (Bean & Metzner, 1985). While the two retention theories are very similar, Bean (2005) stated that it was important to go beyond the student and institutional context, because he believed there were external factors, both from organizational and psychological perspectives, that also related to student persistence. For example, Bean's (1985) model reflected on how student interaction with peers affected their persistence (Andres & Carpenter, 1997). Research has shown Tinto (1975) and Bean's (1985) student retention models were causal in explaining how student persistence has influenced both

student and institutional factors; however, Tinto's model did not take into consideration the financial factors of attending college (Cabrera, Castaneda, Nora, & Hengstler, 1992a; Herron, 2012). Past studies (Cabrera et al., 1992a, 1992b) asserted the research on student persistence would benefit from combining Tinto and Bean's theoretical models in addition to considering the student's ability to pay for college.

While Cabrera et al. (1992b) found financial factors correlated with student persistence, St. John et al. (1996) decided to add one more factor to the model which was college choice. College choice was determined to be a factor that preceded Tinto's (1975) academic and social integration predictors of student persistence. Therefore, St. John et al. (1996) created the College Choice-Persistence Nexus Model combining Tinto (1975), Bean (1985) and Cabrera et al.'s (1992a) theories to reflect how finances influence college choice and student persistence (Herron, 2012). Like St. John et al. (1996), Cabrera et al. (1992b) also believed that not only do students need to choose a college that helps them persist through their educational process, but students needed to have the ability to pay for college through the support of financial aid. St. John et al. (2000) believed, "There existed a nexus between a student's college-choice stage and that student's subsequent persistence in college," and they continued, "Financial factors were found to exert effects on both college choice and persistence in college" (St. John et al., 2000, p. 37). With St. John et al.'s influence, some researchers refer to this model as the Financial Nexus Theory where it is possible that financial aid influences student persistence and graduation (Bryan, 2013; Franke, 2012). The following offers a list of student retention theories that have been proposed over the years (Figure 2).

Figure 2. Student Retention Theories. This figure illustrates a history of student retention theories from 1937-2008 (Seidman, 2004).

In 2000, the College Choice-Persistence Nexus Model or Financial Nexus Theory, which would be referred to as the nexus theory, was a theoretical framework created by merging two existing student retention perspectives: economic (Cabrera et al., 1992a; Nora & Horvath, 1989; St. John et al., 2000) and student-institution fit (Holcombe et al., 2014; Pascarella & Terenzini, 1991; Tinto, 1975). In support of this information, Hossler et al. (2009) asserted that only two research studies have made the connection of financial aid to retention conducted by Cabrera et al. (1992b) and St. John et al. (1996, 2000). Most theoretical frameworks have focused on student-institution fit by looking at student and institutional variables (Andres & Carpenter, 1997).

The nexus theory shows that socioeconomic factors, financial assistance, and institutional choice influence the student's persistence. Based on those premises, the nexus theory asserts that if students feel they have a strong financial support from an institution they will be more likely to choose that institution (St. John et al., 2000). If the institution continues to support the student with a financial assistance, the student is more likely to persist and graduate from college. Therefore, it is logical that a nexus or connection exists between the state's retention and completion rates in relation to the student's persistence and graduation rates. The following illustration shows how St. John et al. (2003) presented his nexus theory (Figure 3) while working for Indiana University. It demonstrates how state grant programs have a direct effect on financial aid, and then financial aid has a direct effect on persistence through to graduation.

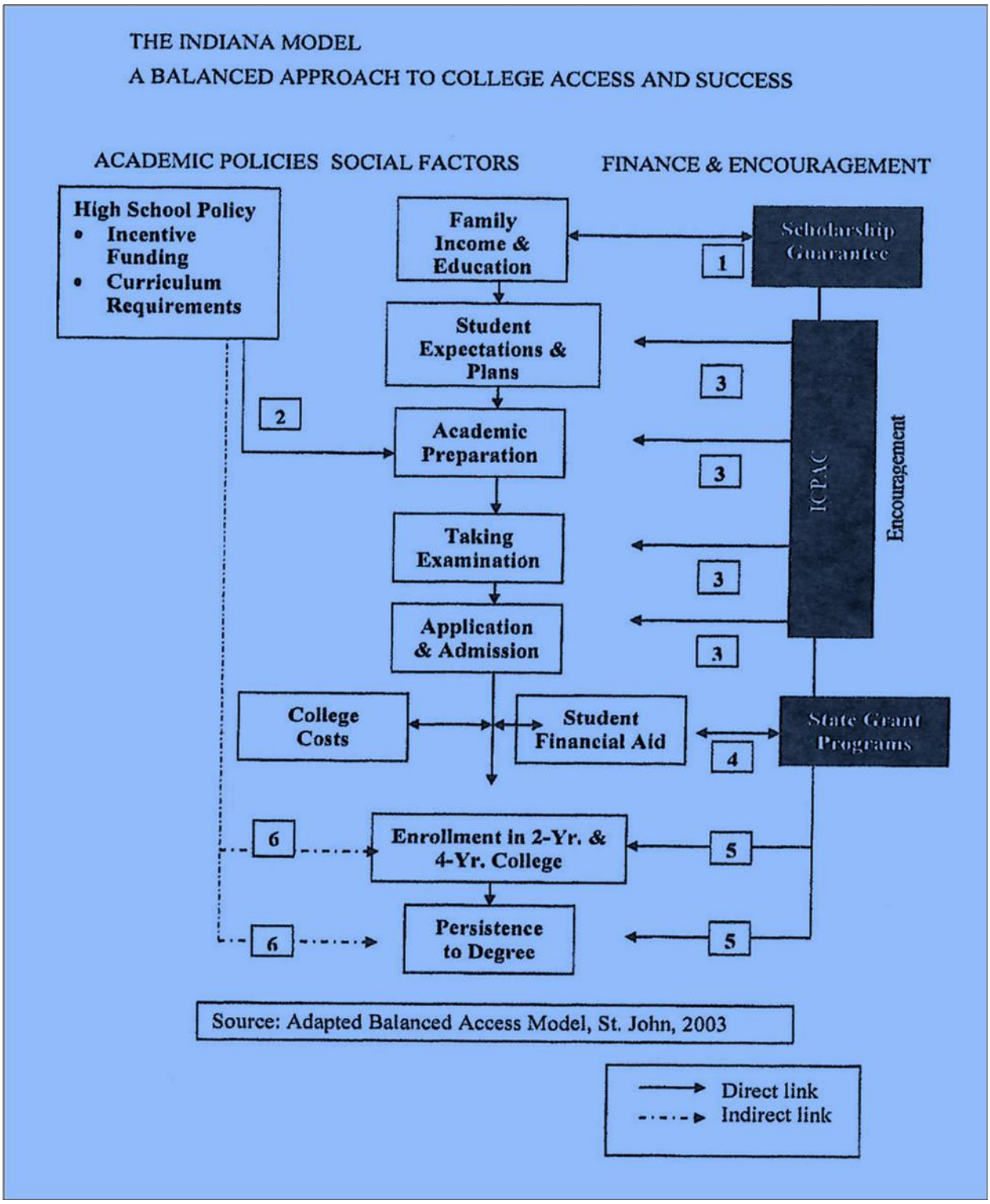


Figure 3. St. John et al.'s (1996) Nexus Theory. This figure illustrates how state grant programs fit into the nexus theory by influencing student persistence and graduation to degree (St. John et al., 2003).

A review of literature provides justification for the use of the nexus theory which focuses on how financial aid influences persistence in higher education. From this study, the State of Nebraska would like to know how effective the Nebraska Opportunity Grant has been for low-income students by examining the persistence and graduation of the students who receive the grant. The nexus theory asserts there is a direct relationship between financial aid, such as state grants programs like the Nebraska Opportunity Grant, to enrollment and then to persistence to a degree. Since the state offers $16 million in funding for the grant each fiscal year, the question remains if students are being retained by the institutions, if students are persisting each academic year, and if students are completing their degrees. If the state finds that students are successful through persistence and graduation, it is believed the students would be employable and be able to offer back funding into the tax base of the state. This theoretical framework can also apply to students where if students believe they are supported financially by the state through the institutions, they are more likely to persist by performing well academically by maintaining a certain grade point average and graduating from college with their academic degree. The nexus theory offers continuity from choosing an institution offering a supportive financial aid package to increasing the persistence and graduation rates of the institutions to offering the students the opportunity to persist and graduate with their college education which all lead to success.

Summary

From the review of the literature, the foundation of financial aid in higher education revealed a long history of a number of significant legislative changes. These legislative changes over the years have led to several types of financial aid. These different types of financial aid were all intended to be beneficial for students in accessing, affording, persisting, and progressing through college. While the students were benefiting from receiving an education, the states were

benefiting through the recruitment and retention of students for it produced revenue for the state. Of course, the end result desired by the students was graduation with a college degree while the states desired completion with a college education. Graduation and completion means success for both the student and the state. This success would not be possible without financial aid in higher education.

The effects of financial aid in higher education has been somewhat disregarded in the literature with very few empirical research studies emphasizing its importance. Some researchers have offered some theoretical perspectives for student retention and persistence (Andres & Carpenter, 1997; Bean, 2005; Bean & Metzner, 1985; Brown, 2002; Cabrera et al., 1992a; Seidman, 2004. Tinto, 1975, 1993, 1997, 2002, 2006). However, most of them have not adequately addressed how financial aid affects the persistence and graduation rates among students from low-income families (Alon, 2011; Hossler et al., 2009; St. John et al., 2000). Specifically, research has not adequately addressed the effects of state need-based aid on the persistence and graduation of low-income students. Therefore, the nexus theoretical framework (St. John et al., 2000), which has focused on the effects of financial aid, seems to be the most effective means in examining the persistence and graduation of low-income, first-time freshmen students in higher education.

St. John et al. (1996) created a nexus theoretical framework capable of analyzing the effects of financial aid on a student's college choice, persistence, and graduation. Likewise, from the state perspective, the nexus theoretical framework is also capable of examining the relationship among college choice, retention, and completion rates of the students. A gap in the literature was to examine how state grants relate to student persistence and graduation, this study will enhance the academic literature in the field of financial aid in higher education.

CHAPTER III

METHODOLOGY

The purpose of this longitudinal study was to examine the persistence and graduation of low-income, first-time freshmen who were recipients of the 2011-12 Nebraska Opportunity Grant among the five sectors of higher education from 2012-13 through 2014-15. Through this study, Nebraska's Coordinating Commission for Postsecondary Education may be able to make recommendations on the level of state general and lottery funding that is appropriated for this state grant. Many studies indicated further research needs to be conducted to determine what contributes to the success of the students in higher education, and financial aid was one important aspect of student success (Alon, 2011; Goldrick-Rab, Harris, & Trostel, 2009; Ness & Tucker, 2008; Moore & Fetzner, 2009; Smart, Feldman, & Ethington, 2006). This chapter on methodology describes the research design, participants, data collection, data analysis and ethical considerations applied in this research study. The first section begins by discussing the research design.

Research Design

The correlational research design for this longitudinal study assessed the associations among the variables that occurred over a period of time in the persistence and graduation of the 2011-12 Nebraska Opportunity Grant low-income, first-time freshmen recipients (Carroll, 2015; Creswell, 2002, p. 62; Rudestam & Newton, 2007). From a retrospective approach, including academic years 2011-12 through 2014-15, this study measured the degree of associations between the independent variable of recipients on the dependent variables of persistence and graduation (Carroll, 2015; Creswell, 2002, p. 361). This non-experimental research examined a single group of individuals who were the 2011-12 recipients of the Nebraska Opportunity Grant

(Creswell, 2002, p. 60). The independent variable was not manipulated since this is an ex post facto research design (Carroll, 2015; Fraenkel & Wallen, 2009). This descriptive research study was to examine the association between the effects of the Nebraska Opportunity Grant on persistence and graduation.

The advantage of this longitudinal study is that it offers a logical analysis of the persistence and graduation of students who received the 2011-12 Nebraska Opportunity Grant and who enrolled in classes every year over a three year time period. The setting for this study was in the State of Nebraska where it spanned across 41 institutions of higher education within the state. The participants of this study were the 2011-12 Nebraska Opportunity Grant recipients who were defined as low-income, first-time freshmen students. Those same students were followed from 2012-13 through 2014-15 in order to effectively analyze their persistence and graduation. Secondary databases, such as the National Student Clearinghouse (NSC), Free Application for Federal Student Aid (FAFSA), and Nebraska Opportunity Grant (NOG), provided data for analyzing the trends within the demographics in the persistence and graduation of these students. For this study, the following research questions were addressed:

Research Questions

1. Is there a statistically significant relationship between the 2011-12 first-time freshmen recipients (awarded) of the Nebraska Opportunity Grant and their persistence (persisted or not persisted) through 2012 and 2015?

   H_0: There is no statistically significant relationship between recipients and persistence.

   H1: There is a statistically significant relationship between recipients and persistence.

2. Is there a statistically significant relationship between the 2011-12 first-time freshmen recipients (awarded) of the Nebraska Opportunity Grant and their graduation (graduated or not graduated) between 2012 and 2015?

   H_0: There is no statistically significant relationship between recipients and graduation.

   H1: There is a statistically significant relationship between recipients and graduation.

Sub questions include:

a. Is there a relationship between age and persistence?
b. Is there a relationship between age and graduation?
c. Is there a relationship between gender and persistence?
d. Is there a relationship between gender and graduation?
e. Is there a relationship between ethnicity and persistence?
f. Is there a relationship between ethnicity and graduation?
g. Is there a relationship between educational level of father/mother and persistence?
h. Is there a relationship between educational level of father/mother and graduation?
i. Is there a relationship between enrollment status and persistence?
j. Is there a relationship between enrollment status and graduation?
k. Is there a relationship between family income level and persistence?
l. Is there a relationship between family income level and graduation?
m. Is there a difference between sector of higher education and recipients?
n. Is there a difference between sector of higher education and persistence?
o. Is there a difference between sector of higher education and graduation?

Through descriptive and inferential data analysis, a correlational research design determined the associations that existed between the controlled variables (age, gender, ethnicity, educational level, enrollment status, family income and sector of higher education) and dependent variables (persistence and graduation). In addition, it determined whether 2011-12 Nebraska Opportunity Grant recipients persisted and graduated. Table 1 provides the overall research study design (Table 1).

Table 1

Research Study Design

Theory Nexus theory was to examine how a state grant correlates with student persistence to graduation. X → Y: Nebraska Opportunity Grant (NOG-state grant) →Student Persistence (P) to Graduation(G)
Hypothesis H_0: There is no statistically significant relationship between recipients and persistence. H_0: There is no statistically significant relationship between recipients and graduation.
Operationalization of concepts Independent variable X: NOG recipients → Dependent Variables Y: Persistence Graduation
Selection of subjects Use of low-income, first-time freshmen students from 2011-12 who received the NOG from five sectors of institutions of higher education
Research design Correlational research design as a longitudinal study from academic years 2011-12 through 2014-15
Collect data 1. Free Application for Federal Student Aid (FAFSA) data 2. National Student Clearinghouse (NSC) data 3. Nebraska Opportunity Grant (NOG) data
Analyze data 1. Using IBM SPSS V. 21., the Chi-Square analysis-both good-fit and independence- was used to study the nominal data. Chi-Square statistics determined if there was a statistically significant relationship between the 2011-12 first-time freshmen recipients (awarded) of the Nebraska Opportunity Grant and their persistence (persisted or not persisted) and graduation (graduated or not graduated) through 2012 and 2015?
Findings Did the 2011-12 first-time freshmen recipients of the Nebraska Opportunity Grant persist and graduate through 2012 and 2015? Are there significant relationships among the other variables? Are the hypotheses confirmed? Does the nexus theory need to be redesigned?

Participants

In the 2011-12 academic year, the population of participants consisted of 57,875 low-income students who were enrolled in college and eligible to be awarded the Nebraska Opportunity Grant (Coordinating Commission for Postsecondary Education, 2014). Ranging from freshmen to seniors, there were 14,239 recipients and 43,636 non-recipients of the Nebraska Opportunity Grant in 2011-12. There were 3,257 recipients and 15,881 non-recipients of the Nebraska Opportunity Grant in 2011-12 who were first-time freshmen (Coordinating Commission for Postsecondary Education, 2014; FAFSA, 2015). In examining persistence and graduation, the participants for this study consisted of N=3,257 low-income, first-time freshmen recipients of the 2011-12 Nebraska Opportunity Grant.

This sample of participants consisted of college students who were attending five different sectors of higher education in the State of Nebraska. These sectors of higher education included five campuses of a public university system, three state colleges, six community colleges, 11 private for-profit career colleges and universities, and 16 private not-for-profit independent colleges and universities. All of the students in these sectors of higher education were working towards earning a certificate, an associate's degree or a bachelor's degree. While students of any undergraduate academic level who met the eligibility requirements could be considered for the Nebraska Opportunity Grant, this correlational study focused on the 2011-12 first-time freshmen who received this grant. For the purposes of this study, it was logical to follow 2011-12 first-time freshmen in order to clearly understand the correlations of this grant with the persistence and graduation of these students from 2012-13 through 2014-15.

Data Collection

The data was collected for this study from three separate secondary databases: National Student Clearinghouse (NSC), Free Application for Federal Student Aid (FAFSA), and Nebraska Opportunity Grant (NOG). The National Student Clearinghouse is a private organization which provides enrollment and degree information, obtained from colleges and universities, to state agencies (NSA, 2015). The Free Application for Federal Student Aid (FAFSA) is an application distributed by the US Department of Education which provides information, obtained from the student, to college financial aid offices and state grant agencies in determining financial aid awards (FAFSA, 2015). Nebraska's Coordinating Commission for Postsecondary Education (CCPE), which is a state grant agency, has access to all of these secondary databases.

The ways in which Nebraska's Coordinating Commission for Postsecondary Education obtains this data from these secondary databases depends on how the institution originally submits the information. First, the state agency has a contractual agreement with the NSC to receive information twice a year regarding enrollment and graduation numbers. The state agency has an agreement with the US Department of Education to receive FAFSA information as needed. Since the Nebraska Opportunity Grant is a need-based state grant administered by Nebraska's Coordinating Commission for Postsecondary Education, this state agency secures the information obtained from the colleges and universities that award this state grant (Coordinating Commission for Postsecondary Education, 2014). Nebraska's Coordinating Commission for Postsecondary Education's database manager along with the researchers within the office has access to this information.

Since correlational research designs do not limit the types of instruments used within a study, this allowed the information to be obtained from these secondary databases (Fraenkel & Wallen, 2009). The reliability of the information obtained from these databases was assumed to be moderately strong with the exception of human error occurring in self-reported information. The internal and external validity was assumed to be strong because many of abovementioned databases are used quite extensively nationwide (Creswell, 2014). It was plausible that the constructs within those databases had been tested to assure they are measuring the variables precisely. Nevertheless, this homogenous subgroup of Nebraska Opportunity Grant recipients was produced from the data to reduce the threat to internal validity (Fraenkel & Wallen, 2009). In general, if there were errors in the secondary databases, it was undetectable with little effect on the reliability and validity of this study. Overall, these secondary databases were able to provide, with confidence, the information they have collected with their constituents.

Data Analysis

The data analysis for this longitudinal study included descriptive and inferential statistical analysis. Descriptive analysis provided the means, standard deviations, and range of scores for the variables along with the cross tabulations (Creswell, 2014). The FAFSA database provided the controlled variables: age, gender, educational level of father and mother, and family income level (FAFSA, 2015; US Department of Education, 2015). More importantly, first-time freshmen status, which was self-reported by the student, was also extracted from the FAFSA database. As a caveat to timing of this study, Nebraska's Coordinating Commission for Postsecondary Education, in agreement with the US Department of Education received access to the FAFSA data beginning in 2011-12. This explains why this study began with the 2011-12 academic year. The National Student Clearinghouse database provided the persistence based on

enrollment status, graduation based on completion, and sector of higher education (NSA, 2015). Nebraska's Coordinating Commission for Postsecondary Education in agreement received limited access to the NSA on a yearly basis. Meanwhile, the Nebraska Opportunity Grant database, which is maintained by Nebraska's Coordinating Commission for Postsecondary Education, provided the list of students who were recipients of the NOG (Coordinating Commission for Postsecondary Education, 2014). Analyzing the data beginning in 2011-12 provided the most recent and sufficient data to examine the persistence and graduation between first-time freshmen who were recipients of this state grant.

Inferential statistical analysis was applied throughout the study by using IBM SPSS V. 21. Since there were several categorical variables, Chi-Square data analysis determined if significant relationships existed between the Nebraska Opportunity Grant recipients on persistence and graduation. A significance level of 0.05 was used to determine if a statistically significant relationship occurred only by chance. If there is less than a 5% probability that persistence and graduation occurred only by chance, the null hypothesis was rejected. This indicated there was a significant relationship between the recipients of the Nebraska Opportunity Grant on persistence and/or graduation. On the other hand, if there is higher than a 5% probability that persistence and graduation occurred only by chance, the null hypothesis was accepted. This indicated there was not a significant relationship between the recipients of the Nebraska Opportunity Grant on persistence and/or graduation. Since this is a non-probability statistical procedure, it was not to be generalized to the whole population, but it would be representative of the sample for this study. While the criteria for selecting the recipients of the Nebraska Opportunity Grant have not changed over time, this study provided relevant information on effectiveness of the Nebraska Opportunity Grant. Table 2 indentifies the

variables, variable names, operational definitions, and nominal data along with the secondary databases. Based on recommendations from the Nebraska's Coordinating Commission for Postsecondary Education's research analysts, the dependent and controlled variables were compressed into two categories with the exception of the sectors of higher education.

Table 2

Variables, Variable Names, Operational Definitions, Nominal Data and Secondary Databases

Variables	Variable Name	Operational Definition	Nominal Data	Secondary Databases
Dependent Variable	Persistence 2012-13 2013-14 2014-15	2011-12 NOG recipients who enroll or do not enroll in classes every term following the first year of retention. Sectors of Higher Education report to the NSC	1=persisted 0=not persisted	NSC
Dependent Variable	Graduation 2011-2015	2011-12 NOG recipients who have completed coursework and earned a college degree. Sectors of Higher Education report to the NSC	1=graduated 0=not graduated	NSC
Independent Variable	Recipients 2011-12	2011-12 NOG recipients (N=3,257) who were low-income, first-time freshmen who met eligibility, enrolled, and awarded NOG in 2011-12 Sectors of Higher Education report to CCPE	1=awarded	NOG
Controlled Variable	Age	Self-report from student to FAFSA	1=17-19 0=20+	FAFSA
Controlled Variable	Gender	Self-reported from student to FAFSA	1 = female 0 = male	FAFSA
Controlled Variable	Ethnicity	Self-reported from student to Sector of Higher Education to CCPE	1=white 0=other	CCPE
Controlled Variable	Educational Level of Father/ Mother	Self-reported from student to FAFSA	1= some college or college graduate 0= high school graduate or less	FAFSA

Controlled Variable	Enrollment Status	Sectors of Higher Education report Enrollment Status to NSC	1=full-time 0=less than full-time	NSC
Controlled Variable	Family Income Level	Self-reported from student to FAFSA	1=$0-$19,999 0=$20,000+	FAFSA
Controlled Variable	Sector of Higher Education	Sectors of Higher Education report to the NSC	1=public university 2=state college 3=community college 4=private career college 5= independent university	NSC

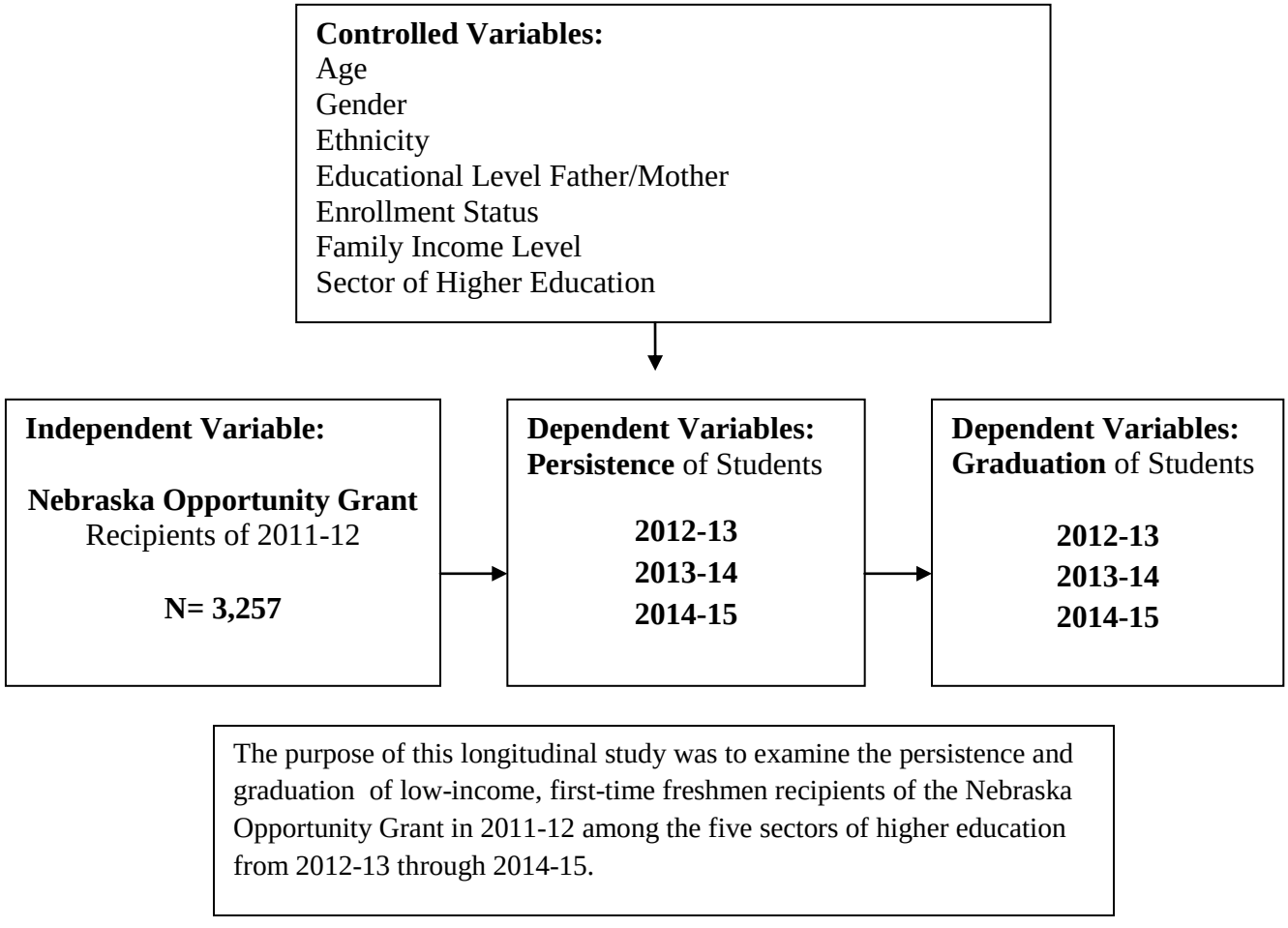
Variables

As with any study, the variables of the study were aligned so that information being studied was the most accurate in relation to the research questions. The causal diagram provided in Figure 3 depicts the methodology of the research design through using the following variables:

1. Independent variable: Award status of the 2011-12 recipients of the Nebraska Opportunity Grant who were low-income, first-time freshmen.
2. Dependent variables: Persistence and graduation of Nebraska Opportunity Grant recipients who have enrolled and / or graduated among one of the five sectors of higher education in the State of Nebraska from academic years 2012-13 through 2014-15.
3. Controlled variables: Age, gender, ethnicity, educational level of father and mother, enrollment status, family income level, sector of higher education.

While the correlational research design does not allow for any manipulation of the independent variables, it would not have an effect due to the ex post facto design of this study (Fraenkel & Wallen, 2009). In other words, the low-income, first-time freshmen students selected for this study were past recipients of the 2011-12 Nebraska Opportunity Grant. From a causal perspective, it was logical to assume that persistence precedes graduation for if a student is to graduate, he or she must be able to persist through the coursework. The diagram below shows the years of persistence from 2012-13, 2013-14 and 2014-15. Persistence could only be measured after the first year of retention which in this study was from 2011-12. Graduation was measured over that same time period with students who graduated from certificate, associate or bachelor degree programs. The controlled variables offered insight on the correlations those variables had with student persistence and graduation. The causal diagram below offers the conceptual framework used in this research study (Figure 4).

Causal Diagram



Conceptual Framework

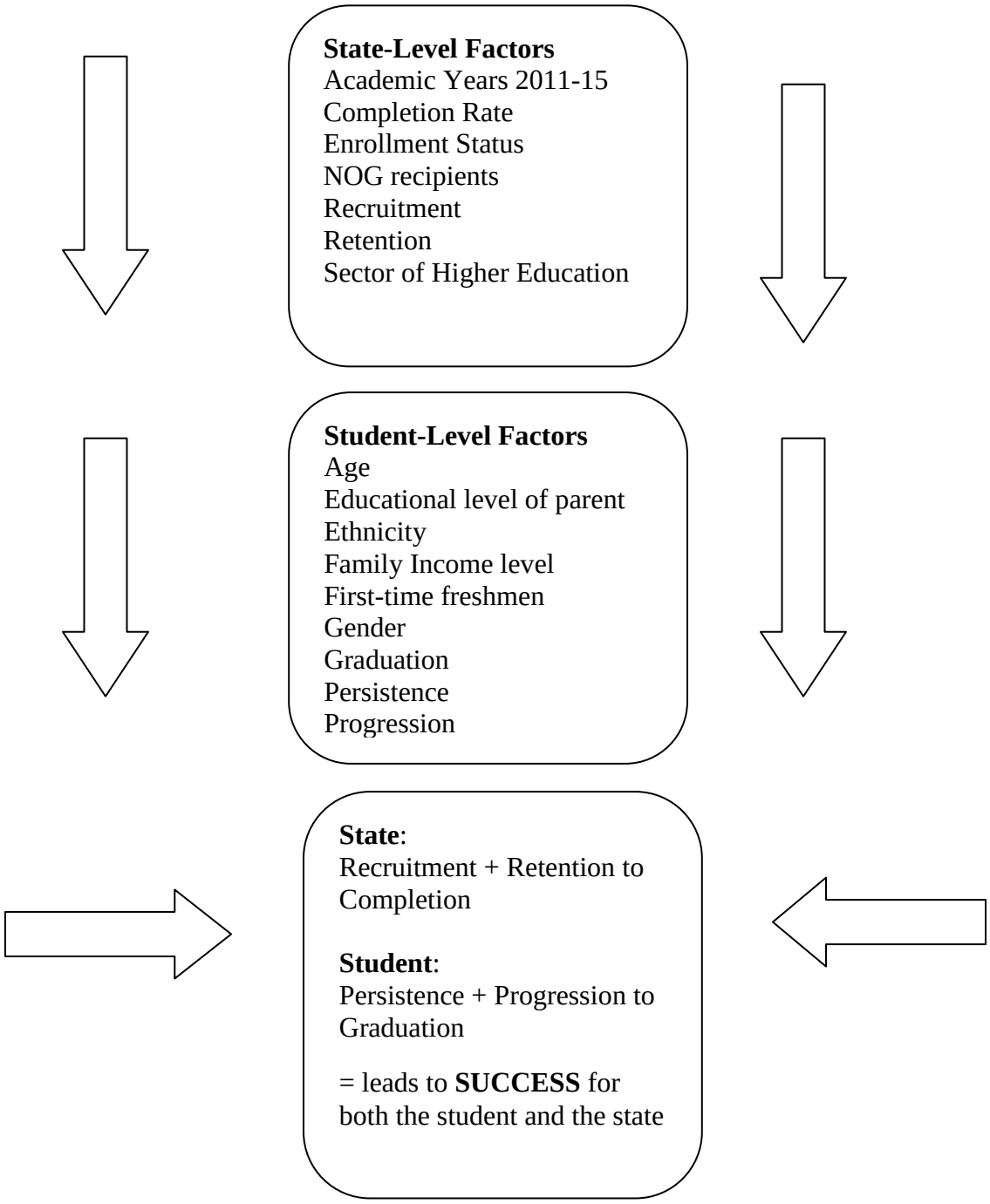


Figure 4. A causal diagram with a conceptual framework. This figure illustrates a conceptual layout of the research design discussed in the Methodology (Creswell, 2002). The conceptual framework above is an adaptation from Li's (2008) study where the researcher integrated the student retentions models with St. John et al.'s (1996) nexus theory. By placing the controlled variables within the diagram, it offers a framework toward the causal model of how the Nebraska Opportunity Grant correlates to students' on persistence and graduation.

Ethical Considerations

With ethical considerations in mind, this study received approval from College of Saint Mary's Institutional Review Board (Appendix A) and provided written evidence from the Nebraska's Coordinating Commission for Postsecondary Education (Appendix B). A confidential agreement was signed with Nebraska's Coordinating Commission for Postsecondary Education where all the data provided for this study was coded so the participants would not be unidentifiable, therefore, protecting the rights of the participants. The identifiable information was protected by the Coordinating Commission for Postsecondary Education's Database Manager who works for this state agency. The Database Manager provided the unidentifiable data to be analyzed which represented only a small portion of recipients who have attended institutions of higher education beginning in 2011-12 through 2014-15. Specifically, it only consisted of the 2011-12 Nebraska Opportunity Grant first-time freshmen recipients. The unidentifiable data was placed onto a secured, password protected laptop and all data files will be destroyed after the study has been completed. The results of this study will be given to the Coordinating Commission for Postsecondary Education where it may be used for requests made by future state policymakers and maintained by the researcher of the dissertation.

Summary

The methodology described in this chapter focused on how participants were selected, how data was collected, and how data was analyzed for this study. With ethical considerations in mind, the correlational research design for this study enabled the examination of persistence and graduation of low-income, first-time freshmen who were recipients of the Nebraska Opportunity Grant in 2011-12 among the five sectors of higher education from 2012-13 through 2014-15.

CHAPTER IV

RESULTS

The purpose of this longitudinal study was to examine persistence and graduation of low-income, first-time freshmen recipients of the Nebraska Opportunity Grant in 2011-12 among the five sectors of higher education from 2012-13 through 2014-15. Secondary data was gathered by Nebraska's Coordinating Commission for Postsecondary Education from three separate databases: National Student Clearinghouse (NSC), Free Application for Federal Student Aid (FAFSA), and Nebraska Opportunity Grant (NOG). The data for this research study was presented to the researcher in an unidentifiable Microsoft Excel 2007 spreadsheet where the data was cleaned and then transferred to IBM SPSS v. 21 for coding. This research study included 3,257 college students who enrolled in one of the 41 institutions of higher education in Nebraska. Specifically, this sample of participants was low-income, first-time freshmen who were enrolled in college and awarded the Nebraska Opportunity Grant during the 2011-12 academic year. This chapter focuses on the results of the data by describing the methods for data analysis, data analysis by research question, and summary of results. The first section begins by discussing the methods for data analysis.

Methods for Data Analysis

Descriptive and inferential data analysis of results determined the associations existing between the controlled variables (age, gender, ethnicity, educational level of father and mother, enrollment status, family income and sector of higher education) and dependent variables (persistence and graduation). In addition, it determined whether the independent variable (awarded recipients) correlated with the dependent variables (persisted and graduated). After analyzing the population distributions of the original scores, Chi-Square analysis was applied to the sample size of N=3257. The descriptive data analysis consisted of cross tabulations which

showed the relationships between variables. The inferential analysis for this study consisted of conducting a Chi-Square Goodness of Fit and Chi-Square Test of Independence to examine the associations among age, gender, ethnicity, educational level of father and mother, enrollment status, family income and sector of higher education in relation to persistence and graduation of recipients. A Chi-Square Goodness of Fit test was the method used for the data analysis for research questions 1 and 2 along with each hypothesis. The Chi-Square Test of Independence was the method used for the data analysis for all sub questions, except for sub question m and o where Chi-Square Goodness of Fit test was applied.

The Chi-Square nonparametric test was used for inferential data analysis due to the nominal data which required few assumptions and parameters about the population distribution. The Chi-Square Goodness of Fit test, which determines how well the data or observed frequencies fit the hypotheses or expected frequencies, analyzed the independent variable which was the recipients of the Nebraska Opportunity Grant to persistence and graduation. The Chi-Square Test of Independence test examined the relationship between two controlled variables with two categories. To meet two statistical assumptions with Chi-Square analysis, this approach allowed for a larger sample size of expected frequencies and independent observations with one response per recipient (Gravetter & Wallnau, 2000). This allowed for the two-by-two contingency table to be applied in each analysis. In support of this analysis and based on recommendations from the Nebraska's Coordinating Commission for Postsecondary Education's research analysts, all dependent and controlled variables were compressed into two categories with the exception of the sectors of higher education.

In cases where the Chi-Square test was statistically significant with a $p < .05$, the null hypothesis was rejected and the Phi Coefficient (Φ) was analyzed demonstrating the strength of

the association between two variables with two categories. The Cramer's V (V) measure of association was applied with two variables with more than two categories (Agresti, 1996). The level of association (Table 3) ranged from no relationship to a perfect relationship, 0.00 to 1.00 respectively, at a probability level of $p = .05$.

Table 3

Level of Association with a Description of Measure of Association

Level of Association	**Description of Measure of Association**
0.00	No Relationship
.00-.15	Very Weak
.15-.20	Weak
.20-.25	Moderate
.25-.30	Moderately Strong
.30-.35	Strong
.35-.40	Very Strong
.40-.50	Worrisomely Strong
.50-.99	Redundant
1.00	Perfect Relationship

Adapted from University of Toronto

Data Analysis by Research Question

The data analysis by research question provides the analysis of results with corresponding tables from the output of the Chi-Square analysis.

Research Question 1 and Hypothesis

1. Is there a statistically significant relationship between the 2011-12 first-time freshmen recipients (awarded) of the Nebraska Opportunity Grant (NOG) and their persistence (persisted or not persisted) through 2012 and 2015?

   H_0: There is no statistically significant relationship between recipients and persistence.

   H1: There is a statistically significant relationship between recipients and persistence.

Nebraska Opportunity Grant Recipients and Persistence. The inferential analysis of a Chi-Square Goodness of Fit test indicates there were statistically significant relationships between the 2011-12 first-time freshmen recipients (awarded) of the Nebraska Opportunity Grant and their persistence through 2012 and 2015. Table 4 presents the findings for 2012-13, 2013-14 and 2014-15: χ^2 (1, N=3257) =478.969, p<.05, χ^2 (1, N=3257) =37.827, p<.05 and χ^2 (1, N=3257) =12.404, p<.05. More recipients persisted (69%) than did not persist (31%) in 2012-13. More recipients persisted (55%) than did not persist (45%) in 2013-2014. However, more recipients did not persist (53%) than persisted (47%) in 2014-15. The null hypothesis was rejected. There was a statistically significant relationship between recipients and persistence.

Table 4

Chi-Square Goodness of Fit:
Nebraska Opportunity Grant 2011-12 Recipients and Persistence through 2012 and 2015

Recipients 2011-12

	Observed N	Expected N	Residual
Awarded NOG	3257	3257.0	.0
Total	3257[a]		

Persistence 2012-13

	Observed N	Expected N	Residual
Not Persisted	1004	1628.5	-624.5
Persisted	2253	1628.5	624.5
Total	3257		

Persistence 2013-14

	Observed N	Expected N	Residual
Not Persisted	1453	1628.5	-175.5
Persisted	1804	1628.5	175.5
Total	3257		

Persistence 2014-15

	Observed N	Expected N	Residual
Not Persisted	1729	1628.5	100.5
Persisted	1528	1628.5	-100.5
Total	3257		

Test Statistics

	Persistence201213	Persistence201314	Persistence201415
Chi-Square	478.969[a]	37.827[a]	12.404[a]
df	1	1	1
Asymp. Sig.	.000	.000	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 1628.5.

Research Question 2 and Hypothesis

2. Is there a statistically significant relationship between the 2011-12 first-time freshmen recipients (awarded) of the Nebraska Opportunity Grant and their graduation (graduated or not graduated) between 2012 and 2015?

   H_0: There is no statistically significant relationship between recipients and graduation.

   H1: There is a statistically significant relationship between recipients and graduation.

Nebraska Opportunity Grant Recipients and Graduation. The inferential analysis of a Chi-Square Goodness of Fit test indicated there was a statistically significant relationship between the 2011-12 first-time freshmen recipients (awarded) of the Nebraska Opportunity Grant and their graduation between 2012 and 2015. Table 5 presents the finding: χ^2 (1, N=3257) = 1065.634, $p<.05$. More recipients did not graduate (79%) than graduated (21%) between 2012 and 2015. The null hypothesis was rejected. There was a statistically significant relationship between recipients and graduation.

Table 5

Chi-Square Goodness of Fit:
Nebraska Opportunity Grant 2011-12 Recipients and Graduation between 2011-2015

Recipients 2011-12

	Observed N	Expected N	Residual
Awarded NOG	3257	3257.0	.0
Total	3257[a]		

Graduated

	Observed N	Expected N	Residual
Not Graduated	2560	1628.5	931.5
Graduated	697	1628.5	-931.5
Total	3257		

Test Statistics

	Graduated
Chi-Square	1065.634[a]
df	1
Asymp. Sig.	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 1628.5.

Sub Questions

a. Is there a relationship between age and persistence?

Age and Persistence. The descriptive analysis shows the cross tabulation of the relationship between two variables with two or more categories. After analyzing the distributions of the original scores, the sample size was sufficient at N=3257 (age group 17-19 n=2129 or 65% and age group 20+ n=1128 or 35%). To meet statistical assumptions, the dependent variable of persistence was compressed into three separate academic years with two categories, and the controlled variable of age was compressed into two categories. The justification to dichotomize the age group was based on the FAFSA data and to assure there were a sufficient number of recipients within the two categories for Chi-Square statistical analysis. In addition, it was logical to assume 17-19 year old students are more likely to be graduating from high school and entering college as first-time freshmen, while 20+ year old students may be seen as more non-traditional. Table 6 presents the cross tabulations of the expected count versus the actual count of frequencies in the distribution.

The inferential analysis of a Chi-Square Test of Independence was conducted to examine whether a relationship existed between age and persistence. Table 6 presents the findings for 2012-13, 2013-14 and 2014-15: χ^2 (1, N=3257) =199.899, p<.05, χ^2 (1, N=3257) =210.382, p<.05 and χ^2 (1, N=3257) =238.313, p<.05. The Phi Coefficient was conducted to measure the strength of the association for the two variables with two categories. The strength of association between age and persistence was moderately strong and statistically significant for 2012-13, 2013-14, and 2014-15: Φ= .248, p < .05, Φ = .254, p <.0005, and Φ = .270, p < .05). After conducting the cross tabulations, Chi-Square Test of Independence, and the Phi Coefficient test, more recipients persisted in the age range of 17-19 (51%) than in the age group of 20+ (19%) in

2012-13. More recipients persisted in the age group of 17-19 (42%) than in the age group of 20+ (13%) in 2013-2014. More recipients persisted in the age group of 17-19 (37%) than in the age group of 20+ (10%) in 2014-15. There was a statistically significant relationship between age and persistence.

Table 6

Cross-Tabulation Table, Chi-Square Test of Independence and Phi Coefficient Test: Relationship between Age and Persistence

a. Persistence201213 * Age

Crosstab

			Age		Total
			20+	17-19	
Persistence201213	Not Persisted	Count	525	479	1004
		Expected Count	347.7	656.3	1004.0
		% within Persistence201213	52.3%	47.7%	100.0%
		% within Age	46.5%	22.5%	30.8%
		% of Total	16.1%	14.7%	30.8%
	Persisted	Count	603	1650	2253
		Expected Count	780.3	1472.7	2253.0
		% within Persistence201213	26.8%	73.2%	100.0%
		% within Age	53.5%	77.5%	69.2%
		% of Total	18.5%	50.7%	69.2%
Total		Count	1128	2129	3257
		Expected Count	1128.0	2129.0	3257.0
		% within Persistence201213	34.6%	65.4%	100.0%
		% within Age	100.0%	100.0%	100.0%
		% of Total	34.6%	65.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	199.899[a]	1	.000		
Continuity Correction[b]	198.773	1	.000		
Likelihood Ratio	195.210	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	199.838	1	.000		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 347.72.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.248	.000
	Cramer's V	.248	.000
N of Valid Cases		3257	

b. Persistence201314 * Age

Crosstab

			Age		Total
			20+	17-19	
Persistence201314	Not Persisted	Count	699	754	1453
		Expected Count	503.2	949.8	1453.0
		% within Persistence201314	48.1%	51.9%	100.0%
		% within Age	62.0%	35.4%	44.6%
		% of Total	21.5%	23.2%	44.6%
	Persisted	Count	429	1375	1804
		Expected Count	624.8	1179.2	1804.0
		% within Persistence201314	23.8%	76.2%	100.0%
		% within Age	38.0%	64.6%	55.4%
		% of Total	13.2%	42.2%	55.4%
Total		Count	1128	2129	3257
		Expected Count	1128.0	2129.0	3257.0
		% within Persistence201314	34.6%	65.4%	100.0%
		% within Age	100.0%	100.0%	100.0%
		% of Total	34.6%	65.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	210.382[a]	1	.000		
Continuity Correction[b]	209.308	1	.000		
Likelihood Ratio	211.157	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	210.317	1	.000		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 503.22.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.254	.000
	Cramer's V	.254	.000
N of Valid Cases		3257	

c. Persistence201415 * Age

Crosstab

			Age		Total
			20+	17-19	
Persistence201415	Not Persisted	Count	808	921	1729
		Expected Count	598.8	1130.2	1729.0
		% within Persistence201415	46.7%	53.3%	100.0%
		% within Age	71.6%	43.3%	53.1%
		% of Total	24.8%	28.3%	53.1%
	Persisted	Count	320	1208	1528
		Expected Count	529.2	998.8	1528.0
		% within Persistence201415	20.9%	79.1%	100.0%
		% within Age	28.4%	56.7%	46.9%
		% of Total	9.8%	37.1%	46.9%
Total		Count	1128	2129	3257
		Expected Count	1128.0	2129.0	3257.0
		% within Persistence201415	34.6%	65.4%	100.0%
		% within Age	100.0%	100.0%	100.0%
		% of Total	34.6%	65.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	238.313[a]	1	.000		
Continuity Correction[b]	237.175	1	.000		
Likelihood Ratio	244.650	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	238.240	1	.000		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 529.19.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.270	.000
	Cramer's V	.270	.000
N of Valid Cases		3257	

b. Is there a relationship between age and graduation?

Age and Graduation. The descriptive analysis shows the cross tabulation of the relationship between two variables with two or more categories. After analyzing the distributions of the original scores, the sample size was sufficient at N=3257. To meet statistical assumptions, the dependent variable of graduation was compressed into three combined academic years with two categories, and the controlled variable of age was compressed into two categories. Table 7 presents the cross tabulations of the expected count versus the actual count of frequencies in the distribution.

The inferential analysis of a Chi-Square Test of Independence was conducted to examine whether a relationship existed between age and graduation. The Phi Coefficient was conducted to measure the strength of the association for the two variables with two categories. The strength of association between age and graduation was very weak but statistically significant ($\Phi = .084$, $p < .05$). Table 7 presents the findings of the Chi-Square Test of Independence and the Phi Coefficient test. More recipients graduated in the age group of 17-19 (15%) than in the age group of 20+ (6%) between 2012 and 2015. There was a statistically significant relationship between age and graduation, χ^2 (1, N=3257) =22.986, p<.05.

Table 7

Cross-Tabulation Table, Chi-Square Test of Independence and Phi Coefficient Test: Relationship between Age and Graduation

Graduated * Age Crosstabulation

			Age		Total
			20+	17-19	
Graduated	Not Graduated	Count	940	1620	2560
		Expected Count	886.6	1673.4	2560.0
		% within Graduated	36.7%	63.3%	100.0%
		% within Age	83.3%	76.1%	78.6%
		% of Total	28.9%	49.7%	78.6%
	Graduated	Count	188	509	697
		Expected Count	241.4	455.6	697.0
		% within Graduated	27.0%	73.0%	100.0%
		% within Age	16.7%	23.9%	21.4%
		% of Total	5.8%	15.6%	21.4%
Total		Count	1128	2129	3257
		Expected Count	1128.0	2129.0	3257.0
		% within Graduated	34.6%	65.4%	100.0%
		% within Age	100.0%	100.0%	100.0%
		% of Total	34.6%	65.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	22.986[a]	1	.000		
Continuity Correction[b]	22.557	1	.000		
Likelihood Ratio	23.693	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	22.979	1	.000		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 241.39.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.084	.000
	Cramer's V	.084	.000
N of Valid Cases		3257	

c. Is there a relationship between gender and persistence?

Gender and Persistence. The descriptive analysis shows the cross tabulation of the relationship between two variables with two or more categories. After analyzing the distributions of the original scores, the sample size was sufficient at N=3257(female n=1938 or 60% and male n=1319 or 40%). To meet statistical assumptions, the dependent variable of persistence was compressed into three separate academic years with two categories, and the controlled variable of gender was compressed into two categories. Table 8 presents the cross tabulations of the expected count versus the actual count of frequencies in the distribution.

The inferential analysis of a Chi-Square Test of Independence was conducted to examine whether a relationship existed between gender and persistence. Table 8 presents the findings for 2012-13, 2013-14 and 2014-15: χ^2 (1, N=3257) =3.614, p=.057, χ^2 (1, N=3257) =3.614, p<.05 and χ^2 (1, N=3257) =11.689, p<.05. The Phi Coefficient was conducted to measure the strength of the association for the two variables with two categories. The strength of association between gender and persistence was very weak and not statistically significant for 2012-13, but it was statistically significant for 2013-14 and 2014-15: Φ= -.033, p =.057, Φ = .042, p <.05, and Φ = .060, p < .05). After conducting the cross tabulations, Chi-Square Test of Independence, and the Phi Coefficient test, more recipients persisted in the gender group of female (40%) than in the gender group of male (28%) in 2012-13. More recipients persisted in the gender group of female (34%) than in the gender group of male (21%) in 2013-2014. More recipients persisted in the gender group of female (29%) than in the gender group of male (17%) in 2014-15. While there was not statistically significant relationship between gender and persistence in 2012-13, there was a statistically significant relationship between gender and persistence in 2013-14 and 2014-15.

Table 8

Cross-Tabulation Table, Chi-Square Test of Independence and Phi Coefficient Test: Relationship between Gender and Persistence

a. Persistence201213 * Gender

Crosstab

			Gender		Total
			Male	Female	
Persistence201213	Not Persisted	Count	382	622	1004
		Expected Count	406.6	597.4	1004.0
		% within Persistence201213	38.0%	62.0%	100.0%
		% within Gender	29.0%	32.1%	30.8%
		% of Total	11.7%	19.1%	30.8%
	Persisted	Count	937	1316	2253
		Expected Count	912.4	1340.6	2253.0
		% within Persistence201213	41.6%	58.4%	100.0%
		% within Gender	71.0%	67.9%	69.2%
		% of Total	28.8%	40.4%	69.2%
Total		Count	1319	1938	3257
		Expected Count	1319.0	1938.0	3257.0
		% within Persistence201213	40.5%	59.5%	100.0%
		% within Gender	100.0%	100.0%	100.0%
		% of Total	40.5%	59.5%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.614[a]	1	.057		
Continuity Correction[b]	3.469	1	.063		
Likelihood Ratio	3.628	1	.057		
Fisher's Exact Test				.058	.031
Linear-by-Linear Association	3.613	1	.057		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 406.59.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.033	.057
	Cramer's V	.033	.057
N of Valid Cases		3257	

b. Persistence201314 * Gender

Crosstab

			Gender		Total
			Male	Female	
Persistence201314	Not Persisted	Count	622	831	1453
		Expected Count	588.4	864.6	1453.0
		% within Persistence201314	42.8%	57.2%	100.0%
		% within Gender	47.2%	42.9%	44.6%
		% of Total	19.1%	25.5%	44.6%
	Persisted	Count	697	1107	1804
		Expected Count	730.6	1073.4	1804.0
		% within Persistence201314	38.6%	61.4%	100.0%
		% within Gender	52.8%	57.1%	55.4%
		% of Total	21.4%	34.0%	55.4%
Total		Count	1319	1938	3257
		Expected Count	1319.0	1938.0	3257.0
		% within Persistence201314	40.5%	59.5%	100.0%
		% within Gender	100.0%	100.0%	100.0%
		% of Total	40.5%	59.5%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	5.812[a]	1	.016		
Continuity Correction[b]	5.640	1	.018		
Likelihood Ratio	5.807	1	.016		
Fisher's Exact Test				.016	.009
Linear-by-Linear Association	5.810	1	.016		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 588.43.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.042	.016
	Cramer's V	.042	.016
N of Valid Cases		3257	

c. Persistence201415 * Gender

Crosstab

			Gender		Total
			Male	Female	
Persistence201415	Not Persisted	Count	748	981	1729
		Expected Count	700.2	1028.8	1729.0
		% within Persistence201415	43.3%	56.7%	100.0%
		% within Gender	56.7%	50.6%	53.1%
		% of Total	23.0%	30.1%	53.1%
	Persisted	Count	571	957	1528
		Expected Count	618.8	909.2	1528.0
		% within Persistence201415	37.4%	62.6%	100.0%
		% within Gender	43.3%	49.4%	46.9%
		% of Total	17.5%	29.4%	46.9%
Total		Count	1319	1938	3257
		Expected Count	1319.0	1938.0	3257.0
		% within Persistence201415	40.5%	59.5%	100.0%
		% within Gender	100.0%	100.0%	100.0%
		% of Total	40.5%	59.5%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	11.689[a]	1	.001		
Continuity Correction[b]	11.446	1	.001		
Likelihood Ratio	11.709	1	.001		
Fisher's Exact Test				.001	.000
Linear-by-Linear Association	11.686	1	.001		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 618.80.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.060	.001
	Cramer's V	.060	.001
N of Valid Cases		3257	

d. Is there a relationship between gender and graduation?

Gender and Graduation. The descriptive analysis shows the cross tabulation of the relationship between two variables with two or more categories. After analyzing the distributions of the original scores, the sample size was sufficient at N=3257. To meet statistical assumptions, the dependent variable of graduation was compressed into three combined academic years with two categories, and the controlled variable of gender was compressed into two categories. Table 9 presents the cross tabulations of the expected count versus the actual count of frequencies in the distribution.

The inferential analysis of a Chi-Square Test of Independence was conducted to examine whether a relationship existed between gender and graduation. The Phi Coefficient was conducted to measure the strength of the association for the two variables with two categories. The strength of association between gender and graduation was very weak but statistically significant ($\Phi = .054$, $p < .05$). Table 9 presents the findings of the Chi-Square Test of Independence and the Phi Coefficient test. More female recipients graduated (14%) than male recipients (8%) between 2012 and 2015. There was a statistically significant relationship between gender and graduation, χ^2 (1, N=3257) = 9.421, p<.05.

Table 9

Cross-Tabulation Table, Chi-Square Test of Independence and Phi Coefficient Test: Relationship between Gender and Graduation

Graduated * Gender Crosstabulation

			Gender		Total
			Male	Female	
Graduated	Not Graduated	Count	1072	1488	2560
		Expected Count	1036.7	1523.3	2560.0
		% within Graduated	41.9%	58.1%	100.0%
		% within Gender	81.3%	76.8%	78.6%
		% of Total	32.9%	45.7%	78.6%
	Graduated	Count	247	450	697
		Expected Count	282.3	414.7	697.0
		% within Graduated	35.4%	64.6%	100.0%
		% within Gender	18.7%	23.2%	21.4%
		% of Total	7.6%	13.8%	21.4%
Total		Count	1319	1938	3257
		Expected Count	1319.0	1938.0	3257.0
		% within Graduated	40.5%	59.5%	100.0%
		% within Gender	100.0%	100.0%	100.0%
		% of Total	40.5%	59.5%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	9.421[a]	1	.002		
Continuity Correction[b]	9.156	1	.002		
Likelihood Ratio	9.529	1	.002		
Fisher's Exact Test				.002	.001
Linear-by-Linear Association	9.418	1	.002		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 282.27.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.054	.002
	Cramer's V	.054	.002
N of Valid Cases		3257	

e. Is there a relationship between ethnicity and persistence?

Ethnicity and Persistence. The descriptive analysis shows the cross tabulation of the relationship between two variables with two or more categories. After analyzing the distributions of the original scores, the sample size was sufficient at N=3257 (white n=2003 or 61% and other n=1254 or 39%). To meet statistical assumptions, the dependent variable of persistence was compressed into three separate academic years with two categories, and the controlled variable of ethnicity was compressed into two categories. The justification to dichotomize the ethnicity group was based on the Nebraska Opportunity Grant data and to assure there were a sufficient number of recipients within the two categories for Chi-Square statistical analysis. Table 10 presents the cross tabulations of the expected count versus the actual count of frequencies in the distribution.

The inferential analysis of a Chi-Square Test of Independence was conducted to examine whether a relationship existed between ethnicity and persistence. Table 10 presents the findings for 2012-13, 2013-14 and 2014-15: χ^2 (1, N=3257) =13.181, p<.05, χ^2 (1, N=3257) =18.534, p<.05 and χ^2 (1, N=3257) =26.021, p<.05. The Phi Coefficient was conducted to measure the strength of the association for the two variables with two categories. The strength of association between ethnicity and persistence was very weak but statistically significant for 2012-13, 2013-14, and 2014-15: Φ= -.064, p < .05, Φ = -.075, p <.05, and Φ = -.089, p < .05). After conducting the cross tabulations, Chi-Square Test of Independence, and the Phi Coefficient test, more recipients persisted in the ethnicity group of white (51%) than in the ethnicity group of other (28%) in 2012-13. More recipients persisted in the ethnicity group of white (32%) than in the ethnicity group of other (23%) in 2013-2014. More recipients persisted in the ethnicity group of

white (26%) than in the ethnicity group of other (20%) in 2014-15. There was a statistically significant relationship between ethnicity and persistence.

Table 10

Cross-Tabulation Table, Chi-Square Test of Independence and Phi Coefficient Test: Relationship between Ethnicity and Persistence

a. Persistence201213 * Ethnicity

Crosstab

			Ethnicity		Total
			Other	White	
Persistence201213	Not Persisted	Count	340	664	1004
		Expected Count	386.6	617.4	1004.0
		% within Persistence201213	33.9%	66.1%	100.0%
		% within Ethnicity	27.1%	33.2%	30.8%
		% of Total	10.4%	20.4%	30.8%
	Persisted	Count	914	1339	2253
		Expected Count	867.4	1385.6	2253.0
		% within Persistence201213	40.6%	59.4%	100.0%
		% within Ethnicity	72.9%	66.8%	69.2%
		% of Total	28.1%	41.1%	69.2%
Total		Count	1254	2003	3257
		Expected Count	1254.0	2003.0	3257.0
		% within Persistence201213	38.5%	61.5%	100.0%
		% within Ethnicity	100.0%	100.0%	100.0%
		% of Total	38.5%	61.5%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	13.181[a]	1	.000		
Continuity Correction[b]	12.899	1	.000		
Likelihood Ratio	13.310	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	13.177	1	.000		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 386.56.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.064	.000
	Cramer's V	.064	.000
N of Valid Cases		3257	

b. Persistence201314 * Ethnicity

Crosstab

			Ethnicity		Total
			Other	White	
Persistence201314	Not Persisted	Count	500	953	1453
		Expected Count	559.4	893.6	1453.0
		% within Persistence201314	34.4%	65.6%	100.0%
		% within Ethnicity	39.9%	47.6%	44.6%
		% of Total	15.4%	29.3%	44.6%
	Persisted	Count	754	1050	1804
		Expected Count	694.6	1109.4	1804.0
		% within Persistence201314	41.8%	58.2%	100.0%
		% within Ethnicity	60.1%	52.4%	55.4%
		% of Total	23.2%	32.2%	55.4%
Total		Count	1254	2003	3257
		Expected Count	1254.0	2003.0	3257.0
		% within Persistence201314	38.5%	61.5%	100.0%
		% within Ethnicity	100.0%	100.0%	100.0%
		% of Total	38.5%	61.5%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	18.534[a]	1	.000		
Continuity Correction[b]	18.224	1	.000		
Likelihood Ratio	18.605	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	18.529	1	.000		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 559.43.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.075	.000
	Cramer's V	.075	.000
N of Valid Cases		3257	

c. Persistence201415 * Ethnicity

Crosstab

			Ethnicity		Total
			Other	White	
Persistence201415	Not Persisted	Count	595	1134	1729
		Expected Count	665.7	1063.3	1729.0
		% within Persistence201415	34.4%	65.6%	100.0%
		% within Ethnicity	47.4%	56.6%	53.1%
		% of Total	18.3%	34.8%	53.1%
	Persisted	Count	659	869	1528
		Expected Count	588.3	939.7	1528.0
		% within Persistence201415	43.1%	56.9%	100.0%
		% within Ethnicity	52.6%	43.4%	46.9%
		% of Total	20.2%	26.7%	46.9%
Total		Count	1254	2003	3257
		Expected Count	1254.0	2003.0	3257.0
		% within Persistence201415	38.5%	61.5%	100.0%
		% within Ethnicity	100.0%	100.0%	100.0%
		% of Total	38.5%	61.5%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	26.021[a]	1	.000		
Continuity Correction[b]	25.654	1	.000		
Likelihood Ratio	26.018	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	26.013	1	.000		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 588.31.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.089	.000
	Cramer's V	.089	.000
N of Valid Cases		3257	

f. Is there a relationship between ethnicity and graduation?

Ethnicity and Graduation. The descriptive analysis shows the cross tabulation of the relationship between two variables with two or more categories. After analyzing the distributions of the original scores, the sample size was sufficient at N=3257. To meet statistical assumptions, the dependent variable of graduation was compressed into three combined academic years with two categories, and the controlled variable of ethnicity was compressed into two categories. Table 11 presents the cross tabulations of the expected count versus the actual count of frequencies in the distribution.

The inferential analysis of a Chi-Square Test of Independence was conducted to examine whether a relationship existed between ethnicity and graduation. The Phi Coefficient was conducted to measure the strength of the association for the two variables with two categories. The strength of association between ethnicity and graduation was very weak but statistically significant ($\Phi = .024$, $p < .05$). Table 11 presents the findings of the Chi-Square Test of Independence and the Phi Coefficient test. More white recipients graduated (14%) than other recipients (8%) between 2012 and 2015. There was not a statistically significant relationship between ethnicity and graduation, χ^2 (1, N=3257) = 9.421, p=.176.

Table 11

Cross-Tabulation Table, Chi-Square Test of Independence and Phi Coefficient Test: Relationship between Ethnicity and Graduation

Graduated * Ethnicity Crosstabulation

			Ethnicity		Total
			Other	White	
Graduated	Not Graduated	Count	1001	1559	2560
		Expected Count	985.6	1574.4	2560.0
		% within Graduated	39.1%	60.9%	100.0%
		% within Ethnicity	79.8%	77.8%	78.6%
		% of Total	30.7%	47.9%	78.6%
	Graduated	Count	253	444	697
		Expected Count	268.4	428.6	697.0
		% within Graduated	36.3%	63.7%	100.0%
		% within Ethnicity	20.2%	22.2%	21.4%
		% of Total	7.8%	13.6%	21.4%
Total		Count	1254	2003	3257
		Expected Count	1254.0	2003.0	3257.0
		% within Graduated	38.5%	61.5%	100.0%
		% within Ethnicity	100.0%	100.0%	100.0%
		% of Total	38.5%	61.5%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.818[a]	1	.178		
Continuity Correction[b]	1.702	1	.192		
Likelihood Ratio	1.828	1	.176		
Fisher's Exact Test				.188	.096
Linear-by-Linear Association	1.817	1	.178		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 268.36.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.024	.178
	Cramer's V	.024	.178
N of Valid Cases		3257	

g. Part 1. Is there a relationship between educational level of father and persistence?

Educational Level of Father and Persistence. The descriptive analysis shows the cross tabulation of the relationship between two variables with two or more categories. After analyzing the distributions of the original scores, the sample size was sufficient at N=3257 (college or more n=1306 or 40% and high school or less n=1951 or 60%). To meet statistical assumptions, the dependent variable of persistence was compressed into three separate academic years with two categories, and the controlled variable of educational level of father was compressed into two categories. The justification to dichotomize the educational level of father group was based on the FAFSA data and to assure there were a sufficient number of recipients within the two categories for Chi-Square statistical analysis. In addition, it was logical to assume the educational level of father group of high school or less might differ than the educational level father group of college or more. Table 12 presents the cross tabulations of the expected count versus the actual count of frequencies in the distribution.

The inferential analysis of a Chi-Square Test of Independence was conducted to examine whether a relationship existed between educational level of father and persistence. Table 12 presents the findings for 2012-13, 2013-14 and 2014-15: χ^2 (1, N=3257) =3.058, p=.08, χ^2 (1, N=3257) =7.324, p<.05 and χ^2 (1, N=3257) =2.552, p=.110. The Phi Coefficient was conducted to measure the strength of the association for the two variables with two categories. The strength of association between educational level of father and persistence was very weak and not statistically significant for 2012-13 and 2014-15, but it was statistically significant for 2013-14: Φ= .031, p = .08, Φ = .047, p <.05 and Φ = .028, p = .110). After conducting the cross tabulations, Chi-Square Test of Independence, and the Phi Coefficient test, more recipients persisted in the educational level of father group of high school or less (41%) than in the

educational level of father group of college or more (28%) in 2012-13. More recipients persisted in the educational level of father group of high school or less (32%) than in the educational level of father group of college or more (23%) in 2013-2014. More recipients persisted in the educational level of father group of high school or less (27%) than in the educational level of father group of college or more (20%) in 2014-15. While there was not a statistically significant relationship between educational level of father and persistence in 2012-13 and 2014-15, there was a statistically significant relationship between educational level of father and persistence in 2013-14.

Table 12

Cross-Tabulation Table, Chi-Square Test of Independence and Phi Coefficient Test: Relationship between Educational Level of Parent (Father) and Persistence

a. Persistence201213 * EducationalLevelofFather

Crosstab

			EducationalLevelofFather		Total
			HighSchool-	College+	
Persistence201213	Not Persisted	Count	624	380	1004
		Expected Count	601.4	402.6	1004.0
		% within Persistence201213	62.2%	37.8%	100.0%
		% within EducationalLevelofFather	32.0%	29.1%	30.8%
		% of Total	19.2%	11.7%	30.8%
	Persisted	Count	1327	926	2253
		Expected Count	1349.6	903.4	2253.0
		% within Persistence201213	58.9%	41.1%	100.0%
		% within EducationalLevelofFather	68.0%	70.9%	69.2%
		% of Total	40.7%	28.4%	69.2%
Total		Count	1951	1306	3257
		Expected Count	1951.0	1306.0	3257.0
		% within Persistence201213	59.9%	40.1%	100.0%
		% within EducationalLevelofFather	100.0%	100.0%	100.0%
		% of Total	59.9%	40.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.058[a]	1	.080		
Continuity Correction[b]	2.924	1	.087		
Likelihood Ratio	3.070	1	.080		
Fisher's Exact Test				.082	.043
Linear-by-Linear Association	3.057	1	.080		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 402.59.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.031	.080
	Cramer's V	.031	.080
N of Valid Cases		3257	

b. Persistence201314 * EducationalLevelofFather

Crosstab

			EducationalLevelofFather		Total
			HighSchool-	College+	
Persistence201314	Not Persisted	Count	908	545	1453
		Expected Count	870.4	582.6	1453.0
		% within Persistence201314	62.5%	37.5%	100.0%
		% within EducationalLevelofFather	46.5%	41.7%	44.6%
		% of Total	27.9%	16.7%	44.6%
	Persisted	Count	1043	761	1804
		Expected Count	1080.6	723.4	1804.0
		% within Persistence201314	57.8%	42.2%	100.0%
		% within EducationalLevelofFather	53.5%	58.3%	55.4%
		% of Total	32.0%	23.4%	55.4%
Total		Count	1951	1306	3257
		Expected Count	1951.0	1306.0	3257.0
		% within Persistence201314	59.9%	40.1%	100.0%
		% within EducationalLevelofFather	100.0%	100.0%	100.0%
		% of Total	59.9%	40.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7.324[a]	1	.007		
Continuity Correction[b]	7.131	1	.008		
Likelihood Ratio	7.338	1	.007		
Fisher's Exact Test				.007	.004
Linear-by-Linear Association	7.322	1	.007		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 582.63.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.047	.007
	Cramer's V	.047	.007
N of Valid Cases		3257	

c. Persistence201415 * EducationalLevelofFather

Crosstab

			EducationalLevelofFather		Total
			HighSchool-	College+	
Persistence201415	Not Persisted	Count	1058	671	1729
		Expected Count	1035.7	693.3	1729.0
		% within Persistence201415	61.2%	38.8%	100.0%
		% within EducationalLevelofFather	54.2%	51.4%	53.1%
		% of Total	32.5%	20.6%	53.1%
	Persisted	Count	893	635	1528
		Expected Count	915.3	612.7	1528.0
		% within Persistence201415	58.4%	41.6%	100.0%
		% within EducationalLevelofFather	45.8%	48.6%	46.9%
		% of Total	27.4%	19.5%	46.9%
Total		Count	1951	1306	3257
		Expected Count	1951.0	1306.0	3257.0
		% within Persistence201415	59.9%	40.1%	100.0%
		% within EducationalLevelofFather	100.0%	100.0%	100.0%
		% of Total	59.9%	40.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.552[a]	1	.110		
Continuity Correction[b]	2.439	1	.118		
Likelihood Ratio	2.551	1	.110		
Fisher's Exact Test				.115	.059
Linear-by-Linear Association	2.551	1	.110		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 612.70.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.028	.110
	Cramer's V	.028	.110
N of Valid Cases		3257	

g. Part 2. Is there a relationship between educational level of mother and persistence?

Educational Level of Mother and Persistence. The descriptive analysis shows the cross tabulation of the relationship between two variables with two or more categories. After analyzing the distributions of the original scores, the sample size was sufficient at N=3257 (college or more n=1446 or 44% and high school or less n=1811 or 56%). To meet statistical assumptions, the dependent variable of persistence was compressed into three separate academic years with two categories, and the controlled variable of educational level of mother was compressed into two categories. The justification to dichotomize the educational level of mother group was based on the FAFSA data and to assure there were a sufficient number of recipients within the two categories for Chi-Square statistical analysis. In addition, it was logical to assume the educational level of mother group of high school or less might differ than the educational level father group of college or more. Table 13 presents the cross tabulations of the expected count versus the actual count of frequencies in the distribution.

The inferential analysis of a Chi-Square Test of Independence was conducted to examine whether a relationship existed between educational level of mother and persistence. Table 13 presents the findings for 2012-13, 2013-14 and 2014-15: χ^2 (1, N=3257) =3.865, p<.05, χ^2 (1, N=3257) =8.914, p<.05 and χ^2 (1, N=3257) =6.697, p<.05. The Phi Coefficient was conducted to measure the strength of the association for the two variables with two categories. The strength of association between educational level of mother and persistence was very weak but statistically significant for 2012-13, 2013-14 and 2014-15: Φ= .034, p<.05, Φ = .052, p <.05, and Φ = .045, p<.05). After conducting the cross tabulations, Chi-Square Test of Independence, and the Phi Coefficient test, more recipients persisted in the educational level of mother group of high school or less (38%) than in the educational level of mother group of college or more

(32%) in 2012-13. More recipients persisted in the educational level of mother group of high school or less (30%) than in the educational level of mother group of college or more (26%) in 2013-2014. More recipients persisted in the educational level of mother group of high school or less (25%) than in the educational level of mother group of college or more (22%) in 2014-15. There was a statistically significant relationship between educational level of mother and persistence.

Table 13

Cross-Tabulation Table, Chi-Square Test of Independence and Phi Coefficient Test: Relationship between Educational Level of Parent (Mother) and Persistence

a. Persistence201213 * EducationalLevelofMother

Crosstab

			EducationalLevelofMother		Total
			HighSchool-	College+	
Persistence201213	Not Persisted	Count	584	420	1004
		Expected Count	558.3	445.7	1004.0
		% within Persistence201213	58.2%	41.8%	100.0%
		% within EducationalLevelofMother	32.2%	29.0%	30.8%
		% of Total	17.9%	12.9%	30.8%
	Persisted	Count	1227	1026	2253
		Expected Count	1252.7	1000.3	2253.0
		% within Persistence201213	54.5%	45.5%	100.0%
		% within EducationalLevelofMother	67.8%	71.0%	69.2%
		% of Total	37.7%	31.5%	69.2%
Total		Count	1811	1446	3257
		Expected Count	1811.0	1446.0	3257.0
		% within Persistence201213	55.6%	44.4%	100.0%
		% within EducationalLevelofMother	100.0%	100.0%	100.0%
		% of Total	55.6%	44.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.865[a]	1	.049		
Continuity Correction[b]	3.717	1	.054		
Likelihood Ratio	3.875	1	.049		
Fisher's Exact Test				.051	.027
Linear-by-Linear Association	3.864	1	.049		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 445.74.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.034	.049
	Cramer's V	.034	.049
N of Valid Cases		3257	

b. Persistence201314 * EducationalLevelofMother

Crosstab

			EducationalLevelofMother		Total
			HighSchool-	College+	
Persistence201314	Not Persisted	Count	850	603	1453
		Expected Count	807.9	645.1	1453.0
		% within Persistence201314	58.5%	41.5%	100.0%
		% within EducationalLevelofMother	46.9%	41.7%	44.6%
		% of Total	26.1%	18.5%	44.6%
	Persisted	Count	961	843	1804
		Expected Count	1003.1	800.9	1804.0
		% within Persistence201314	53.3%	46.7%	100.0%
		% within EducationalLevelofMother	53.1%	58.3%	55.4%
		% of Total	29.5%	25.9%	55.4%
Total		Count	1811	1446	3257
		Expected Count	1811.0	1446.0	3257.0
		% within Persistence201314	55.6%	44.4%	100.0%
		% within EducationalLevelofMother	100.0%	100.0%	100.0%
		% of Total	55.6%	44.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.914[a]	1	.003		
Continuity Correction[b]	8.704	1	.003		
Likelihood Ratio	8.927	1	.003		
Fisher's Exact Test				.003	.002
Linear-by-Linear Association	8.912	1	.003		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 645.08.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.052	.003
	Cramer's V	.052	.003
N of Valid Cases		3257	

c. Persistence201415 * EducationalLevelofMother

Crosstab

			EducationalLevelofMother		Total
			HighSchool-	College+	
Persistence201415	Not Persisted	Count	998	731	1729
		Expected Count	961.4	767.6	1729.0
		% within Persistence201415	57.7%	42.3%	100.0%
		% within EducationalLevelofMother	55.1%	50.6%	53.1%
		% of Total	30.6%	22.4%	53.1%
	Persisted	Count	813	715	1528
		Expected Count	849.6	678.4	1528.0
		% within Persistence201415	53.2%	46.8%	100.0%
		% within EducationalLevelofMother	44.9%	49.4%	46.9%
		% of Total	25.0%	22.0%	46.9%
Total		Count	1811	1446	3257
		Expected Count	1811.0	1446.0	3257.0
		% within Persistence201415	55.6%	44.4%	100.0%
		% within EducationalLevelofMother	100.0%	100.0%	100.0%
		% of Total	55.6%	44.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	6.697[a]	1	.010		
Continuity Correction[b]	6.515	1	.011		
Likelihood Ratio	6.696	1	.010		
Fisher's Exact Test				.010	.005
Linear-by-Linear Association	6.695	1	.010		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 678.38.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.045	.010
	Cramer's V	.045	.010
N of Valid Cases		3257	

h. Part 1. Is there a relationship between educational level of father and graduation?

Educational Level of Father and Graduation. The descriptive analysis shows the cross tabulation of the relationship between two variables with two or more categories. After analyzing the distributions of the original scores, the sample size was sufficient at N=3257. To meet statistical assumptions, the dependent variable of graduation was compressed into three combined academic years with two categories, and the controlled variable of educational level of father was compressed into two categories. Table 14 presents the cross tabulations of the expected count versus the actual count of frequencies in the distribution.

The inferential analysis of a Chi-Square Test of Independence was conducted to examine whether a relationship existed between educational level of father and graduation. The Phi Coefficient was conducted to measure the strength of the association for the two variables with two categories. The strength of association between educational level of father and graduation was very weak and not statistically significant (Φ = -.007, p = .696). Table 14 presents the findings of the Chi-Square Test of Independence and the Phi Coefficient test. More recipients graduated in the educational level of father group of high school or less (14%) than in the educational level of father group of college or more (8%) between 2012 and 2015. There was not a statistically significant relationship between educational level of father and graduation, χ^2 (1, N=3257) = .153, p=.696.

Table 14

Cross-Tabulation Table, Chi-Square Test of Independence and Phi Coefficient Test: Relationship between Educational Level of Parent (Father) and Graduation

Graduated * EducationalLevelofFather

Crosstab

			EducationalLevelofFather		Total
			HighSchool-	College+	
Graduated	Not Graduated	Count	1529	1031	2560
		Expected Count	1533.5	1026.5	2560.0
		% within Graduated	59.7%	40.3%	100.0%
		% within EducationalLevelofFather	78.4%	78.9%	78.6%
		% of Total	46.9%	31.7%	78.6%
	Graduated	Count	422	275	697
		Expected Count	417.5	279.5	697.0
		% within Graduated	60.5%	39.5%	100.0%
		% within EducationalLevelofFather	21.6%	21.1%	21.4%
		% of Total	13.0%	8.4%	21.4%
Total		Count	1951	1306	3257
		Expected Count	1951.0	1306.0	3257.0
		% within Graduated	59.9%	40.1%	100.0%
		% within EducationalLevelofFather	100.0%	100.0%	100.0%
		% of Total	59.9%	40.1%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.153[a]	1	.696		
Continuity Correction[b]	.121	1	.728		
Likelihood Ratio	.153	1	.696		
Fisher's Exact Test				.727	.365
Linear-by-Linear Association	.153	1	.696		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 279.48.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.007	.696
	Cramer's V	.007	.696
N of Valid Cases		3257	

h. Part 2. Is there a relationship between educational level of mother and graduation?

Educational Level of Mother and Graduation. The descriptive analysis shows the cross tabulation of the relationship between two variables with two or more categories. After analyzing the distributions of the original scores, the sample size was sufficient at N=3257. To meet statistical assumptions, the dependent variable of graduation was compressed into three combined academic years with two categories, and the controlled variable of educational level of mother was compressed into two categories. Table 15 presents the cross tabulations of the expected count versus the actual count of frequencies in the distribution.

The inferential analysis of a Chi-Square Test of Independence was conducted to examine whether a relationship existed between educational level of mother and graduation. The Phi Coefficient was conducted to measure the strength of the association for the two variables with two categories. The strength of association between educational level of mother and graduation was very weak and not statistically significant (Φ = -.002, p = .901). Table 15 presents the findings of the Chi-Square Test of Independence and the Phi Coefficient test. More recipients graduated in the educational level of mother group of high school or less (12%) than in the educational level of mother group of college or more (10%) between 2012 and 2015. There was not a statistically significant relationship between educational level of mother and graduation, χ^2 (1, N=3257) = .015, p=.901.

Table 15

Cross-Tabulation Table, Chi-Square Test of Independence and Phi Coefficient Test: Relationship between Educational Level of Parent (Mother) and Graduation

Graduated * EducationalLevelofMother

Crosstab

			EducationalLevelofMother		Total
			HighSchool-	College+	
Graduated	Not Graduated	Count	1422	1138	2560
		Expected Count	1423.4	1136.6	2560.0
		% within Graduated	55.5%	44.5%	100.0%
		% within EducationalLevelofMother	78.5%	78.7%	78.6%
		% of Total	43.7%	34.9%	78.6%
	Graduated	Count	389	308	697
		Expected Count	387.6	309.4	697.0
		% within Graduated	55.8%	44.2%	100.0%
		% within EducationalLevelofMother	21.5%	21.3%	21.4%
		% of Total	11.9%	9.5%	21.4%
Total		Count	1811	1446	3257
		Expected Count	1811.0	1446.0	3257.0
		% within Graduated	55.6%	44.4%	100.0%
		% within EducationalLevelofMother	100.0%	100.0%	100.0%
		% of Total	55.6%	44.4%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	.015[a]	1	.901		
Continuity Correction[b]	.007	1	.935		
Likelihood Ratio	.015	1	.901		
Fisher's Exact Test				.931	.468
Linear-by-Linear Association	.015	1	.901		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 309.44.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.002	.901
	Cramer's V	.002	.901
N of Valid Cases		3257	

i. Is there a relationship between enrollment status and persistence?

Enrollment Status and Persistence. The descriptive analysis shows the cross tabulation of the relationship between two variables with two or more categories. After analyzing the distributions of the original scores, the sample size was sufficient at N=3257 (full-time n=1692 or 52%, less than full-time n=459 or 14% and missing n=1106 or 34%). To meet statistical assumptions, the dependent variable of persistence was compressed into three separate academic years with two categories, and the controlled variable of enrollment status 2011-12 was compressed into two categories. The justification to dichotomize the enrollment status group was based on the National Clearinghouse data and to assure there were a sufficient number of recipients within the two categories for Chi-Square statistical analysis. In addition, it was logical to assume the enrollment status group of full-time might differ from less than full-time. Table 16 presents the cross tabulations of the expected count versus the actual count of frequencies in the distribution.

The inferential analysis of a Chi-Square Test of Independence was conducted to examine whether a relationship existed between enrollment status 2011-12 and persistence. Table 16 presents the findings for 2012-13, 2013-14 and 2014-15: χ^2 (2, N=3257) =60.080, p<.05, χ^2 (2, N=3257) =9.327, p<.05 and χ^2 (2, N=3257) =1.122, p=.571. The Phi Coefficient was conducted to measure the strength of the association for the two variables with two categories. The strength of association between enrollment status 2011-12 and persistence was very weak but statistically significant for 2012-13 and 2013-14, but it was statistically significant for 2014-15: Φ= .136, p<.05, Φ = .054, p <.05, and Φ = .060, p =.571). After conducting the cross tabulations, Chi-Square Test of Independence, and the Phi Coefficient test, more recipients persisted in the enrollment status 2011-12 group of full-time (39%) than in the enrollment status 2011-12 group

of less than full-time (10%) in 2012-13. More recipients persisted in the enrollment status 2011-12 group of full-time (30%) than in the enrollment status 2011-12 group of less than full-time (8%) in 2013-2014. More recipients persisted in the enrollment status 2011-12 group of full-time (25%) than in the enrollment status 2011-12 group of less than full-time (6%) in 2014-15. While there was not a statistically significant relationship between enrollment status 2011-12 and persistence in 2014-15, there was a statistically significant relationship between enrollment status 2011-12 and persistence in 2012-13 and 2013-14.

Table 16

Cross-Tabulation Table, Chi-Square Test of Independence and Phi Coefficient Test: Relationship between Enrollment Status and Persistence

a. Persistence201213 * EnrollmentStatus201112

Crosstab

			EnrollmentStatus201112			Total
			Less than FT	Full-time	Missing	
Persistence 201213	Not Persisted	Count	145	427	432	1004
		Expected Count	141.5	521.6	340.9	1004.0
		% within Persistence201213	14.4%	42.5%	43.0%	100.0%
		% within EnrollmentStatus201112	31.6%	25.2%	39.1%	30.8%
		% of Total	4.5%	13.1%	13.3%	30.8%
	Persisted	Count	314	1265	674	2253
		Expected Count	317.5	1170.4	765.1	2253.0
		% within Persistence201213	13.9%	56.1%	29.9%	100.0%
		% within EnrollmentStatus201112	68.4%	74.8%	60.9%	69.2%
		% of Total	9.6%	38.8%	20.7%	69.2%
Total		Count	459	1692	1106	3257
		Expected Count	459.0	1692.0	1106.0	3257.0
		% within Persistence201213	14.1%	51.9%	34.0%	100.0%
		% within EnrollmentStatus201112	100.0%	100.0%	100.0%	100.0%
		% of Total	14.1%	51.9%	34.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	60.080[a]	2	.000
Likelihood Ratio	59.565	2	.000
Linear-by-Linear Association	49.649	1	.000
N of Valid Cases	3257		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 141.49.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.136	.000
	Cramer's V	.136	.000
N of Valid Cases		3257	

b. Persistence2013-14 * EnrollmentStatus201112

Crosstab

			EnrollmentStatus201112			Total
			Less than FT	Full-time	Missing	
Persistence 201314	Not Persisted	Count	210	713	530	1453
		Expected Count	204.8	754.8	493.4	1453.0
		% within Persistence201314	14.5%	49.1%	36.5%	100.0%
		% within EnrollmentStatus201112	45.8%	42.1%	47.9%	44.6%
		% of Total	6.4%	21.9%	16.3%	44.6%
	Persisted	Count	249	979	576	1804
		Expected Count	254.2	937.2	612.6	1804.0
		% within Persistence201314	13.8%	54.3%	31.9%	100.0%
		% within EnrollmentStatus201112	54.2%	57.9%	52.1%	55.4%
		% of Total	7.6%	30.1%	17.7%	55.4%
Total		Count	459	1692	1106	3257
		Expected Count	459.0	1692.0	1106.0	3257.0
		% within Persistence201314	14.1%	51.9%	34.0%	100.0%
		% within EnrollmentStatus201112	100.0%	100.0%	100.0%	100.0%
		% of Total	14.1%	51.9%	34.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9.327[a]	2	.009
Likelihood Ratio	9.323	2	.009
Linear-by-Linear Association	6.739	1	.009
N of Valid Cases	3257		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 204.77.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.054	.009
	Cramer's V	.054	.009
N of Valid Cases		3257	

c. Persistence2014-15 * EnrollmentStatus201112

Crosstab

			EnrollmentStatus201112			Total
			Less than FT	Full-time	Missing	
Persistence 201415	Not Persisted	Count	251	884	594	1729
		Expected Count	243.7	898.2	587.1	1729.0
		% within Persistence201415	14.5%	51.1%	34.4%	100.0%
		% within EnrollmentStatus201112	54.7%	52.2%	53.7%	53.1%
		% of Total	7.7%	27.1%	18.2%	53.1%
	Persisted	Count	208	808	512	1528
		Expected Count	215.3	793.8	518.9	1528.0
		% within Persistence201415	13.6%	52.9%	33.5%	100.0%
		% within EnrollmentStatus201112	45.3%	47.8%	46.3%	46.9%
		% of Total	6.4%	24.8%	15.7%	46.9%
Total		Count	459	1692	1106	3257
		Expected Count	459.0	1692.0	1106.0	3257.0
		% within Persistence201415	14.1%	51.9%	34.0%	100.0%
		% within EnrollmentStatus201112	100.0%	100.0%	100.0%	100.0%
		% of Total	14.1%	51.9%	34.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1.122[a]	2	.571
Likelihood Ratio	1.122	2	.571
Linear-by-Linear Association	.184	1	.668
N of Valid Cases	3257		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 215.34.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.019	.571
	Cramer's V	.019	.571
N of Valid Cases		3257	

j. Is there a relationship between enrollment status and graduation?

Enrollment Status and Graduation. The descriptive analysis shows the cross tabulation of the relationship between two variables with two or more categories. After analyzing the distributions of the original scores, the sample size was sufficient at N=3257. To meet statistical assumptions, the dependent variable of graduation was compressed into three combined academic years with two categories, and the controlled variable of enrollment status 2011-12 was compressed into two categories. Table 17 presents the cross tabulations of the expected count versus the actual count of frequencies in the distribution.

The inferential analysis of a Chi-Square Test of Independence was conducted to examine whether a relationship existed between enrollment status 2011-12 and graduation. The Phi Coefficient was conducted to measure the strength of the association for the two variables with two categories. The strength of association between enrollment status 2011-12 and graduation was very weak and not statistically significant ($\Phi = .041$, $p = .061$). Table 17 presents the findings of the Chi-Square Test of Independence and the Phi Coefficient test. More full-time recipients graduated (12%) than less than full-time recipients (2.4%) between 2012 and 2015. There was not a statistically significant relationship between enrollment status 2011-12 and graduation, χ^2 (2, N=3257) = 5.588, p=.061.

Table 17

Cross-Tabulation Table, Chi-Square Test of Independence and Phi Coefficient Test: Relationship between Enrollment Status and Graduation

Graduated * EnrollmentStatus201112Cross tabulation

			EnrollmentStatus201112			Total
			Less than FT	Full-time	Missing	
Grad.	Not Graduated	Count	380	1317	863	2560
		Expected Count	360.8	1329.9	869.3	2560.0
		% within Graduated	14.8%	51.4%	33.7%	100.0%
		% within EnrollmentStatus201112	82.8%	77.8%	78.0%	78.6%
		% of Total	11.7%	40.4%	26.5%	78.6%
	Graduated	Count	79	375	243	697
		Expected Count	98.2	362.1	236.7	697.0
		% within Graduated	11.3%	53.8%	34.9%	100.0%
		% within EnrollmentStatus201112	17.2%	22.2%	22.0%	21.4%
		% of Total	2.4%	11.5%	7.5%	21.4%
Total		Count	459	1692	1106	3257
		Expected Count	459.0	1692.0	1106.0	3257.0
		% within Graduated	14.1%	51.9%	34.0%	100.0%
		% within EnrollmentStatus201112	100.0%	100.0%	100.0%	100.0%
		% of Total	14.1%	51.9%	34.0%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	5.588[a]	2	.061
Likelihood Ratio	5.837	2	.054
Linear-by-Linear Association	.583	1	.445
N of Valid Cases	3257		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 98.23.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	.041	.061
	Cramer's V	.041	.061
N of Valid Cases		3257	

k. Is there a relationship between family income level and persistence?

Family Income Level and Persistence The descriptive analysis shows the cross tabulation of the relationship between two variables with two or more categories. After analyzing the distributions of the original scores, the sample size was sufficient at N=3257 (family income level 0-$19,999 n=1224 or 38% and family income level $20,000+ n=2033 or 62%). To meet statistical assumptions, the dependent variable of persistence was compressed into three separate academic years with two categories, and the controlled variable of family income level was compressed into two categories. The justification to dichotomize the family income group was based on the FAFSA data in alignment with the Department of Education cut-off values and to assure there were a sufficient number of recipients within the two categories for Chi-Square statistical analysis. In addition, it was logical to assume the family income level group of $20,000 or more might differ from less than $19,999. Table 18 presents the cross tabulations of the expected count versus the actual count of frequencies in the distribution.

The inferential analysis of a Chi-Square Test of Independence was conducted to examine whether a relationship existed between family income level and persistence. Table 18 presents the findings for 2012-13, 2013-14 and 2014-15: χ^2 (1, N=3257) =116.372, p<.05, χ^2 (1, N=3257) =90.838, p<.05 and χ^2 (1, N=3257) =109.329, p=.571. The Phi Coefficient was conducted to measure the strength of the association for the two variables with two categories. The strength of association between family income level and persistence was weak but statistically significant for 2012-13, 2013-14, and 2014-15: Φ= -.189, p<.05, Φ = -.167, p <.05, and Φ = -.183, p <.05). After conducting the cross tabulations, Chi-Square Test of Independence, and the Phi Coefficient test, more recipients persisted in the family income level group of $20,000 or more (47%) than in the family income level group of less than $19,999 (22%) in 2012-13. More recipients persisted

in the family income level group of $20,000 or more (39%) than in the family income level group of less than $19,999 (17%) in 2013-2014. More recipients persisted in the family income level group of $20,000 or more (34%) than in the family income level group of less than $19,999 (13%) in 2014-15. There was a statistically significant relationship between family income level and persistence.

Table 18

Cross-Tabulation Table, Chi-Square Test of Independence and Phi Coefficient Test: Relationship between Family Income Level and Persistence

a. Persistence201213 * FamilyIncomeLevel

Crosstab

			FamilyIncomeLevel		Total
			$20,000+	0-$19,999	
Persistence201213	Not Persisted	Count	489	515	1004
		Expected Count	626.7	377.3	1004.0
		% within Persistence201213	48.7%	51.3%	100.0%
		% within FamilyIncomeLevel	24.1%	42.1%	30.8%
		% of Total	15.0%	15.8%	30.8%
	Persisted	Count	1544	709	2253
		Expected Count	1406.3	846.7	2253.0
		% within Persistence201213	68.5%	31.5%	100.0%
		% within FamilyIncomeLevel	75.9%	57.9%	69.2%
		% of Total	47.4%	21.8%	69.2%
Total		Count	2033	1224	3257
		Expected Count	2033.0	1224.0	3257.0
		% within Persistence201213	62.4%	37.6%	100.0%
		% within FamilyIncomeLevel	100.0%	100.0%	100.0%
		% of Total	62.4%	37.6%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	116.372[a]	1	.000		
Continuity Correction[b]	115.529	1	.000		
Likelihood Ratio	114.579	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	116.337	1	.000		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 377.31.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.189	.000
	Cramer's V	.189	.000
N of Valid Cases		3257	

b. Persistence201314 * FamilyIncomeLevel

Crosstab

			FamilyIncomeLevel		Total
			$20,000+	0-$19,999	
Persistence201314	Not Persisted	Count	776	677	1453
		Expected Count	907.0	546.0	1453.0
		% within Persistence201314	53.4%	46.6%	100.0%
		% within FamilyIncomeLevel	38.2%	55.3%	44.6%
		% of Total	23.8%	20.8%	44.6%
	Persisted	Count	1257	547	1804
		Expected Count	1126.0	678.0	1804.0
		% within Persistence201314	69.7%	30.3%	100.0%
		% within FamilyIncomeLevel	61.8%	44.7%	55.4%
		% of Total	38.6%	16.8%	55.4%
Total		Count	2033	1224	3257
		Expected Count	2033.0	1224.0	3257.0
		% within Persistence201314	62.4%	37.6%	100.0%
		% within FamilyIncomeLevel	100.0%	100.0%	100.0%
		% of Total	62.4%	37.6%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	90.838[a]	1	.000		
Continuity Correction[b]	90.146	1	.000		
Likelihood Ratio	90.822	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	90.811	1	.000		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 546.05.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.167	.000
	Cramer's V	.167	.000
N of Valid Cases		3257	

c. Persistence201415 * FamilyIncomeLevel

Crosstab

			FamilyIncomeLevel		Total
			$20,000+	0-$19,999	
Persistence201415	Not Persisted	Count	935	794	1729
		Expected Count	1079.2	649.8	1729.0
		% within Persistence201415	54.1%	45.9%	100.0%
		% within FamilyIncomeLevel	46.0%	64.9%	53.1%
		% of Total	28.7%	24.4%	53.1%
	Persisted	Count	1098	430	1528
		Expected Count	953.8	574.2	1528.0
		% within Persistence201415	71.9%	28.1%	100.0%
		% within FamilyIncomeLevel	54.0%	35.1%	46.9%
		% of Total	33.7%	13.2%	46.9%
Total		Count	2033	1224	3257
		Expected Count	2033.0	1224.0	3257.0
		% within Persistence201415	62.4%	37.6%	100.0%
		% within FamilyIncomeLevel	100.0%	100.0%	100.0%
		% of Total	62.4%	37.6%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	109.329[a]	1	.000		
Continuity Correction[b]	108.573	1	.000		
Likelihood Ratio	110.574	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	109.296	1	.000		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 574.23.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.183	.000
	Cramer's V	.183	.000
N of Valid Cases		3257	

l. Is there a relationship between family income level and graduation?

Family Income Level and Graduation. The descriptive analysis shows the cross tabulation of the relationship between two variables with two or more categories. After analyzing the distributions of the original scores, the sample size was sufficient at N=3257. To meet statistical assumptions, the dependent variable of graduation was compressed into three combined academic years with two categories, and the controlled variable of family income level was compressed into two categories. Table 19 presents the cross tabulations of the expected count versus the actual count of frequencies in the distribution.

The inferential analysis of a Chi-Square Test of Independence was conducted to examine whether a relationship existed between family income level 2011-12 and graduation. The Phi Coefficient was conducted to measure the strength of the association for the two variables with two categories. The strength of association between family income level 2011-12 and graduation was very weak but statistically significant ($\Phi = -.094$, $p<.05$). Table 19 presents the findings of the Chi-Square Test of Independence and the Phi Coefficient test. More recipients whose family income level was $20,000 or more graduated (12%) than recipients whose family income was less than $19,999 (2.4%) between 2012 and 2015. There was a statistically significant relationship between family income level and graduation, χ^2 (2, N=3257) = 5.588, $p<.05$.

Table 19

Cross-Tabulation Table, Chi-Square Test of Independence and Phi Coefficient Test: Relationship between Family Income Level and Graduation

Graduated * FamilyIncomeLevel

Graduated * FamilyIncomeLevel Cross tabulation

			FamilyIncomeLevel		Total
			$20,000+	0-$19,999	
Graduated	Not Graduated	Count	1537	1023	2560
		Expected Count	1597.9	962.1	2560.0
		% within Graduated	60.0%	40.0%	100.0%
		% within FamilyIncomeLevel	75.6%	83.6%	78.6%
		% of Total	47.2%	31.4%	78.6%
	Graduated	Count	496	201	697
		Expected Count	435.1	261.9	697.0
		% within Graduated	71.2%	28.8%	100.0%
		% within FamilyIncomeLevel	24.4%	16.4%	21.4%
		% of Total	15.2%	6.2%	21.4%
Total		Count	2033	1224	3257
		Expected Count	2033.0	1224.0	3257.0
		% within Graduated	62.4%	37.6%	100.0%
		% within FamilyIncomeLevel	100.0%	100.0%	100.0%
		% of Total	62.4%	37.6%	100.0%

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	28.895[a]	1	.000		
Continuity Correction[b]	28.423	1	.000		
Likelihood Ratio	29.722	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	28.886	1	.000		
N of Valid Cases	3257				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 261.94.
b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-.094	.000
	Cramer's V	.094	.000
N of Valid Cases		3257	

m. Is there a difference between sector of higher education and recipients?

Sector of Higher Education and Recipients. The inferential analysis of a Chi-Square Goodness of Fit test indicates there were statistically significant differences between the 2011-12 first-time freshmen recipients (awarded) of the Nebraska Opportunity Grant and the sector of higher education. Table 20 presents the finding: χ^2 (1, N=3257) =1111.571, p<.0005. More recipients enrolled and received a Nebraska Opportunity Grant in the sector of private career colleges (39%) and community colleges (25%) than public universities (17%), independent universities (14%), and state colleges (4%). There was a statistically significant relationship between recipients and sector of higher education.

Table 20

Chi-Square Goodness of Fit:
Sector of Higher Education and Nebraska Opportunity Grant 2011-12 Recipients

SectorofHigherEducation201112

	Observed N	Expected N	Residual
Public Univ.	559	651.4	-92.4
State College	136	651.4	-515.4
Comm. College	818	651.4	166.6
Private Career College	1275	651.4	623.6
Independent Univ.	469	651.4	-182.4
Total	3257		

Recipients201112

	Observed N	Expected N	Residual
Awarded NOG	3257	3257.0	.0
Total	3257[a]		

a. This variable is constant. Chi-Square Test cannot be performed.

Test Statistics

	Sector 201112
Chi-Square	1111.571[a]
df	4
Asymp. Sig.	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 651.4.

n. Is there a difference between sector of higher education and persistence?

Sector of Higher Education and Persistence. The descriptive and inferential analysis using Chi-Square analysis for this research question was inconclusive. While the persistence and non persistence of the recipients was known, it was not known if the recipients persisted within a certain sector of higher education between 2012-13, 2013-14 and 2014-15. Therefore, the results of this analysis could not be accurately reported at this time. While the initial data analysis was complicated due to students transferring or withdrawing from one sector to another especially with differences in clock, quarter or semester based hours, persistence may be reported as lower due to the fact that a number of institutions do not report enrollment information to the National Student Clearinghouse.

o. Is there a difference between sector of higher education and graduation?

Sector of Higher Education and Graduation. The inferential analysis of a Chi-Square Goodness of Fit test indicates there were statistically significant differences between sector of higher education and graduation. Table 21 presents the findings: χ^2 (5, N=3257) =9101.757, p<.05 and $\chi 2$ (1, N=3257) =1065.634, p<.05. More recipients graduated from the sector of community colleges (10%) and public universities (6%) than independent universities (4%), private career colleges (1%), and state colleges (.5%). More recipients did not graduate (79%) than graduated (21%) between 2012 and 2015. There was a statistically significant relationship between sector of higher education and graduation.

Table 21

Chi-Square Goodness of Fit:
Sector of Higher Education and Graduation

Graduation

	Observed N	Expected N	Residual
Not Graduated	2560	1628.5	931.5
Graduated	697	1628.5	-931.5
Total	3257		

SectorofHigherEducation

	Observed N	Expected N	Residual
Not Graduated	2560	542.8	2017.2
Public Univ.	185	542.8	-357.8
State College	16	542.8	-526.8
Comm. College	316	542.8	-226.8
Private Career College	42	542.8	-500.8
Independent Univ.	138	542.8	-404.8
Total	3257		

Test Statistics

	Graduated	Sector
Chi-Square	1065.634[a]	9101.757[b]
df	1	5
Asymp. Sig.	.000	.000

a. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 1628.5.

b. 0 cells (0.0%) have expected frequencies less than 5. The minimum expected cell frequency is 542.8.

Summary of Results

The summary of results for this study was conducted through descriptive and inferential data analysis. Throughout this chapter, results of the data were presented by describing the methods for data analysis and then by conducting the data analysis by research question. Chi-Square analysis was utilized in this correlational research design to determine the associations that existed between the controlled variables: age, gender, ethnicity, educational level of father and mother, enrollment status, family income and sector of higher education and dependent variables of persistence and graduation. Furthermore, it examined whether 2011-12 Nebraska Opportunity Grant recipients persisted and graduated. The final chapter offers the discussion and summary of this study.

Table 22

Summary of Results by Research Question and Sub Questions

Research Question	Results (* indicates statistically significant)
Research Question 1 Persistence 2012-13 2013-14 2014-15	*Persistence More recipients persisted (69%) than did not persist (31%) in 2012-13. More recipients persisted (55%) than did not persist (45%) in 2013-2014. However, more recipients did not persist (53%) than persisted (47%) in 2014-15.
Research Question 2 Graduation 2011-2015	*Graduation More recipients did not graduate (79%) than graduated (21%) between 2012 and 2015.
Age (sub questions a-b)	*Persistence: More recipients persisted in the age group of 17-19 than in the age group of 20+ in 2012-13, 2014-15 and 2014-15. *Graduation: More recipients graduated in the age group of 17-19 (15%) than in the age group of 20+ (6%) between 2012 and 2015.
Gender (sub questions c-d)	*Persistence: More recipients persisted in the gender group of female than in the gender group of male in 2012-13, 2014-15 and 2014-15. *Graduation: More female recipients graduated (14%) than male recipients (7%) between 2012 and 2015.

Ethnicity (sub questions e-f)	*Persistence: More recipients persisted in the ethnicity group of white than in the ethnicity group of other in 2012-13, 2014-15 and 2014-15. Graduation: More white recipients graduated (13%) than other recipients (8%) between 2012 and 2015.
Educational Level of Father/ Mother (sub questions g-h)	Persistence of Father: More recipients persisted in the educational level of father group of high school or less than in the educational level of father group of college or more in 2012-13, *2013-14 and 2014-15. *Persistence of Mother: More recipients persisted in the educational level of mother group of high school or less than in the educational level of mother group of college or more in 2012-13, 2013-14 and 2014-15. . Graduation of Father: More recipients graduated in the educational level of father group of high school or less (13%) than in the educational level of father group of college or more (8%) between 2012 and 2015. Graduation of Mother: More recipients graduated in the educational level of mother group of high school or less (12%) than in the educational level of mother group of college or more (9%) between 2012 and 2015.
Enrollment Status (sub questions i-j)	*Persistence: More recipients persisted in the enrollment status 2011-12 group of full-time than in the enrollment status 2011-12 group of less than full-time in 2012-13, 2013-14 and 2014-15. Graduation: More full-time recipients graduated (12%) than less than full-time recipients (2.4%) between 2012 and 2015.
Family Income Level (sub questions k-l)	*Persistence: More recipients persisted in the family income level group of $20,000 or more than in the family income level group of less than $19,999 between 2012-13, 2013-14, and 2014-2015. *Graduation: More recipients whose family income level was $20,000 or more graduated (12%) than recipients whose family income was less than $19,999 (2.4%) between 2012 and 2015.
Sector of Higher Education (sub questions m-o)	*Recipients: More recipients enrolled and received a Nebraska Opportunity Grant in the sector of private career colleges (39%) and community colleges (25%) than public universities (17%), independent universities (14%), and state colleges (4%). Persistence: This research question was inconclusive. *Graduation: More recipients graduated from the sector of community colleges (10%) and public universities (6%) than independent universities (4%), private career colleges (1%) and state colleges (0%).

CHAPTER V

DISCUSSION AND SUMMARY

The purpose of this longitudinal study was to examine persistence and graduation of low-income, first-time freshmen recipients of the Nebraska Opportunity Grant in 2011-12 among the five sectors of higher education from 2012-13 through 2014-15. This chapter provides the discussion of the results of the research questions, discussion of the relationship of the results to the literature and theoretical framework, limitations of the study, recommendations for higher education, recommendations for further research, and a summary. The first section begins by the discussion of the results to the research questions.

Discussion of the Results of the Research Questions

This quantitative study applied a retrospective, longitudinal, correlational research design. With the use of all nominal, secondary data, the Chi-Square Goodness of Fit and Test of Independence analyses were effective in examining the two primary research questions and fifteen sub questions. This study examined the relationship of the independent variable of the 2011-12 Nebraska Opportunity Grant recipients to the dependent variables of persistence and graduation. Additional sub questions considered the associations among age, gender, ethnicity, educational level of father and mother, enrollment status, family income and sector of higher education in relation to persistence and graduation. The data was collected by Nebraska's Coordinating Commission for Postsecondary Education from three secondary databases: National Student Clearinghouse (NSC), Free Application for Federal Student Aid (FAFSA), and Nebraska Opportunity Grant (NOG). Data analysis was conducted by the researcher with an unidentifiable data file. As for the discussion of the results, the following section considers the research questions posed with an interpretation of the results.

Research Question 1

The first research question and hypothesis asked whether there was a statistically significant relationship between the 2011-12 first-time freshmen recipients (awarded) of the Nebraska Opportunity Grant and their persistence (persisted or not persisted) through 2012 and 2015. Data analysis confirmed there was a statistically significant relationship between recipients and persistence. More recipients persisted than did not persist in 2012-13 and 2013-14, but not in 2014-15. Factors leading to this result may include students graduating or withdrawing. As a caveat, reported persistence may be low due to the fact that a number of institutions do not report enrollment information to the National Student Clearinghouse. Recipients who were awarded the Nebraska Opportunity Grant were more likely to persist than not to persist.

Research Question 2

The second research question and hypothesis asked whether there was a statistically significant relationship between the 2011-12 first-time freshmen recipients (awarded) of the Nebraska Opportunity Grant and their graduation (graduated or not graduated) between 2012 and 2015. Data analysis confirmed there was a statistically significant relationship between recipients and graduation. More recipients did not graduate between 2012 and 2015 than did graduate. Factors leading to this result may include students persisting or withdrawing. Students who did graduate could represent those who persisted and graduated from community colleges or private career colleges. As a caveat, reported graduation may be low due to the fact that a number of institutions do not report graduation information to the National Student Clearinghouse. Recipients who were awarded the Nebraska Opportunity Grant were less likely to graduate than graduate.

Sub questions included:

Age and Persistence. The first sub question (a) asked whether there was a relationship between age and persistence. Data analysis confirmed there was a statistically significant relationship between age and persistence. More recipients persisted in the age range of 17-19 than in the age range of 20+ in 2012-13, 2013-14, and 2014-15. There was a moderately strong relationship between age and persistence. Recipients who were awarded the Nebraska Opportunity Grant were more likely to persist in the age range of 17-19 years old than those in the age range of 20 and above.

Age and Graduation. The second sub question (b) asked whether there was a relationship between age and graduation. Data analysis confirmed there was a statistically significant relationship between age and graduation. More recipients graduated in the age range of 17-19 than in the age range of 20+ between 2012 and 2015. There was very weak relationship between age and graduation. Recipients who were awarded the Nebraska Opportunity Grant were more likely to graduate in the age range of 17-19 years old than those in the age range of 20 and above.

Gender and Persistence. The third sub question (c) asked whether there was a relationship between gender and persistence. Data analysis confirmed there was a statistically significant relationship between age and persistence in 2013-14 and 2014-15, but not in 2012-13. More female recipients persisted than male recipients in 2012-13, 2013-14, and 2014-15. There was a very weak relationship between gender and persistence. Female recipients who were awarded the Nebraska Opportunity Grant were more likely to persist than male recipients.

Gender and Graduation. The fourth sub question (d) asked whether there was a relationship between gender and graduation. Data analysis confirmed there was a statistically

significant relationship between gender and graduation. More female recipients graduated than male recipients between 2012 and 2015. There was very weak relationship between gender and graduation. Female recipients who were awarded the Nebraska Opportunity Grant were more likely to graduate than male recipients.

Ethnicity and Persistence. The fifth sub question (e) asked whether there was a relationship between ethnicity and persistence. Data analysis confirmed there was a statistically significant relationship between ethnicity and persistence. More white recipients persisted than in other ethnicity groups in 2012-13, 2013-14 and 2014-15. There was a very weak relationship between ethnicity and persistence. Recipients who were of the ethnicity group of white and who were awarded the Nebraska Opportunity were more likely to persist than those in other ethnicity groups.

Ethnicity and Graduation. The sixth sub question (f) asked whether there was a relationship between ethnicity and graduation. Data analysis confirmed there was not a statistically significant relationship between ethnicity and graduation. More white recipients graduated than in other ethnicity groups between 2012 and 2015. There was a very weak relationship between ethnicity and graduation. Recipients who were of the ethnicity group of white and who were awarded the Nebraska Opportunity were more likely to graduate than those in other ethnicity groups.

Educational Level of Father and Persistence. The seventh sub question (g-part 1) asked whether there was a relationship between educational level of father and persistence. Data analysis confirmed there was not a statistically significant relationship between educational level of father and persistence in 2012-13 and 2014-15, but it was statistically significant in 2013-14. More recipients persisted in the educational level of father group of high school or less than in

the educational level of father group of college or more. There was a very weak relationship between educational level of father and persistence. Recipients whose fathers' educational level was high school or less and who were awarded the Nebraska Opportunity were more likely to graduate than those with college or more.

Educational Level of Mother and Persistence. The seventh sub question (g-part 2) asked whether there was a relationship between educational level of mother and persistence. Data analysis confirmed there was a statistically significant relationship between educational level of mother and persistence in 2012-13, 2013-14, and 2014-15. More recipients persisted in the educational level of mother group of high school or less than in educational level of mother group of college or more in 2012-13, 2013-14 and 2014-15. There was a very weak relationship between educational level of mother and persistence. Recipients whose mothers' educational level was high school or less and who were awarded the Nebraska Opportunity were more likely to persist than those with college or more.

Educational Level of Father and Graduation. The eighth sub question (h-part 1) asked whether there was a relationship between educational level of father and graduation. Data analysis confirmed there was not a statistically significant relationship between educational level of father and graduation between 2012 and 2015. More recipients graduated in the educational level of father group of high school or less than in the educational level of father group of college or more between 2012 and 2015. There was a very weak relationship between educational level of father and graduation. Recipients whose fathers' educational level was high school or less and who were awarded the Nebraska Opportunity were more likely to graduate than those with college or more.

Educational Level of Mother and Graduation. The eighth sub question (h-part 2 asked whether there was a relationship between educational level of mother and graduation. Data analysis confirmed there was not a statistically significant relationship between educational level of mother and graduation between 2012 and 2015. More recipients graduated in the educational level of mother group of high school or less than in the educational level of mother group of college or more between 2012 and 2015. There was a very weak relationship between educational level of mother and graduation. Recipients whose mothers' educational level was high school or less and who were awarded the Nebraska Opportunity were more likely to graduate than those with college or more.

Enrollment Status and Persistence. The ninth sub question (i) asked whether there was a relationship between enrollment status and persistence. Data analysis confirmed there was a statistically significant relationship between enrollment status and persistence in 2013-12012-2013 and 2013-14, but not in 2014-15. More full-time recipients persisted than less than full-time recipients in 2012-13, 2013-14, and 2014-15. There was a very weak relationship between enrollment status and persistence. As a caveat, reported persistence may be lower due to the fact that a number of institutions do not report enrollment information to the National Student Clearinghouse. Full-time recipients who were awarded the Nebraska Opportunity Grant were more likely to persist than those who were less than full-time.

Enrollment Status and Graduation. The tenth sub question (j) asked whether there was a relationship between enrollment status and graduation. Data analysis confirmed there was not a statistically significant relationship between enrollment status and graduation. More full-time recipients graduated than less than full-time recipients between 2012 and 2015. There was a very weak relationship between enrollment status and graduation. As a caveat, reported

graduation may be lower due to the fact that a number of institutions do not report graduation information to the National Student Clearinghouse. There was very weak relationship between gender and graduation. Full-time recipients who were awarded the Nebraska Opportunity Grant were more likely to graduate than those who were less than full-time.

Family Income Level and Persistence. The eleventh sub question (k) asked whether there was a relationship between family income level and persistence. Data analysis confirmed there was a statistically significant relationship between family income level and persistence in 2012-13, 2013-14 and 2014-15. More recipients persisted in the family income level of $20,000 or more than in the family income level of less than $19,999. There was a weak relationship between family income and persistence. Recipients whose family income was $20,000 or more and who were awarded the Nebraska Opportunity were more likely to persist than those with $19,999 or less.

Family Income Level and Graduation. The twelfth sub question (l) asked whether there was a relationship between family income level and graduation. Data analysis confirmed there was a statistically significant relationship between family income level and graduation between 2012 and 2015. More recipients graduated in the family income level of $20,000 or more than in the family income level of less than $19,999. There was a very weak relationship between family income level and graduation. Recipients whose family income level was $20,000 or more and who were awarded the Nebraska Opportunity were more likely to graduate than those with $19,999 or less.

Sector of Higher Education and Recipients. The thirteenth sub question (m) asked whether there was a difference between sector of higher education and recipients. Data analysis confirmed there were statistically significant differences between sector of higher education and

recipients. More recipients enrolled and received the Nebraska Opportunity Grant in the sectors of private career colleges and community colleges than in public universities, independent universities and state colleges. Factors leading to this result may include private career colleges and community colleges may tend to offer more financial assistance to freshmen or sophomore students. Meanwhile, public universities, independent universities and state colleges have to appropriate financial assistance for freshmen through senior academic years. Recipients who were awarded the Nebraska Opportunity Grant were more likely to attend private career colleges or community colleges than public universities, state colleges or independent universities.

Sector of Higher Education and Persistence. The fourteenth sub question (n) asked whether there was a difference between sector of higher education and persistence. The data analysis was inconclusive in confirming whether a statistically significant difference existed between sector of higher education and persistence. There are two important caveats to this research question. First, the research monitored if a recipient persisted but not necessarily in the sector where they received the Nebraska Opportunity Grant. Through initial data analysis, it was complicated to monitor students withdrawing or transferring from one sector to another especially with differences in clock, quarter or semester based hours. Secondly, persistence may be lower due to the fact that a number of institutions do not report enrollment information to the National Student Clearinghouse. Overall, recipients who were awarded the Nebraska Opportunity Grant were more likely to persist in a sector of higher education, but it was not known which sector of higher education.

Sector of Higher Education and Graduation. The fifteenth sub question (o) asked whether there was a difference between sector of higher education and graduation. Data analysis confirmed there was a statistically significant difference between sector of higher education and

graduation. For this study, more recipients graduated from the sector of community colleges and public universities than independent universities, private career colleges and state colleges. Factors leading to this result may include the time frame of two-year degrees or dual enrollment courses. Students who enrolled in a two-year degree program from a community college sector may have graduated between 2012 and 2015. In addition, students who enrolled in dual enrollment courses during their high school years may have graduated from a public university sector within that same time frame. As a caveat, reported graduation may be low, particularly in private career colleges, due to the fact that a number of institutions do not report graduation information to the National Student Clearinghouse. Recipients who were awarded the Nebraska Opportunity Grant were more likely to graduate from community colleges and public universities than state colleges, private career colleges or independent universities.

Discussion of the Relationship of the Results to the Literature and Theoretical Framework

When considering the relationship of the results of this study to the literature, the foundation and benefits of financial aid are still important aspects that influence state grant financial aid programs. The foundation of financial aid has remained influential where its aim was to offer financial assistance to those who wanted to attend college but may not have had the financial means to do so (Fuller, 2014; Gladieus, 1995; Kantrowitz, 2010; Institute for Higher Education Policy, 2014). Historically, while state grants do not provide as much aid as other forms of financial assistance, 46 state grant programs awarded approximately $4.9 billion in need-based grants to low-income students in the 2012-13 academic year (College Board, 2014; NASSGAP, 2013). Of that amount, the Nebraska Opportunity Grant program offered $16 million during that same academic year (CCPE, 2014). The results of this study were consistent with the literature where state grant programs correlated to persistence.

The benefits of financial aid have remained influential where it helps students access and afford college which, in turn, leads to persistence and graduation (Cabrera et al., 1992b; Dynarski, 2003; Holcombe et al., 2014). There is support for this study in the literature because financial aid policies, both at the federal and state level, are always changing, and it is necessary to have current research on state grant financial aid programs. In addition, most research has not considered how beneficial financial aid can be in influencing student persistence or progression (Cabrera et al., 1992b; St. John et al., 2000). The previous literature accounts for a limited number of governmental reports rather than empirical, peer-reviewed research studies. Many of the governmental reports are state and federal accountability reports that document how financial aid is being utilized in higher education. Typically, it does not discuss how it benefits the students as much as it does the states. However, while Alaska (Rae, 2011), California (Johnson, 2014), Indiana (Johnson, & Yanagiura, 2012), Tennessee (Ness, & Tucker, 2008), Texas (Holcombe et al., 2014), and Washington (Burley, 2014) have been assessing the effectiveness of their own state grant financial aid programs, this research study offered a beginning for the State of Nebraska. For the wider field of practice for financial aid, the outcome of this study provided information that can be used, not only at the state level, but it can be compared to other states at the national level. The result of this study reflected the literature which indicates that state grant programs are valuable should remain a vital part of the financial aid options for students and the state.

The outcomes of this study was fairly consistent with the literature in reflecting how state grant programs relate to the persistence and graduation of the students in higher education (Ganem & Manasse, 2011; Noel-Levitz, 2013; Robbins et al., 2004; Voigt & Hundrieser, 2008). A plausible explanation for the results of this study is if state grant programs continue to fund

institutions and award students, the students are more likely to be retained by institutions and persist through their academic years (Astin, 1975; Carlson & Zaback, 2012; Dynarski, 2003; Field, 2007, 2009, 2013; Filkins, Kehoe, & McLaughline, 2001; Gillen, 1998 Goldrick-Rab, Harris & Trostel, 2009; Hardi, 2000; Hutto, 2002; Mendoza et al., 2009; Moore & Fetzner, 2009; Noel-Loevitz, 2013; Voight & Hundrieser, 2008). Additionally, researchers who asserted that graduation and completion rates are not where they need to be in the nation were accurate in their reflection (Demetriou & Schmitz-Sciborski, 2011; Porter, 2014; Shapiro et al., 2014; Tinto, 2002). The implications of most studies reflect how financial aid, such as state grants, correlate to the persistence and graduation of students (Texas Higher Education Coordinating Board, 2014). This study also showed how one need-based state grant correlated to persistence and graduation among low-income, first-time freshmen students in higher education.

When considering the relationship of the results of this study to the theoretical framework, St. John et al.'s (2000) nexus theory was consistent in showing how state grants influence persistence. St. John et al. (1996) originally created the College Choice-Persistence Nexus Model asserted that finances influence college choice and persistence (Herron, 2012). In the beginning, student retention theorists such as Tinto (1975) and Bean (1985) focused on the academic, social, and psychological integration of students into higher education. However, Cabrera et al. (1992a) and St. John et al. (1996) were the theorists who believed financial factors played a significant role in persistence. While Cabrera et al. (1992) focused on a student's ability to pay for college, St. John et al. (1996, 2000) believed that finances also influenced college choice. St. John et al. (2000) provided evidence through research that financial aid influences college choice, student persistence and graduation (Bryan, 2013; Franke, 2012). This study supported the nexus theoretical framework developed by St. John et al. (1996, 2000, 2003)

where financial assistance, such as a state grant, was correlated to the persistence and graduation of students attending five different sectors of higher education in the State of Nebraska.

Limitations of the Study

One of the limitations of this study was that not all institutions of higher education participate by reporting enrollment and graduation information to the National Student Clearinghouse. For this study, there were approximately ten institutions of higher education, primarily for profit institutions like private career colleges that did not report to the National Student Clearinghouse (Coordinating Commission for Postsecondary Education, 2014). Since all of the data was coming from secondary databases, such as the National Student Clearinghouse, it became very difficult to nearly impossible to verify the accuracy of the information being provided to the researcher. Most of the information was self-reported in the beginning by a student or parent or institution, so this intensified the problem as a limitation to this study. The researcher was left to assume the information was correct in order to find any results with a hope it was valid and reliable.

Recommendations for Higher Education

There are a few recommendations for higher education based on the findings in this study. The first recommendation is to require all Nebraska institutions of higher education to report enrollment and graduation data to the National Student Clearinghouse. Since the National Student Clearinghouse maintains the enrollment and graduation records of students in higher education, colleges and universities need to understand the necessity of reporting their information. According to the Nebraska's Coordinating Commission for Postsecondary Education, there are currently ten out of 32 institutions in the State of Nebraska that do not participate in this free service (2015). Without this recommendation being implemented, it is

difficult to provide complete analysis on the persistence and graduation of students. If institutions of higher education would commit to reporting the enrollment and graduation information to the National Student Clearinghouse, Nebraska's Coordinating Commission for Postsecondary Education could possibly receive more need-based grant funding for students because they would have data supporting the success of the recipients.

The second recommendation is to require shared access to Nebraska's Statewide Longitudinal Data System (SLDS). Currently, this integrated data system is utilized by Nebraska's Department of Education who receives data, not only from K-12 school systems, but also from some public universities and colleges. The statute that created the database does not authorize Nebraska's Coordinating Commission for Postsecondary Education access to this information. Instead of relying on secondary databases, such as the National Student Clearinghouse, the State of Nebraska could allow access and improve upon this integrated data system by continuing to track a student's educational process from K-12, through higher education, and then into the workforce. There are many states utilizing integrated data systems which have proved to be beneficial for understanding how policies affect programs. Researchers at the University of Pennsylvania have found, "Quality integrated data systems are designed to help executive leaders in municipal, county, and state government evaluate and establish effective programs for the people they serve,"("Integrated Data Systems," 2015). As an example of implementation, the Nebraska Department of Education could continue to track and monitor the information for the students from K-12. The Coordinating Commission for Postsecondary Education could track and monitor the information for the institutions of higher education. And the Department of Labor could track and monitor the employment information after the student has persisted and graduated through the educational process. If institutions of

higher education would commit to reporting the requested information, the shared access to an integrated data system would streamline the information that is tracked, monitored, and researched for the educational process of students in the State of Nebraska.

The third recommendation is to change the Nebraska Opportunity Grant program from a need-based program to an incentive program with need and merit-based components. The reason for this change would be a matter of accountability between the student and the state. Currently, the state provides approximately $16M to students who are working to obtain a college degree. The state taxpayers should know that these funds are meeting that goal of helping students persist through to graduation. Therefore, students have an obligation to meet and maintain minimum academic progress toward earning a degree. As long as the student is persisting and progressing, they should qualify to receive the state grant if they maintain eligibility. The current qualifications to receive the Nebraska Opportunity Grant are the following: low-income, a Nebraska resident, and have not earned a degree. This recommendation would offer more guidelines based on merit, but it would also offer an incentive to the student. For example, a student could be awarded $1000 per academic year from the Nebraska Opportunity Grant if they were considered low-income, if they maintained a 2.0 GPA, and if they progressed in accumulating 24 credit hours. The incentive grant program would offer the student additional $500.00 in financial assistance if they were considered low-income, if they maintained a 3.0 GPA, and if they progressed in accumulating a minimum 30 credit hours in an academic year. This type of incentive grant program, including need and merit-based components, would assure accountability to the students and the state.

Recommendations for Further Research

For future research, it seems valuable to continue studies in financial aid and how it relates to students' persistence and graduation through higher education. In particular, it would be interesting to conduct research that compares students who receive financial aid to those who do not receive financial aid. For example, further research could compare the Nebraska Opportunity Grants recipients to non-recipients on persistence and graduation. In addition, this current study could be expanded by analyzing if the Nebraska Opportunity Grant recipients who continued to receive the grant every academic year were more likely to persist, graduate, and then find employment after graduation. Also, it is might be significant to consider studies that analyze all the types of financial aid ranging from grants, scholarships, work study and loans to gain a better understanding of what truly helps a student persist and graduate. Overall, it would be beneficial to increase the number of empirical studies for there are very few available in the literature. As this study found, future research is important because while states are held accountable for the funding given to higher education, institutions of higher education have an obligation to assure families that financial assistance is helping their students attain college degrees.

Summary

In summary, the purpose of this longitudinal study was to examine persistence and graduation of low-income, first-time freshmen recipients of the Nebraska Opportunity Grant in 2011-12 among the five sectors of higher education from 2012-13 through 2014-15. To begin, this was the first study to analyze the effectiveness of the Nebraska Opportunity Grant. The significance of this study offers the State of Nebraska descriptive information on a state grant program that is currently funded with state general and lottery funding. The problem was with

the passage of Legislative Bill 519 where the funding for this program could be decreased by July 2021. Since 60% of the Nebraska Opportunity Grant program funding comes from the state lottery program, this means the program could potentially lose $10 million of its current $16 million appropriation. The review of the literature and theoretical framework have supported how state grants relate to student persistence and graduation. The methodology created for this study supported the overall research design. Then, the results from the data supported how the Nebraska Opportunity Grant is correlated to student persistence and graduation. The discussion of this study has offered some insightful findings which have led to the several recommendations. Because this program is the only need-based state grant program in the State of Nebraska, it is important to analyze its value and be able to present its significance to the legislature. The future students of higher education in Nebraska deserve to have the opportunity to access, afford, persist, progress, and graduate to earn their college degree. The Nebraska Opportunity Grant is one way to financially assist students persist and graduate.

References

About Financial Aid. (2014). Retrieved from NASFAA-National Association of Student Financial Aid Administrators: http://www.nasfaa.org/students/About_Financial_Aid.aspx

Agresti, A. (1996). *Introduction to categorical data analysis.* NY: John Wiley & Sons. Retrieved from http://www.people.vcu.edu/~pdattalo/702SuppRead/MeasAssoc/NominalAssoc.html

Alon, S. (2011, September). Who benefits most from financial aid? The heterogeneous effect of need-based grants on students' college persistence. *Social Science Quarterly, 92*(3), 807-829. doi:10.1111/j.1540-6237.2011.00793.x

Andres, L., & Carpenter, S. (1997). *Today's higher education students: Issues of admission, retention, transfer, and attrition in relation to changing student demographics.* (Research Report). Retrieved from British Columbia Council on Admissions and Transfer website: http://bccat.ca/site-search?q=andres+and+carpenter

Angrist, J., Lang, D., & Oreopoulos, P. (2009). Incentives and services for college achievement: Evidence from a randomized trial. *American Economic Journal: Applied Economics, 1*(1), 136-163. Retrieved from https://www.aeaweb.org/aej-applied/index.php

Arzy, M., Davies, T., & Harbour, C.P. (2006). Low income students: Their lived university campus experiences pursing baccalaureate degrees with private foundation scholarship assistance. *College Student Journal, 40*(4), 750-766. Retrieved from https://www.questia.com/library/p1917/college-student-journal

ASAP: Accelerated Study in Associate Programs. (2014). Retrieved from The City University of New York: http://www.cuny.edu/academics/programs/notable/asap/about.html

Astin, A. (1975). *Preventing students from dropping out.* San Francisco: Jossey Bass.

Barr, N. (2005). Financing higher education. *Finance and Development, 42*(2). Retrieved from http://www.imf.org/external/pubs/ft/fandd/2005/06/barr.htm

Barrow, L., & Rouse, C.E. (2012). *Financial incentives and educational investment: The impact of performance-based scholarships on student time use.* (Report 2013-07). Retrieved from EconStor website: http://www.econstor.eu/bitstream/10419/96634/1/75722640X.pdf

Bean, J. (2005). Nine themes of college student retention. In A. Seidman (Ed.), *College student retention: Formula for student success* (pp. 215-242). Santa Barbara, CA: Greenwood.

Bean, J.P., & Metzner, B.S. (1985). A conceptual model of nontraditional undergraduate student attrition. *Review of Educational Research, 55*(4), 485-540. Retrieved from http://rer.sagepub.com/

Berger, J.B. & Lyons, S. (2005). Past to present: A historical look at retention. In *Siedman, A. (Ed.). College Student Retention: Formula of Student Success.* Westport, CT: Praeger Press.

Bernal, J. (2014, July 24). Getting low income students to college takes more than just academics. *The Hechinger Report*. Retrieved from http://hechingerreport.org/content/raising-college-retention-rate-low-income-students-requires-academics_16724/

Bidwell, A. (2014, July 29). 31 Million in higher education limbo: Some college no degree. *US News & World Report*. Retrieved from http://www.usnews.com/

Bradley, P. (2012, March 19). Powered by pell: Rural community colleges benefiting from federal pell grant program. *Community College Week, 24*(16). Retrieved from Community College Week: http://www.ccweek.com

Braxton, J.M., & Hirschy, A.S. (2005). Theoretical developments in the study of college student departure. In A. Seidman (Ed.), *College student retention: Formula for student success* (pp. 61-87). Westport, CT: American Council on Education and Praeger.

Brown, S. (2002). Strategies that contribute to nontraditional/adult student development and persistence. *PAACE Journal of Lifelong Learning, 11*, 67-76. Retrieved from http://www.paacesite.org/

Bryan, B. (2013). The Financial Nexus of College Choice and Persistence at For-Profit Institutions. *Doctoral Dissertation*. Retrieved from http://scholarcommons.sc.edu/etd/2568

Burd, S. (2006, May 12). Education department announces guidelines for new student grant program. *The Chronicle of Higher Education, 52*(36). Retrieved from http://chronicle.com/article/Education-Dept-Announces/17998/

Burke, L. (2014). *Reauthorizing the higher education act-toward policies that increase access and lower costs.* (Report No. 2941) . Retrieved from The Heritage Foundation website: http://report.heritage.org/bg2941

Burley, M. (2014). *The effectiveness of Washington's state need grant program: Final evaluation report.* (Document No. 14-01-2301). Retrieved from Washington State Institute for Public Policy website: http://www.wsipp.wa.gov

Cabrera, A.F., Castaneda, M.B., Nora, A., & Hengstler, D. (1992a, March/April). The convergence between two theories of college persistence. *Journal of Higher Education, 63*(2), 143-164. Retrieved from https://ohiostatepress.org/index.htm?journals/jhe/jhemain.htm

Cabrera, A.F., Nora, A., & Castaneda, M.B. (1992b). The role of finances in the persistence process: A structural model. *Research in Higher Education, 33*(5), 571-593. Retrieved from http://www.aabri.com/rhej.html

Carlson, A., & Zaback, K. (2012). *Moving the needle: How financial aid policies can help states meet student completion goals.* (Research Report). Retrieved from Lumina Foundation website: http://www.luminafoundation.org/publications/ideas_summit /Moving_the_Needle.pdf

Carroll, S. (2015). *Research Design and Dissertation Methodology*. Retrieved from http://www.dissertation-statistics.com/research-design-dissertation-methodology.html

Castleman, B.L., & Page, L.C. (2014). *Freshman year financial aid nudges: An experiment to increase FAFSA renewal and college persistence.* (Series No. 29). Retrieved from EdPolicyWorks website: http://curry.virginia.edu/upload/resourceLibrary/ 29_Freshman_Year_Financial_Aid_Nudges.pdf

Cini, M.A., & Fritz, J.M. (1996). *Predicting commitment in adult and traditional-age students: Applying Rusbult's investment model the the study of retention.* Paper presented at the Postsecondary Education in the 21st Century Conference on What Works II, Pittsburgh, PA. Retrieved from http://files.eric.ed.gov/fulltext/ED401451.pdf

College Board. (2014). *Trends in Student Aid 2014.* Retrieved from http://lp.collegeboard.org/trends

Coonrod, L. (2008). The effects of financial aid amounts on academic performance. *The Park Place Economist, 16,* 24-35. Retrieved from http://digitalcommons.iwu.edu/parkplace /vol16/iss1/10/

Coordinating Commission for Postsecondary Education. (2014). *Higher Education Progress Report.* Retrieved from http://www.ccpe.state.ne.us/PublicDoc/Ccpe/Reports /progressReport/2014/14_PR_Appendix8.pdf

Creswell, J. (2002). *Educational research: Planning, conducting and evaluating quantitive and qualitative research.* Upper Saddle River, NJ: Pearson Education, Inc.

Creswell, J. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4 ed.). Thousand Oaks: Sage.

Cuseo, J. (2007). Student success: Definition, outcomes, principles and practices. *Esource for College Transitions*. Retrieved from http://www.indstate.edu/studentsuccess/pdf/ Defining%20Student%20Success.pdf

Demetriou, C., & Schmitz-Sciborski, A. (2011). Integration, motivation, strengths, and optimism: Retention theorists past, present and future. In R. Hayes (Ed.), *Proceedings of the 7th National Symposium on Student Retention* (pp. 300-312). Norman, OK: The University of Oklahoma.

Dynarski, S. (2003). Does aid matter? Measuring the effect of student aid on college attendance and completion. *American Economic Review, 93*(1), 279-288. doi:10.1257/000282803321455287

Ethington, C. (1990). A psychological model of student persistence. *Research in Higher Education, 31*(3), 279-293. Retrieved from http://www.aabri.com/rhej.html

FAFSA. (2015). Retrieved from Federal Student Aid: https://fafsa.ed.gov/

Farkas, K. (2012, December 8). College students' success increases when they are motivated by money, officials say. *Cleveland.com News*. Retrieved from http://impact.cleveland.com/metro/print.html

Federal Student Aid. (2014, January 31). In *2014-2015 Federal Pell Grant Payment and Disbursement Schedules.* Retrieved November 16, 2014, from Information for Financial Aid Professionals: http://www.ifap.ed.gov/ifap/

Field, K. (2007, February 16). How president would pay for increase in pell grants. *The Chronicle of Higher Education, 53*(24), A26-27.

Field, K. (2009, January 23). New grants have more takers, but still fall short of goals. *The Chronicle of Higher Education, 55*(20). Retrieved from http://chronicle.com/article/New-Grants-Have-More-Takers/18888

Field, K. (2013, April 10). Obama's budget would increase pell grants and add incentives on some student-aid money. *The Chronicle of Higher Education*. Retrieved from http://chronicle.com/article/President-Would-Increase-Pell/138473/

Filkins, J.W., Kehoe, L.E., & McLaughlin, G.W. (2001). *Retention research: Issues in comparative analysis.* Paper presented at the Annual Meeting of the Association for Institutional Research, Long Beach, CA. Retrieved from http://files.eric.ed.gov/fulltext/ED444638.pdf

Fraenkel, J., & Wallen, N. (2009). *How To Design And Evaluate Research In Education.* San Francisco: McGraw Hill. Retrieved from http://doha.ac.mu/ebooks/Research%20Methods/DesigningAndEvaluatingResearchInEducation.pdf

Franke, R. (2012). Towards the Education Nation: Revisiting the Impact of Financial Aid, College Experience, and Institutional Context on Baccalaureate Degree Attainment Using a Propensity Score Matching, Multilevel Modeling Approach. *Doctoral Dissertation*. Retrieved from http://escholarship.org/uc/item/7923q954

Fuller, M. B. (2014). A history of financial aid to students. *Journal of Student Financial Aid, 44*(1), 42-68. Retrieved from http://publications.nasfaa.org/jsfa/vol44/iss1/4

Ganem,.M., & Manasse, M. (2011). The relationship between scholarships and student success: An art and design case study. *Education Research International, 2011*, 1-8. doi:10.1155/211/743120

Gillen, A. (1998). Financial aid in theory and practice: Why it is ineffective and what can be done about it. In J. Hall (Ed.), *Doing More with Less: Making Colleges Work Better* (pp. 15-51). Washington, D.C.: Springer Science+Business Media. doi:10.1007/978-1-4419-5960-7_2

Gladieus, L. (1995, October). *Federal student aid policy: A history and assessment.* (Research Report). Retrieved from Financing Postsecondary Education: The Federal Role website: http://www2.ed.gov/offices/OPE/PPI/FinPostSecEd/gladieux.html

Goldrick-Rab, S., Harris, D.N., & Trostel, P.A. (2009). Why financial aid matters (or does not) for college success: Toward a new interdisciplinary perspective. In J. Smart (Ed.), *Higher Education: Handbook of theory and research* (pp. 1-45). Springer Science & Business Media.

Gravetter, F.J. & Wallnau, L.B. (2000). *Statistics for the Behavioral Sciences* (5 ed.). Belmont, CA: Wadsworth/Thomson Learning.

Hagedorn, S. (2005). *How to define retention: A new look at an old problem.* Paper sponsored by the Transfer and Retention of Urban Community College Students Project funded by the the Lumina foundation (Grant#1415). Retrieved January 15, 2015, from www.chepa.org

Handel, S. (2008). Aid and advocacy: Why community college transfer students do not apply for financial aid and how counselors can help them get in the game. *Journal of College Admission*, 9-17. Retrieved from http://files.eric.ed.gov/fulltext/EJ829459.pdf

Hardi, J. (2000, February 4). White house designs aid program to help colleges keep low-income students. *The Chronicle of Higher Education, 46*(22), A34.

HCM Strategists. (2014). *The American dream 2.0: How financial aid can help improve college access, affordability, and completion.* (E-Report), Washington, DC. Retrieved from The American Dream 2.0 website: http://americandream2-0.com/steering-committee-report/

Heller, D.E., & Marin, P. (2004). *State merit scholarship programs and racial inequality.* (Project Report). Retrieved from The Civil Rights Project at Harvard University website: http://files.eric.ed.gov/fulltext/ED489183.pdf

Herron, T. (2012). *Promoting college completion through leadership among underrepresented urban college students: A theory of change and evaluation of college retention outcomes for the act six leadership and scholarship initiative*. (Unpublished doctoral dissertation). University of Washington: Washington.

Holcombe, L., Bordoloi, L., Desjardins, S., & Purcell, G. (2014, May 5). *Distributing limited grant dollars to maximize college persistence: The case of Texas.* (Research Report). Retrieved from Texas Higher Education Coordinating Board website: http://www.thecb.state.tx.us/Reports/

Home - FAFSA on the Web. (2015, February 10). Retrieved from Federal Student Aid: https://fafsa.ed.gov/

Hossler, D., Gross, J.P.K. & Ziskin, M. (2006). *A multi-institution analysis of the effects of campus-based financial aid on student persistence at public four-year institutions.* (Report). Retrieved from National Association of State Student Grant & Aid Programs website: http://www.nassgap.org

Hossler, D., Ziskin, M., Gross, J.P.K., Sooyeon, K., & Cekic, O. (2009). Student aid and its role in encouraging persistence. In J. Smart (Ed.), *Higher Education: Handbook of Theory and Research* (Vol. 24, pp. 389-425). Springer Science + Business Media. Retrieved from http://pas.indiana.edu/pdf/Student%20Aid%20and%20Its%20Role.pdf

Hutchins, J. (2014, January 8). New study shows CUNY's ASAP program boosts two-year graduation rate of community college students who need remedial education. *MDRC: Building knowledge to improve social policy*. Retrieved from http://www.mdrc.org/news/press-release/cuny%E2%80%99s-asap-program-boosts-graduation-rate-students-who-need-remedial-education

Hutto, C. (2002). A critical review of the literature on student services and retention. Atlanta, GA. Retrieved from http://files.eric.ed.gov/fulltext/ED468373.pdf

Indiana State Financial Aid Update. (2012, October 10). Indiana Commission for Higher Education Commission and HCM Strategists. Retrieved from www.che.in.gov

Institute for Higher Education Policy. (2014). *Looking Back to Move Forward: A History of Federal Student Aid*. Retrieved from http://www.ihep.org/research/initiatives/looking-back-move-forward-history-federal-student-aid

Integrated Data Systems. (2015, December 29). Retrieved from Actionable Intelligence for Social Policy: http://www.aisp.upenn.edu/integrated-data-systems/

Johnson, H. (2014). *Making college possible for low-income students: Grant and scholarhsip aid in California.* Retrieved from Public Policy Institute of California website: http://www.ppic.org/main/policyarea.asp?i=17

Johnson, L. (1965, December 16). Remarks Upon Signing the Higher Education Facilities Act. *The American Presidency Project: Public Papers of the Presidents of the United States - Lyndon B. Johnson 1965* (Vol. 2B). Retrieved from http://www.presidency.ucsb.edu/ws/?pid=26387

Johnson, N., & Yanagiura, T. (2012). *Evaluation of Indiana's financial aid programs and policies.* (Report). Retrieved from Indiana Commission for Higher Education website: http://www.in.gov/che/files/2012-09-12_ Indiana_Financial_Aid_Program_Evaluation.pdf

Kantrowitz, M. (2010). History of Student Financial Aid. In *FinAid for Educators and FAAs.* Retrieved November 5, 2014, from FinAid for Educators and FAAs: http://www.finaid.org/educators/history.phtml

Kirp, D. (2014, January 8). How to help college students graduate. *The New York Times*. Retrieved from http://www.nytimes.com/2014/01/09/opinion/how-to-help-college-students-graduate.html?_r=0

Koziol, N. & Arthur A. (2011). *An introduction to secondary data analysis* . Retrieved from Nebraska Center for Research: http://r2ed.unl.edu/presentations/2011 /RMS/120911_Koziol/120911_Koziol.pdf

Kuh, G.D., Kinzie, J., Buckley, J.A., Bridges, B.K., & Hayek, J.C. (2006). *What matters to student success: A review of the literature.* (Commissioned Report). Retrieved from National Center for Education Statistics website: http://nces.ed.gov/npec/pdf/Kuh_Team_Report.pdf

Li, D. (2008). Degree attainment of undergraduate student borrowers in four-year institutions: A multilevel analysis. *Journal of Student Financial Aid, 37*(3), 1-16. Retrieved from http://publications.nasfaa.org

Live & On Demand: State Government. (2014, November 19). Retrieved from http://www.netnebraska.org/basic-page/television/live-demand-state-government,

Long, B. (2010). Making college affordable by improving aid policy. *Issues in Science & Technology, 26*(4), pp. 27-38. Retrieved from http://issues.org/26-4/long-2/

Mendoza, P., Mendez, J.P., & Malcom, Z. (2009). Financial aid and persistence in community colleges: Assessing the effectiveness of federal and state financial aid programs. *Oklahoma Community College Review, 37*(2), 112-135. doi:10.1177/0091552109348045

Moore, J.C., & Fetzner, M.J. (2009). The road to retention: A closer look at institutions that achieve high course completion rates. *Journal of Asynchronous Learning Networks, 13*(3), 3-22. Retrieved from http://files.eric.ed.gov/fulltext/EJ862352.pdf

NASSGAP. (2013). *44th Annual survey report on state-sponsored student financial aid 2012-2013 academic year.* (Survey Report). Retrieved from National Association of State Student Grant and Aid Programs website: http://www.nassgap.org/viewrepository.aspx?categoryID=367#

Nebraska Legislature - Legislative Document. (2013, January 23). Retrieved from LB497 - Change provisions relating to funding for education from lottery funds: http://www.nebraskalegislature.gov/bills/view_bill.php?DocumentID=18891

Nebraska Legislature - Legislative Document. (2015, January 21). Retrieved from LB519 - Change distribution of lottery funds for education, provide for grants, change loan, incentive, and state aid provisions, create funds, and require a postsecondary education affordability study: http://www.nebraskalegislature.gov/bills/view_bill.php?DocumentID=25398

Nelson, L. (2013, February 7). *CBO estimates Pell shortfall is gone for 2014* . Retrieved from Inside Higher Education: https://www.insidehighered.com/news/2013/02/07/cbo-estimates-pell-shortfall-gone-2014

Ness, E.C., & Tucker, R. (2008, April). Eligibility effects on college acess: Under-represented student perceptions of Tennessee's merit aid program. *Research in Higher Education, 49*(7), 569-588. doi:10.1007/s11162-008-9096-5

Niebling, R. (2014, August 12). How to better target federal grant programs to improve students' college and career readiness. *Alliance for Excellent Education*. Retrieved October 15, 2014, from http://all4ed.org/how-to-better-target-federal-grant-programs-to-improve-students-college-and-career-readiness/

Noel-Levitz. (2013). *2013 Student retention and college completion practices report for four-year and two-year institutions.* (Report). Retrieved from Noel-Levitz Higher Ed Benchmarks website: http://institutionalplanninglv.files.wordpress.com /2013/08/2013studentretentionpracticesreport.pdf

Nora, A., & Horvath, F. (1989). Financial assistance: Minority enrollments and persistence. *Education and Urban Society, 21*(3), 299-309. Retrieved from Education Resources Information Center online database (ERIC).

NSA. (2015). Retrieved from National Student Clearinghouse: http://www.studentclearinghouse.org/

Perna, L.W., & Titus, M.A. (2004). Understanding differences in the choice of college attended: The role of state public policies. *The Review of Higher Education, 27*(4), 501-525.

Persistence. (2014). In *Merriam-Webster Dictionary online dictionary* (11th ed.). Retrieved November 26, 2014, from http://www.merriam-webster.com/dictionary/persistence

Porter, E. (2014, September 10). A simple equation: More education=more income. *The New York Times*. Retrieved from http://www.nytimes.com/

Rae, B. (2011, February 4). *An analysis of the AlaskAdvantage education grant program.* (Report). Retrieved from Alaska Commission on Postsecondary Education website: http://acpe.alaska.gov/Portals/0/OTHER/Pubs/AlaskAdvantage_Education_Grant_Outcomes_Report_2011.pdf

Rasmussen, C. (2006). Effective cost-sharing models in higher education: Insights from low-income student in Australian Universities. *Higher Education, 51*, 1-25. doi:10.1007/s10734-004-6373-x

Retention. (2014). In *Merriam-Webster Dictionary online dictionary* (11th ed.). Retrieved November 26, 2014, from http://www.merriam-webster.com/dictionary/retention

Robbins, S.B., Lauver, K., Davis, H.L., Davis, D., & Langley, R. (2004). Do psychosocial and study skill factors predict college outcomes? A meta-analysis. *Psychological Bulleting, 130*(2), 261-288. doi:10.1037/0033-2909.130.2.261

Rudestam, K.E. & Newton, R.R. (2007). The method chapter: Describing your research plan. In *Surviving Your Dissertation: A comprehensive guide to content and process.* Newbury Park, CA: SAGE. Retrieved from http://www.sagepub.com/upm-data/14649_Chapter5.pdf

Scott-Clayton, J. (2011). On money and motivation: A quasi-experimental analysis of financial incentives for college achievement. *Journal of Human Resources, 46*(3), 614-646. Retrieved from http://ccrc.tc.columbia.edu/media/k2/attachments/money-motivation-college-achievement.pdf

Seidman, A. (2004). Retention Theories. In *Center for the Study of College Student Retention.* Retrieved September 9, 2014, from http://cscsr.org/retention_journal.htm

Shapiro, D., Dundar, A., Yuan, X., Harrell, A.T. Wild, J.C., & Ziskin, M.B. (2014). *Some college, no degree: A national view of students with some college enrollment, but no completion.* (Signature Report 7). Retrieved from National Student Clearinghouse Research Center website: http://nscresearchcenter.org/signaturereport7/

SHEEO. (2014). Retrieved from State Higher Education Executive Officers: http://www.sheeo.org/

Smart, J.C., Feldman, K.A., & Ethington, C.A. (2006). *Holland's theory and patterns of college student success.* (Commissioned Report). Retrieved from National Center for Education Statistics website: http://nces.ed.gov/NPEC/pdf/Smart_Team_Report.pdf

Soule, W., & Pliska, J. (2014, July). Low-income students' success in college starts in high school. *Diverse*. Retrieved from http://diverseeducation.com/article/65487/

St. John, E.P., Cabrera, A.E., Nora, A., & Asker E.H. (2000). Economic influences on persistence reconsidered: How can finance research inform the reconceptualization of persistence models? In J. Braxton (Ed.), *Reworking the Student Departure Puzzle* (pp. 29-47). TN: Vanderbilt University Press. Retrieved from http://www.education.umd.edu /Academics/Faculty/Bios/facData/CHSE/cabrera/EconomicInfluencesinPersistence.pdf

St. John, E.P., Musoba, G. D., & Simmons, A.B. (2003). Keeping the promise: The impact of Indiana's twenty-first century scholars program. *Review of Higher Education, 27*(1), 103-123.

St. John, E.P., Paulsen, M.B., & Starkey, J.B. (1996). The nexus between college choice and persistence. *Research in Higher Education, 37*(2), 175-220. doi:10.1007/bf01730115

Stoll, A., Maha, S.M., & Bradley, D.H. (2014). *Overview of the relationship between federal student aid and increases in college prices.* (CRS Report), Washington, D.C. Retrieved from Congressional Research Service website: http://c.ymcdn.com/sites/www.ncher.us /resource/collection/1CFB07FA-74C6-4F0A-8E79-3ADB2C453546/R43692.pdf

Tebbs, J., & Turner, S. (2005). College education for low-income students: A caution about using data on pell grant recipients. *Change, 37*(4), 34-43. Retrieved from http://eric.ed.gov/?id=EJ726499

Texas Higher Education Coordinating Board. (2014). *Allocating grant aid to increase persistence: Focus on freshmen.* (Policy Report). Retrieved from http://www.thecb.state.tx.us/index.cfm?objectid=5C91733D-DCC1-A232-1123B212965DC935&flushcache=1&showdraft=1

The future of Pell Grants: Proposals of reform. (2013). Retrieved from College Board: http://media.collegeboard.com/digitalServices/pdf/diversity/2014/future-pell-grants.pdf

The White House: Office of the Press Secretary. (2014, August 13). *Improving college opportunity [Fact sheet]*. Retrieved from http://www.whitehouse.gov/the-press-office/2014/08/13/fact-sheet-improving-college-opportunity

Tinto, V. (1975). Dropouts form higher education: A theoretical synthesis of recent research. *Review of Educational Research, 45*, 89-125.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago: University of Chicago Press. Retrieved from Education Resources Information Center online database (ERIC)

Tinto, V. (1997). Classrooms as communities: Exploring the educational character of student persistence. *Journal of Higher Education*, 599-623. Retrieved from http://www.jstor.org/stable/2959965

Tinto, V. (2002). *Promoting student retention: Lessons learned from the United States.* Paper presented at the Annual Conference of the European Access Network, Prato, Italy. Retrieved from http://survey.csuprojects.org/uploads/wp/79/wp79euh7Gmrce Q2NVV1I2A/Tinto-re-Access-and-Retention-2002.pdf

Tinto, V. (2006). Research and practice of student retention: What next? *Journal of College Student Retention: Research, Theory, and Practice, 8*(1), 1-19. doi:10.2190/4YNU-4TMB-22DJ-AN4W

US Department of Education. (2014a). *Direct Loans*. Retrieved November 16, 2014, from Federal Student Aid: https://studentaid.ed.gov/types/loans/subsidized-unsubsidized #how-much

US Department of Education. (2014b). *Direct PLUS loans*. Retrieved from Federal Student Aid: https://studentaid.ed.gov/types/loans/plus

US Department of Education. (2014c). *Perkins Loans*. Retrieved November 16, 2014, from Federal Student Aid: https://studentaid.ed.gov/types/loans/perkins

US Department of Education. (2015). *National Center for Education Statistics*. Retrieved from Integrated Postsecondary Education Data System (IPEDS)-Glossary: http://nces.ed.gov/ipeds/glossary/?char)

Voigt, L., & Hundrieser, J. (2008). *Student success, retention, and graduation: Definitions, theories, practices, patterns and trends.* (Noel-Levitz Retention Codifications-Report). Retrieved from Stetson University website http://www.stetson.edu/law/conferences/highered/archive/media/Student%20Success,%20Retention,%20and%20Graduation-%20Definitions,%20Theories,%20Practices,%20Patterns,%20and%20Trends.pdf

Ziderman, A. (2009, July). Promoting access of disadvantaged groups through student loans: prerequisites for success. *Higher Education in Europe*, *34*(2), 227-242. doi:10.1080/03797720902867344

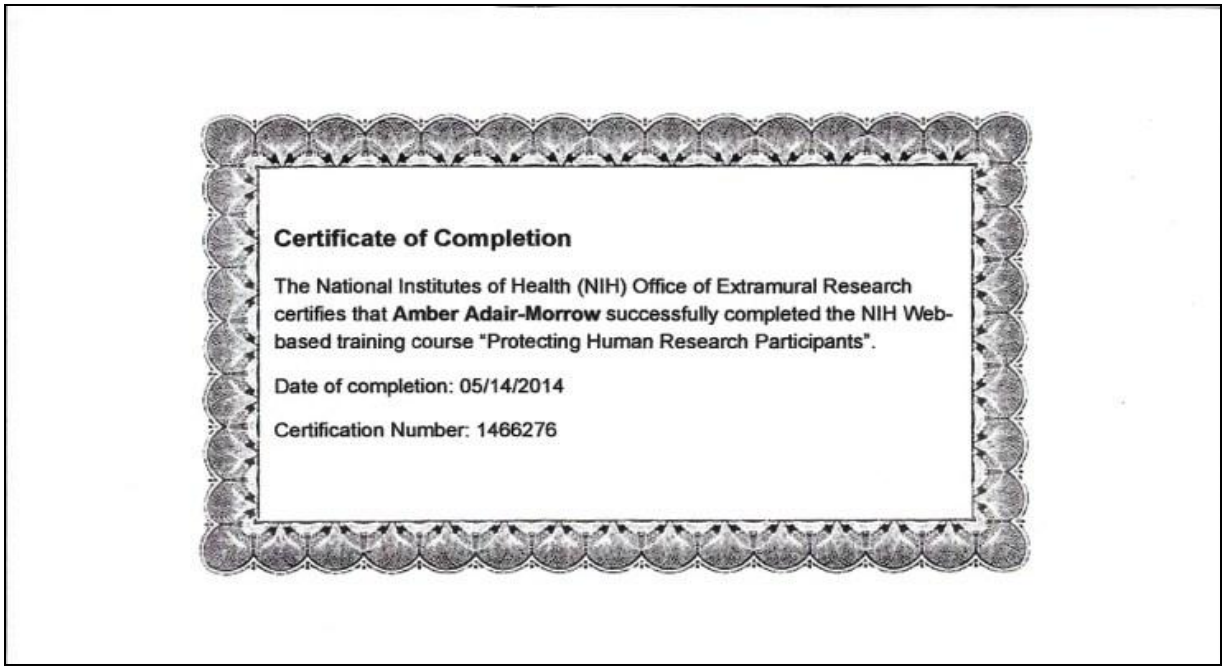
Zimpher, N. (2014, July 14). *How SUNY keeps college affordable & puts students on a path to success*. Retrieved from http://blog.suny.edu/2014/07/how-suny-keeps-college-affordable-puts-students-on-a-path-to-success/

Appendices

Appendix A

Institutional Review Board Approval with

Certification of Completion and College of Saint Mary IRB Approval Letter



Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that **Amber Adair-Morrow** successfully completed the NIH Web-based training course "Protecting Human Research Participants".

Date of completion: 05/14/2014

Certification Number: 1466276

COLLEGE OF
SAINT MARY

October 12, 2015

Dear Ms.Adair-Morrow,

Congratulations! The Institutional Review Board at College of Saint Mary has granted approval of your study titled *Examining the Persistence and Graduation of 2011-2012 First-time Freshmen recipients of the Nebraska Opportunity Grant.*

Your CSM research approval number is **CSM 1509** . It is important that you include this research number on all correspondence regarding your study. Your study is in effective through November 1, 2016. If your research extends beyond that date, please submit a "Change of Protocol/Extension" form which can be found in Appendix B at the end of the College of Saint Mary Application Guidelines posted on the IRB Community site.

Please submit a closing the study form (Appendix C of the IRB Guidebook) when you have completed your study.

Good luck with your research! If you have any questions or I can assist in any way, please feel free to contact me.

Sincerely,
Vicky Morgan
Dr. Vicky Morgan
Director of Teaching and Learning Center
Chair, Institutional Review Board * irb@csm.edu

7000 Mercy Road • Omaha, NE 68106-2606 • 402.399.2400 • FAX 402.399.2341 • www.csm.edu

Appendix B

Coordinating Commission for Postsecondary Education Approval with

Memorandum of Agreement and Confidentiality Agreement

Memorandum of Agreement

THIS AGREEMENT, entered into on the 15th day of October, 2014, by and between Ms. Amber A. Adair Morrow, 3386 South 115 Street, Nebraska 68144 and the Coordinating Commission for Postsecondary Education (commission):

WHEREAS, to fulfill the dissertation requirement of her Ph.D. program, Ms. Adair Morrow desires to undertake a study of persistence (retention) and completion (graduation) rates of undergraduate students receiving Nebraska Opportunity Grants (NOG) in comparison to similar low-income Nebraska undergraduate students who do not receive NOG funds; and
WHEREAS, the commission finds and declares that the topic of Ms. Adair Morrow's study is of interest and would be of value to the commission as a means of evaluating the effectiveness (success) of the NOG program; and
WHEREAS, the commission is bound by the federal Family Education Rights and Privacy Act to protect the confidentiality of students whose records are maintained by the commission;

NOW, THEREFORE, the parties hereto do mutually agree that Ms. Adair Morrow shall be permitted to undertake her dissertation research using data and other information provided by the commission under the following conditions:

1. That Ms. Adair Morrow receives approval for her proposed dissertation from the College of Saint Mary Institutional Review Board and provides written evidence of that approval to the CCPE;

2. That Ms. Adair Morrow will not have access to or possess any student records containing personally identifiable information at any time. All student records containing personally identifiable information necessary for the study will be in the sole possession of the commission's Database Manager, Dr. Duncan Hsu, on commission premises;

3. That Ms. Adair Morrow has signed a **Confidentiality Agreement** with the commission for access to and analysis of the de-identified study data (attached).

4. That summary data produced by or for Ms. Adair Morrow over the course of her study may be used by the CCPE to respond to requests for information from state policymakers or to inform presentations to state policymakers prior to the completion and defense of Ms. Adair Morrow's dissertation if the information is judged by the CCPE to be of value to the policymaking or state budgeting process. However, the CCPE will inform Ms. Adair Morrow prior to using such data and will not disclose conclusions that would affect Ms. Adair Morrow's ability to successfully defend her dissertation;

5. That Ms. Adair Morrow's research does not constitute official research by the CCPE.

This Agreement and Attachments hereto contain the entire agreement of the parties with respect to the subject matter of the Agreement, and supersede all prior negotiations, agreements, and understandings with respect thereto. This Agreement may only be amended by a written document duly executed by both parties. Any dispute under this agreement or related to this agreement shall be decided in accordance with the laws of the State of Nebraska.

Effective Date: October 15, 2014

Amber A. Adair-Morrow

Ms. Amber Morrow	Dr. Michael Baumgartner, Executive Director

Confidentiality Agreement

Commission Policy on Data Security:

Pursuant to provisions of FERPA, as a state educational authority, or acting on behalf of Nebraska postsecondary education institutions, the Coordinating Commission for Postsecondary Education may, consistent with statutory responsibilities, handle individually identifiable student aid in connection with:

1. Auditing or evaluating federal programs;
2. Application, receipt and administration of student financial aid programs;
3. Conducting studies for or on behalf of an educational institution related to assessment and testing, student financial aid, or improvement of instruction.

Evaluations and reports are produced by the Commission as part of its responsibility, under the Nebraska Constitution, Article 7, Section 14 and the Coordinating Commission Act, Section 85-1401 et seq, to report to the Governor, Legislature, and the public as to the effectiveness and efficiency of public postsecondary education institutions in providing access to needed postsecondary education services for the citizens of the state.

The purpose of this Commission policy is to provide the protocols for the handling of individually identifiable information disclosed to the Commission by educational agencies or institutions or made available by students. For purposes of this policy, handling includes collection, processing, verification, data-base cross-matching, summarization, analysis, reporting, maintenance, storage, and destruction.

Data handling requirements

1. Personally identifiable information from student educational records will not be disclosed to any other party or state agency. Published reports will use aggregate data that do not allow individuals to be personally identified. Aggregate reports that contain categories with less than five individuals will be suppressed to protect those individuals' identities.

2. The Commission will maintain and update, as needed to reflect changes in employee assignments or personal services contractual arrangements, a list of designated employees or contractors under the direct control of the Commission, who may have access to student records containing SSNs or other individually identifiable information. The number of employees or contractors under the direct control of the Commission with access to such data shall be limited to those essential for the specified purpose of utilizing such data.

3. Student SSNs and other personally identifiable information shall be protected in a manner that does not permit individual identification of students, except by designated employees of the Commission or contractors under the direct control of the Commission.

4. Student records containing SSNs or other individually identifiable information shall be destroyed when no longer needed for the specified purpose. To permit longitudinal studies, student records may be maintained by the Commission for a period of not to exceed ten years

from the date the data was first received by the Commission. Such data shall be disposed of by deleting from the computer of the authorized representative any record or portion of a record which may permit personal identification of any student.

5. Student records containing SSNs or other individually identifiable information shall be maintained at the offices of the Commission in a secured electronic form on the personal computer of designated employees or contractors under the direct control of the Commission, and not accessible via the State mainframe system, the Internet, or Local Area Network. Data records that are accessible through the Internet will contain no personally identifiable information.

6. Personal computers or other devices containing SSNs or other individually identifiable information shall not be taken from the Commission office unless the computer's information is ID and password protected or the SSNs and other individually identifiable information reside on the computer in a secured file that is ID and password protected.

7. Student records containing SSNs or other individually identifiable information may be cross-matched, by designated employees of the Commission or contractors under the direct control of the Commission, with data in other state data bases, subject to the provisions of Federal and State privacy laws.

8. Designated Commission employees or contractors under the direct control of the Commission who will have access to student records containing SSNs or other individually identifiable information shall receive training prior to access to such records and as needed to remain current in skills and knowledge regarding the handling of privacy protected data.

9. If individuals obtain copies of their data under the provisions of the Nebraska Public Records Act and then request changes or corrections to the data, the Commission will refer such requests to the institutions that originally provided the data. If an institution makes a data correction, the Commission will correspondingly update its files.

Ms. Adair Morrow agrees to abide by the Commission's policies for handling of personally identifiable information as specified above. Analysis of data by Ms. Adair Morrow will not include specific individually identifiable information such as student identification number, student name, or status of free/reduced lunch. In such instances where there needs to be specific comparative analysis performed within a school or across schools, the actual comparison of data containing personally identifiable information will be done by the Database Manager, Duncan Hsu. The results of the comparisons will be provided to the researcher, Ms. Adair Morrow, in an aggregate format.

Amber A. Adair-Morrow October 15, 2014

Signature Date