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Graduation Rates of Pell Grant Recipients at Mississippi Community Colleges

Christopher C. Armstrong

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Graduation rates of Pell Grant recipients at Mississippi community colleges

By

Christopher C. Armstrong

A Dissertation
Submitted to the Faculty of
Mississippi State University
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy
in Community College Leadership
in the Department of Leadership and Foundations

Mississippi State, Mississippi

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2015

Graduation rates of Pell Grant recipients at Mississippi community colleges

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The purpose of this study was to determine the effect receiving a Pell Grant or not receiving a Pell Grant had on graduation rates at Mississippi community colleges.

National averages suggest that Pell Grant recipients graduate at a much lower rate than non-recipients. This proved not to be the case in Mississippi.

There were three Mississippi community colleges that participated in this study. The total number of students involved in the study was 3,479. The colleges provided the researcher information on Pell Grant status, gender, and ethnicity (i.e., Caucasian, African American, Hispanic or non-Hispanic, American Indian, Asian, or other). Students were compared based on their Pell Grant status and then combined with their gender and ethnicity as well as the region of the state in which they attended community college.

The researcher used a quasi-experimental design for the study. The data gathered allowed for chi-square tests to be performed based on Pell Grant status, gender, and ethnicity. Each test included all 3,479 students involved in the study. The study used an

ANOVA to study the effects Pell Grant status had on graduation rates in the different regions of the state.

The study found that the differences among graduation rates for Pell Grant recipients and non-recipients are significant for gender and the different regions of the state. The results are not significant for Pell Grant recipients and non-recipients nor are they significant for Pell Grant recipients and non-recipients combined with ethnicity. Mississippi African Americans and Caucasian students graduate at a much higher rate than the national average. This study finds that Mississippi students perform better than the national average when it comes to graduation rates.

Considerations for future research are discussed.

DEDICATION

I would like to dedicate this project to my family. My parents have believed in me and supported me throughout life. Their belief and support has not waned throughout this process. My brother, Cory, has been my confidant through every journey of life and even more so through this. The Tomlinson clan (even Kristen) has also supported and motivated me as this journey progressed. Lastly, Laura and Luke, my loves, you give me motivation, support, and love every day. I would not have finished without the two of you. Thank you and I love you all!

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CHAPTER I

INTRODUCTION

In 1972 Congress reauthorized the Higher Education Act of 1965. This reauthorization established the Basic Educational Opportunity Grant Program, later renamed the Pell Grant (United States Department of Education, 2014). This grant program was designed to provide need-based financial assistance to undergraduate students at 2-year colleges and 4-year universities. This grant is awarded to students at 2-year colleges who award degrees, diplomas, or certificates (“How the Pell Grant works,” 2010). Students who have enrolled in participating schools and do not have a bachelor’s or professional degree are eligible to be award the grant (United States Department of Education, 2010). The Pell Grant program receives the largest percentage of the federal education budget. Funding for this program has risen from \$16.5 billion in 2008 to \$38.2 billion in 2012 (American Association of Community Colleges, 2013). This equates to a 131.52% increase. The number of students has not grown at the same rate as the Pell Grant; therefore, students receive larger amounts of financial assistance than before. Graduation rates are not increasing on a national scale as funding is increasing.

According to the National Center for Education Statistics (2013), enrollment in degree programs rose from 6,971,105 students in 2008 to 7,163,973 in 2012. This was a net increase of 192,868, or 2.76%, students during this time. The National Center for Education Statistics (n.d.) found that university enrollment increased 12.49% during this

time. During these years, Mississippi university enrollment increased from 71,161 students to 81,022 students for a 13.86% increase (Mississippi Community College Board, 2014). For this period, there was a 22.31% increase in certificate completers and a 26.83% increase in degree completers at community colleges throughout America (National Center for Education Statistics, 2013).

In Mississippi during this time, there has been Pell Grant growth as well. From 2008-2009 to 2011-2012 there was a 31% increase in the number of Pell Grants awarded to community college students (Katsinas, Davis, Koh, & Grant, 2012). The number increased from 40,816 students to 53,264 students during these four years. Pell funding grew from \$141,000,000 to \$274,000,000, or 94% (Katsinas et al., 2012). This compares to a national growth of \$16,256,000,000 in 2008-2009 to \$22,824,000,000 in 2012-2013, or a 40% increase (United States Department of Education, 2015). Finally, in 2008, 40% of Mississippi community college students were Pell recipients while in 2012 that number had expanded to 48% (Katsinas et al., 2012).

As evidenced by these numbers, Pell Grant funding has far outpaced the growth in enrollment or completers. This is shown to be true on both the state and federal level. However, growth in funding has not resulted in a growth of graduates. The growth in completers has not mirrored the growth in funding. The studies (i.e., Wei & Horn, 2002; Wei, Horn, & Weko, 2009) that have been completed recently have not looked at the students who have benefitted from this increase in funding. These studies have examined the characteristics of Pell Grant recipients. Pell Grant recipients were found to exhibit characteristics that are deemed detriments to graduation (Wei et al., 2009). Some of these characteristics include a delayed enrollment past high school, being financially

independent, and having children. Because of these pre-existing characteristics, Tinto's Theory of Integration was used for this study. Braxton, Milem, and Sullivan (2000) said Tinto examined characteristics that "include family background factors, individual attributes, and pre-schooling experiences" (p. 570). In 2013, 22% of full-time community college students were employed full-time while 40% of part-time students were employed full-time (American Association of Community Colleges, 2014). These students entered their post-secondary careers with at least two major responsibilities: school and work. Community college students are often older students which, by nature, would suggest family factors would be involved with persistence (American Association of Community Colleges, 2014). In 2012, 36% of community college students were first generation college students which also has proven to be a detriment to persistence (American Association of Community Colleges, 2014). The entry characteristics of community college students, as evidenced in the research, can be a barrier to persistence.

Most research on the effectiveness of the Pell Grant in terms of graduation rates has been completed on a national level. There are also studies on Pell Grant recipients' family characteristics, employment characteristics, and class load characteristics. While these studies are useful, they report on national data and fail to recognize the issues at a state level. This study examined Mississippi data only.

This chapter provides the rationalization for this study on Pell Grant recipients at Mississippi community colleges. The chapter includes the problem to be researched, the purpose of the study, the research questions associated with the study, the definition of terms associated with the study, an overview of the method of the study, the delimitations associated with the study, and finally, the significance of the study.

Statement of the Problem

The problem is discovering if the graduation rates of Pell Grant recipients in Mississippi community colleges are significantly different than the graduation rates of non-Pell Grant recipients.

Purpose of the Study

The purpose of this quantitative study was to discover the differences in the graduation rates of Pell Grant recipients and non-Pell Grant recipients at Mississippi community colleges, examining the data for gender and ethnicity while using the locations of the community colleges to examine regions. The study included all students from three Mississippi community colleges who began their academic careers in 2008-2009. The total number of students involved was 3,479. Chi-square tests were used to determine the statistical significance of the graduation rates of Pell Grant recipients and non-Pell Grant recipients. Post-hoc analysis was used to determine the differences in region graduation rates.

Research Questions

1. What are the graduation rate differences for Pell Grant recipients and non-Pell Grant recipients at three Mississippi community colleges?
2. What are the graduation rate differences among Pell Grant recipients and non-recipients based on the demographic factor of gender?
3. What are the graduation rate differences among Pell Grant recipients and non-recipients based on the demographic factor of ethnicity?

4. What are the graduation rate differences among Pell Grant recipients and non-recipients based upon differing regions of the state?

Definition of Terms

- 1) Community College: 2-year schools that provide affordable post-secondary education as a pathway to a 4-year degree (United States Department of Homeland Security, n.d.).
- 2) Graduation: conferral or receipt of an academic degree or diploma marking completion of studies (Graduation, n.d.). For the purpose of this study graduation will be a community college certificate, associate's degree, or a bachelor's degree.
- 3) National Postsecondary Student Aid Study: examines the characteristics of students in postsecondary education, with special focus on how they finance their education (National Postsecondary Student Aid Study [NPSAS], n.d.).
- 4) Pell Grant: a Federal Pell Grant, unlike a loan, does not have to be repaid. Federal Pell Grants usually are awarded only to undergraduate students who have not earned a bachelor's or a professional degree. (In some cases, however, a student enrolled in a post baccalaureate teacher certification program might receive a Federal Pell Grant.) Applicants are not eligible to receive a Federal Pell Grant if they are incarcerated in a federal or state penal institution or are subject to an involuntary civil commitment upon completion of a period of incarceration for a forcible or nonforcible sexual offense (Types of Aid, n.d.).

Overview of Method

The subjects for this study included students from three Mississippi community colleges who began their academic career during the fall semester of the 2008-2009 school year. The students were examined using Chi-square tests based on Pell Grant status, gender, ethnicity, and region. The data were collected with the help of each community college after the Institutional Review Board (IRB) of Mississippi State University granted approval.

This study looked to examine the Mississippi community college student and provide data that is useful to future research as well as the community college leaders of today. Mississippi currently lacks a study on the effects of Pell Grant receipt on graduation rates.

The hypotheses for the study are:

- H₀₁: There is no statistically significant difference between the graduation rates of Pell Grant recipients and non-recipients.
- H₁: There is a statistically significant difference between the graduation rates of Pell Grant recipients and non-recipients.
- H₀₂: There is no statistically significant difference between the graduation rates of Pell Grant recipients and non-recipients based on gender, ethnicity, and region.
- H₂: There is a statistically significant difference between the graduation rates of Pell Grant recipients and non-recipients based on gender, ethnicity, and region.

Delimitations

Possible delimitations include:

1. The research reported on 3 Mississippi community colleges and not all 15. This allowed a snapshot of the Pell Grant Program at Mississippi community colleges.
2. No factors outside of Pell Grant status were considered when examining graduation rates.
3. No external factors were considered when determining graduation and non-graduation data. For example, if a student found employment or died they were considered a non-graduate no matter the external factors.

Significance

This research provides community colleges the opportunity to better understand their own students. This research provides universities the opportunity to better understand the transfer students who attend their schools. This study can be used by community colleges and universities to determine if specific services are needed based on this research. This research also helps policy makers understand the academic outcomes of the students who began their academic career during this time of Pell Grant growth. Ultimately, this quantitative study provides a greater understanding of community college Pell Grant students in general and Mississippi community college Pell Grant students in particular.

Chapter Summary

This chapter provided an overview of the data supporting the need for this study as well as information about the study itself. This study looked at the graduation rates of Mississippi community college students who began their academic career during the fall semester of 2008 and received a Pell Grant. The study concluded with these students in the 2013-2014 academic year. This was done to allow the participants time to complete their degree. The graduation rates of these students was compared to non-Pell Grant recipients. The graduation rates were examined based on gender, ethnicity, and region.

CHAPTER II

LITERATURE REVIEW

Introduction

This chapter includes information on community college student characteristics, the federal Pell Grant program, and the use of Pell Grants in Mississippi. These topics are the foundation for this study on the completion percentages of Pell Grant recipients in Mississippi.

Community College Student Characteristics

In 1901, the first junior college, Joliet Junior College, was formed (Vaughn, 2006). Today there are 1,132 community colleges throughout the nation (United States Department of Education, 2014). Vaughn (2006) describes a community college as a “regionally accredited institution of higher education that offers the associate degree as its highest degree; however, today, in a number of states, community colleges offer the bachelor’s degree as well (p. 1).” Community colleges separate themselves from other higher education institutions due to their commitment to open access, comprehensive course and program offerings, and community building.

Community colleges, in general, all have the same mission. This mission revolves around providing access to postsecondary education, programs, and services that lead to a stronger communities (Vaughn, 2006). Vaughn (2006) says that the mission is served by similar commitments among community colleges. These commitments are

open access admissions policies, providing educational programs that are comprehensive, serving the community through community-based education, teaching and learning, and fostering lifelong learning.

Community colleges look to serve their communities by offering something to everyone in the community according to Cohen and Brawer (2008). This includes transfer opportunities as well as job attainment opportunities for the students (Cohen & Brawer, 2008). Because of the stated goal of transfer opportunities and job attainment opportunities, community colleges serve traditional and non-traditional students. A variety of students attend a community college for a number of reasons.

In 2012, the average age of a community college student in America was 28. Thirty percent (30%) of students were 21 years of age or younger, 57% were age 22-39, and 14% were over 40 (American Association of Community Colleges, 2014). According to the 2014 Fact Sheet from the American Association of Community Colleges (2014), 57% of students were women while 43% were men. The ethnicity breakdown was 51% white, 19% Hispanic, 14% black, 6% Asian/Pacific Islander, 1% Native American, 2% two or more races, 5% other/unknown, and 1% nonresident alien (American Association of Community Colleges, 2014).

Community college students exhibit other important demographic characteristics as well. For students entering in 2012, 36% of them were first generation college students (American Association of Community Colleges, 2014). According to the National Center for Education Statistics (1998), first generation college students are undergraduate students in which neither parent ever enrolled in college. Seventeen percent (17%) of the students were single parents according to the 2014 Fact Sheet

(2014). Other demographics included 12% of students with disabilities, 7% non-US citizens, and 4% were veterans (American Association of Community Colleges, 2014).

Of community college and university undergraduate students in the fall of 2012, 45% of them were community college students according to the American Association of Community Colleges (2014). Of first time freshmen, 42% of them were community college students (American Association of Community Colleges, 2014). Also according to the American Association of Community Colleges (2014), 59% of Native American undergraduates, 56% of Hispanic undergraduates, 48% of black undergraduates, and 44% of Asian/Pacific islander undergraduates were community college students.

The National Center for Education Statistics (2015) reported on the graduation rates of students who entered community college in the fall of 2010. This study reported that females graduated at a 20% rate while males graduated at a 19% rate. This study allowed for three years to graduate in the 2-year program. Students included in this study were considered completers if they received an associate's degree or certificate from the college of which they initially attended.

The National Center for Education Statistics (2014) also reported on the graduation rates based on ethnicity. This report focused on students who began their academic career in the fall of 2010. The study allowed three years to graduate from a 2-year program. The study found that 22.4% of whites graduated during this time, 10.8% of blacks graduated, while 16.2% of Hispanics graduated. Asian/Pacific Islanders graduated at a 26.7% rate while American Indian/Alaska Natives graduated at a 15% rate. Students who received an associate's degree or certificate were considered completers if they received the credentials from the college of which they initially attended.

The employment status of community college students varied during the 2012 fall semester. Twenty two percent (22%) of full-time students were employed full time while 40% of full-time students were employed part-time according to the American Association of Community Colleges (2014). Of part-time students, 41% of these students were employed full-time while 32% of them were employed part-time (American Association of Community Colleges, 2014).

Wei et al. (2009) found characteristics (e.g., enrollment status, hours worked, responsibilities outside of school) of Pell Grant recipients that can prove to be a detriment to graduation. These researchers used the 2000/01 Baccalaureate and Beyond Longitudinal Study which comes from the NPSAS. The NPSAS is a national survey that is ongoing and conducted by the United States Department of Education. This study uses students from all 50 states and Puerto Rico. Wei et al. (2009) studied 1999-2000 graduates and found that 4% of all Pell Grant recipients had not graduated from high school compared to 1.9% of non-recipients. The study also found that 33.7% of recipients delayed enrollment compared to 23% for recipients. Twenty eight percent (28%) of Pell Grant recipients enrolled part time and 30.4% of non-recipients did the same (Wei et al., 2009). The breakdown for employment was 23.6% recipients/24.8% non-recipients worked full time, 58.3% recipients/54% non-recipients worked part time, and 18.2% recipients/21.2% non-recipients did not work at all (Wei et al., 2009). The greatest differences between the two groups was in the home life of the students. Of recipients, 59.8% were independent, 24.3% had dependents of their own, while 11.4% of them were single parents (Wei et al., 2009). For non-recipients 34.4% were independent, 12.8% had dependents of their own, and 4% were single parents (Wei et al., 2009).

Although community colleges serve many nontraditional, underrepresented, low-income, and first-generation students who statistics show do not persist or graduate on levels equal to traditional students, the graduation trend nationwide is on a positive incline according to the National Center for Education Statistics (2009). The number of Associate's degrees awarded in 1997 was 571,242 with the number growing to 745,183 in 2007 (National Center for Education Statistics, 2009). This was a 30.4% increase. During this 10-year span, the increase among Hispanic students was 74%, 54% among black students, and 11% among white students (National Center for Education Statistics, 2009).

Pell Grant Program

In 1958 the Soviet Sputnik program caused enough concern in America to spawn the National Defense Education Act of 1958. This created a federal student aid system for public and nonprofit institutions to make low interest loans to students who were deemed to be in need (Blaine & Mullin, 2011). The Higher Education Act of 1965 added to the existing federal aid system. This act expanded federal aid eligibility to institutions that produced students who were ready for the workforce. This act also supported the growth of need-based grant programs at the institutional level (Blaine & Mullin, 2011). The 1972 reauthorization of the Higher Education Act of 1965 created the Basic Educational Grant Program, renamed the Federal Pell Grant Program in 1980 after Senator Claiborne Pell of Rhode Island (Blaine & Mullin, 2011; United States Department of Education, 2014).

The Pell Grant program was and is associated with a climb in college attendance. Five years before the Pell Grant was put in place only 14.6% of 18-to-34-year-olds

attended college with that number climbing to 16.6% in 1976, just four years after the program began (Blaine & Mullin, 2011). In 2009, this number had climbed to 23.5% (Blaine & Mullin, 2011). Low income high school graduates enrolled in college the fall immediately following graduation at a 31.2% rate in 1975 while low income high school graduates enrolled at a 54.1% rate in 2009 (Blaine & Mullin, 2011). As pointed out by Immerwarh, Johnson, Ott, & Rochkind (2010) this climb in attendance is not equated with all positive news. In 1998, 45% of people believed that qualified people did not have the opportunity to attend college. In 2009, that number had risen to 69% (Blaine & Mullin, 2011).

As stated above, the Pell Grant is designed for students in need. The formula for determining need is the Expected Family Contribution (EFC) formula (United States Department of Education, n.d.). The EFC formula determines students' federal financial aid eligibility by subtracting the EFC, provided by the student on their Free Application for Federal Student Application (FAFSA), from the students' cost of attendance (United States Department of Education, n.d.). The maximum amount a student could be awarded via Pell Grant has risen through the years. In 2008-2009 the maximum was \$4,731, in 2009-2010 the maximum was \$5,350 (Pell Grant Historical Figures, 2015). The number had risen to \$5,550 in 2010-2011 and remained at that level through 2012-2013 before seeing an increase to \$5,635 in 2013-2014 and being at \$5,775 for the 2014-2015 academic year (United States Department of Education, n.d.a; Pell Grant Historical Figures, 2015). This formula is used to determine eligibility and award for Pell Grants, Subsidized Stafford Loans, Federal Supplemental Educational Opportunity Grants,

Federal Perkins Loans, and Federal Work Study (United States Department of Education, n.d.b).

Students filing for and receiving a Pell Grant have shown characteristics that are deemed detriments to college persistence (Wei et al., 2009). Some of these characteristics included being a non-traditional student, being financially independent, having delayed enrollment past high school, not graduating from high school, having children, and being a single parent. Wei and Horn (2002) found that there was no difference in persistence or degree completion of recipients and non-recipients from low-to-middle income families when attending community colleges. The outcome was different at 4-year institutions. Wei and Horn (2002) found that there was a difference between the graduation rates of recipients and non-recipients in that recipients had higher graduation rates than non-recipients. The low-to-middle income families can either receive or not receive a Pell Grant based on their expected family contribution. A small amount of money can make a difference in receiving a Pell Grant or not. Wei and Horn (2002) looked at the socioeconomic standing of families which can be interpreted numerous ways.

For students eligible for a Pell Grant, filing for a Pell Grant correlated to a higher rate of persistence according to McKinney and Novak (2012). Consistent with the National Center of Education Statistics (2011) findings, students who are enrolled part-time and students who work more hours per week tend to have poorer persistence and graduation rates according to McKinney and Novak (2012). Many of these students who receive a Pell Grant have a statistically smaller chance of completion than students from a middle-to-upper class family who will exhibit fewer of the deterrents of Pell Grant

recipients. While the characteristics of Pell Grant recipients prove to be less than ideal for completion, the Pell Grant is still important in providing financial access to college (Hardy & Katsinas, 2008).

Backing these findings is the study conducted by Wei et al. (2009) that used the NPSAS findings. They found that of Pell Grant recipients who graduated in 1999-2000, 28% of them graduated within four years while 45% of non-recipients graduated during this time (Wei et al., 2009). Twenty-two percent (22%) of recipients graduated during the fifth year compared to 25% for non-recipients (Wei et al., 2009). Of recipients, 13% graduated during the sixth year while 8% of non-recipients graduated during this extra year (Wei et al., 2009). This equates to 78% of non-recipients graduated in six years while 63% of recipients graduated during this same time.

In 2011, the National Center for Education Statistics published an article using the NPSAS findings for students who began their postsecondary career in 2003-04. The study, *Persistence and attainment among Pell Grant recipients: Results from the Beginning Postsecondary Students Longitudinal Study of 2004/09*, used data from 16,100 students. The 2003-04 academic year had 3,700,000 students who were first-time attendees of postsecondary institutions, and the 16,100 students used in this study were a representation of the overall sample (National Center for Education Statistics, 2011). This study found that of students who began their postsecondary career in the 2003-04 academic year, 67.5% of non-recipients had attained a degree or were still working towards one in the 2009 spring semester while 63.9% of recipients had attained a degree or were still working towards one (National Center for Education Statistics, 2011). For certificate seeking students, 65% of non-recipients had attained or were still working

towards their goal while 64.2% of recipients doing the same (National Center for Education Statistics, 2011). Lastly, 46.6% of non-degree-seeking students who did not receive a Pell Grant were still enrolled while 61.4% of recipients were enrolled according to the National Center for Education Statistics (2011).

Pell Grant Program in Mississippi

The Pell Grant program plays a role in college access in Mississippi at the 8 public universities and 15 community colleges (Katsinas et al., 2012). The eight universities are Alcorn State University, Delta State University, Jackson State University, Mississippi State University, Mississippi University for Women, Mississippi Valley State University, University of Mississippi, and University of Southern Mississippi (Mississippi Institutions of Higher Learning, 2015). The 15 community colleges are Coahoma Community College, Copiah-Lincoln Community College, East Central Community College, East Mississippi Community College, Hinds Community College, Holmes Community College, Itawamba Community College, Jones County Junior College, Meridian Community College, Mississippi Delta Community College, Mississippi Gulf Coast Community College, Northeast Mississippi Community College, Northwest Mississippi Community College, Pearl River Community College, Southwest Mississippi Community College (Mississippi Community College Board, 2015).

For the 2010-11 academic year \$379,914,402 was paid to 81,254 students at public universities and community colleges in Mississippi (Katsinas et al., 2012). Of all public university students in Mississippi during the 2010-2011 academic year, 49% received Pell Grants for a total of \$134,000,000 (Katsinas et al. 2012). This 49% represents 27,848 students out of a total of 56,987 university students. Community

colleges had a total of 73,957 students during this time (Katsinas et al. 2012). Out of this total there were a total of 53,406 who received a Pell Grant (Katsinas et al. 2012). This represents 72% of the total community college students receiving a grant. The total dollars awarded to community college students was \$245,000,000 (Katsinas et al., 2012). This equates to university students receiving 35% of Pell Grant funds while community college students received 65% of these funds.

Mississippi saw a growth in Pell Grants awarded from 2008-09 through 2011-2012. In 2008 there were 40,816 students who received a Pell Grant and attended a Mississippi community college (Katsinas et al., 2012). In 2012 that number had grown to 53,264 (Katsinas et al., 2012). This is an increase of 12,452 students or 31%. Pell Grants totaled \$141,000,000 in 2008 while the total for 2012 was \$274,000,000 for a 52% increase of \$134,000,000 (Katsinas et al., 2012). Graduation rate data for Mississippi students are lacking when comparing Pell Grant recipients to non-recipients.

CHAPTER III

METHOD

Introduction

This chapter details the steps that were taken to determine the graduation status of Pell Grant recipients at Mississippi community colleges. A quasi-experimental design was used to interpret the data used for this study. The data were collected from each individual community college after receiving IRB approval from Mississippi State University. This chapter includes the research design, research questions, research site, population and sampling procedure, instruments, data collection procedures, and data analysis procedures.

Research Design

This study used a quasi-experimental, nonequivalent control group design. Fraenkel, Wallen, and Hyun (2012) write that “quasi-experimental designs do not include the use of random assignment” (p. 275). This study does not include random assignment as preexisting groups were used and was a nonequivalent control group design. Fraenkel et al. (2012) write that nonequivalent control group design is used when two groups that are compared have previously been formed. This study examined students who did receive a Pell Grant and those who did not receive a Pell Grant at three Mississippi community colleges beginning in the fall of 2008. The study examined the students through the spring of 2014.

Research Questions

There are four research questions associated with this study. The questions are (1) what are the graduation rate differences for Pell Grant recipients and non-Pell Grant recipients at three Mississippi community colleges, (2) what are the graduation rate differences among Pell Grant recipients and non-recipients based on the demographic factor of gender, (3) what are the graduation rate differences among Pell Grant recipients and non-recipients based on the demographic factor ethnicity, and (4) what are the graduation rate differences among Pell Grant recipients and non-recipients based upon differing regions of the state?

Table 1 shows the analysis procedures based on the specific research questions. Questions one through three were analyzed using a chi-square test. Question four was analyzed using an analysis of variance (ANOVA). A post-hoc analysis was done to further understand question four.

Table 1

Analysis Table

Research Question	Instrument	Analysis Procedures
Graduation rates of recipients and non-recipients	Existing data 1-3	Chi-square test
Graduation rate differences based on gender	Existing data 4	Chi-square test
Graduation rate differences based on ethnicity	Existing data 5	Chi-square test
Graduation rate differences based on region	Existing data 6	ANOVA

Research Site

The participants for this study came from three community colleges in Mississippi. Community College A is in the northern third of Mississippi. Community College B is in the southern third of Mississippi. Community College C is in the central third of the state. The colleges were chosen to represent differing geographical locales around Mississippi.

Community college A draws students from the northern part of Mississippi. The college is often the college of choice for people in their five county district even if afforded the opportunity to attend elsewhere. This college is largely driven by the main campus with smaller satellite campuses available to students. Community college B serves a four county district in the southern part of the state in which there is no satellite campus. Community college C operates in the central third of the state. This college serves students from a main campus and four smaller satellite campuses.

These colleges were chosen to provide a cross-section of Mississippi's population. They were also chosen due to the similarities and differences of the colleges. Community college A and C had very similar enrollment numbers for the fall of 2008. Community college B had a larger enrollment and a more diverse population. The similarities and differences of the chosen colleges provided a wide-range of students to study. The different colleges provided students of different ethnicities, gender, and financial standing.

Participants

The participants were all of the students who began their first semester of post-secondary work at one of the selected community colleges during the fall semester of

2008. The total number of students included in this study was 3,479. Community college A reported 1,137 students beginning their academic career in 2008-2009. For this same time, community college B reported 815 and community college C reported 1,527.

Instruments

The data for this study were gathered from each of the three community colleges selected for this study. A detailed explanation of the data needed was submitted to each college which then provided the data. The data needed for each student were Pell Grant status, graduation status, gender, and ethnicity. The data from the colleges were aggregated into a spreadsheet.

Data Collection

Data for this study were collected through each community college after gaining approval from the Mississippi State University IRB. The participants in this study were the freshmen of 2008-2009 at these three community colleges.

Data collection began with permission being sought from the president at each college. Permission was granted from community college A on June 15, 2015 and data were received on July 24, 2015, via email. Permission from community college B was granted on June 1, 2015, and the data were received on June 30, 2015, via email. Community college C granted permission on May 29, 2015, and the researcher received their data on August 5, 2015, via email. IRB approval from Mississippi State was sought on June 26, 2015, and permission was granted on June 29, 2015, via email.

Data Analysis

Once all data were obtained, each research question was analyzed. Research questions one through three were analyzed using a chi-square test. These questions sought to attain information that is best understood using chi-square tests since chi-square tests are best used when looking at data that are in categories (Fraenkel et al., 2012). Question one examined the categories of Pell Grant recipients and Pell Grant non-recipients. Question two examined the categories of Pell Grant recipients and Pell Grant non-recipients graduation rates based on gender. Question three examined the categories of Pell Grant recipients and Pell Grant non-recipients graduation rates based on ethnicity. Question four was analyzed using an ANOVA. An ANOVA was used because there are more than two groups associated with region (Fraenkel et al., 2012).

Summary

This chapter detailed the method that was used for the research involved with this study. The procedures for collecting data and the participants were identified. The data were collected with the help of the three participating community colleges within the state of Mississippi. The participants were students who began their academic career in the 2008-2009 academic year. The participants were identified as Pell Grant recipients and non-Pell Grant recipients. These participants were preexistent so the study was quasi-experimental. The period of time for this study begins with the 2008-2009 academic year and ends with the 2013-2014 academic year. When all data were collected and examined, there was a better understanding of the characteristics associated with Pell Grant recipients and non-Pell Grant recipients at Mississippi community colleges.

CHAPTER IV ANALYSIS OF DATA

Introduction

Chapter IV provides the results of the statistical analyses used to examine the graduation rates of Pell Grant recipients at Mississippi community colleges. The framework for the study was based on the following research questions:

1. What are the graduation rate differences for Pell Grant recipients and non-Pell Grant recipients at three Mississippi community colleges?
2. What are the graduation rate differences among Pell Grant recipients and non-recipients based on the demographic factor of gender?
3. What are the graduation rate differences among Pell Grant recipients and non-recipients based on the demographic factor of ethnicity?
4. What are the graduation rate differences among Pell Grant recipients and non-recipients based upon differing regions of the state?

The independent variables for these research questions were Pell Grant receipt, gender, ethnicity, and region. The dependent variable was the graduation rate of students.

Demographics

A request for information was sent to the three Mississippi community colleges chosen for this study. The request specified that no identifiable information be included

and that the data include Pell Grant status, gender, and ethnicity. The data were to include all students who began their academic career during the 2008-2009 academic year. The three institutions responded for a total of $N = 3,479$ subjects comprising those who did and did not receive a Pell Grant. This number, $N = 3,479$, was used to conduct the research for this study.

Table 2 presents the total number of enrolling freshmen for the 2008-2009 academic year at each institution. Of the participants, 32.7% came from community college A, 23.4% came from community college B, and 43.9% came from community college C. Males constituted 33.9% of the study and women constituted 66.1% of the study. Community college A did not report ethnicity data except for Hispanic/Non-Hispanic. Because of this, ethnicity data are only from community college A and community college B. Of these 2 colleges, 60.4% of the students were African Americans and 37.8% were Caucasian. The other groups, Hispanic, American Indian, Asian/Pacific Islanders, and other, made up 1.8% of the student population.

Table 2

Total Participants by Institution

Variables	Frequency	Percentage
Community College A		
<i>Gender</i>		
Male	508	44.7%
Female	629	55.3%
Total	1137	100%
<i>Ethnicity</i>		
African American	n/a	n/a
Caucasian	n/a	n/a
Hispanic	n/a	n/a
American Indian	n/a	n/a
Asian/Pacific Islander	n/a	n/a
Other	n/a	n/a
<i>Pell Grant Status</i>		
Recipient	699	61.6%
Non-recipient	438	38.4%
Community College B		
<i>Gender</i>		
Male	327	40.1%
Female	488	59.9%
Total	815	100%
<i>Ethnicity</i>		
African American	386	47.4%
Caucasian	415	51%
Hispanic	2	<1%
American Indian	5	<1%
Asian/Pacific Islander	2	<1%
Other	5	<1%
<i>Pell Grant Status</i>		
Recipient	493	60.4%
Non-recipient	323	39.6%
Community College C		

Table 2 (Continued)

<i>Gender</i>		
Male	343	22.5%
Female	1184	77.5%
Total	1527	100%
<i>Ethnicity</i>		
African American	1029	67.4%
Caucasian	471	30.8%
Hispanic	16	1%
American Indian	1	<1%
Asian/Pacific Islander	1	<1%
Other	9	<1%
<i>Pell Grant Status</i>		
Recipient	1164	76.2%
Non-recipient	363	23.8%

Research Question One

What are the graduation rate differences for Pell Grant recipients and non-Pell Grant recipients at three Mississippi community colleges?

Table 3 represents graduation rates for Pell Grant recipients and non-recipients. Each participant was identified as a Pell Grant recipient or a non-Pell Grant recipient. Pell Grant recipients had a graduation rate of 37.4% while non-recipients had a graduation rate of 38.5%. Participants receiving a Pell Grant failed to graduate at a rate of 62.6% and those not receiving a Pell Grant failed to graduate 61.5% rate.

Table 3

Pell Grant Recipients and Non-recipients Graduation Rates

Pell Grant Status	Completed	Percentage	Not Completed	Percentage
Recipients	881	37.4%	1,475	62.6%
Non-recipients	432	38.5%	691	61.5%

A chi-square statistic was conducted to evaluate the graduation rate differences among Pell Grant recipients and non-Pell Grant recipients. Table 4 shows the Pearson chi-square results. The results indicate that the graduation rate differences among Pell Grant recipients and non-Pell Grant recipients is not statistically significant ($\chi^2 = .374$, $df = 1$, $N = 3479$, $p = .541$). The effect size is small ($\phi = .01$). These results indicate that Pell Grant status has no impact on community college graduation.

Table 4

Chi-square analysis of graduation rates of Pell Grant recipients and non-recipients

	Graduation Rates					
	<i>N</i>	Yes	No	χ^2	<i>p</i>	ϕ
				0.374	.541	.01
Pell Grant Status						
Recipients	2356	881	1475			
Non-recipients	1123	432	691			
Totals	3479	1313	2166			

Note: *N* = number of students

Research Question Two

What are the graduation rate differences among Pell Grant recipients and non-recipients based on the demographic factor of gender?

Table 5 represents the descriptive statistics for research question two. Male Pell Grant recipients graduated at a rate of 32.6% while females graduated at a rate of 39.4%. Male non-recipients graduated at a rate of 32.2%. Female non-recipients graduated at a 43.1% rate.

Table 5

Graduation rates for Pell Grant recipients and non-recipients based on gender

Pell Grant Status	Completed	Percentage	Not Completed	Percentage
Male Pell Grant Recipients	229	32.6%	474	67.4%
Female Pell Grant Recipients	652	39.4%	1001	60.6%
Male Non-Pell Grant Recipients	153	32.2%	322	67.8%
Female Non-Pell Grant Recipients	279	43.1%	369	56.9%

Table 6 represents the chi-square analysis for Pell Grant recipients based on gender. The results indicate that there is a statistically significant difference in the graduation rates of male Pell Grant recipients and female Pell Grant recipients ($\chi^2 = 9.94$, $df = 1$, $N = 2356$, $p = .002$). The effect size is small ($\phi = .002$).

Table 6

Graduation rates of Pell Grant recipients based on gender

	N	Pell Grant Recipients		χ^2	p	ϕ
		Completed	Not Completed			
				9.94	.002	.065
Gender						
Male	703	229	474			
Female	1653	652	1001			
Totals	2356	881	1475			

Table 7 represents the chi-square analysis for non-Pell Grant recipients based on gender. The results indicate that there is a statistically significant difference in the graduation rates of male Pell Grant non-recipients and female Pell Grant non-recipients ($\chi^2 = 13.619$, $df = 1$, $N = 1123$, $p = .000$). The effect size is small ($\phi = .000$).

Table 7

Graduation rates of non-Pell Grant recipients based on gender

	Non-Pell Grant Recipients					
	<i>N</i>	Completed	Not Completed	χ^2	<i>p</i>	ϕ
Gender				13.619	.000	.000
Male	475	153	322			
Female	648	279	369			
Totals	1123	432	691			

Research Question Three

What are the graduation rate differences among Pell Grant recipients and non-recipients based on the demographic factor of ethnicity?

Table 8 represents the findings based on graduation rates for Pell Grant recipients and non-recipients when considering ethnicity. The study used only community college B and community college C due to the fact that community college A only reported Hispanic and non-Hispanic. Also, only African Americans and Caucasians were studied as the number of participants with other ethnicities was too small. Table 8 shows that African American Pell Grant recipients graduate at a 39.8% rate while Caucasian Pell Grant recipients graduate at a 46.2% rate. African American non-recipients graduate 46.9% of the time while Caucasian non-recipients graduate 50.8% of the time.

Table 8

Graduation rate for Pell Grant recipients and non-recipients based on ethnicity

Pell Grant Status	Completed	Percent	Not Completed	Percent
African American Pell Grant Recipients	466	39.8%	705	60.2%
Caucasian Pell Grant Recipients	211	46.2%	246	53.8%
African American non-Pell Grant Recipients	115	46.9%	130	53.1%
Caucasian non-Pell Grant Recipients	218	50.8%	211	49.2%

To investigate whether graduation rates differ for Pell Grant recipients based on ethnicity, a chi-square test was conducted. Table 9 shows the Pearson chi-square results and indicates that there is a statistically significant difference ($\chi^2 = 15.528$, $df = 5$, $N = 1628$, $p = .008$). The effect size was small ($\phi = .008$). African Americans graduation rates were significantly influenced by receiving a Pell Grant ($z = 2.78$). Caucasians graduation rates were also significantly influenced by receiving a Pell Grant ($z = 2.14$).

Table 9

Graduation rates of Pell Grant recipients based on ethnicity

		Pell Grant Recipients					
	<i>N</i>	Completed	Not Completed	χ^2	<i>p</i>	ϕ	<i>z</i>
				15.528	.008	.008	
Ethnicity							
African American	1171	466	705	7.73	.02		2.78
Caucasian	457	211	246	4.58	.10		2.14
Totals	1628	677	951				

Table 10 presents the chi-square analyzation of graduation rates of non-Pell Grant recipients based on ethnicity. This analysis found no statistically significant difference in the graduation rates of non-Pell Grant recipients based on ethnicity ($\chi^2 = 7.631$, $df = 5$, $N = 674$, $p = .178$). The effect size was large ($\phi = .178$). African Americans graduation rates were not significantly influenced by not receiving a Pell Grant ($z = .122$). Likewise, Caucasians graduation rates were not significantly influenced by not receiving a Pell Grant ($z = .50$).

Table 10

Graduation rates of non-Pell Grant recipients based on ethnicity

		Non-Pell Grant Recipients					
	<i>N</i>	Completed	Not Completed	χ^2	<i>p</i>	ϕ	<i>z</i>
				7.631	.178	.178	
Ethnicity							
African American	245	115	130	1.49	.48		.122
Caucasian	429	218	211	.25	.88		.50
Totals	674	333	341				

Research Question Four

What are the graduation rate differences among Pell Grant recipients and non-recipients based upon differing regions of the state?

Table 11 represents the findings based on graduation rates for Pell Grant recipients and non-recipients when considering the geographical regions of the state. Students in the northern region of the state who received a Pell Grant graduated at a 26.6% rate. Students in the southern region of the state graduated at a 34.8% rate while those in the western region graduated at a 45% rate. Pell Grant non-recipients in the northern region graduated at a 22.9% rate, the southern region non-recipients graduated at a 38.4% rate, and the western region non-recipients graduated at a 57.3% rate.

Table 11

Graduation rates for Pell Grant recipients and non-recipients based on region

Pell Grant Status	Completed	Percentage	Not Completed	Percentage
North Pell Grant Recipients	186	26.6%	514	73.4%
South Pell Grant Recipients	171	34.8%	321	65.2%
West Pell Grant Recipients	524	45%	640	55%
North Non-Pell Grant Recipients	100	22.9%	337	77.1%
South Non-Pell Grant Recipients	124	38.4%	199	61.6%
West Non-Pell Grant Recipients	208	57.3%	155	42.7%

Table 12 shows that there was a statistically significant difference in graduation rates among Pell Grant recipients based on the differing regions of Mississippi ($\chi^2 = 65.378$, $df = 2$, $N = 2356$, $p = .000$). The effect size was nil ($\phi = .000$). The northern

region of the state proved to be significant ($z = 7.06$) when examining the graduation rates. The western portion of the state also proved to be significant ($z = 7.56$).

Table 12

Graduation rates for Pell Grant recipients based on region

		Pell Grant Recipients					
	<i>N</i>	Completed	Not Completed	χ^2	<i>p</i>	ϕ	<i>z</i>
				65.378	.000	.000	
Region							
North	700	186	514	49.84	.000		7.06
South	492	171	321	1.85	.174		1.36
West	1164	524	640	57.15	.000		7.56
Total	2356	881	1475				

Table 13 shows the post-hoc analysis of graduation rates of non-Pell Grant recipients based on region. The influence of region proved to be statistically significant ($\chi^2 = 99.231$, $df = 2$, $N = 1123$, $p = .000$). The effect size was nil ($\phi = .000$). The relationship between graduation rates and non-Pell Grant recipients proved to be statistically significant in the northern region of the state ($z = 8.57$). Also, the western region proved to be similarly influenced ($z = 8.96$).

Table 13

Graduation rates for non-Pell Grant recipients based on region

		Non-Pell Grant Recipients					
	<i>N</i>	Completed	Not Completed	χ^2	<i>p</i>	ϕ	<i>z</i>
				99.231	.000	.000	
Region							
North	437	100	337	73.44	.000		8.57
South	323	124	199	.00	.977		.03
West	363	208	155	80.28	.000		8.96
Total	1123	432	691				

Chapter Summary

This chapter presented the results of the statistical analysis used for this study. A discussion was provided along with the data. The participants of the study were identified followed by the examination of the four research questions. Research question one was analyzed and the results indicated that there is not a statistically significant difference in the graduation rates of Pell Grant recipients and non-Pell Grant recipients. Research question two was analyzed and results showed a statistically significant difference in the graduation rates of male and female Pell Grant recipients. The analysis also showed a statistically significant difference in graduation rates for male and female non-Pell Grant recipients. Question three was analyzed and the results showed that there was not a statistically significant difference between graduation rates of Pell Grant recipients when based on ethnicity. A significant relationship was found for African American Pell Grant recipients and graduation rates. There also proved to be a significant relationship between Caucasian Pell Grant recipients and graduation rates. Question four was analyzed and the results showed a significant relationship between graduation rates and Pell Grant recipients in the northern region of the state. A similar relationship was found for the western region. Significant relationships were also found for the northern region and non-Pell Grant recipients as well as the western region and non-Pell Grant recipients.

CHAPTER V

CONCLUSIONS

Introduction

This chapter summarizes the study on the effects of Pell Grant status on the graduation rates of community college students in Mississippi. The purpose of the study was to determine the effects of receiving a Pell Grant had on student graduation. Three of the 15 community colleges in Mississippi were chosen to participate in this study. The researcher originally hypothesized that receiving a Pell Grant would significantly impact graduation rates. The results did not produce the findings that the researcher was expecting.

Summary of Results

The researcher used a chi-square test to analyze question one. The researcher looked at the total students involved in the research, 3,479 students, and found that there was a 1.1% difference among graduation rates for Pell Grant recipients and non-recipients. The fact that non-recipients did not graduate at a significantly higher rate than recipients was not expected by the researcher. Wei et al. (2009) wrote that Pell Grant recipients exhibited characteristics that can be detriments to graduation. This research found that Pell Grant recipients graduated at a similar rate than non-recipients. The research of Wei et al. (2009) suggests that there should be a difference due to these detriments. In Mississippi, this proved to not be the case.

Research question two also used a chi-square test to analyze the graduation rate differences among Pell Grant recipients and non-recipients based on gender. The researcher found that there was a statistically significant difference between the graduation rates of Pell Grant recipients and non-recipients based on gender for students entering during the 2008-2009 academic year. This study found that females Pell Grant recipients graduated at a 39.4% rate in Mississippi while males graduated at a 32.6% rate. This contradicted the findings of the National Center for Education Statistics (2015) which found that the national average graduation rate for female community college students is 20%. This same study found that the male average was 19%. Mississippi is well ahead of the national average for graduation rates based on ethnicity.

Research question three again used the chi-square test to analyze the graduation rate differences among Pell Grant recipients and non-recipients based on ethnicity. African American community college students in Mississippi graduated at a 39.8% rate while the national average was 10.8% according to the National Center for Education Statistics (2015). The Caucasian average for Mississippi was 46.2MT% while the national average was 22.4% (National Center for Education Statistics, 2015). Mississippi is again well ahead of the national average when considering the graduation rates based on ethnicity.

Research question four analyzed the graduation rates of Pell Grant recipients and non-recipients based on geographical region of the state of Mississippi. Pell Grant recipients at a north Mississippi community college graduated at a 26.6% rate while recipients at a southern Mississippi community college graduated at a 34.8% rate. Pell Grant recipients in the western half of Mississippi were found to graduate at a 45% rate.

Pell Grants were found to influence the northern and the western region when considering graduation rates. The factor of receiving a Pell Grant, or not receiving a Pell Grant, proved significant in both regions. The southern region of Mississippi did not have a significant relationship with Pell Grant recipients or non-recipients.

Discussion of Findings

The researcher based his hypotheses on previous employment at a community college in Mississippi and the literature reviewed for the study. Wei et al. (2009) proved that Pell Grant recipients are at a disadvantage when entering college. Examples of these disadvantages are employment while in college, being a first generation student, and delayed entry after high school. The nature of Mississippi means that many students, Pell Grant recipients and non-recipients alike, face these obstacles. This was not considered until after the study was completed. However, the study found no statistical difference in Pell Grant recipients and non-recipients in Mississippi. This contradicts Wei et al. (2009) and cannot fully be understood without further studies. The researcher suspects that the long standing reliability of community colleges in Mississippi plays a role in this. Mississippi is widely known as having a superior community college system and these numbers may prove these beliefs to be true. This study can be used to promote Mississippi community colleges on a national scale.

The nature of the regions may have also played a bigger role in graduation percentages than expected. In the northern part of the state there are numerous 4-year colleges and universities around the community college. The same can be said for the southern community college. The students at these colleges may have no intentions of staying at their respective community colleges for completion. These students may

intend to take a small number of courses and transfer to a 4-year college or university. Students transferring before completion would have negatively effected the graduation rates for this study. The 4-year options presented to the students in the western part of the state are not as great. These students may invest more time at their community college because they do not have the local options that their counterparts throughout the state have.

Lastly, the nature of Mississippi's standing in secondary education may influence the graduation rates of Mississippi students. The students graduating from Mississippi high schools may not be prepared academically, as a whole, for college and the results are seen in the graduation rates. This is something that the researcher must understand and explore.

Limitations

The researcher was unable to determine the route students took after leaving their respective community college. While studying for community college graduation rates, this only allows for students who did graduate from their community college. Understanding the transfer rates and the graduation rates of these transfers would help understand the overall success of these students. Also, there is no way to determine the effects that the economic downturn had on this study. Pell Grant non-recipients could have been influenced by the loss of jobs or cut in pay and made to decide between continuing college or seeking employment.

General Recommendations for Practitioners and Policymakers

Most community colleges today, and all in Mississippi, operate under an open door policy (Cohen & Brawer, 2008). This policy means that students of varying backgrounds will be attending these colleges. This number includes a large number of Pell Grant recipients. Due to enrolling a large number of Pell Grant recipients, colleges need to understand how best to serve the recipients as well as the non-recipients.

This study indicates that Mississippi Pell Grant students graduate at a 37.4% rate and non-recipients graduate at a 38.5% rate. This equates to 32.6% of males and 39.8% of males graduating within six years. The national average was 20% for females and 19% for males. This study can be useful for practitioners in Mississippi to enhance a model that is working at a greater rate than the national average. Mississippi practitioners and policymakers can use this study to understand the greatest categories of non-graduates in order to better reach these students. This study can be useful for practitioners and policymakers in other states to emulate Mississippi's model in order to raise their graduation rates.

Future Research

Future research of interest to the researcher would include more community colleges and universities, multiple states, and high school data. A greater understanding of Mississippi could be beneficial. The research could be expanded to include more, if not all, of the 15 community colleges in Mississippi. One could expand the research to include the universities in Mississippi. This would allow an understanding for all college students in Mississippi.

Understanding if there are state trends, region trends, or national trends would also be beneficial. Research could be expanded to include southern states or states with comparable characteristics of Mississippi. This research would allow for one to see if Mississippi is similar to other states which would allow for a pooling of resources to increase the graduation rates.

Lastly, data regarding high school results would be beneficial. Research that included high school grade point averages and ACT scores would be beneficial to future research. Allowing one to see these data would help expand the understanding of the students. Perhaps the grade point averages and ACT scores, coupled with Pell Grant status, would be a more reliable predictor of community college graduation rates.

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Department of Education.

APPENDIX A
IRB APPROVAL

Protocol Title: Graduation rates of Pell Grant recipients at Mississippi community colleges

Protocol Number: 15-227

Principal Investigator: Mr. Clay Armstrong

Date of Determination: 6/29/2015

Qualifying Exempt Category: 45 CFR 46.101(b)(4)

Dear Mr. Armstrong:

The Human Research Protection Program has determined the above referenced project exempt from IRB review.

Please note the following:

- Retain a copy of this correspondence for your records.
- Only the MSU staff and students named on the application are approved as MSU investigators and/or key personnel for this study.
- The approved study will expire on 12/31/2016, which was the completion date indicated on your application. If additional time is needed, submit a continuation request. (SOP 01-07 Continuing Review of Approved Applications)
- Any modifications to the project must be reviewed and approved by the HRPP prior to implementation. Any failure to adhere to the approved protocol could result in suspension or termination of your project.
- Per university requirement, all research-related records (e.g. application materials, letters of support, signed consent forms, etc.) must be retained and available for audit for a period of at least 3 years after the research has ended.

- It is the responsibility of the investigator to promptly report events that may represent unanticipated problems involving risks to subjects or others.

This determination is issued under the Mississippi State University's OHRP Federalwide Assurance #FWA00000203. All forms and procedures can be found on the HRPP website: www.orc.msstate.edu.

Thank you for your cooperation and good luck to you in conducting this research project. If you have questions or concerns, please contact me at nmorse@orc.msstate.edu or call 662-325-5220.

! Finally, we would greatly appreciate your feedback on the HRPP approval process. Please take a few minutes to complete our survey at <https://www.surveymonkey.com/s/PPM2FBP>.

Sincerely,

Nicole Morse, CIP
IRB Compliance Administrator

cc: Stephanie B. King, Advisor