RUNNING HEAD: Graduation Rates among Genders

GENDER DIFFERENCES IN GRADUATION RATES

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ABSTRACT

The following study was conducted to determine if there was a difference in graduation rates among genders. The study focuses on the 2011, 2012, and 2013 school years in the Midwestern part of the United States. The graduation rates of male and female students over the 2011, 2012, and 2013 school years were analyzed to determine if there is a difference in the graduation rate among the genders as well as the overall graduation rates among the school districts. The study was conducted by randomly selecting 54 school districts in the Midwestern United States. Each of the 54 school districts was split into three categories. The three categories included female graduation rates, male graduation rates, and overall graduation rates of the 2011, 2012, and 2013 school years. The results of the study were determined through a series of t-tests over the three categories of data. Through data tables and graphs the results show that females had a higher graduation rate over each of the three school years and overall.

INTRODUCTION

Background, Issues, and Concerns

The high school graduation rate in the United States has been a concern for school districts. Issues over the concern for the high school graduation rate in the U.S is that high school's graduation requirements are too difficult for students to succeed. Many students have a disconnect from school and feel that they have no one that they can trust, such as educators and administrators. It is important to ensure that students are being set up to succeed and have qualified instructors to help them graduate from high school. These specific issues could be a result in the gender gap in the graduation rates.

Practice under Investigation

The practice under investigation looks at graduation rates and how these rates are differentiated by gender. There was an inquiry to see if there is a significant difference in the graduation rates based on gender. Data from the Department of Elementary and Second Education was reviewed to determine if there is a difference between male and female graduation rates. If there is a difference, research on dropout prevention programs could be implemented in the school systems in order to reduce dropout rates among both males and females.

School Policy to be Informed by Study

Every school district in the Midwest has graduation requirements that students must complete in order to graduate. If there is a difference in the graduation rate between genders, then the school districts will need to review their current graduation requirements to determine if they are exceeding student's abilities.

Conceptual Underpinning

Every classroom is made up of a variety of students; some of the students are quiet, loud, cheerful, or charismatic. Out of these characteristics there is one concrete characteristic in the classroom, and that is the students in the class are of different genders. Male and females learn differently, act differently, and think differently. One gender may learn more visually, be more compassionate, and multi task, while the other gender may learn by auditory, being charismatic, and be~~ing~~ more task oriented due to the fact that different genders have a different outlook on life. The outlook on school can be affected based on certain experiences in an hour or a day. The difference in how each student learns is different between genders in a variety of ways. The Psychoanalytic Theory by Sigmund Freud discusses the difference between genders and how they begin to learn and identify themselves. The process of identification is depicted as one in which children undertake wholesale adoption of the characteristics and qualities of the same-sex parent. Through this process of identification, children become sex-typed. Because identification with the same-sex parent is stronger for boys than girls, boys are expected to be more strongly sex-typed. (Bussey, K., & Bandura, A., 1999).Depending on the gender of the student, certain teaching styles and relationships will determine the outcome of their high school career.

Statement of the Problem

This study was conducted to determine if there is a significant difference in graduation rates based on gender.

Purpose of the Study

The purpose of this study was to determine if there is a gender difference in the graduation rate of Midwestern suburban school districts. The study gave the school district and administration the opportunity to review and adjust the dropout prevention programs that have

been implemented in the school district. After reviewing the data the school district can determine what areas of their prevention programs need to be adjusted to benefit the gender that has a lower percent graduation rate.

Research Questions

RQ#1: Is there a difference in the graduation rate between genders of a Midwestern suburban school district?

RQ#2: Is there a difference in the graduation rate between the secondary schools in a Midwestern suburban school district?

Null Hypothesis

Ho#1: There is no difference in the graduation rate between males and females in the Midwestern suburban school district.

Ho#2: There is no difference in the graduation rate between the secondary schools of Midwestern suburban school district.

Anticipated Benefits of Study

The results of this study will provide data of graduation rates between genders to the secondary schools of Midwestern suburban school districts. The results of the data will give educators the opportunity to review the dropout prevention programs that have been implemented in the schools. Once the data has been reviewed appropriate measures and the focus of the programs can be directed to increase the graduation rates of the schools.

Definition of Terms

DESE- Department of Elementary and Secondary Education. This is the governing body for K-12 education in Missouri.

Summary

A study was conducted to determine whether there was a gender gap in the graduation rate at the secondary level. If the t-test concludes that there is a differentiated rate between male and female graduation rate then educators and administration need to review graduation requirements and determine if the requirements exceed the ability of one gender over the other. The schools and school districts need to determine if dropout prevention programs would increase the graduation rate. The instruction in the classroom will need to be adjusted for students to be able to learn in a variety of ways. After this study is completed, school districts will have the data to review what steps are necessary to increase the graduation rate in a specific gender and the students overall.

REVIEW OF LITERATURE

The concern of the gender gap is not new to education and research, the gender gap has been an issue since the mid 1900s. The understanding of the gender gap has fluctuated from the underachievement of females to the underachievement of males. According to Feldman (2006), "72 percent of white girls, compared to just 65 percent of white boys from the class of 2003, earned their high school diplomas. But among Hispanic and black female students, the graduation rates were 58 percent and 59 percent, respectively, compared to the 49 percent for Hispanic male and 48 percent for black males" (p,22). The gender gap has been a focal point in research to determine how to close the gender gap among male and female and raise graduation rates throughout the United States and other countries around the world. In the statement by Feldman (2006), the class of 2003 the female population outperformed the male population in three different ethnicities. "Starting in the 1990s, a moral panic has broken out in several countries after studies showed that girls were outperforming boys in education. This phenomenon was called "the boys problem" and attracted much media and political attention" (Driessen&Langen, 2013, p.69).

Over the years, many studies have been conducted to determine if there is a gender gap, if there is a gender gap how large or small is the actual gap. In one study, male and female students were examined in primary and secondary schools. Three domains were investigated, namely cognitive competencies, non-cognitive competencies, and school career features. "The results show that regarding cognitive competencies over the last ten to fifteen years girls have done better than boys in reading and language" (Driessen&Langen, 2013, p.82). In the area of mathematics and science male students tend to do better but the differences between the male and female results are small. In the area of non-cognitive competencies males tend to be weaker

in the areas of work attitude and social behavior. In the study that was conducted by (Driessen&Langen, 2013) the female population outperformed the male population. The results show that the differences between the two genders were small, but a difference was seen among the two genders.

Researchers will continue to study gender gap as it will increase and decrease throughout the years. The focus of the gender gap is how the gender gap can be closed. One factor of learning among genders is learning-style similarities and differences.

According to Honigsfeld&Dunn (2003), "Exploratory studies of adolescents in grades 7-12, in nations as diverse as Bermuda, Brazil, Brunei, Hungary, New Zealand, the Philippines, and the United States, have revealed that, in several ways, adolescent males and adolescent females learning styles differ" (p.195). Studies focus on the learning differences between the genders and understanding why males and females learn differently. Research has been developed on the factors of learning-style similarities and differences among genders. "Early research conducted in the U.S. and international student's populations indicated that boys and girls often had distinct environmental, emotional, sociological, physiological, and perceptual learning-style attributes" (Fonigsfeld&Dunn, 2003, p.195).

The study that was conducted by Fonigsfeld&Dunn (2003) were made up of a sample between 231 and 422 students from Bermuda (n = 231, boys = 127, girls =104), Brunei (n = 406, boys = 186, girls = 220), Hungary (n = 384, boys = 167, girls = 217), New Zealand (n = 306, boys = 160, girls = 146), and Sweden (n = 422, boys = 217, girls= 205), with an overall sample of 1,749 representing a total population of 13,215. Boys and girls participated in approximately even numbers. The study determined whether there were learning differences between 22 learning variables. "The results of the study determined that there was a significant

difference in 9 of the 22 learning variables. The overall findings of the study showed that males were more kinesthetic and peer oriented than females. Females revealed higher levels of self motivation, persistence, responsibility, need for warmer temperature and sociological variety, parent motivation, and teacher motivation than did boys" (Fonigsfeld&Dunn, 2003, p.203).

Research indicates that male and females have different learning styles and need to be able to receive the learning style that best suits them to have success in the classroom. In the case of learning styles, teachers are the ones giving instruction to the students. Research shows that there are multiple learning styles but three main learning styles that students fall under are auditory, kinesthetic, and visual. Learning styles needs to be a focal point for teachers to help the progress in student education because of the continuing change of standards in the curriculum, student achievement, high school graduation, and college continuation.

In an article by Barnett & St. John (2012), "they examine whether policy efforts to constrain the high school curriculum in terms of course requirements and mandatory exit exams affects three educational outcomes; test scores on SAT math, high school completion, and college continuation rates" (p.1). Superintendents and principals are pushing for better SAT scores and End of Course exams (EOC) and with each year expectations of the student's performance increases. The study conducted by Barnett & St. John (2012), found that an increase in poverty within a state have a detrimental impact on educational outcomes. Secondly, results show that school with AP courses and schools who continue to raise student expectations improves the outcome of student graduation. In the area of increasing math requirements and exit exams the policies may deter students from graduating high school, but a greater proportion of those who do graduate will go on to college.

As a result of schools increasing their expectations on SAT scores, EOC exams, and curriculum transition is becoming difficulty for students making the transition from middle school to high school. According to McCallumore & Sparapani (2010), “Researchers target the ninth grade as the make or break year for completing high school. It is during the ninth-grade year that many students for the first time have to earn passing grades in core courses” (p.447). Students coming into the high school environment do not know what to expect. The school is larger and there are more students to maneuver around in the halls. The rigor of the curriculum and exams are stressful and overwhelming to the ninth grade students. “Researchers at John Hopkins University have found that up to 40% of ninth-grade students in cities with high dropout rates repeat the ninth grade, but on 10% to 15% of those repeaters go on to graduate “ (Kennelly & Monrad, 2007).

In support of the article by McCallumore & Sparapani in which they state the difficult transition for students entering the ninth grade; Hess & Copeland (2001) state, “a related body of research supports the idea that frequent stressors can impact negatively the academic achievement and educational decisions of adolescents” (p.392). Students deal with stress during school because of education requirements and being around peers, but students also deal with stress on an external level, such as home life or working. Ninth grade is a difficult transition year and that difficulty increases with every year of a student’s high school career.

In a study by Hess & Copeland (2001) the focus was on self-reported stress and coping strategies of ninth-grade students, and compared responses of students who had dropped out of school with those who completed school. The findings of the study are that there are three main areas of predicting whether students will graduate from school. The three main areas are seeking professional support for coping with stress, family interaction, and positive social activities.

Furthermore, the study did not reveal a significant relationship between single-parent homes, parental education level, and high school completion. To help students transition into high school and cope with stress, Freshman Academy's have been installed. The Freshman Academy's are designed to help students enter the ninth grade by providing them with a slow transition and understand of the expectation of high school. Once the students have finished their year at the Freshman Academy they will be able to transition to the secondary level without difficulty.

The Psychoanalytic Theory by Sigmund Freud discusses the difference between genders and how they begin to learn and identify themselves. The process of identification is depicted as one in which children undertake wholesale adoption of the characteristics and qualities of the same-sex parent. Through this process of identification, children become sex-typed. Because identification with the same-sex parent is stronger for boys than girls, boys are expected to be more strongly sex-typed. Bussey, K., & Bandura, A. (1999) The Psychoanalytic Theory by Freud suggests that genders are different based on the characteristics they adopt. By the characteristics those genders adopt will determine how they will progress in school, transition into secondary education, cope with stress, and graduate from high school.

Graduating from high school is an important step in the lives of young adults. Being able to graduate from high school allows young adults to achieve a goal and help transition them to college or employment. "Graduating from high school creates opportunities for success in the lives of adolescents, preparing them to address the many developmental tasks and expectations of young adulthood" (Ehrenreich, Reeves, Corley, Orpinas 2012, p.198). Graduation rates have been decreasing throughout the United States since the late 1960s. "At its peak in 1969, the national graduation rate was 77 percent"(Colbert 2012 p.495). Since 1969 graduation rates have been decreasing between genders. According to Colbert (2013), "The most recent Diplomas

Count 2010 shows that only 69 percent of the students in 2007 graduated from our nation's schools" (p.495).

The reasoning behind the decrease in graduation rates overall and the decrease in graduation rates among genders can be identified through a number of factors. These factors can come from the nation's education system and the student's lives outside of school. Since the peak of graduation rates in 1969 schools have created more challenges for students such has the demand for excellence among students through standardized tests. Schools districts are challenging students by raising graduation expectations and changing the curriculum every four to six years. The rigor of the curriculum and the learning styles that are being presented to the students can be positive and negative for the students. Since 1969 technology has changed in the school environment. Students and teachers are being asked to use new technology in the classroom to follow along with the curriculum. Teachers are able to understand the technology through professional development and then are expected to teach the students how to use the technology while not falling behind in the curriculum. Teacher expectations and graduation requirements have increased since the late 1960s, along with the increasing requirements from the education system, student's lives outside of school have become difficult and the need to mature has increased as well.

Student's life inside of the classroom can become difficult due to the expectations in the classroom and the graduation requirements that the students must meet to be able to graduate from high school. Along with the high expectations inside the classroom students are being asked to do more at home and in the community. Since 1969 the way of life has changed among families. The divorce rate has increased which leaves students living between two households or only having a single parent instead of two. Students are being asked to complete their school

requirements as well as help support the household by finding employment while in high school. If the students are not working they are being asked to take care of their siblings by becoming a parental figure in the house. Along with the demands of the school system as well as the demands at home, technology has been developed that provides students with alternative ways of communicating which can hinder their developmental progress in school and in the community. These factors are related to the decreasing graduation rate and can be linked to the graduation rates among genders. Many of these educational and social factors are related to the gender gap that has been identified in recent years. Along with the gender gap, learning differences are due to decreasing graduation rates. Educators need to consider all learners' learning style strengths to gain progression in the student's understanding of the curriculum.

RESEARCH METHODS

Research Design

A quantitative study was conducted to see if there was a gender gap in graduation rates. The independent variable being tested was gender, while the dependent variable tested was overall graduation rates. If the difference is found significant in scores based on gender, administration and educators will need to review their intervention programs, graduation requirements, and educational instruction to determine how progress can be made in the male and female graduation rate.

Study Group Description

The group that was evaluated were from Midwestern suburban school districts. Fifty-four school districts were chosen at random for the study. The group will be separated by gender to complete the statistical evaluation of the study.

Data Collection and Instrumentation

Archived data from DESE was collected to identify raw scores of male and female students on the graduation rates from the 2010-2011, 2011-2012, and 2012-2013 school years.

Statistical Analysis Methods

A t-test was conducted to determine if there is a significant difference in graduation rates based on gender. The source was divided into two categories: males and females. The alpha level was set at .05 to determine if the data is statistically significant. There is no difference in graduation rates among genders. The mean, mean D, df, and p value were concluded in the t-tests.

FINDINGS

A t-test was conducted to determine if there is a difference between male and female graduation rates of the 2011, 2012, and 2013 schools years. Statistical raw data was found on the Missouri DESE website in 2014. The following tables, graphs, and charts will depict the organized findings.

T-Test Analysis Results for 2011 Female and Male Graduation Rates

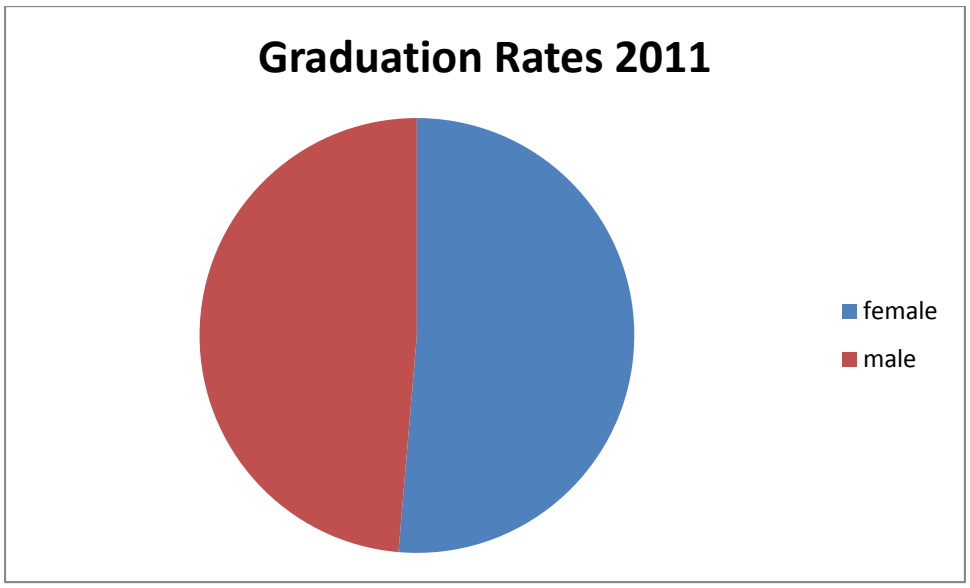
Figure 1

Source	Mean	Mean D	*t*-Test	Df	*p*-value
Female	87.33				
Male	82.74	-4.59	-2.68	106	.008

Note: Significant when p<=0.05

Fifty-four Missouri school districts were randomly selected for this study to determine if there is a difference between gender and graduation rates. The data collected from the Missouri DESE website contains the percentage of student's graduation rates. The mean graduation rate of the female students was 87.33 and the mean of the male students was 82.74. The Mean D, or difference between the two groups, was -4.59. The t-test result was -2.68 and the df was 106. The null hypothesis states that there is no difference in the graduation rate between genders of a Midwestern suburban school district. This null hypothesis was rejected because the p-value, .008, is lower than the alpha level, 0.05. This indicates that the gender of the student does significantly impact the graduation rates. Females graduated at a higher rate in the 2011 school year.

Figure 2



The mean of the female students' Graduation Rate were 87.33 in 2011. This indicates that female students graduated in 2011 4.59% higher than male students. The pie chart shows that the male Graduation Rate was 82.74.

T-Test Analysis Results for 2012 Female and Male Graduation Rates

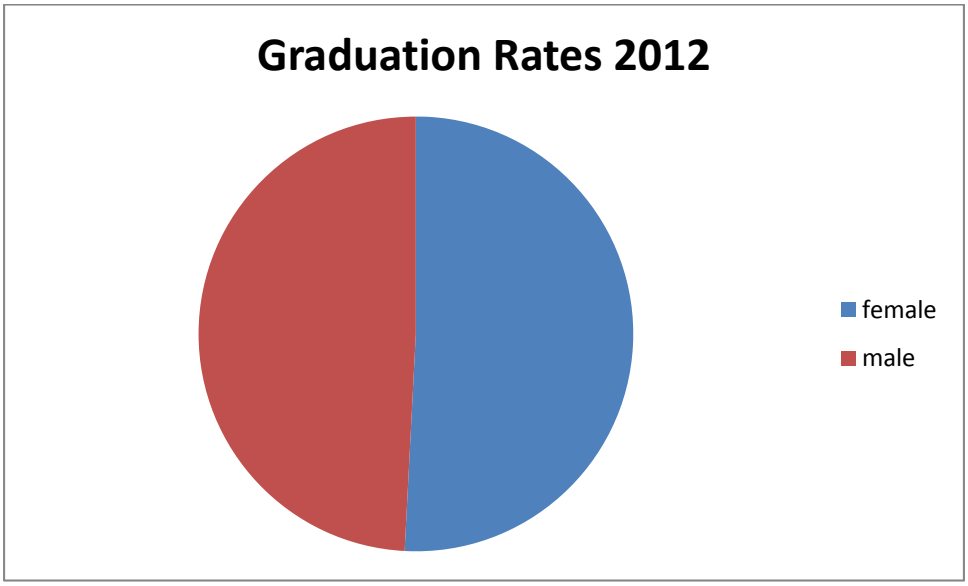
Figure 3

Source	Mean	Mean D	*t*-Test	df	*p*-value
Female	91				
Male	87	-4.29	-2.64	106	.01

Note: Significant when p<=0.05

Fifty-four Missouri school districts were randomly selected for a study to determine if there is a difference between gender and graduation rates. The data collected from the Missouri DESE website contains the percentage of student's graduation rates. The mean of the graduation rate of female students was 91 and the mean graduation rate of the male students was 87. The Mean D, or difference between the two groups, was -2.94. The t-test result was -2.1 and the df was 106. The null hypothesis states that there is no difference in the graduation rate between genders of a Midwestern suburban school district. This null hypothesis was rejected because the p-value, .037, is lower than the alpha level, 0.05. This shows that the gender of the student does significantly impact the graduation rates. Females graduated at a higher rate in the 2012 school year.

Figure 4



The mean of the female students' Graduation Rate were 91 in 2012. This means that female students graduated in 2012 4% higher than male students. The pie chart shows that the male Graduation Rate was 87.

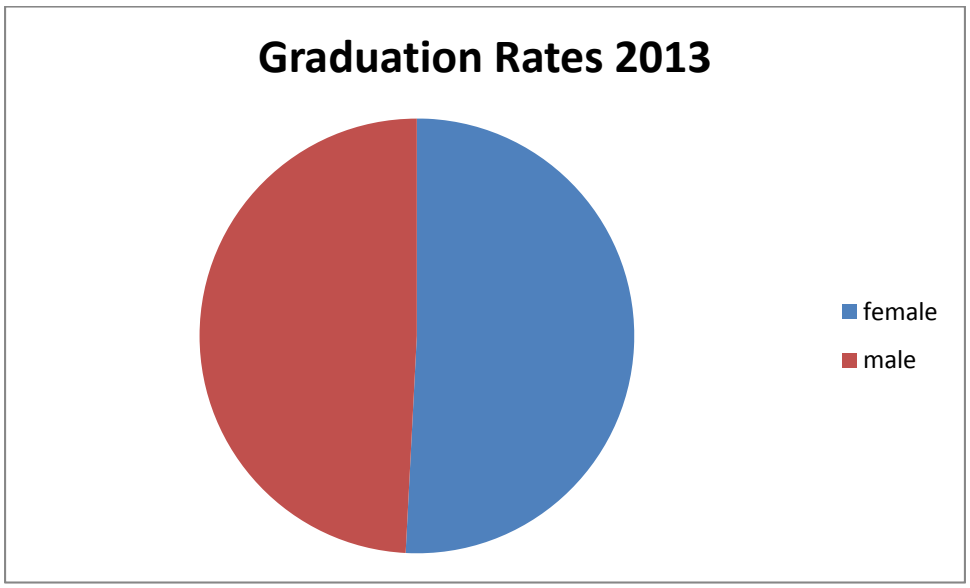
Figure 5
T-Test Analysis Results for 2013 Female and Male Graduation Rates

Source	Mean	Mean D	*t*-Test	df	*p*-value
Female	92.41				
Male	89.4	-3.04	-2.15	106	.033

Note: Significant when p<=0.05

Fifty-four Missouri school districts were randomly selected for a study to determine if there is a difference between gender and graduation rates. The data collected from the Missouri DESE website contains the percentage of student's graduation rates. The mean graduation rate of the female students was 92.41 and the mean graduation rate of the male students was 89.4. The Mean D, or difference between the two groups, was -3.04. The t-test result was -2.15 and the df was 106. The null hypothesis states that there is no difference in the graduation rate between genders of a Midwestern suburban school district. This null hypothesis was rejected because the p-value, .033, is lower than the alpha level, 0.05. This shows that the gender of the student does significantly impact the graduation rates. Females graduated at a higher rate in the 2013 school year.

Figure 6



The mean of the female students' Graduation Rate were 92.41 in 2013. This means that female students graduated in 2013 3% higher than male students. The pie chart shows that the male Graduation Rate was 89.4.

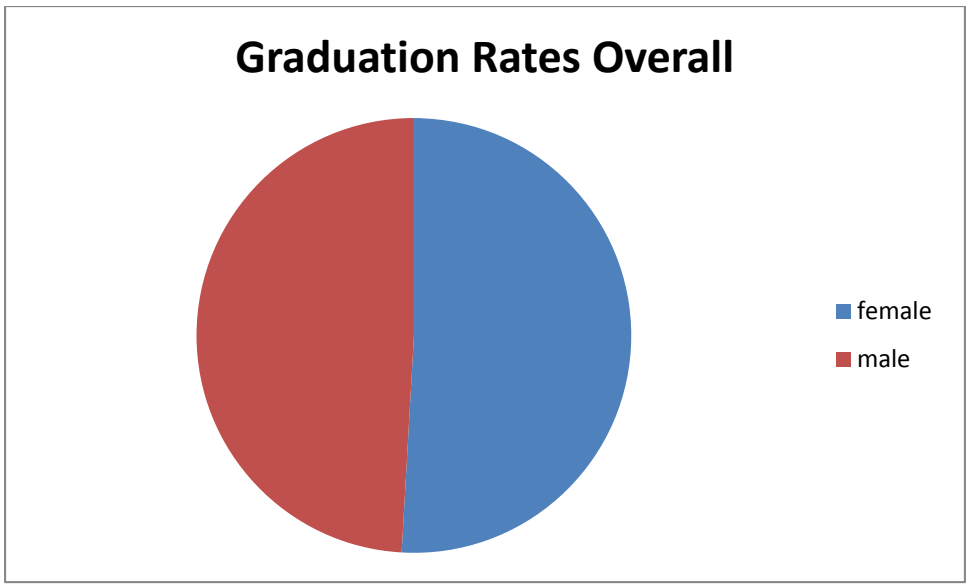
Figure 7
T-Test Analysis Results for 2011, 2012, & 2013 Female and Male Graduation Rates

Source	Mean	Mean D	*t*-Test	df	*p*-value
Female	90.24				
Male	87.05	-3.19	-3.6	376	.0004

Note: Significant when p<=0.05

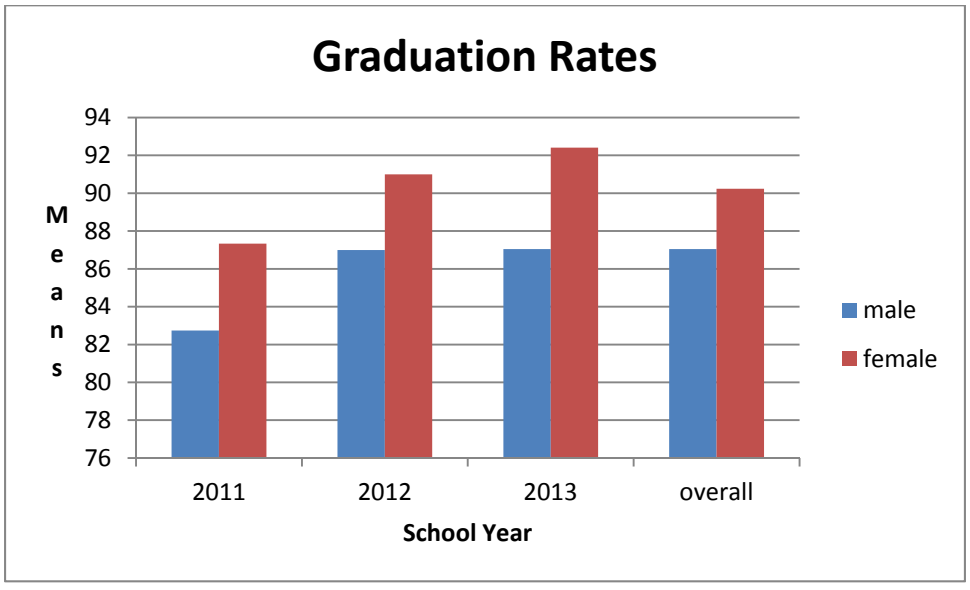
Fifty-four Missouri school districts were randomly selected for a study to determine if there is a difference between gender and graduation rates. The data collected from the Missouri DESE website contains the percentage of student's graduation rates. The mean graduation rate of the female students was 90.24 and the mean graduation rate of the male students was 87.05. The Mean D, or difference between the two groups, was -3.19. The t-test result was -3.6 and the df was 376. The null hypothesis states that there is no difference in the graduation rate between genders of a Midwestern suburban school district. This null hypothesis was rejected because the p-value, .037, is lower than the alpha level, 0.05. This shows that the gender of the student does significantly impact the graduation rates. Females graduated at a higher rate in all three of school years.

Figure 8



The mean of the female students' Graduation Rate were 90.24 in 2011, 2012, & 2013. This means that female students graduated in 2011, 2012, & 2013 3.19% higher than male students. The pie chart shows that the male Graduation Rate was 87.05.

Figure 9



The bar graph depicts the means of the 2011, 2012, 2013, and the overall graduation rates among genders. In 2011 the mean of the male was 82.74 and the mean of the female was 87.33. In 2012 the mean of the male was 87 and the mean of the female was 91. The means of the male and female graduation rates in 2013 were 89.4 and 92.41 and the overall mean for male graduation rates were 87.05 and the female mean was 90.24. The female graduation rate was higher than the male graduation rate in each year and overall.

The findings in the 2011, 2012, and 2013 school year answered the research question: “Is there a difference in the graduation rate between genders of a Midwestern suburban school district?” Figures 1-6 show that there is a difference in graduation rates among genders. In the 2011 school year the female students 4% higher than the male students, but in the 2012 school year the gap between the genders stayed the same. In the 2013 school year the female and male graduation rates was divided by 3% with the female graduating at a higher rate. In each of the three years the female graduation rate has been higher than the male graduation rate. The overall graduation rate of the three school years shows that females graduated higher than males. This is shown by figures 7-9.

CONCLUSIONS AND RECOMMENDATIONS

The findings in this study indicate that there is a significant difference between graduation rates of female and male students with a confidence level of 95%. Also there is a significant difference in graduation rates among genders. In each of the t-tests that were conducted on the three school years, the p-value for each t-test was significantly lower than the alpha level. The alpha level was set at 0.05, in the 2011 school year the p-value was .008. In the 2012 school year the p-value was .037 and in the 2013 school year the p-value was .033. Overall the p-value for all three school years was .004 with the alpha level set at 0.05. The data suggests that the null hypothesis should be rejected; each of the year's data indicates with a 95% confidence level that the difference between graduation rates of males and females is significantly different. Each school year p-value was significantly lower the alpha level which concluded that there is a difference in graduation rates among genders.

The findings indicate that the female graduation rate is higher than the male graduation rate. This study was comprised of three years and 54 school districts were selected randomly to be tested in this study. The female graduation rate was larger than the male graduation rate by a few percentage points. If this study was conducted on a national scale than the difference between the graduation rate among genders would be much larger. The Psychoanalytic Theory by Sigmund Freud discusses the difference between genders and how they begin to learn and identify themselves. As students go through the primary to the secondary level they are growing and beginning to learn who they are. Each student learns differently and the learning styles that best represent each student need to be developed in the classroom. Since the 1960s the male graduation rate has declined while the female graduation rate has increased. The results of these findings could be due to social class, economy, and teaching methods.

While the male graduation rate has declined, graduation rates overall between male and female have decreased as well. With the dropout rate increasing, studies need to be developed to help determine why students are dropping out of school. Programs can be developed for at risk students so that they will remain in school and continue to make progress in their education. The students need to be held accountable for their education, but the educators need to be trained to help all types of students. There are different learning patterns between genders, but each student learns differently and educators need to be able to adjust lesson plans so that every student is learning. An area of focus in an educator's professional development should be teaching methods and engaging students in the classroom. The gender gap between male and female graduation rates need to be closed but more importantly, graduation rates need to increase. It will take all parties to increase the graduation rates between male and female students.

Further studies can be conducted to determine graduation rates. A t-test over the 2014 graduation rate can be conducted to determine if the male graduation rate is closing the gap from the female graduation rate. A study of the regions would show the difference in graduation rates throughout the United States. It is important to continue the research of graduation rates among genders, but the research also shows the percentages of the graduation rates overall. The gender gap needs to close and graduation rates overall need to increase. This study and further studies can help determine where genders are exceeding and failing when it comes to graduation. Studies over graduation rates can help researchers determine why a certain gender is excelling while the other gender is falling behind.

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