

THE CORRELATION BETWEEN STANDARDIZED TEST SCORES OF ENTERING  
FRESHMEN AND THEIR FINAL GRADE POINT AVERAGE UPON GRADUATION

By

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## ABSTRACT

Nationally and globally, most higher education institutions require students to submit their standardized test scores as a part of the college admissions requirements. In the United States, SAT and ACT are used to determine the academic readiness in college. One of the biggest debates of having standardized test scores as a part of the admission requirements is that those scores are not valid because they do not reflect students' academic performance. On the other hand, college entrance exams have been used for over 90 years to This study was to determine how significantly the standardized test scores play a role in predicting the academic success upon college graduation while examining the impact that students' high school GPAs have on their college academic performance.

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## SECTION ONE

### BACKGROUND, INTRODUCTION TO THE STUDY, AND LITERATURE REVIEW

#### **Background**

Since 1926 and 1959, SAT and ACT each have been used by many higher education institutions to determine the acceptance of incoming students (Perez, 2002). Over the years, more colleges and universities have been making standardized test scores optional instead of having them as an admission requirement (Fairtest, 2007). According to Fairtest (2007), there are approximately 815 higher education institutions in the United States that are test-optional schools. The number has significantly increased over the years as there were only 275 test-optional higher education institutions in 1998 (Rooney & Schaeffer, 1998).

Currently, there are debates over whether the standardized test scores are as significant in predicting students' academic performance as many schools are making them to be. Countless high school students are spending excessive money and time to prep for college entrance exams such as the ACT and the SAT (Perez, 2002). There are also claims from studies that standardized test scores alone do not successfully interpret or predict students' academic performance (Robinson & Monks, 2005).

At the institution studied, there are two categories of admission criteria. Category I requires students to have a 21 ACT composite score or higher (or the equivalent SAT score of 980) and a minimum of 2.00 Cumulative GPA on a 4.00 scale. Category II requires students to have a combined percentile index that equals or exceeds 100 points (the percentile index can be calculated on the admission requirement page) and a minimum of 2.00 cumulative GPA on a 4.00 scale (Northwest Missouri State University, 2015).

There are few studies where they examine the correlation between standardized scores and students' first year college GPAs. However, there has not been enough data or study to support whether students' performance on standardized tests successfully predict their performance throughout the college career and reflect on their final GPAs upon graduation. Therefore, this study is intended to investigate the correlation between students' standardized test scores and their final GPAs upon graduation from one selected mid-size Midwest public university in a rural setting.

### **Conceptual Underpinning**

#### College admission criteria in the United States

According to the National Association for College Admission Counseling (NACAC), higher education institutions have a minimum of 12 admissions requirements. While the schools require various criteria, several criteria weigh more others. For example, most colleges and universities value high school grades, standardized test scores (SAT and/or ACT) and class rank more. (National Association for College Admission Counseling, 2001). Starting from 1920s, more higher education institutions focused on having a uniform admission criteria. Based on that belief, SAT became the first standardized test in the United States to be used as a college admissions requirement (Linn, 1993). After the ACT (American College Testing) also came up with a set of standardized college entrance exams, standardized tests have been used across the nation for higher education institution officials to effectively administer their application review process (Cabrera & Burkum, 2001).

Starting from late 1990s, several civil organizations including the U.S. Education Department's Office for Civil Rights advocated for students about the validity and fairness of

standardized tests (Gose & Selingo, 2001). According to Gose and Selingo, minority students, especially African Americans and Hispanics, score significantly lower than Caucasian students from standardized tests (Gose & Selingo, 2001).

### **Statement of the Problem**

The selected institution requires ACT scores along with high school GPAs from students as a part of their admission requirements. Many higher education institutions across the nation make the acceptance decisions mainly based on the standardized test scores such as SAT and ACT scores. Over the years, higher education institutions have believed and utilized standardized test scores as an effective method at predicting students' academic performance in college. This means, many schools believe that students with higher ACT and/or SAT scores will be successful in college (Perez, 2002). The issue of requiring standardized test scores as a part of admission requirements is that minority students or students from low socio-economic backgrounds do not have as many opportunities to access test prep materials and courses. Although there are scholarships, grants and resources for students from all backgrounds, many students without adequate resources and support have to sacrifice their opportunities to attend prestigious schools because of the lack of financial and educational support.

### **Purpose of the Study**

The purpose of this study was to compare the incoming freshman students' standardized test scores and their final grade point average upon graduation to determine if there is a correlation between two measures.

### **Research Questions**

The research questions to examine:

RQ1 : Is there a relationship between students' ACT scores and their college GPAs upon graduation at alpha of 0.05?

RQ2 : Is there a relationship between students' high school GPAs and their college GPAs upon graduation at alpha of 0.05?

### **Null hypotheses**

There is no correlation between students' standardized scores and their academic success in college as well students' high school GPAs and their college GPAs upon graduation.

### **Anticipated Benefits of the Study**

It is hoped that as a result of this study, higher education institutions across the nation can reexamine their admission requirements and possibly make standardized test scores as an optional admissions requirement. By making those scores optional, colleges and universities can focus more on the potential of each student based on other components such as high school grades, involvement with extracurricular activities, written essays, interviews and recommendation letters.

### **Limitations and Delimitations**

There are several drawbacks to this study. First limitation to this study is the varied length of time that students took to graduate. The data was collected from 200 students who were enrolled as first time freshmen in fall of 2009. However, the data also shows that students graduated from the university at different terms (between spring of 2012 to spring of 2015).

Second limitation of this study is the diversity of students from data collection. As the study was done based on the single set of data from a mid-sized Midwest public institution,



students' age, ethnicity, socio-economic status, and income were not as diverse as if the study was done based on multiple datasets from diverse institutions across the country.

Third limitation of this study is the number of students who actually graduated from the institution. Although the ACT scores, high school GPAs and high school ranks were collected from all 200 students who enrolled in fall of 2009, not all 200 students graduated from the university.

### **Definition of Terms**

#### **Standardized tests**

A test (as of intelligence, achievement, or personality) whose reliability has been established by obtaining an average score of a significantly large number of individuals for use as a standard of comparison (Standard test, 2015).

#### **American College Test (ACT)**

A curriculum- and standards-based educational and career planning tool that assesses students' academic readiness for college (The ACT Test | ACT, n.d.).

#### **SAT**

The SAT is a globally recognized college admission test that lets you show colleges what you know and how well you can apply that knowledge. It tests your knowledge of reading, writing and math — subjects that are taught every day in high school classrooms. (About the SAT, n.d.).

### **Literature Review**

#### **Definition of a standardized test**

According to the article written by Popham (1999), a standardized test is any examination that is administered and scored in a predetermined and standard manner. Aptitude and achievement tests are two major kinds of standardized tests. As widely known college entrance exam in the United States, the SAT has been used in order to project the performance level of high school graduates. The SAT is a standardized aptitude test which measures how well students are likely to learn or develop proficiency when appropriate education is provided. Unlike the SAT, the ACT is an achievement test which measures what students have learned in school. The ACT has 5 sections which include English, Mathematics, Reading, Science and an optional writing test. On the other hand, the SAT has 3 sections of Critical Reading, Writing and Mathematics and a required writing test. Most students take the SAT and/or ACT during their junior or senior year of high school, and almost all colleges and universities use both tests to make admission decisions. (Popham, 1999)

### **Differences between the SAT and the ACT exams**

Even though both SAT and ACT emphasize their uniqueness and differences from one another, the correlation between SAT I and ACT scores range from .89 to .92. (Dorans & Schneider, 1999) This research done by the College Board shows that both tests are very similar despite of their claims. In addition, both manufacturers of SAT and ACT have published the score concordance tables to translate one test's score to another. Three main reasons for the strong correlation between SAT and ACT scores are similarity in testing environments, content and format. In 1959, the ACT was created by E.F. Lindquist and Ted McCarrel to compete with the SAT I. ACT tests are classroom curriculum based which is supposed to more accurate in interpreting students' performance in high school classrooms. (Perez, 2002)

### **Standardized exam as a college entrance requirement in another country**

Economics and Business professors Bai, Chi and Qian conducted a study on whether the performance on college entrance exam foresees the college GPA. Although China and United States have different educational system, curricula and standards, Chinese students who wish to enter college take the Chinese National College Entrance Examination, also known as CEE. As of 2013, it was a common procedure for Chinese higher education institutions to take CEE as their one of the few determinants for college acceptance. Unlike in the United States, CEE is offered once a year and students can enter colleges and universities based on their rank and scores from CEE. Based on the article by Bai, Chi and Qian, only 68% of students out of 9.5 million students who took the CEE were admitted to colleges in 2013. This rate can easily predict the amount of stress and competition that Chinese high school students go through in order to enter a college of their choice. The article claimed that standardized tests are a great way for schools to determine the ability of students and their potential. However, standardized tests such as SAT, ACT and CEE do not fully reflect students' abilities. Most college applicants spend excessive amounts of money and time for college entrance exam preparation. Although standardized tests have been controversial, colleges are concerned about students from rural and underprivileged backgrounds to not have fair and enough chances if standardized tests were eliminated. In comparison to over 9 million students who took CEE, approximately 0.1% or 5000 students were admitted to colleges without taking the CEE. These students were able to take the alternative route by placing in highly competitive national Mathematics and Science Olympiads. Bai, Chi and Qian conducted the study comparing the prediction of college GPA from two very different universities based on the CEE scores. The study found that CEE plays a great role in predicting the four years of college GPA. Another finding from the study was that students' performance in high school predict their performance in college. CEE is fundamentally

different from SAT and ACT which are used in the United States as college entrance exams but CEE proves the significant correlation between well-designed standardized test and college GPA (Bai, Chi and Qian, 2014)

### **A strong correlation between the ACT scores and the freshman year GPA**

According to the ACT official website, “the ACT is accepted by all 4-year colleges and universities in the United States” (Why take the ACT?, 2015). In the United States, most higher education institutions depend on standardized test scores to make the admission decision. They also use those scores to determine the likelihood of student success in 4 years of college. The article was originally written to see the ways to improve college performance and retention rate. Bettinger, Evans and Pope (2011) conducted a research using the data of all graduates from public four-year universities in Ohio in 1999. Their data was rather diverse as it was gathered from different sizes of schools and from students of various age, gender and race. Based on their research, it was found that Mathematics and English scores from ACT had a strong correlation of predicting the first year college GPAs. The result of this research remained repetitively the same regardless of the size or the division of school. The study also found that Reading and Science scores did not have much impact on students’ GPAs. They also conducted a study on the correlation between ACT scores and high school GPA. Presumably, the ACT scores from Mathematics and English sections were highly correlated to high school GPA while the Reading and Science scores were not as reliable to predict the high school GPA. In addition to the studies from Ohio universities, an additional study was done with the data from a large private university in Utah. Even though the dataset was much smaller as it was based on 1,712 students (who were enrolled as freshmen in 1997 or 1998 and graduate by 2005), it was found again that Mathematics and English scores were highly correlated to both high school and college GPAs.

Contrarily, Reading and Science scores showed that there was little correlation with college GPA and no correlation with high school GPA. (Bettinger, Evans and Pope, 2011)

### **Predicting freshman year academic success using ACT scores and high school GPA**

Noble and Sawyer (2002) conducted a study to find out whether academic success during first year in college is predictable based on ACT scores and high school GPA. Noble and Sawyer used the data from ACT Prediction Research History which was collected over 2 years. This data included students' high school GPAs, ACT scores and college grades from freshman year from over 300 institutions. According to their study, Noble and Sawyer found that high school GPA and ACT scores were both effective in calculating the GPA during freshman year in college when the first year GPA was ranged from 2.00 to 3.00. The study showed that within the range of 2.00 to 3.00, high school GPAs were more effective than ACT scores at predicting the college GPAs. On the other hand, it was found that high school GPAs were ineffective in predicting the college GPA when the GPAs were higher than 3.00. Interestingly, ACT scores were found to be effective in predicting all ranges of first year college GPA. (Noble and Sawyer, 2002)

### **Reasoning behind colleges and universities that made standardized test scores optional**

To a high school student who is expected to attend college, the first thing that comes in their mind is a standardized test. According to the article written by Niche Ink (2014), an educational research organization, 21% out of 800 students reported that SAT and ACT as their biggest college application concern. Also, 82% of 800 students believe neither the SAT or ACT tests measure how smart people are. (Test-Optional Trend Grows Among Top Colleges, 2014)

Many well-known test preparation companies such as Kaplan and Princeton Review use this natural phenomenon to market their test preparation courses and materials. Those companies

often promise anywhere from 100+ point increase in SAT I scores to a 4+ point increase in ACT scores to high school juniors, seniors and their parents who believe that higher standardized test scores are directly correlated to better chances of attending prestigious schools. According to one of the most popular test preparation companies, Kaplan. Inc. (2015), “95% of Kaplan students get into one or more of their top choice colleges.” (Why prep with Kaplan, 2015) Kaplan also promises live instruction with expert teachers both in person and online and proven test-taking strategies. Based on the advertisements from both Kaplan and Princeton Review, their standardized test preparation courses start from \$199 for a single tutoring session to a \$3,499 for premier tutoring.

### **Making standardized test scores optional in college admission**

Although standardized test scores are still one of the college admission requirements, more and more higher education institutions are making the test scores optional. According to the article by Robinson and Monks (2005), many admission officials believe that SAT and ACT have too much of significance in students’ academic career. They also recognize the issues that some academically talented students do not perform well in a high pressured test setting which can ultimately determine their future. Over the many years, colleges and universities have been implementing test-optional policy. Richard Atkinson, the former president and regent of the University of California system, openly criticized the negative impact that one of most popular standardized college entrance exams, SAT I, has made in the field of education. One of the criticisms is that students can be trained to perform well on those test. This essentially means that it is testing students’ test taking skills, not their ability to perform well in college. Another criticism is that standardized test scores are not a reliable interpreter when it comes to measuring the ‘future academic ability of college applicants.’ The final concern is that there are many

factors, such as high school GPA, extracurricular activities, community service work, letter of recommendations, essays and interviews, which should play into determining whether a student is college ready or not (Robinson & Monks, 2005).

According to the data from U.S. Department of Education (2012), there are approximately 4,700 degree granting higher education institutions in the United States as of 2012 (National Center for Education Statistics, 2012). Out of 4,700, over 850 institutions are currently test-optional. These schools do not require their applicants to submit SAT or ACT test scores before the admissions decisions are made.

### **Summary**

Necessity of college entrance exams has been debated over many decades. There are debates from whether the SAT and/or ACT exams truly measure students' academic potentials to if all higher education institutions should be test optional. According to Rooney, C., & Schaeffer, B (1998), more colleges are becoming test optional because eliminating test requirement allows institutions to diversify their student population while allowing students to focus more on their academics and extracurricular activities rather than prepping for standardized tests (Rooney & Schaeffer, 1998). On the other hand, some studies show that standardized test scores are a good predictor of students' academic performance and potential. This research hopes to discover the correlation between standardized test scores and the academic performance upon college graduation to see whether if higher education institutions should continue to focus most on students' college entrance exam scores when making the admission decisions.

## SECTION TWO: METHODS

### **Problems and Purposes Overview**

Out of approximately 4,700 Title IV degree-granting higher education institutions in the United States (National Center for Education Statistics (2012), about 815 schools have eliminated test requirement while other schools still strongly believe that standardized test scores are one of the most essential requirements in college admission (Fairtest, 2007). Just like many other universities across the nation, the selected mid-sized Midwest public university also requires students to provide ACT (or SAT) scores along with their high school GPA to be considered for their admission. The purpose of this research is to determine if there is any correlation between students' ACT scores and their final GPA upon graduation to find out how much of significance does ACT scores have on students' overall academic performance.

### **Research design**

The data was chosen randomly by the Director of Institutional Research office at a selected mid-sized Midwest public institution. All the data used are pre-existing data as the university collects students' high school GPAs, high school ranks, high school class sizes, highest ACT scores, overall GPAs (during their undergraduate career) and final GPAs upon graduation at the selected institution.

### **Variables used in the study**

The independent variable in this study were students' final GPAs upon graduation from the institution studied. The dependent variables were students' high school GPAs and ACT scores.



### **Research questions and null hypotheses**

The research questions to examines are :

RQ1 : Is there a relationship between students' ACT scores and their college GPAs upon graduation at alpha of 0.05?

RQ2 : Is there a relationship between students' high school GPAs and their college GPAs upon graduation at alpha of 0.05?

The null hypotheses are there is no correlation between students' standardized scores and their academic success in college as well students' high school GPAs and their college GPAs upon graduation.

### **Study group**

The study group for this research consisted of 200 students who were enrolled as freshmen in fall of 2009 at the selected medium-sized Midwest public university in a rural setting. Students have been selected randomly by the Institutional Research Specialist of the selected university. 200 students from the dataset either graduated in various terms or did not graduate from the university.

### **Data collection and instrumentation utilized**

The researcher used data from the selected university. The institutional review board proposal was submitted and approved in June 2015 at the university studied. The director of institutional research office collected a list of 200 random entering freshmen from fall of 2009. The research conducted correlation tests based on the data collected.

### **Data analysis strategies**

For this study, EZ Analyze and Microsoft Excel were used to analyze the correlations. The first analysis was done to determine the relationship between ACT scores and college GPAs. The second analysis was done to discover the connection between high school GPAs and college GPAs. All the data such as high school GPAs, high school ranks, ACT scores and college GPAs were initially gathered from 200 students; however, due to the low graduation rate, studies were only done based on 105 students' information.

### **Summary**

Even with a rapidly growing number of higher education institutions that choose to eliminate standardized test scores as an admission requirement, majority of institutions still require students to submit their standardized test scores for admissions. The primary focus of this data analysis was to determine whether GPAs from high school and ACT scores can successfully predict the academic performance in college. Based on the reported high school GPAs, ACT scores and final GPAs, the research analyzed the prospect of reevaluating current college admission requirements.

### SECTION THREE: RESULTS

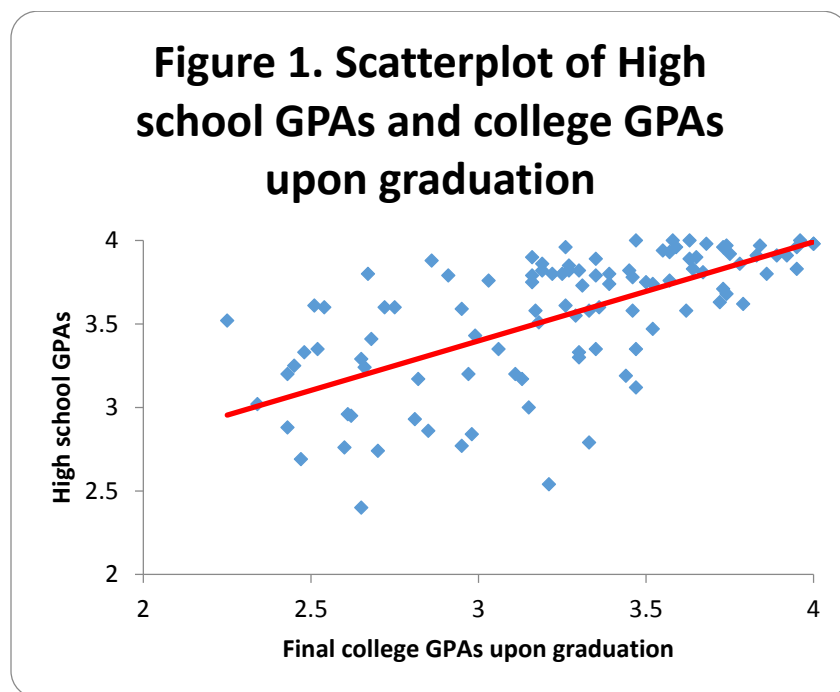
#### Review of Research Design

This research was conducted based on the pre-existing data which was collected from the Institutional Research office at the selected institution. The researcher intended to investigate whether students' ACT scores and high school GPAs predict their academic success upon graduation. The data was collected from 200 incoming freshmen in fall of 2009. Out of 200 randomly selected students, 105 students graduated from the university between spring of 2012 and spring of 2015.

#### Presentation of Data Analysis, Findings & Interpretations

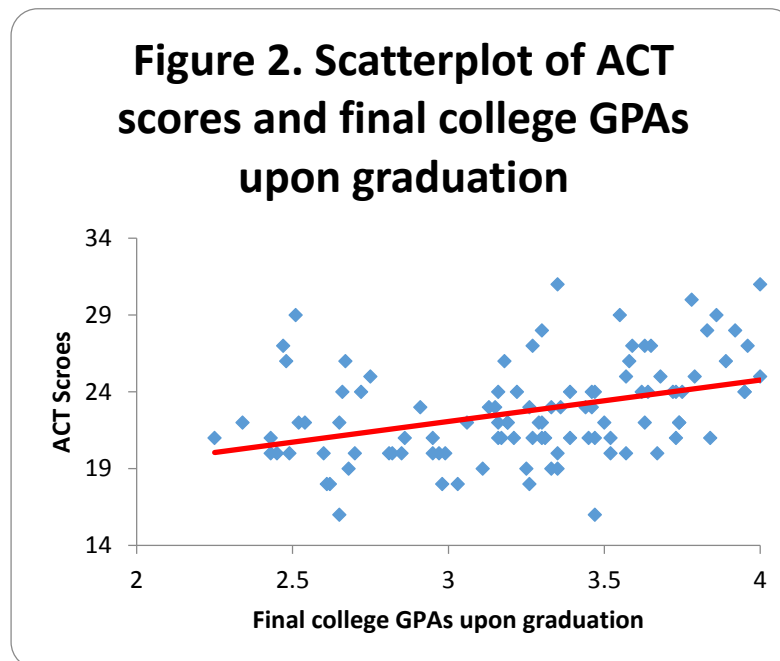
Out of 200 randomly selected students who were enrolled as freshmen in fall of 2009, only 105 students graduated from the university by spring of 2015.

Figure 1.



A Pearson product-moment correlation coefficient was computed to assess the relationship between high school GPAs and final college GPAs upon graduation. There was a positive correlation between the two variables,  $r=0.639$ ,  $n=104.000$ ,  $p= 0.000$ . A scatterplot summarizes the results (Figure1). Overall, there was a moderately positive correlation between high school GPAs and academic performance in college. The higher high school GPAs were correlated with increases in higher final college GPAs.

Figure 2.



A Pearson product-moment correlation coefficient was computed to assess the relationship between ACT scores and final college GPAs upon graduation. There was a positive correlation between the two variables,  $r = 0.383$ ,  $n=104.000$ ,  $p= 0.000$ . A scatterplot summarizes the results (Figure2). Overall, there was a slightly positive correlation between high school GPAs and academic performance in college. The higher ACT scores were correlated with increases in higher final college GPAs.

### **Summary**

200 entering freshmen who were enrolled at a mid-size Midwest public university in fall of 2009 were randomly selected for this research.

## SECTION FOUR: DISCUSSIONS

### **Overview**

There were two categories of admission criteria at the institution studied. As one category from the selected institution requires students' ACT scores and high school GPAs, the research study was conducted using the two datasets. By using the data collected from a selected group of incoming freshmen, the research was able to find out whether their ACT scores or high school GPAs had any correlations to their final GPAs upon graduation.

### **Discussion of Findings**

The data results showed that there was a slightly positive correlation between students' ACT scores and their final college GPAs at 0.383. Conversely, the data showed that students' high school GPAs were positively correlated to their final college GPAs at 0.639. This indicates that both ACT scores and high school GPAs are correlated to students' academic performance to a certain degree; however, it displays that students' academic performance in high school predicts their academic performance in college more effectively and accurately. This finding proves that while standardized test scores can be a useful method at screening countless college applications, they do not always truly translate students' academic capabilities.

### **Implications for Practitioners**

The findings of this research indicated that both ACT scores and high school GPAs were correlated to students' academic success in college. The research also presented that high school GPAs were more effective in predicting students' academic success. It showed that while standardized test scores allow admission officials to have a rough idea of how students' academic ability may be, it does not fully translate their academic abilities or potentials.

### **Recommendations for Future Research**

Since this research was conducted based on a limited group of students, future research is certainly recommended. Future research should be conducted on investigating the correlation between students' standardized test scores, SAT and ACT scores, to their ethnicity. Studies have claimed that minority students have disadvantages when it comes to standardized tests due to the lack of financial and educational support (Perez, 2002). Research is needed to determine if there is actual correlation between students' performance on standardized test scores and their ethnic backgrounds. Also, a future research should be conducted on the correlation between students' standardized test scores and their college academic performance across the nation. This research only consisted of one dataset from a small group of students from one institution. In order to compare the correlations and truly find the correlation between two measures, data from diverse institutions of different size, student population, region, campus culture and academic division is needed. Future research should also look at other admission requirements such as high school grades, numbers of community service hours and extracurricular involvement that higher education institutions require from incoming freshmen and figure out which requirements are correlated students' performance and involvement in college.

### **Summary**

This research study showed that both high school GPAs and ACT scores show a positive correlation to final college GPAs upon graduation. Based on the data collected from an institution studied, there is a higher correlation between high school GPAs and final college GPAs. Unfortunately, the data was extremely limited since it was collected from 200 students who entered a mid-size public institution in Midwest in 2009. Even out of those 200 students, only 105 students graduated from the institution. According to the research done based on the

information from 105 students, students' standardized test scores (ACT scores) did not fully reflect on their academic performance in college. The research result indicated that high school GPAs were a better method in predicting students' academic success. For this reason, it should be encouraged for higher education institutions in the United States to reevaluate their admission criteria to make sure all students get equal opportunity to receive high quality education and a chance to pursue their goals.



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[kaplan-act-prep/why-prep-for-the-act](http://www.kaptest.com/act/kaplan-act-prep/why-prep-for-the-act)

**APPENDICES****APPENDIX A**

1

**(For committee Use only) Research file Number # \_\_\_\_\_**

**Request for Exemption from Review of Research to the  
Institutional Review Board for Research Involving Human Participants  
Northwest Missouri State University  
*Attention: Form must be typed. Hand written forms will not be accepted.***

**DATE: 06/04/2015****NAME(S) OF INVESTIGATOR(S): Jamie Kwon****ADDRESS:** Missouri Academy; 800 University Drive, Maryville, MO 64468**E-MAIL ADDRESS:** [kwonj@nwmissouri.edu](mailto:kwonj@nwmissouri.edu)**PHONE: 660-853-1388****UNIVERSITY DEPARTMENT:** Higher Education Leadership**ADVISOR'S NAME, ADDRESS, AND PHONE NUMBER (IF APPLICABLE):**

Dr. Terrence Barmann  
[barmann@nwmissouri.edu](mailto:barmann@nwmissouri.edu)

**PROJECT TITLE:** The correlation between standardized test scores of college freshmen and their final grade point average upon graduation

**SUMMARY OF PROJECT:** The purpose of this study is to determine the correlation of incoming freshmen's standardized test scores (ACT scores) and their final grade point average (GPA) upon graduation. I am projected to compare the final GPA of students from one graduating class and their ACT scores, high school GPA and possibly class rank. Although the data will be anonymous and randomly selected, I would like to request the data to include those students' ethnicity, gender and hometown (if available).

**EXEMPTION CATEGORY:**

Consult the document *INSTRUCTIONS FOR EXEMPT RESEARCH* for full descriptions of exempt categories. Using categories under *Section II: Exempt Research Categories*, list the category of exempt research activity that applies to your project. Read each category carefully, if your research does not fit under a category listed, you must submit your proposal to the expedited or full review process of the Institutional Review Board.

Remember that:

- Studies that involve minors **and** utilize survey or interview procedures are **not** eligible for exemption.
- Studies that involve the observation of minors are eligible for exemption **only** if the researcher does not participate in or manipulate the activity being observed.

**CATEGORY: 4. EXISTING DATA DOCUMENTS, RECORDS, PATHOLOGICAL SPECIMENS, OR DIAGNOSTIC SPECIMENS, if these sources are publicly available or if the participant information is unidentifiable.**

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**EXEMPTION CRITERIA:**

1. If your project uses a questionnaire or structured interview, attach a copy of the forms to this application. Have you attached documents? **NO**
2. Are all questionnaires prefaced with voluntariness and confidentiality issues written into questionnaire or verbally given to participants? (See section III of the document *INSTRUCTIONS FOR EXEMPT RESEARCH*) **NO**
3. Are privacy concerns and confidentiality procedures outlined for participants in a written or verbal form (as evidenced by attached documentation). If verbal, enclose a copy of the script. **NO**
4. If students or other vulnerable parties have a relationship with the researcher (e.g. professor/student), are steps taken by the researcher to avoid coercion (e.g. primary researcher has an assistant gather data)? **NO**
5. Age and number of participants (See section III of the document *INSTRUCTIONS FOR EXEMPT RESEARCH*)

(NOTE: If participants are children under age 18 and the researcher is an agent outside the education system, research cannot be considered exempt and either expedited or full review is mandated by law).

Adults (age 18 and over): Choose an item.  
selected students from one graduating class.

Number: Approximately 150-200 randomly

Minors (under age 18): Choose an item.

Number: N/A

6. If minors are involved, are you functioning in the role of teacher for these participants? **NO**
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3

Describe the nature of involvement of human participants (personal Interview, questionnaire, educational tests, etc.) **AND** the reason you believe this is an exempt project (Consult the document *INSTRUCTIONS FOR EXEMPT RESEARCH*).

- If using Category 1, be sure to explain how your project relates to instructional techniques, curricula, or classroom management methods.
- If using Category 4, be sure to explain how you have access to a **preexisting** data base and how the data will be managed throughout the project.

**HUMAN PARTICIPANT INVOLVEMENT:** I will be using pre-existing data.

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I affirm that all materials submitted are accurate and that the statements I have made herein are truthful, to the best of my knowledge:

Signature of the Principal Investigator/Date Jamie J. Kwon 6/12/15

Advisor/Supervisor (if applicable)/Date Jamie J. Kwon 6-12-15

Prepared by/Date \_\_\_\_\_

Send an electronic copy of this form and necessary documentation to the Institutional Review Board Chair at [IRBNWMS@nwmissouri.edu](mailto:IRBNWMS@nwmissouri.edu).

Prior to IRB approval, a printed copy of this application (containing all signatures) and necessary documentation should be sent to the IRB Chair. View the Faculty Senate list of committee members to find the current chair of the committee ([find chair](#)).

## APPENDIX B

**Institutional  
Review  
Board**

Vice President for Finance  
117 Administration Building  
660.562.1440 office  
660.562.1400 fax

Northwest  
focuses on  
student success –  
every student,  
every day.

**Northwest Missouri State University  
Institutional Review Board  
Decision Form**

Proposal # 1415-06-05

Date: June 16, 2015

Proposal Author(s): Jamie Kwon

Proposal Title: The correlation between standardized test scores of college freshmen and their final grade point average upon graduation

☒ **The Institutional Review Board has accepted your request for exemption of your proposal.**

You are now officially ready to start collecting data.

- If you have any changes to methodology throughout the course of your project or any unforeseen negative incidents pertaining to human participants, please contact the current IRB chair to file a Status Report within 10 days.

Thank you for your interest in research at Northwest Missouri State University.

*Patricia L. Drews*

Dr. Patricia L. Drews, IRB Chair  
Professor of Geography  
NIH Office of Extramural Research Certificate #1266131

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