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The Role of Invitational Theory on Minority Student Enrollment in Advanced Placement Courses

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THE ROLE OF INVITATIONAL THEORY ON MINORITY STUDENT ENROLLMENT IN
ADVANCED PLACEMENT COURSES

by

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ABSTRACT

The number of students enrolling in Advanced Placement (AP) classes has been increasing in Florida and across the nation over the last decade. However, this trend is not happening for traditionally underserved groups of students such as African Americans, Hispanics, and students from low socioeconomic backgrounds. These minority groups are underrepresented in AP classes, while Asian and White students are overrepresented. This trend is alarming because there are qualified minority students who have a great chance of being successful in AP classes according to AP Potential™ data. For some reason though, these qualified minority and low income students are nevertheless not enrolling in AP classes. The purpose of this research was to investigate whether or not the extension of inviting messages to enroll in AP courses was dependent upon students' ethnic and/or socioeconomic background.

A mixture of quantitative and qualitative research methods were employed to examine how the role of invitational theory affects minority student enrollment in AP classes. Mean scale scores from a survey were used to measure student attitudes about how welcoming and inviting schools were when it came to student recruitment into AP classes. T-tests and an analysis of variance were used to determine if there were differences in attitudes among students currently enrolled in AP classes, students of various economic means, and students of various ethnicities. Results from this study found that students already in AP classes felt very invited to challenge themselves in AP classes by teachers, administrators, parents, and peers. Richer students, Whites, and Asians also felt more invited to join AP classes than did poorer, African American, and Hispanic students, though these results were not statistically significant. To increase

enrollment in AP classes, the overwhelming response from students was that schools should advertise the pros and cons of taking an AP class.

Future research should examine students' perspectives regarding inviting school cultures in regions outside of the southeastern United States. Researchers should also focus on students in urban high schools as previous research has only examined student attitudes in rural and suburban high schools. Finally, future research should examine inviting school cultures from other stakeholders' perspectives such as parents and teachers.

Dedicated to my two beautiful children, Caitlin and Colin,

who give me a reason to smile every day.

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"Children are apt to live up to what you believe of them." ~ Lady Bird Johnson

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TABLE OF CONTENTS

LIST OF TABLES

CHAPTER ONE:
INTRODUCTION

Background of the Study

Advanced Placement (AP) courses provide high school students with the opportunity to enroll in college-level courses and obtain college credit while still in high school (Burton, Whitman, Yepes-Baraya, Cline, & Myung-in Kim, 2002; Keng & Dodd, 2008). This opportunity has caused enrollment in AP courses to grow rapidly over the past ten years. In 2002, over 28,000 Florida high school graduates took at least one AP course. More than 17,000 of those enrolled in AP acquired a score of 3 or higher on an AP Exam. In contrast, in 2012, more than 76,000 high school graduates had taken at least one AP course in high school and more than 39,000 students received a passing score of 3 or higher (College Board, 2013b). This trend of increasing AP enrollments is occurring nationwide with two notable exceptions: (1) traditionally underserved minority and (2) low-income students are not enrolling in AP courses in proportion to their overall population.

Nationwide, Hispanics made up 18.3 percent of the 2012 graduating class, but only 17.8 percent of AP Exam takers were Hispanic and just 15.9 percent of Hispanics received a passing score. Conversely, White students made up 58.5 percent of the 2012 graduating class, with 61.9 percent of White students earning a passing score on an AP Exam. Additionally, Asians consisted of 6 percent of the 2012 graduating class, while 12.5 percent of Asian students passed an AP Exam (College Board, 2013b). This equity gap in participation and success is even starker when examining the data for African Americans.

In the United States, African Americans made up 14.5 percent of the 2012 graduating class, yet only 9.2 percent of AP Exam takers were African American and only 4.4 percent of

these students were successful on an AP Exam (College Board, 2013b). According to the

College Board (2013b) and Sawtell, Gillie, and Smith (2012), African American students are the

most underrepresented minority group. Furthermore, 58.9 percent of low-income AP Exam

takers in 2012 were from traditionally underrepresented minority groups (College Board, 2013c).

Another aspect to this issue is that even though students have the potential to be

successful, many minority students nationwide are not enrolling in any AP mathematics classes

such as Calculus AB, Calculus BC, Computer Science A, and Statistics (College Board, 2013c).

In order to remedy this situation, educators need to better identify and encourage high-potential

AP candidates to enroll in AP courses. The College Board (2013c) noted that traditional

indicators of success used to determine whether students should enroll in AP classes, such as

GPA and course grades, are not reliable. Instead, students' AP Potential™ scores should be used

as an indicator because students with AP Potential™, based on scores from PSAT/NMSQT

administrations, have a 60 percent or higher chance of being successful in a certain AP course

(College Board, 2013a). Despite that fact, 60 percent of students in the 2012 graduating class

with AP Potential™ for a mathematics class never took a mathematics-based AP course.

Specifically, out of the AP Potential™ candidates, only 40 percent of White students, 30 percent

of African American students, and 30 percent of Hispanic students took an AP mathematics class

(College Board, 2013c).

In Seminole County Public Schools (SCPS), Florida, students with AP Potential™ are

also not enrolling in AP classes as much as the AP Potential™ data would suggest. For instance,

when examining PSAT/NMSQT data for African American students for the 2011-2012 school

year, 97 students were identified as having AP Potential™ in AP Calculus AB. However, only

28 African American students enrolled in AP Calculus AB and only 14 of those students passed

the AP Exam. For Hispanics, 237 students were identified as having AP Potential™ during the 2011-2012 school year, yet only 65 students took AP Calculus AB, while only 34 scored 3 or higher on the AP Exam. These discrepancies in terms of enrollment in AP classes were also evident for AP English Literature and AP U.S. History (College Board, 2012b).

During the 2012 school year, the ethnic breakdown of SCPS high school students was: White (58.5%), Hispanic (21.2%), African American (12.7%) and Asian (4.3%) (Seminole County Public Schools, 2013). In addition, the percentage breakdown of students who took at least one of the 11,894 AP Exams administered in SCPS was: White (68%), Hispanic (15.2%), African American (5.7%), and Asian (10%) students. Again, another indication that there is an equity gap in AP enrollment for Hispanic and African American students, while White and Asian students are overrepresented in proportion to county level demographic data (Seminole County Public Schools, 2013).

The lack of enrollment of Hispanic and African American students is alarming as many post-secondary institutions examine whether students took rigorous courses in their determination for admission into a university along with traditional measures such as GPA and SAT scores. John Barnhill, Assistant Vice President of Enrollment Management at Florida State University, noted, "When we review transcripts and see an AP course…we know that students have challenged themselves. We know that they are really pushing the envelope of their own intellectual curiosity….We love that spirit" (College Board, 2013b, p. 10). In addition, the rigor of students' high school curriculum is the largest predictor of college graduation rates. AP students are more likely to graduate in four years as compared to non-AP students (College Board, 2003; Hargrove, Godin, & Dodd, 2008). This is important because individuals with college degrees have higher career earning potential than students with high school diplomas

and/or certificates. Over a 40-year career, individuals with a college degree earn roughly

$650,000 more than an individual with a high school diploma (Pew Research Center, 2012). In

sum, minority students are not being provided with opportunities to be as successful as possible

later in their careers.

Statement of the Problem

To date, there has been limited research about how the role of inviting (recruitment)

messages, have affected enrollment in AP courses for traditionally underserved minorities and

low-income students. Killingsworth (2011) and Thompson-Cabezas (2011) focused on how

inviting messages affected student enrollment in advanced courses in limited geographic areas,

in which the researchers analyzed inviting messages for White, African American, and low-

income students. More research should be conducted to determine how inviting messages affect

enrollment in advanced courses for Hispanic students (Thompson-Cabezas, 2011). Hispanic

students are of particular interest as the population of Hispanics is projected to grow from 14

percent of the U.S. population in 2005, to 29 percent of the U.S. population in 2050 (Passel &

Cohn, 2008). Additionally, 10 percent of U.S. high school graduates were Hispanic in 1996,

whereas in 2022, Hispanics are predicted to make up 28 percent of U.S. high school graduates.

In Florida, 4 percent of graduates were Hispanic in 1996, whereas 26 percent of high school

graduates in Florida will be Hispanic in 2022 (Edwards & Duggan, 2012). Increasing diversity

in U.S. schools warrants investigation into how educators can improve minority student access to

a challenging curriculum that readies students for either post-secondary learning or productive

careers after high school (Thompson-Cabezas, 2011).

Purpose of the Study

The purpose of this study was to investigate whether or not the extension of inviting messages to enroll in AP courses was dependent upon students' ethnic and/or socioeconomic background. By replicating studies conducted by Killingsworth (2011) and Thompson-Cabezas (2011), which sought to understand how the role of inviting messages from a student perspective affects enrollment in AP courses, this study will help inform educators on how best to improve equity and access for minority students in AP classrooms.

Significance of the Study

Focusing on enrollment in AP courses is significant because AP students perform higher on college outcomes, such as SAT and ACT exams, than non-AP students (Keng & Dodd, 2008). This study is significant as it will contribute to the limited research on how inviting messages affect student enrollment in advanced courses, particularly AP courses. This study paralleled SCPS' parent and student climate surveys as this study sought to inform SCPS on how to increase the enrollment in AP classes for qualified, traditionally underserved students. Previous research focused only on White, African American, and low-income students in two rural high schools in Georgia and Alabama (Killingsworth, 2011; Thompson-Cabezas, 2011). This current study expanded the boundaries of Killingsworth (2011) and Thompson-Cabezas (2011) work by focusing on suburban high schools in Central Florida. In addition to analyzing how inviting messages affect White, African American, and low-income students, Hispanics and Asian students also were included in this study. As the U.S. becomes more diverse, as evidenced by the projection that Whites will no longer be the majority race in the U.S. by 2043, and Hispanics will grow from 17 percent of the population today to 31 percent of the population in 2043, school

5

administrators and teachers will have to make concerted efforts to include more minority

students in predominately White AP courses (Yen, 2012). In addition, the Asian population is

expected to rise from 5 percent of the population in 2012 to 8 percent of the population in 2043

(Yen, 2012).

Theoretical Framework

This study was guided by the invitational theory of education that seeks to create systems

and relationships to help people realize their full potential without any discrimination based on

one's ethnicity, sexuality, gender, or religion (Schmidt, 2004). Purkey and Novak (1996) noted

that there are four fundamental beliefs with regard to invitational theory: First, everyone desires

to be accepted for who they are as a person. Second, everyone can create positive messages for

themselves as well as for others. Third, everyone is blessed with unrealized potential in the area

of academic achievement and learning. Finally, realizing this potential is best accomplished

through creating positive, warm environments that allow people to reach their highest potential.

In order for schools to improve access to AP courses for traditionally underserved

minorities, a combined effort by administrators, teachers, and parents must focus on creating

environments that encourage minority students to explore the world of AP. Schools cannot

merely rely on achievement tests as a method to determine who should enroll in advanced

courses. Santelices and Wilson (2010) found that there was racial bias in how some questions

were worded on the SAT which can negatively affect the performance of ethnic minorities. In

addition, some teachers hold preconceived ideas about children of various ethnicities that affect

teachers' recommendations for gifted programs (Elhoweris, Mutua, Alsheikh, & Holloway,

2005). An invitational theory of education was used to guide this study in order to overcome the

6

barriers to enrollment in advanced courses that achievement tests and teacher attitudes pose for minority students.

To measure the extent of an inviting school culture, Schmidt (2007) proposed six elements that included: empowerment, encouragement, enlistment, enjoyment, equity, and expectation. The Program Access Student Survey (PASS), developed by Killingsworth (2011) and Thompson-Cabezas (2011), was constructed in accordance with the six elements of an inviting school culture.

Research Questions and Hypotheses

To measure "perceptions of an inviting school culture," mean scores from the PASS were used to discover the extent that "inviting messages" to enroll in AP classes were extended to participants. On a scale of 1-5, larger mean scores on the PASS indicated that participants received more inviting messages from teachers, parents, and peers to enroll in AP classes than lower mean scores on the PASS. To help understand why there is an enrollment gap for traditionally underserved minority students in AP classes, the following questions were used to guide this study (Killingsworth, 2011):

1. Among students with AP Potential™, what is the difference between high involvement AP students' and low involvement AP students' perceptions of an inviting school culture with regard to enrollment in AP classes?

    $H_0$1. There is no difference between high involvement AP students' and low involvement AP students' perceptions of an inviting school culture with regard to enrollment in AP classes.

2. Among students with AP Potential™, what is the difference between free/reduced lunch students' and non-free/reduced lunch students' perceptions of an inviting school culture with regard to enrollment in AP classes?

> $H_0$2. There is no difference between free/reduced lunch students' and non-free/reduced lunch students' perceptions of an inviting school culture with regard to enrollment in AP classes.

3. Among students with AP Potential™, what is the difference among White, Hispanic, African American, and Asian students' perceptions of an inviting school culture with regard to enrollment in AP classes?

> $H_0$3. There is no difference among White, Hispanic, African American, and Asian students' perceptions of an inviting school culture with regard to enrollment in AP classes.

4. Among various ethnicities, what factors would encourage more students to enroll in AP classes?

Advanced Placement (AP): Rigorous college-level classes available to high school students.

Students who pass a standardized examination at the end of the course, with a score of 3

or higher on a scale of 1-5, have the potential to earn college credit (Burton, Whitman,

Yepes-Baraya, Cline, & Myung-in Kim, 2002; Keng & Dodd, 2008).

AP Potential™: A web-based tool that allows administrators to see the likelihood of students

obtaining a 3 or higher on specific AP Exams based on data from the Preliminary

Scholastic Aptitude Test/National Merit Scholarship Qualifying Test (PSAT/NMSQT)

administrations (College Board, 2012a).

AP Success: A score of 3 or higher on a scale of 1-5 on AP Exams is considered passing for

college credit (Ewing, Camara, & Millsap, 2006).

Economically Disadvantaged: Students' free or reduced lunch status.

Empowerment: The ability to "give people a sense of power and authority over the decisions

they face" is known as empowerment (Schmidt, 2007, p. 19).

Encouragement: The desire "to ask people who have experienced oppression, neglect, unfair

discrimination, and devaluation to take risks and make substantive changes in their

lives…" is known as encouragement (Schmidt, 2007, p. 20).

Enlistment: Schmidt (2007) defined enlistment as "an active stance of creating multiple

invitations to involve an expanded audience in the work of the organization" (p. 18).

Enjoyment: Schmidt (2007) defined enjoyment as the opportunity for people to better appreciate

their life experiences by interacting with people of diverse backgrounds.

Equity: Refers to the proportional representation of underserved minority and

low-income students. Equity is present when the percentage of a subgroup of students

who enroll/pass an AP Exam with a score of 3 or higher are in proportion to that subgroup's total population (College Board, 2012c).

Expectation: Schmidt (2007) defined expectation as the perceptions that people have of others' abilities. People may have preconceived ideas of the academic achievement abilities of particular types of students, which affects whether those students are encouraged to take advanced courses.

Free or Reduced Lunch: Students in K-12 schools can receive a free lunch at school if their families' income is below 130 percent of the poverty line, which is set by the U.S. Department of Health and Human Services. Students can receive a reduced cost lunch if their families' income is between 131-185 percent below the poverty line (New America Foundation, 2013).

High AP Involvement: Defined by the researcher as students who took three or more AP classes at the time of graduation.

Inviting Messages: Messages that students receive which "advocates for educational programs and services that incorporate beneficial human relationships, improved physical environments, and respectful systems in which all people, regardless of culture, ethnicity, sex, gender, or other diversity factor can thrive" (Schmidt, 2004, p. 28). Inviting messages are the signals that students receive from the community which allows students to believe that they can be successful in an academically challenging environment (Killingsworth, 2011; Thompson-Cabezas, 2011).

Low AP Involvement: Defined by the researcher as students who took two or fewer AP classes at the time of graduation.

Program Access Student Survey (PASS): A five-point Likert-scale survey instrument developed

        by Killingsworth (2011) and Thompson-Cabezas (2011) to measure students' views of

        inviting messages related to equity, expectation, enlistment, empowerment,

        encouragement, and enjoyment when enrolling in AP classes (See Appendix A for the

        wording of the items).

PSAT/NMSQT: A test given mainly to high school sophomores and juniors each year in

        October. The test measures verbal and quantitative reasoning along with writing skills.

        The test is used to predict academic achievement in post-secondary institutions (Camara

        & Millsap, 1998).

Traditionally Underserved Minorities: Students who identify as American Indian/Alaska Native;

        Asian/Asian American/Pacific Islander; African American/Black; Hispanic/Latino

        (College Board, 2012c).

Overview of Methodology

This study was both quantitative and qualitative. The study was designed to assess how the role of inviting messages, from a student perspective, affected enrollment in AP courses. For the qualitative section, students were asked to respond to a survey measuring the extent to which the students felt invited to enroll in advanced courses. For the quantitative section, students' responses were recorded along a Likert-scale which was converted into mean scores for inviting messages. Statistical tests were run using data collected from the PASS survey instrument to determine if there were significant differences between students who received inviting messages and students who did not receive inviting messages and their subsequent enrollment, or lack of enrollment, in AP classes.

Delimitations

In order to examine the extent to which ethnicity and socioeconomic status affected the reception of inviting messages to join AP programs, the researcher focused on a large, suburban school district in Central Florida. Since the focus is on AP courses, only high school students' perspectives were sought. The study did not examine how inviting messages from teachers, parents, and peers affected elementary and middle school students. Additionally, this study only concentrated on how inviting messages affected students' decisions to enroll in AP courses, while excluding students' decisions to enroll in honors and/or gifted programs in high school. Finally, only those students with AP Potential™ based on the 2011 PSAT administration (2014 graduating class) were included in this study.

Limitations

The current study had the following limitations:

Since this study used a survey to gauge student perspectives about inviting messages, the results were dependent upon students being truthful in their responses to the survey questions. Surveys can also suffer from lack of responses. The sample may not be representative due to lack of participation by traditionally underrepresented students (i.e., African Americans and Hispanics). The students surveyed were from a single, suburban school district in Florida. Therefore, the results may not be generalizable to school districts outside of Seminole County, Florida. In addition, the results are not generalizable to urban and rural school districts. As a final limitation, PSAT scores and subsequent AP Potential™ scores do not measure student motivation and persistence, both of which have an effect on how successful students will be in school.

Summary

      This chapter began by providing a background of the study by showing how traditionally underserved students in the U.S. are not enrolling in AP classes at a rate equal to their demographic characteristics. This was followed by the problem statement, purpose, and significance of the study. Next, the theoretical framework of invitational theory was introduced. Three quantitative research questions were then presented which were used to see if there were significant differences among the attitudes of various subgroups of students about how invited they felt in enrolling in AP classes. One qualitative question was stated asking students their opinion as to what their high school could do to increase enrollment in AP classes. This chapter concluded with the definition of terms used throughout the study, an overview of the methodology, and the delimitations and limitations of the study.

      The next chapter will provide a broad overview of the history of education in the United States. This literature review will examine the disadvantages that African American and Hispanic students have historically faced in order to help explain the equity gap in enrollment in AP classes seen across the United States today.

CHAPTER TWO:
LITERATURE REVIEW

Introduction

Chapter two begins with a literature review that provides a brief overview of the history of U.S. schools in order to show which types of students had access to schooling, even before the birth of the country. In the 1600s only certain White, privileged children were allowed to attend school, while minority students were not seen as being fit for a formal education. The racial inferiority complex developed by minorities, and enforced by White society in the 17th century, eventually led to an achievement gap in test scores between ethnic minority and White students in the 21st century. In addition, enrollment in advanced academic courses have generally been reserved for wealthy White students, while ethnic minorities have been tracked into industrial classes. This review of literature serves as the basis for the replication of two prior studies that examined the lack of enrollment of traditionally underserved students in Advanced Placement courses through the lenses of invitational theory.

The literature review was divided into ten major sections that addressed inequalities in U.S. education. Section one reviewed the history of colonial schools in America with a focus on three different regions: New England, Middle Atlantic, and the South. Section two examined the development of different types of schools, namely the common school, the academy, and the high school, and their effects on the White population and ethnic minorities. Section three overviewed the history of slavery in the United States and how different forms of racism and stereotypes were used to keep minorities illiterate. Section four discussed the types of education available to African American and Mexican American students with a look at how major court decisions such as *Plessy v. Ferguson* (1896) and *Brown v. Board of Education of Topeka, Kansas*

(1954) shaped American education. Section five examined the achievement gaps in the United

States between White students and ethnic minorities, as well as the global achievement gap

between the United States and other highly industrialized countries. Section six looked at the

history of the Advanced Placement (AP) Program and how barriers, such as teacher expectations

and "acting White," have affected enrollment of minority students in the program. Section seven

provided an overview of how an invitational education can be used to increase the number of

minorities in AP classes. Section eight reviewed the previous research about how students of

various races and income levels viewed their recruitment or non-recruitment into AP programs

from an invitational theory of education. Section nine examined the practical significance of

conducting the present study by focusing on how increased access to advanced courses can

satisfy Common Core State Standards, while also helping students to have higher standards of

living. Finally, section ten provided a brief review of the current study by examining the equity

gap in Seminole County Public Schools and explaining the rationale behind only using students

in the study with AP Potential™.

<div align="center">History of Colonial Education in America</div>

During the colonial era, three regional types of schools began to emerge in the colonies

of: New England, Middle Atlantic, and the South. These three regions had theocratic

governments and societies, and schools were one way to enlighten the residents of a colony

about the tenets of the religion of which they were expected to adhere to (Gutek, 1986; Marshall,

1962; Pulliam & Van Patten, 2007).

First, in the New England schools, beginning with schools in Massachusetts, laws were

passed to make sure that Puritan children could read and write so that they could study the Bible

and serve God (Marshall, 1962). For instance, The Massachusetts Law of 1642 fined parents for not taking an active role in the education of their children. Thus, wealthy Puritan parents sent their children to tuition-based private schools or schools back in England in order to learn the teachings of their religion (Marshall, 1962). Some of these schools, like the Latin grammar schools, were created where boys were required to learn the Latin and Greek languages as these were the languages of learned men. Students also learned writing and arithmetic in these schools because the schools served as college preparatory schools. Graduates from the Latin grammar schools would then be prepared to go to Harvard College in order to conform to the teachings of their religion and to serve as ministers upon graduation (Gutek, 1986). The school masters were required to be able to teach the religious tenets of their faith as ignorant persons could be swayed by the devil. Strict adherence to the religious code was necessary so as to resist the temptations of the devil (Gutek, 1986). To ensure that communities were educated about the tenets of the Bible, the Old Deluder Satan Act of 1647 was passed in Massachusetts that stated:

> It being one chief object of that old deluder, Satan, to keep men from knowledge of the scriptures,…it is therefore ordered, that every township…after the Lord hath increased them to the number of fifty householders,…shall…appoint one within their own town to teach all children as shall resort to him to read and write (Pulliam & Van Patten, 2007, p. 81).

Connecticut and New Hampshire also passed laws that required parents to ensure that their children were being educated. Colonies could therefore educate their residents in the doctrines of the local religion, punish people for not following the laws, and charge taxes in order to pay for the church teachers, even if the residents did not believe in the faith (Butts, 1978).

The second region where education developed in early America was that of the Middle Atlantic colonies of Delaware, New Jersey, New York, and Pennsylvania (Pulliam & Van Patten, 2007). Diversity ruled these colonies as many immigrants to North America came from various states in Europe. Whereas in New England the social fabric was held together by the English language and Puritan beliefs, the Middle Atlantic colonies were not as homogenous, differing in language, religion, and ethnicity (Gutek, 1986). German, Swedish, English, Dutch, Scotch, and Welsh immigrants dominated the new wave of arrivals during the 18th century. Parochial schools were created to serve the interests of the various groups of European immigrants. The vast majority of these schools were established by White Europeans for White students; however, Quaker schools were the first ones to educate free Black students on a small-scale basis (Pulliam & Van Patten, 2007).

The third region where education developed, the South, mainly in Maryland, Virginia, Georgia, North Carolina and South Carolina, also revolved around religion. Educational decisions were made by either the Archbishop of Canterbury or the Bishop of London who favored the upper class land owners, which led to social inequality in Southern society (Pulliam & Van Patten, 2007). However, no identifiable educational pattern developed as the population was sparse and dispersed in the Southern colonies, therefore the public had little interest in education (Butts, 1978; Gutek, 1986; Pulliam & Van Patten, 2007). Black slaves relied on their owners for an education as some slave owners thought it was their moral and paternalistic responsibility to teach the slaves how to read so that they could read the Bible and understand the teachings of God (Pulliam & Van Patten, 2007).

While the colonies each took on specific theocratic characteristics concerning their educational systems, education in the colonies prior to the American Revolution was generally

17

reserved for the elite and privileged classes, while neglecting the education of Black slaves. Different types of schools were created to serve the various needs of the privileged classes.

<p style="text-align:center">Types of Schools in the U.S.</p>

Around 1750, the U.S. was becoming more secular than it was in the 17th century and became more concerned with trade than with religious matters. In addition, Thomas Jefferson noted after the American Revolution that it was essential for a democracy to have a well-informed citizenry (Marshall, 1962). In order to educate the citizens, different types of schools were developed in the 19th century: the common school, the academy, and the high school (Gutek, 1986; Pulliam & Van Patten, 2007).

<p style="text-align:center">The Common School</p>

First, during the early to mid-19th century, from 1820-1860, the common school movement was started by Horace Mann so that citizens could participate in a representative democracy (Butts, 1978; Gutek, 1986; Marshall, 1962). The common schools were necessary in light of increased European immigration as the English-speaking, upper-class Protestants wanted to Americanize and assimilate the recent immigrants into the U.S. melting pot (Gutek, 1986). Common schools meant that education was open to all citizens and not that the educational quality was poor (Gutek, 1986). These schools were the precursor to the contemporary public school in the United States. Instead of a national system of education similar to Europe, the common school movement placed control of schools in the hands of local officials (Gutek, 1986). These schools were the first elementary schools and were more popular in New England states such as Massachusetts, Connecticut, and New Hampshire. Because the New England schools already had a tradition of an organized education centered around religion, the common

school movement was adopted by these states much faster than the states in the Middle Atlantic

and Southern colonies, which had traditions of private religious schools and tutors for the

children of the planter class, respectively (Gutek, 1986). The schools were open to both boys

and girls with students expected to learn reading, writing, arithmetic, history, spelling, and

geography. The image of the one-room school house in rural America is associated with these

first public schools (Gutek, 1986). This universal primary education was necessary so that the

people could debate ideas and understand various positions held by politicians. To do this,

citizens needed to be able to read (Pulliam & Van Patten, 2007). However, "popular

participation" in the 1800s meant "White participation," so Black slaves were excluded from

learning how to read and write, while society focused mainly on the education of White children

(Butts, 1978).

The Academy

Second, the academy was an educational institution that was started during the 1830s-

1840s in an era known as the Age of Jackson which stressed the importance of the common man

(Gutek, 1986). The purpose of the school was similar to that of the common school except that

the academy was focused on a secondary education that reached more people. The academy had

open enrollment and an unstructured curriculum as courses were based on student demand

(Pulliam & Van Patten, 2007). As the economy was developing, academies created classes that

would help students to be successful in their particular business pursuits in areas such as

accounting and bookkeeping, for example (Gutek, 1986).

The High School

Finally, in the 1870s-1880s, the high school emerged after the American Civil War as a rival to the academy (Gutek, 1986). The high school sought to bridge the common elementary schools with the agricultural and industrial state colleges and universities created by the Morrill Act of 1862 (Gutek, 1986; Marshall, 1962; Pulliam & Van Patten, 2007). As the U.S. went through industrialization, the country transitioned from a rural, agricultural society to an urban industrialized one (Gutek, 1986; Pulliam & Van Patten, 2007). Many people headed to the cities for work in the factories which required skilled labor (Gutek, 1986; Marshall, 1962; Rubenstein, 2014). The high schools served as training grounds for factory workers, and as more people moved to the cities, local governments could raise more tax revenue, which then could be used to fund schools. Graduates from high school enrolling in the agricultural and industrial colleges met the great demand for educated factory managers and workers after the Civil War (Gutek, 1986; Pulliam & Van Patten, 2007).

As these different types of schools became popular, not all children were able to attend these institutions of learning. Generally reserved for White males, many minority children were not allowed to attend school. The schools that Black children did attend were often inferior to the White schools and only existed due to the charity of private individuals and religious institutions. Across the United States, governments did not place a large emphasis on the schooling of Black children (Pulliam & Van Patten, 2007). To understand the different schools set up for White and Black students, a look at slavery and racism in the United States is warranted.

<u>Slavery in the United States</u>

Twenty slaves came to Jamestown in 1619 and numbered approximately four million by 1860 with the South deciding to secede from the North (Gutek, 1986). The South's economic system was based on the planting and harvesting of cash crops such as rice, tobacco, and cotton. These farming operations were very labor-intensive and required numerous hands to work the land. The need for more workers on these plantations fueled the flow of slaves coming from West Africa into the American colonies (Gutek, 1986).

During the 17th century, when African Americans were taken from West Africa and brought to the American colonies as slaves to work on Southern plantations, African Americans had no rights and were seen as second class citizens (Tatum, 2005; White & Cones, 1999). In fact, Africans had to live according to a Eurocentric world view that stressed "competition and conflict over cooperation, individualism over interdependence, power and control over harmonious relationships, property rights over human rights, and the rights of Whites over the rights of Blacks" (White & Cones, 1999, p. 23). Furthermore, in the Dred Scott case of 1857, the U.S. Supreme Court ruled that Whites did not have to value the rights of African Americans as the slaves were considered pieces of property (Weinberg, 1977). Dred Scott was an illiterate slave who was taken by his master from Missouri (a slave state) to Illinois (a free state). Under Missouri law, any person who lived in a free soil state was considered to be a free person and a jury in 1850 found in favor of Scott, until the decision was reversed by the Missouri Supreme Court in 1852, which declared Scott to still be a slave. On appeal, the case made its way to the U.S. Supreme Court, and in 1857, Chief Justice Roger B. Taney ruled that no Black person, free or enslaved, could sue the federal government as they had never been citizens of the U.S. to begin with. Since slaves were property, and property was protected under the U.S. Constitution,

no state had the power to ban slavery. The ruling, in effect, legalized slavery in all states (Weinstein & Rubel, 2002).

Attitudes exhibited from the likes of Chief Justice Taney were prominent throughout the history of the United States. Slave owners had total control over all aspects of a slave's life. The owners had the ability to break up families during slave auctions, decide which slaves could have conjugal visits and long-term relationships with each other, and have sexual relations with any slave woman (White & Cones, 1999). Instead of being independent, slaves were taught that they had to be absolutely dependent on their slave owners as they were punished with beatings and starvation for exhibiting prohibited behaviors and rewarded for adhering to the slave owners' demands (Elkins, 1968). The fact that Black slaves were compared to children who lacked discipline and logical thinking, lead to the deficit theory in the 20th century that White society used to justify African Americans' lack of progress as compared to their White peers. This deficit theory held that since Black people lacked certain genetic and cultural traits that lead to success, White people should not feel guilty or blame themselves for the lack of progress made by Black people as the inevitable reality for Black people was that they had been born inferior (White & Cones, 1999).

After the American Civil War ended in 1865, Blacks seemingly had the ability to get on with their lives as free persons, especially with the passage of the Thirteenth, Fourteenth, and Fifteenth Amendments to the U.S. Constitution that granted Black people citizenship, equal protection under the law, and voting rights, respectively. However, after 250 years of slavery, White society had convinced itself that they were superior to the inferior Black person through genetic and cultural concepts of masculinity, race, and victim-blame (White & Cones, 1999).

Racism

First, for masculinity, White males, compared to White females and Black males and females, thought of themselves as having the preferred traits that lead to success such as logical thinking, control over emotions, self-reliance, and competitiveness (White & Cones, 1999). Instead of thinking that these traits could be learned as has been shown since the 1960s, White males thought that these traits could only be inherited at birth. Therefore, since only White men could have these desired traits, all others had to be subservient to the will of White males (White & Cones, 1999).

Second, race was another concept that was used by White people to keep Black people from advancing in society. Race is used to group people together who share a biological ancestor (Rubenstein, 2014). Traits such as skin color, hair texture, and bone structures (i.e., cranial and nostril sizes) were once thought to be scientifically classifiable into a handful of groups, but has since been rejected as these traits do not appear in specific geographic areas (Rubenstein, 2014; White & Cones, 1999). Tens of thousands of years ago, early humans may have been genetically diverse from other groups of humans, but with increased interaction and intermarriage between the groups, any biological distinctions between early humans have been wiped clean. In fact, geneticists have conducted DNA testing on over 600,000 people in the world, including people from indigenous tribes, and have found that humans are 99.9 percent the same genetically and theorize that all humans have a common ancestor originating in eastern Africa (National Geographic, 2013; Wells, 2007; White & Cones, 1999). Therefore, most scientists believe race to be a social construct rather than a scientifically classifiable phenomenon (Rubenstein, 2014). But prior to this realization that race is meaningless in describing how some people get ahead of others, White people have used perceived differences in race to justify their

treatment of minorities. They thought that since genes were inherited, and that racial groups bred with each other, then the same inferior genes would have always been passed down to Black children.

Finally, White people have reinforced the inferiority of Black people through victim-blame and the self-fulfilling prophecy (White & Cones, 1999). With Jim Crow laws and U.S. Supreme Court decisions like *Plessy v. Ferguson* (1896), American social institutions sought to keep Blacks in a position of inferiority. So when Blacks inevitably had lower achievement in education, lower paying jobs, more family problems, increased prison sentences, and increased health problems as compared to White people, White society used those statistics to justify their treatment of Black people. Instead of recognizing that the social institutions of slavery had a devastating effect on Black people, White society blamed Black people for not having the right traits that would allow them to lead prosperous lives (White & Cones, 1999).

Stereotypes

To reinforce the idea of White superiority and Black inferiority, many stereotypes of Blacks were presented in different forms of media such as in stage shows, movies, and newspapers (Tatum, 2005; White & Cones, 1999). The use of Blackface was used in stage shows where White performers would portray Black people as irresponsible, happy-go-lucky clowns that had to be controlled by the superior White male. Books such as Upton Sinclair's *The Jungle* and Thomas Dixon, Jr.'s book *The Clansmen* presented Black males as sexual and violent deviants that need to be watched so as to protect White women (White & Cones, 1999). Within this context, schools for minority students eventually began to emerge.

Education of Minorities

African American/Black Education

A prevailing idea during the time of slavery in the U.S. was that Black inferiority was a result of Social Darwinism. The Social Darwinism theory held that only the brightest children are fit for school; others (i.e., Black people) do not deserve an education due to their perceived genetic deficiencies (Pulliam & Van Patten, 2007). Since Black people were the ones who were enslaved, they must not have been "fit" enough, or else Black people would not have allowed themselves to become slaves. White people used the slaves' inferior position in society as evidence that the slaves should continue to have secondary status to White society, thus Blacks were forbidden from attending formal schooling in the South (Gutek, 1986; Zimmerman, 2010). Prior to the end of the Civil War in 1865, the education of Black students was that of "compulsory ignorance" (Weinberg, 1977). Education in the South for Black people was practically nonexistent where Jim Crow laws were passed to keep Black people in their place— subservient to White society (Pulliam & Van Patten, 2007). In fact, in 1784 the Rhode Island Emancipation Bill required schools to teach Black students how to read and write which was ignored by the local schools; in Mississippi in 1823, it was against the law for six or more Black people to gather for educational purposes. Additionally, Black private schools in Ohio were burned to prevent Black students from learning how to read and write (Weinberg, 1977). Furthermore, slave revolts around the world in Haiti and in the southern United States reinforced in the minds of Whites that the education of Blacks was a dangerous enterprise. For example, the Nat Turner rebellion of 1831, where an educated slave named Nat Turner carried out a vision that told him to destroy the Whites, lead to the bloodiest slave revolt in U.S. history (Weinstein & Rubel, 2002). To prevent another slave revolt, Whites banned the education of Blacks in

25

order to keep their slaves docile and obedient (Pulliam & Van Patten, 2007). This lack of education for Africans was a new concept as they had formal education in West Africa during the 16th century when the region was dominated by Islamic influences (Weinberg, 1977).

To resist White masters, Black slaves turned to the Christian religion, mainly the Baptist and Methodist denominations, as a means to foster group unity and to serve as an informal education for their children (Gutek, 1986). Slave children learned to read by accident by sorting their masters' newspapers, playing "school" with other slave children, or bribing White boys with bread to provide spelling lessons (Gutek, 1986).

After the Civil War ended, a system of formal education for Black children was established during the Reconstruction years of 1865-1877 (Gutek, 1986). The Freedman's Bureau was created by Congress in 1865 to help newly freed slaves adjust to freedom in the South. The Freedman's Bureau established a formal educational system in the South that was modeled after the New England common school that focused on reading, writing, arithmetic, grammar, and geography (Gutek, 1986; Weinberg, 1977). Staffed by northern White educators, the curriculum in these schools focused on "industrial training" since the slaves had come from a place of hard manual labor in the plantation fields. This "Negro education" prepared Black students to become farmers, mechanics, and seamstresses (Gutek, 1986, p. 157). The schools created by the Freedman's Bureau laid the groundwork for a public school system in the South. Southern state legislatures started to pass laws for the official creation of a public school system, but worried about whether the schools should be mixed or segregated by race. After Reconstruction ended, states such as South Carolina, North Carolina, Alabama, Mississippi, Virginia, Louisiana, and Texas had created segregated schools based on race as early as 1873 (Gutek, 1986). In 1896, the U.S. Supreme Court officially legalized the system of segregation

with the passage of the *Plessy v. Ferguson* (1896) ruling that stated that facilities, such as schools, could be segregated by race so long as the facilities were of equal quality. The ruling made "separate but equal" constitutional until the civil rights movements of the 1950s when *Plessy v. Ferguson* was overturned by *Brown v. Board of Education of Topeka, Kansas* in 1954 (Gutek, 1986; Pulliam & Van Patten, 2007). Segregation led to unequitable school funding between White and Black schools, which ultimately lead to unequal educational opportunities for students of color (Spring, 2007).

During the time of segregated schools, though, two prominent Black thinkers, Booker T. Washington and W.E.B. Du Bois had two different views when it came to the education of Black children. Washington believed that Blacks should accept segregation in order to gain access to an education (Pulliam & Van Patten, 2007). For example, Washington, acknowledging that the only jobs available to Blacks in a segregated society would be jobs working on farms or in the urban factories, pushed for vocational education for Black people (Butts, 1978). By stressing this industrial education over that of advanced academic work, Washington won favor with White society as he was not trying to disrupt the current social order as he was encouraging Black students to be trained in jobs that White students generally did not want, which would keep the status quo of White superiority over Black inferiority in place. As the Industrial Revolution in the United States was picking up steam in the late 19th and 20th centuries, many former slaves flocked to the northern states for jobs. With many children in the cities, vocational or industrial education was required so that the factories would have their educated managers and workers (Gutek, 1986).

In contrast, Du Bois attacked Washington on the basis that Washington was advocating for the status quo for Black students—that of second class citizens and thus, a second class

education (Butts, 1978). Du Bois sought to develop the leadership capacities of Black students so that they may break free from the chains of segregation and inequality. If Black children continued down the path of manual labor, they would always remain subservient to Whites and would never begin to realize true freedom. As Du Bois noted, "I insisted that the object of all true education is not to make men carpenters, it is to make carpenters men…" (Butts, 1978, p. 214).

Mexican American Education

African Americans were not the only minority group that was discriminated against as Mexican Americans were also segregated into inferior schools. With the annexation of Texas from Mexico in 1845, the United States and Mexico engaged in a two year war from 1846-1848. After the war was over, the United States had gained new territory, namely in present-day California, Utah, New Mexico, and Nevada (Minster, 2013). The Mexicans in the captured territories had the option of staying put with a guarantee of being granted rights as U.S. citizens. Around 1900, approximately 200,000 Mexican Americans lived in the Southwest United States (Weinberg, 1977).

In the mid-1800s, school laws were passed in New Mexico, which had the largest population of Mexican Americans, but adequate funds were never made available for the schools. By 1871, the first public school was created in New Mexico (Weinberg, 1977). Likewise, in the Texas Constitution of 1845, a school fund was reserved and by 1866, one year after the American Civil War, the fund was used to create White-only schools. Not until the age of Reconstruction, and pressure from newly freed Blacks, was a public school system established in Texas. At first, wealthier parents sent their children to private, Spanish-language schools, while there were little options for the children from low-income families (Weinberg, 1977).

Finally, in 1891, Mexican American children were allowed to go to Texas public schools so long as they were segregated from White students. Segregation in New Mexico and Texas lead to discrimination which ultimately lead to underachievement for Mexican American students. For example, Mexican American students were held back more than their White peers with promotion to the next grade based on ethnicity, not ability. In addition, Mexican American's Spanish culture was suppressed as instruction in class was to be only in English. The Spanish language was ignored and students were punished if they spoke Spanish. English language tests in San Antonio, Texas lead to many Mexican American failures in the 1923-1924 academic school year (Weinberg, 1977). By segregating Mexican American students and banning the use of the Spanish language in schools, White society wanted to "Americanize" these students into their dominant values and culture (Spring, 2007).

Like African Americans, Mexican Americans were thought to be inferior with lower intelligence quotients than White students. Up until the mid-1900s, the use of the Spanish language was punished because teachers thought that Mexican American students were incapable of learning. As a result, Mexican Americans learned to be subordinate in school. The racist attitudes of White teachers and the segregated schools in the Southwest led to inadequate schools. As a result, during the 1943-1944 school year, three-fourths of Mexican American students in Texas did not make a full year's worth of academic progress (Weinberg, 1977).

From 1968-1972, the U.S. Commission on Civil Rights conducted an analysis of education for Mexican Americans. At the time, 70 percent of students with Spanish last names were attending school in the Southwest, predominately in California (46.3 percent) and Texas (36.1 percent). Additionally, Mexican American school staff were underrepresented in the schools as teachers made up only four percent of the school staff, while principals consisted of

three percent of the staff. The findings from the U.S. Commission on Civil Rights found that the

education of Mexican American students was: 1) highly segregated, 2) suffering from low

academic achievement, 3) dominated by many exclusionary policies, and 4) poorly financed with

most funds going to White schools (Weinberg, 1977). Like Black students, Mexican American

students were seen as inferior human beings who were forced to attend segregated schools that

lacked adequate funds and quality teachers until the mid-1900s.

Segregation and Desegregation

Plessy v. Ferguson (1896)

Both Black and Mexican American students had to attend segregated schools as a result

of *Plessy v. Ferguson* (1896) which ruled that "separate but equal" facilities were constitutional.

The case came about when Homer Plessy, who was seven-eighths White and one-eighth Black,

refused to move to the colored section of a bus under Louisiana state law (Spring, 2007). Under

the Fourteenth Amendment to the U.S. Constitution, no state could "…deprive any person of life,

liberty, or property, without due process of the law; nor deny to any person within its jurisdiction

the equal protection of the laws" (Cornell University Law School, n.d.). The U.S. Supreme

Court noted that separation of the races did not contribute to feelings of inferiority so long as the

separated facilities were equal (Spring, 2007).

Brown v. Board of Education of Topeka, Kansas (1954)

By the 1950s, however, the National Association for the Advancement of Colored People

(NAACP) fought against segregation and finally won out in the *Brown v. Board of Education of*

Topeka, Kansas (1954) Supreme Court ruling that overturned the *Plessy v. Ferguson* (1896)

ruling as it violated the Fourteenth Amendment guaranteeing equal protection under the law

(Spring, 2007). In 1953, *Brown* was one of five segregation cases brought before the Supreme

Court and was heard first because the cases were heard in alphabetical order (Spring, 2007).

Oliver Brown, a Black man, was upset that his daughter could not attend the White school that

was five blocks from their home and, instead, had to travel 21 blocks to attend the Black school

across town (Spring, 2007). Chief Justice Earl Warren wrote, "We conclude that in the field of

public education the doctrine of 'separate but equal' has no place. Separate educational facilities

are inherently unequal. . ." (United States Courts, n.d., "Brown v. Board of Education," para. 4).

This inequity in funding for Black versus White schools was evident in Arkansas in 1952 where

$102 were spent on each White student, while only $67 were spent on each Black student

(Pulliam & Van Patten, 2007). However, many states resisted the Court order and schools were

slow to desegregate. This process of desegregating the schools moved much faster after passage

of Civil Rights Act of 1964, which noted that institutions cannot discriminate on the basis of

race, color, sex, or national origin if the institutions are receiving federal funds (Pulliam & Van

Patten, 2007). Therefore, the Civil Rights Act of 1964, particularly Title VI of the Act, allowed

the national government to withhold federal funds from institutions that ignored the *Brown*

ruling (Spring, 2007).

Achievement Gaps

United States Achievement Gap

Today in education White students outperform Black and Hispanic students on

achievement tests in areas such as vocabulary, reading, and mathematics (Jencks & Phillips,

1998; Ravitch, 2010). In 2002, U.S. President George W. Bush signed into law the No Child

Left Behind (NCLB) law in order to eliminate this achievement gap between White and minority

students by 2014 (Education Week, 2004; Pulliam & Van Patten, 2007; Ravitch, 2010). The

federal government's role was expanded in the realm of education as federal funds to states

would be contingent upon schools narrowing the achievement gap among White and minority

students. While NCLB was a reauthorization of the Elementary and Secondary Education Act

(ESEA), which provided for Title I in 1965 for disadvantaged students, NCLB did include

several changes (Education Week, 2004).

First, by the 2005-2006 academic year, states had to develop tests in reading and

mathematics for students in grades 3-8 (Pulliam & Van Patten, 2007; Ravitch, 2010). By the

2007-2008 school year, elementary, middle, and high schools had to test their students in science

at least once (Education Week, 2004; Pulliam & Van Patten, 2007).

Second, schools had to demonstrate adequate yearly progress (AYP) towards 100 percent

proficiency in reading and mathematics for the 2013-2014 school year for both the population of

the school as a whole and for specific subgroups of students within the school (Education Week,

2004; Ravitch, 2010). Subgroups included groups of students based on: race/ethnicity,

socioeconomic status (i.e., free or reduced lunch), students with disabilities, and students with

limited English proficiency (Florida Department of Education, n.d.; Ravitch, 2010). Schools that

failed to meet state standards after a certain amount of years faced varying forms of progressive

punishment for each year that schools failed to meet AYP (Ravitch, 2010). For example, after

the first year of not meeting AYP for the total student population and subgroup populations,

schools were put on notice that they were failing to meet the requirements set forth in NCLB. In

the second year, students were to be provided with options to transfer to a school of their choice.

Transportation costs were paid through the district's portion of federal monies. In the third year,

free tutoring was to be provided for low socioeconomic status students. In the fourth year,

schools were directed to change their curriculum, length of school day and/or year, and staff responsibilities. In the fifth year, schools were faced with various overhaul reforms such as: conversion to a charter school, replacement of school administration and staff, and giving up control from the local school board to a private group or to the state (Ravitch, 2010).

Third, states were required to create accountability report cards for both individual schools and school districts. The reports were to be broken down by subgroup performance on state assessments and how the district and individual schools were performing (Education Week, 2004).

Fourth, by the 2005-2006 school year, teachers had to be "highly qualified" in core content areas such as mathematics, English language, science, and social studies. To be considered "highly qualified," teachers had to be state certified in the subject in which they were hired to teach.

The push for American students to achieve at higher rates was a national issue long before NCLB. After the Soviet Union launched *Sputnik* into space in 1957 amid Cold War tension, Americans were nervous that they were losing their competitive edge to the Soviets. In response, the National Defense Education Act of 1958 was passed which provided financial aid for schools in order to keep the country strong. Classes in mathematics, science, and foreign languages were emphasized so that Americans could stay one step ahead of the Soviets. The funding was used to help U.S. schools cultivate giftedness in students as a result of the Soviets winning the space race (Pulliam & Van Patten, 2007).

Later, in 1983, *A Nation at Risk* (ANAR), was published by the National Commission on the Excellence in Education, which had a similar and profound effect on the U.S. population, similar to that of the launch of *Sputnik* (Pulliam & Van Patten, 2007). On international tests,

American students were not at the top of achievement list which alarmed Americans into thinking that they were losing their top standing in the world. Compared to other industrialized countries, the United States was usually last on 19 academic tests. Furthermore, 13 percent of high school seniors were considered illiterate, while the same could be said for 40 percent of minority students (Pulliam & Van Patten, 2007). In fact, the achievement levels of high school students in the late 1980s was even lower than the achievement levels of students in 1957 when *Sputnik* was launched (Pulliam & Van Patten, 2007). Further evidence of the decline in American education was the drop in SAT test scores from 1963 to 1980 (Pulliam & Van Patten, 2007). Much of the blame for the lower SAT test scores was attributed to an increase in the numbers of minorities taking the test, an increase in television viewing, an increase in the divorce rate, and political disturbances such as the Vietnam War and the Watergate scandal (Ravitch, 2010). *ANAR* suggested that too many students were taking easy electives and were not focused on the core subjects of English, mathematics, science, social studies, computing, and foreign language that lead to college and career success. Furthermore, *ANAR* recommended that schools needed "stronger high school graduation requirements; higher standards for academic performance and student conduct; more time devoted to instruction and homework; and higher standards for entry into the teaching profession and better salaries for teachers" (Ravitch, 2010, p. 25).

The fact that there is still an achievement gap between White and minority students (aside from Asians) in the 21st century is alarming, especially since it has been nearly sixty years since *Brown v. Board of Education of Topeka, Kansas* (1954) officially ended segregation of the races in schools. Furthermore, this achievement gap is exacerbated by the global achievement gap between the United States and other industrialized countries. Failure to address this global

achievement gap has led to predictions that there will be increasingly fewer jobs for American high school and college graduates since foreign students have more of the required 21st century skills (i.e., critical thinking, problem-solving, and collaboration) that businesses favor than do U.S. students (Wagner, 2008).

Global Achievement Gap

U.S. schools have not been adequately preparing their students to be competitive in a knowledge-based world. If U.S. schools continue to stress standardized testing to hold schools accountable for student achievement, students will not acquire the 21st century skills (i.e., critical thinking and problem solving) necessary to compete in a globalized economy (Wagner, 2008).

Top schools in the U.S. are ranked by *Newsweek* magazine based on the number of students taking Advanced Placement (AP) and International Baccalaureate (IB) courses, but these rankings tell the public little about the skills that students are learning while in school (Wagner, 2008). For example, one cannot determine if students are being equipped with the required 21st century skills needed to be successful in the global economy, such as critical thinking, problem-solving skills, and effective communication skills, by simply looking at the raw numbers of students who take advanced courses. Observations at top-performing schools of AP and honors level courses examined not what the teachers were doing, but what the students were being asked to do. Instead of an abundance of academic rigor, in some AP classes students were just following formulas/recipes on the board and were not being asked questions that would have increased students' critical thinking skills. There was no evidence of student thinking, and instructional time was being spent on "test prep" such as multiple-choice practice tests to prepare for AP Exams (Wagner, 2008).

In contrast, the U.S. Department of Defense Education Activity (DoDEA) schools outperformed most U.S. public school districts in 2001 (Wagner, 2008). The DoDEA schools had a 97% graduation rate, yet 40% of their students were minorities and 50% of their students were on free or reduced lunch status. The DoDEA schools' success was attributed to high expectations for all students, minimal leadership turnover, smaller schools, better funding, and better professional development opportunities for the staff (Wagner, 2008). However, the students at these DoDEA schools were still focused on memorizing factual content due to academic content standards and were not asked to explain their thinking.

Wagner (2008) noted that the NCLB legislation has limited the curriculum with an increased focus on academic content standards, which are being measured increasingly by multiple-choice standardized tests that usually assess only students' memorization skills versus students' reasoning skills. According to Booher-Jennings, some schools are focusing on so-called "bubble children," those students who may pass a test with additional instruction, to increase school test scores (Wagner, 2008). "Safe" and "hopeless" students are not viewed as a good return on investment and are essentially ignored resulting in a larger achievement gap between White, middle-class students, and economically disadvantaged minority students.

Finally, in the international arena, U.S. students scored lower than 28 other industrialized countries on the Programme for International Student Assessment (PISA) in 2003, which is a standardized, problem-solving skills test on mathematics, reading, and science given to 15 year-olds every three years since 1997 (Organisation for Economic Co-operation and Development, n.d.; Wagner, 2008). U.S. students are being outperformed by their foreign counterparts which could lead transnational corporations to relocate to those countries scoring higher than the U.S. (Wagner, 2008). Countries such as China, India, and Singapore are currently moving towards a

36

"thinking" curriculum, which will only exacerbate the current global achievement gap if the U.S. continues to focus on test scores and content standards (i.e., "test-prep") rather than on 21st century critical thinking and problem-solving skills that are required of students to be competitive in a globalized economy (Wagner, 2008). One way to prepare students to be competitive in an ever increasingly globalized economy, is to develop students' critical thinking and problem-solving skills in advanced courses such as the Advanced Placement Program sponsored by the College Board (College Board, 2012c; Ridley, 2013; Wagner, 2008).

<u>Advanced Placement</u>

Historical Background

The Advanced Placement (AP) program was created during the 1950s in order to provide secondary students with a taste of what higher education entails while still in high school (Burton, Whitman, Yepes-Baraya, Cline, & Kim, 2002; College Board, 2003). After World War II, U.S. citizens recognized that there was a gap between the skills that high school students were graduating with and the skills required for higher education (College Board, 2003). In response, the Ford Foundation in 1951 had $70 million to spend on the Fund for the Advancement of Education, which would later evolve into the AP program (College Board, 2003; Valentine, 1987).

One of the goals of the Fund for the Advancement of Education was to create pre-induction scholarships to allow males the opportunity to enter college before their senior years of high schools, thereby ensuring that males had the opportunity to have at least two years of a college education before entering the U.S. military draft. However, many school principals and district superintendents were upset that the pre-induction scholarships would take their best

and brightest students out of their local high schools and so the early admission experiment fell apart (Valentine, 1987).

Nevertheless, the scholarship program did provoke interest in how to advance the educational opportunities for high school students who had already mastered their high school curriculum. A study was conducted by a committee of faculty members from the participating schools who examined how students from three private schools (i.e., Andover, Exeter, and Lawrenceville) performed in their last two years of secondary school, compared to their first two years of college at Harvard, Princeton, and Yale (College Board, 2003; Valentine, 1987). The committee found that much of the content in college courses was a repeat of what was learned in high school, and thus, advocated for the admission of qualified students to enter college as sophomores (Angermann, 1961; Valentine, 1987). The problem with this plan, though, was how to measure which students had actually mastered the content standards of a college-level course while still in high school (Valentine, 1987).

Gordon Chalmers, president of Kenyon College, was interested in how to advance well-prepared high school students into college courses if the students had already mastered the college introductory courses (Valentine, 1987). Chalmers set out creating course standards and examinations that would convince college admissions officers that college-level courses could indeed be taught in secondary schools. Along with the Massachusetts Institute of Technology and 11 liberal arts colleges, college faculty were tasked with creating course descriptions and standards that would be measured by examinations in order to determine if colleges should grant advanced placement to high school students. In 1952, a pilot program began with 11 advanced courses (College Board, 2003). This Kenyon Plan, as it was known, evolved into the Advanced Placement Program of the College Board during the 1955-56 school year (Valentine, 1987).

Today, students who earn scores of 3 or higher on a scale of 1-5 are considered to have passed an AP Exam and may receive college credit depending on specific college admissions policies (College Board, 2013d). Colleges are willing to accept AP courses for college credit since students are given rigorous exams to measure how well they have mastered the content of their course. For the 34 AP courses offered by the College Board, most exams are two to three hours in length and consist of both a multiple-choice section followed by free response questions (College Board, 2013e).

Growth of the program relied on: 1) schools offering at least one AP course, 2) students taking AP exams, and 3) colleges accepting scores for credit (Valentine, 1987). The AP program was growing steadily within the first five years for a variety of reasons. First, students desired to stand out during the admissions process with a transcript full of rigorous courses. Second, some states, such as New York, Ohio, and Massachusetts, began providing funding for the development of AP teachers. Third, states that had originally appropriated funding for special needs education began to see the value of providing funds to develop their brightest students as well. Fourth, more colleges were approving of how AP courses were taught in high school and accepted more courses for college credit. And, fifth, respected educators such as former President of Harvard University suggested that 15 percent of all students should be enrolled in AP courses (Angermann, 1961).

Today, student enrollment in AP classes is at a historic high. In 1960, 10,531 students took an AP Exam, which was 20 times higher than the total in 1954 (Valentine, 1987). In contrast, 954,070 students took at least one AP Exam in 2013. Additionally, in 2013, 127,358 U.S. high school teachers taught an AP class and 5,400 college faculty helped to review high

school teachers' syllabi, developed the course curriculum, and/or helped to score AP Exams during the summer (College Board, 2013a).

While the AP Program has grown considerably from its roots in the mid-1950s, minority students, specifically African Americans and Hispanics, have been underrepresented in advanced academic courses, while Asian and White students have been overrepresented (College Board, 2013a; Ford, 1998). The population demographics of students overall do not match the demographics for student enrollment in AP courses for particular ethnicities.

This equity gap is evident when examining results from the 2012 AP Examinations as Black/African American students consisted of 14.5 percent of the overall student population, but made up only 9.2 percent of AP Exam takers with 4.4 percent passing the AP Exam with a score of 3 or higher. Similarly, Hispanic students consisted of 18.3 percent of the overall student population, but made up only 17.8 percent of AP Exam takers with 15.9 percent passing the AP Exam with a score of 3 or higher (College Board, 2013a). While the equity gap does not seem as severe for Hispanics as it does for Black/African American students, the fact that the most popular AP course for Hispanics is AP Spanish Language helps to perpetuate a myth that the states are eliminating the equity gap in AP courses (College Board, 2013a). For example, in Florida where Hispanics consisted of 24.2 percent of the class of 2011, the state received a score of 100 percent from the College Board with regards to its equity and excellence report. However, when AP Spanish Language students are taken out of the equation, the equity and excellence score drops to 89.3 percent (Sawtell, Gillie, & Smith, 2012).

In comparison to these minority students, White students consisted of 58.5 percent of the overall student population, and made up 56.4 percent of AP Exam takers with 61.9 percent passing the AP Exam with a score of 3 or higher. Likewise, Asian students consisted of 6

percent of the overall student population, but made up 10.6 percent of AP Exam takers with 12.5 percent passing the AP Exam with a score of 3 or higher (College Board, 2013a). Since its inception, AP classes have been filled with middle-class White students from the suburbs, while excluding low income and rural students (Klopfenstein, 2004).

Barriers to Enrollment in AP Classes

Teacher Expectations

Opening up access to AP courses to more minority students may help reduce the achievement gap as students enrolled in this program will develop the critical thinking and problem-solving skills to be successful in the 21st century (Wagner, 2008). However, barriers, such as negative teacher expectations, are preventing qualified minorities from realizing their highest potential. Racism against Black and Hispanic people has a long tradition in this country going back to the slave trade when Whites thought they were superior to Black people. The resulting discrimination and segregation against minorities has tainted teachers' views about minority intelligence and motivation even to today. When it comes to referring students for gifted and advanced courses, ethnicity does have a negative effect on teachers' recommendations to enroll in advanced courses (Elhoweris et al., 2005).

 McKown and Weinstein (2008) found that teachers had the most biased expectations in very diverse classrooms. Furthermore, when students were able to tell that their teachers favored the high-achieving students over the low-achieving students, teacher expectations were more strongly related to student achievement (McKown & Weinstein, 2008).

Another study found that teachers had a much more positive perception of Hispanic and White parents compared to African American parents and that these perceptions of the parents

41

were also strongly related to the teachers' perceptions of the students of these parents (Hughes, Gleason, & Zhang, 2005).

Additionally, Black teachers and White teachers were found to have different expectations about how successful their students would be in college. Black teachers held higher expectations for their Black students than did White teachers (Beady and Hansell, 1981).

Finally, Tenenbaum and Ruck (2007) conducted four meta-analyses on studies focused on: "(a) differences in teachers' expectations for ethnic minority versus European American children, (b) differences in teachers' special education, disciplinary, or gifted referral rates between ethnic minority and European American children, (c) teachers' positive and neutral speech, and (d) teachers' negative speech" (p. 256). Tenenbaum and Ruck (2007) found small, but nonetheless statistically significant effects for the first three meta-analyses where: (1) teachers did hold higher expectations for White students than for African American and Hispanic students, and (2) teachers delivered more positive referrals and more positive speech to White students than to minority students. It was also noted that teachers held the highest expectations of Asian students (Tenebaum & Ruck, 2007).

Along with negative expectations from teachers, some research points to negative expectations from peer groups as another barrier facing minority students when trying to enroll in advanced courses.

"Acting White"

Fryer (2006) defined acting White as "a set of social interactions in which minority adolescents who get good grades enjoy less social popularity than White students who do well academically" (p. 53). The "acting White" concept may be another barrier to minority student enrollment in advanced courses, but the research is mixed on the prevalence of this concept.

According to the theory, minority youths are teased for engaging in White behaviors such as enrolling in Advanced Placement courses and wearing clothes from GAP and Abercrombie & Fitch instead of clothing by Tommy Hilfiger or FUBU (Fryer, 2006). By putting down their own peer group for trying to get ahead, Black youths may be contributing to the White-Black achievement gap (Fryer, 2006). As Hispanics achieve grade point averages (GPA) above 2.5, they start losing popularity; when Black students achieve GPAs higher than 3.5 they start losing friends (Fryer, 2006). To lend support to this theory, Barber and Torney-Purta (2008) found that students who belonged to more academically supportive peer groups were more likely to be recognized by their teachers and recommended for advanced coursework. If students are being negatively impacted by their peer groups, students may become lazy and unmotivated so as not to appear as "acting White" and teachers, who pick up on this lack of motivation, are less inclined to recommend those students for advanced work (Barber & Torney-Purta, 2008).

However, others have not found a clear link between the "acting White" theory and academic achievement. Wildhagen (2011) found that Black students had much more favorable attitudes towards school than did White students. Even when parental education and income are not controlled for, Black students still saw more importance in education than did White students. Similarly, Sohn (2011) found that Black students are not against gaining an education and that both high- and low-achieving Black students accept Black identities.

Currently, minority children are underrepresented in AP classes around the nation. Whether it is institutionalized racism, negative teacher expectations, the fear of "acting White" or some combination of all three, disenfranchised minority children can be embraced by the advanced academic world when they are specifically asked by society to reach their highest potential. One way to tap into this potential is by focusing on an invitational education.

<center>Invitational Education</center>

To begin understanding what is meant by an invitational education, the words *invite* and *education* can be broken down into their literal translations. The word *invite* comes from the Latin word *invitare* which means "to offer something beneficial for consideration" (Purkey & Novak, 1984, p. 2). The word *education* comes from the Latin word *educare* which means to "draw out" or "call forth." Therefore, the literal translation of the concept of invitational education is "the process by which people are cordially summoned to realize their relatively boundless potential" (Purkey & Novak, 1984, pp. 2-3). Likewise, an invitation can further be defined as a gesture to:

> Offer something beneficial for consideration, to summon cordially, not to shun. ITOP [Invitational Theory of Practice] is a theory of practice for communicating caring and appropriate messages that are intended to summon forth the realization of human potential as well as to identify and change those forces that defeat and destroy potential (Stanley, Juhnke, & Purkey, 2004, p. 304).

An invitational education is based upon four principles: 1) people are capable and worth paying attention to, 2) instruction should be cooperative in nature, 3) people have unrealized potential, and 4) to realize potential, inviting places, programs, and policies need to be designed (Novak, 2002; Purkey & Novak, 1984; Stanley, Juhnke, & Purkey, 2004). This is important as teacher expectations affect student achievement (Rosenthal & Jacobson, 1968). If teachers communicate messages that are disinviting and uncaring, students will perform to the level of expectations placed upon them.

Types of Inviting Messages

In order for schools to help all students realize their maximum potential, educators need to focus on the "five P's" of invitational education which include: people, places, policies, programs, and process (Novak, 2002; Stanley, Juhnke, & Purkey, 2004). The development of an inviting environment begins with people. First, people have to be the ones to develop positive and inclusive places, policies, programs and processes. There are four different types of messages that people can direct toward other individuals (from least to most inviting): 1) intentionally disinviting, 2) unintentionally disinviting, 3) unintentionally inviting, and 4) intentionally inviting (Novak, 2002; Purkey & Novak, 1984; Stanley, Juhnke, & Purkey, 2004).

First, intentionally disinviting messages come from places of anger or frustration. These messages seek to harm the recipient and devalue them as individuals. Second, unintentionally disinviting messages are thoughtless and come from ignorance and poor judgment. The sender of these messages is oblivious to how their messages are received which can be perceived to be sexist or racist, though not said to specifically harm someone. Third, unintentionally inviting messages are inconsistent. For example, teachers may unknowingly send inviting messages which helps students to realize their potential, but fail to understand what types of specific signals actually help students. Generally, people sending these messages are helpful, but when a challenge presents itself, people may not know how to react. Finally, intentionally inviting messages are consistently given to students, and educators understand the reasons for why they behave in a certain manner towards students (Novak, 2002; Purkey & Novak, 1984; Schmidt, 2004; Stanley, Juhnke, & Purkey, 2004).

The "Five P's" of Invitational Theory

When people within the organization are focused on intentionally inviting messages, the remaining four "P's" can then develop. First, places need to be welcoming and warm, putting the needs of the individual student ahead of everything else. If a school is filled with graffiti, broken lockers, dirty floors, and moldy ceiling tiles, students will not feel motivated to learn in such dreary environments (Novak, 2002). This is similar to the broken windows theory of crime prevention which states that the more run down a place looks, the higher the crime rate. By focusing on seemingly minor infractions such as littering and public urination, city officials give off the impression that they care which reduces overall crime rates (Gladwell, 2000). Similarly, when students see that their teachers and schools care about them as individuals, those students will become more motivated to succeed academically (Wentzel, 1997).

Second, policies in a school (i.e., mission statements, student codes of conduct, attendance, grading, etc.) should be created and enforced democratically from the bottom-up, rather than from the top-down, so that students feel that their opinions are valued and respected (Stanley, Juhnke, & Purkey, 2004). Additionally, characteristics identified by students that they associated with caring teachers were the same characteristics of effective parenting such as making decisions democratically, developing expectations that account for individual differences, exhibiting a "caring" demeanor, and giving constructive feedback (Wentzel, 1997). Policies that are dictated to students are not inclusive and push away, rather than invite, students to participate in their education (Novak, 2002).

Third, programs (i.e., Advanced Placement, extracurricular activities, etc.) need to help advance the educational opportunities for all students. Programs cannot be sexist or racist in an inviting school culture (Novak, 2002). An example of an inclusive and inviting school policy

46

would be the "No-Cut Contract" among students and teachers whereby both parties sign a contract stating that they will not put down themselves or each other. When a party violates the contract, the signee is reminded of the agreement (Purkey & Stanley, 1994).

Finally, the process, or how the other four "P's" are accomplished, needs to be collaborative and democratic. Students will remember what happened in a school and how it happened, and will make judgments about the invitational culture of the school (Novak, 2002). If students see that the school actively seeks their input regarding school-wide decisions, even if they do not like the end result, students will still feel connected to the school as the educators have shown that the school exists to serve the needs of the student first. Only once the five "P's" of an invitational education are in place can students begin to realize their full potential (Novak, 2002). In addition, using an inviting approach in education is crucial to student success because "everything the teacher does, as well as the manner in which he does it, incites the child to respond in some way or another and each response tends to set the child's attitude in some way or another" (Dewey, 1933, p. 59).

The Six Elements of Invitational Theory

Since research is scarce in terms of how the invitational theory of practice affects minority students, six elements of diversity have been proposed to determine the extent to which organizations are adhering to the five "P's" of invitational education. These six elements include: empowerment, encouragement, enlistment, enjoyment, equity, and expectation (Schmidt, 2007).

First, students feel empowered when they have control of the decision-making process when it comes to enrolling in challenging courses, for example. In schools that lack inviting messages, teachers may place more blame on students' home lives to explain students' lack of

academic progress. When schools empower students, they focus more on students' unrealized potential instead of perceived barriers to success. To empower students, concepts of self-confidence and self-efficacy must be stressed (Schmidt, 2007).

Second, encouragement for long-term effects, rather than praise for short-term effects, is key when trying to bolster students' self-confidence. When dealing with diverse populations, the philosophy of "being with" should trump that of "doing to," meaning that teachers must view students as eventually reachable in conjunction with a sustained effort of encouragement (Schmidt, 2007).

Third, enlistment refers to casting a net over a wider group of potential participants. In AP programs that are dominated by middle-class White and Asian students, inviting schools can enlist, or recruit traditionally underserved minority and low-income students to join in the program. However, multiple inviting messages, from a variety of stakeholders, must be sent out to students for the recruitment strategy to be successful (Schmidt, 2007).

Fourth, enjoyment refers to the ability of people to value differences of opinions. In a non-inviting environment, people may worry about the challenges that diversity may bring to a school and community (Schmidt, 2004). As more free and reduced lunch students enroll in schools, more communities may send out disinviting messages in hopes that students will exclude themselves from the school so that the school can maintain its high academic reputation within the community. Likewise, school principals, who partly base the status of their school on AP success rates, may be hesitant to institute open enrollment for AP classes for fear of depressing pass rates for the school. Inviting minority students to enroll in advanced classes allows White students to lead more fulfilling lives as they can draw enjoyment and fulfillment

from interacting with students who are different from them. Experiences are much richer for students when viewed through student perspectives different from their own (Schmidt, 2004).

Fifth, equity "refers to behaviors and treatment of people that create conditions of fairness, justice, and non-discrimination" (Schmidt, 2007, p. 17). Students who are underrepresented in AP classes, when compared to their overall population demographics, likely have been receiving disinviting messages about their potential for success in a rigorous course. This lack of equity is apparent in many U.S. states as the proportion of minority students who enroll in AP classes and pass AP Exams is lower compared to the proportion of minority students overall (College Board, 2013a).

Finally, expectations for students are formed based on past experiences. If a teacher has developed an attitude over the years that minority students are generally not successful in AP classes, then no matter how intelligent and motivated the next minority student is, teachers have already formed a negative impression in their minds about how a certain student is supposed to perform. It is difficult to send inviting messages to all students when educators believe that middle class students are always more successful than low-income students (Schmidt, 2007).

The Creation of Inviting Messages

In order to create and send inviting messages, educators must go through three stages: 1) preparation, 2) initiating and responding, and 3) follow-up (Schmidt, 2004). First, during the preparation stage, educators must have the desire to want to send inviting messages. Both verbal and non-verbal cues inform students about whether someone really wants to help them. Additionally, educators must have positive expectations for all students. Students from diverse backgrounds, who have been discriminating against, may prevent themselves from receiving inviting messages. If educators hold positive expectations for all students, then this confidence

49

will be transferred to students. This is important because students with high levels of self-confidence, or self-efficacy, perform better academically (Zimmerman, 2000). Next, inviting messages must take into account the setting, especially when dealing with diverse populations. Messages must be compelling and delivered in a language that students can understand. The final part of the preparation state, reading situations, requires educators to walk in another person's shoes in order to craft an inviting message. Skills such as listening and observing are critical when formulating a message that will resonate with students (Schmidt, 2004).

The second stage for creating and sending inviting messages, initiating and responding, begins with behaviors related to choosing carefully. Educators seek to create: safe environments, multiple occasions for the reception of messages, clear messages, and messages that are not too long and that are easy to comprehend (Purkey & Schmidt, 1996). By engaging in these behaviors, educators can begin to build trusting relationships that will allow for the reception of subsequent messages in the future. Next, the behavior of acting appropriately requires that educators examine their current beliefs and perceptions about students and be willing to change their attitudes if preconceived ideas are preventing educators from establishing trusting relationships with their students, particularly students from diverse backgrounds. Finally, educators need to ensure the reception of inviting messages if a trusting relationship is going to be established between students. Messages that are sent but are either not received or misinterpreted will prevent students from realizing their untapped potential (Schmidt, 2004).

In the third stage for creating and sending inviting messages, follow-up, educators should understand responses, negotiate different positions, assess the whole relationship, and continue to build upon existing trust (Schmidt, 2004). By following these three stages, invitational leaders can craft and send positive messages that invite students to challenge themselves academically

50

by helping students realize their own potential. As Swami Vivekananda wrote, "Education is the manifestation of the perfection already in Humans…the only duty of the teacher…is to remove all obstructions from the way…That is our duty, to clear the way" (Haigh, 2011, p. 299).

Comparative Studies on Invitational Theory and Student Enrollment in
Advanced Placement Courses

Two recent studies have examined minority participation in Advanced Placement courses through the lens of invitational theory (Killingsworth, 2011; Thompson-Cabezas, 2011). Killingsworth (2011) sought to understand the equity gap for minority enrollment in AP courses from a student perspective from one high school in central Alabama.

To measure the level of inviting messages that students received from administrators, teachers, guidance counselors, parents, and peers, a survey named the Program Access Student Survey (PASS) was developed (Killingsworth, 2011; Thompson-Cabezas, 2011). The PASS consisted of five-choice Likert scale questions with answers ranging from strongly agree to strongly disagree about the reception of inviting messages according to the six elements of diversity: empowerment, encouragement, enlistment, enjoyment, equity, and expectation. Additional questions on the PASS included items relating to the demographic characteristics of participants and one open-ended qualitative question about what schools could do to increase the enrollment of students in AP classes (Killingsworth, 2011). Two goals of the study were: 1) to examine how "inviting" a school system was from a student perspective and 2) to examine if student responses differed according to ethnicity, socioeconomic status, and/or the level of curriculum received (Killingsworth, 2011).

Data from the PASS were analyzed using analysis of variance. Results indicated that Hispanic, Multi-racial, and White students viewed their school as more inviting than students who were Black/African American, Asian, and American Indian (Killingsworth, 2011). The results were surprising as it was hypothesized that both Hispanics and African Americans would feel more disinvited from school than White students. Killingsworth (2011) hypothesized that the difference between inviting scores between the two minority groups may be attributed to the fact that English Language Learner (ELL) students were provided with teachers to help offer accommodations and testing services for Hispanic students. Since the ELL students had teachers available to increase ELL student achievement, it seemed reasonable that the ELL students would have a more positive outlook about the invitations sent by the school than would Black/African American students.

In addition, there was no difference between the inviting messages score between free/reduced lunch students and non-free/reduced lunch students. This was again unexpected as students of low socioeconomic status receive an inferior education compared to students of middle or high socioeconomic status (Lee & Burkam, 2002).

Recommendations for future research included: 1) longitudinal studies that measure students' views about an inviting school culture over time, 2) replication of the study to other high schools at the local, state, and or national level, and 3) replication of the study that includes teachers' perspectives about an inviting school culture, along with student perspectives.

Similarly, Thompson-Cabezas (2011) also conducted a study examining why there was an enrollment gap in AP courses for minority students from a student perspective. The PASS was also used to determine if there was a relationship between AP enrollment and the reception or non-reception of inviting messages for students in two rural high schools in Georgia. Based

on ethnicity and income, Thompson-Cabezas (2011) conducted an analysis of variance to determine if there was a difference in the reception of inviting messages for students who were enrolled in advanced courses (i.e., honors and AP) compared to students who were not enrolled in advanced courses.

Thompson-Cabezas (2011) found that students enrolled in AP courses received more inviting messages in school than students not enrolled in advanced courses. Students who were Black/African American and/or economically disadvantaged, generally received less inviting messages as compared to White students who were overrepresented in AP courses.

Recommendations for future research included: 1) replication of the study to include students from urban and suburban high schools from different regions (i.e., local, state, national), 2) focus on high schools with high minority and poverty rates, particularly areas with numerous Hispanics as the study did not include many of these students due to a lack of Hispanics residing in the two Georgia high schools, and 3) conduct qualitative studies of teachers, administrators, counselors, and parents in order to determine what other factors may contribute to the enrollment gap in advanced courses.

<center>Practical Significance</center>

<center>*Common Core State Standards*</center>

Replication of Killingsworth (2011) and Thompson-Cabezas (2011) studies is key as states transition to Common Core State Standards (CCSS). Forty-six states, with the exceptions of Alaska, Nebraska, Texas, and Virginia, have adopted theses rigorous standards for mathematics and English language arts classes (Ripley, 2013). These new, more rigorous standards were developed by the states in order to make sure that students were ready for either

<center>53</center>

college or the workplace once they graduated high school as too many students were finding out after graduating from high school that they did not have the required skill sets to enter into college or the workplace. For example, 20 percent of high school graduates who enroll in a four-year college have to take remedial courses before they can't even begin to take classes towards a degree. Students have to pay to take classes that teach them skills that should have already been acquired in high school (Common Core State Standards Initiative, 2012a; Ripley, 2013). With the passage of NCLB, many states dumbed down their standards so that their students would pass the assessments and the schools would not be financially punished by the federal government for not making adequate yearly progress (Ripley, 2013). As a result, 38 percent of high school graduates in Hawaii failed the U.S. Army's academic aptitude test compared to only 13 percent of Indiana graduates, even though Indiana has a much higher poverty rate than Hawaii (Ripley, 2013). With the new standards, students will no longer write how a reading passage makes them feel, but will have to analyze the text to see if the evidence presented matches the author's claims and to also analyze differing points of view from two authors looking for similarities and differences (Common Core State Standards Initiative, 2012b). These standards were developed because many businesses and colleges complained that the high school graduates that were sent their way did not have the 21st century skills of critical thinking and problem-solving required to be successful in an increasingly interdependent, global economy (Ripley, 2013; Wagner, 2008).

By replicating the studies of Killingsworth (2011) and Thompson-Cabezas (2011), it is hoped that more insight will be discovered as to why minority students do not enroll in Advanced Placement courses at the same rates of the White and Asian peers. AP courses offer students the chance to learn problem-solving and critical thinking skills. In fact, the AP program

is currently piloting two new courses that require students to plan a research design that looks to solve a problem of global importance. In AP/Cambridge Interdisciplinary Investigations and Critical Reasoning Seminar and AP/Cambridge Capstone Research Project, students must conduct research, analyze their findings, and be able to effectively communicate their results (Adams, 2012). By taking AP classes, students have to be able to synthesize written documents to make a coherent argument, write across the curriculum to integrate knowledge from various content areas, and be able to analyze charts and graphs in order to determine patterns of particular phenomena. AP courses help students develop these skills; therefore AP students will be meeting the new Common Core Standards, while preparing themselves to enter seamlessly into college or the workplace.

Career Earnings

In addition, students who take and pass AP courses in high school enter into college with credits that allow them to save money on tuition. Furthermore, students who pass AP examinations are much more likely to graduate college in four years compared to students who never take AP classes (Hargrove, et al., 2008). Students who have a college degree earn $650,000 more in a lifetime than students with only high school diplomas (Pew Research Center, 2012). Therefore, a look at how inviting messages affect the enrollment of minority students in AP classes may help guide schools in how to increase access to AP courses which can eventually allow students to make more money and have a higher standard of living.

Current Study

Similar to the nation, Seminole County Public Schools, FL, also has an equity gap in enrollment and success in AP classes for traditionally underserved minority students

55

(i.e., African Americans and Hispanics). However, this race gap is between students who are fully capable of performing well in an AP class, as measured by AP Potential™ data. AP Potential™ is a score that is given to students to show which students, based on PSAT/NMSQT scores would have a high chance of success (60 percent chance or better of earning a passing grade on an AP examination) in an AP class (College Board, 2013c). Studies examining the relationship between AP Exam grades and PSAT scores have found that there is a strong, positive relationship between the two measures for most AP classes. The results were also consistent across gender and ethnicity groupings (Camara & Millsap, 1998).

Thus far, current research is sparse about how inviting messages affect these minority students, particularly Hispanics, as previous research by Killingsworth (2011) and Thompson-Cabezas (2011) focused mainly on White and African American students. The current study will include a larger sample of Hispanic students which is important as this demographic is the fastest growing segment of the U.S. population. In fact, from 2000-2010, more than 50 percent of the entire U.S. population increase was attributable to the increase in the Hispanic population. Also, more than 50 percent of the Hispanic population lives in three states: California, Texas, and Florida (United States Census Bureau, 2011, May). Furthermore, Florida is also a state with a significant number of African American students as it has 3.2 million African Americans living within its borders, second only to New York (United States Census Bureau, 2011, September). By focusing on a school district in Florida, the perspectives about how inviting messages affect enrollment in AP classes can be examined through the eyes of qualified Hispanic and African American students.

Summary

This chapter began with a look at the early systems of education in America where only the privileged students had a chance to learn. Slavery in the United States was then examined where it was pointed out that attitudes of racism from the White majority kept Blacks and Hispanics in inferior positions. When these minority children were finally allowed to go to school, many of the schools were substandard to the White schools. Over time, this segregation of the races led to achievement gaps between White students and minority students. Next, historical AP enrollment trends were analyzed and again minorities were excluded.

To help rectify this achievement gap and provide more opportunities for minority students, researchers turned towards an invitational theory of education to try and reach students who had been traditionally left behind. The chapter concluded by examining past research concerning ethnic minority students' enrollment rates in AP classes with a focus on invitational education.

The next chapter will provide an overview of the methodology used to carry out the current study. Selection of participants, instrumentation, data collection, data analysis, research questions, and variables will all be explained in chapter three.

CHAPTER THREE:
METHODOLOGY

Introduction

The purpose of this section is to describe the data collection and data analysis procedures used to carry out the study. This chapter is organized into the following sections: statement of the problem, selection of the participants, instrumentation, data collection, data analysis, and a summary. Selection of the participants will describe the population demographics of the respondents. The instrumentation section will detail the characteristics of the Program Access Student Survey (PASS) used to measure students' views about reception of inviting messages to enroll in AP courses. Content validity and reliability for the PASS will also be discussed. The data collection section will describe how the PASS was administered and which students received the PASS. Finally, the data analysis section will detail the types of variables used in the study and how those variables were measured and studied.

Statement of the Problem

To date, there has been limited research about how the role of inviting (recruitment) messages, have affected enrollment in AP courses for traditionally underserved minorities and low-income students. Killingsworth (2011) and Thompson-Cabezas (2011) focused on how inviting messages affected student enrollment in advanced courses in limited geographic areas, in which the researchers analyzed inviting messages for White, African American, and low-income students. More research should be conducted to determine how inviting messages affect enrollment in advanced courses for Hispanic students (Thompson-Cabezas, 2011). Hispanic students are of particular interest as the population of Hispanics is projected to grow from 14

percent of the U.S. population in 2005, to 29 percent of the U.S. population in 2050 (Passel & Cohn, 2008). Additionally, 10 percent of U.S. high school graduates were Hispanic in 1996, whereas in 2022, Hispanics are predicted to make up 28 percent of U.S. high school graduates. In Florida, 4 percent of graduates were Hispanic in 1996, whereas 26 percent of high school graduates in Florida will be Hispanic in 2022 (Edwards & Duggan, 2012). Increasing diversity in U.S. schools warrants investigation into how educators can improve minority student access to a challenging curriculum that readies students for either post-secondary learning or productive careers after high school (Thompson-Cabezas, 2011).

Selection of Participants

The population consisted of the senior students in the 2014 graduating class that had AP Potential™ on the 2011 PSAT administration from nine suburban high schools in Seminole County, Florida. All seniors in the county took the survey, with the PASS attached at the end, through their English classes in a computer lab. Only the responses from students with AP Potential™ in 2011 were examined in this study. Seminole County Public Schools (SCPS) filtered the file of senior survey responses by those students who were coded as having AP Potential™ in 2011, and the researcher was provided with a spreadsheet of survey responses without any student identifying information. Of the 1,232 SCPS seniors who had AP Potential™ in 2011, 962 students completed the PASS which was a 78 percent survey response rate.

Instrumentation

Killingsworth (2011) and Thompson-Cabezas (2011) created the Program Access Student Survey (PASS) to understand how the role of inviting messages affected student enrollment in advanced courses. Section I of the PASS consisted of 37 items measuring how students felt about being invited to enroll in AP classes with respect to the six elements of invitational theory: empowerment, encouragement, enlistment, enjoyment, equity, and expectation (Schmidt, 2007). These items were measured on a five point Likert-scale with the following categories: (1) strongly disagree, (2) disagree, (3) neither agree or disagree, (4) agree, and (5) strongly agree. Section II of the PASS consisted of five demographic questions related to participants' ethnicity, grade level, gender, free or reduced lunch status, and advanced/gifted course history (Killingsworth, 2011; Thompson-Cabezas, 2011). Section III of the PASS survey consisted of one open-ended, qualitative question asking students how their schools could support and encourage more students to take AP classes (Killingsworth, 2011).

To determine the content validity of the PASS survey, Killingsworth (2011) and Thompson-Cabezas (2011) utilized expert review, a focus group, and a pilot test. Two expert reviewers, one in the field of invitational theory, and the other in survey design, helped to reword and revise the survey questions so that the PASS would accurately measure what it intended to measure. Next, a focus group of students from a high school in Georgia examined the questions for redundancy and to make sure that the questions made sense. Thompson-Cabezas (2011) noted that students liked having the "neither agree nor disagree" option because the students did not always have a purely positive or negative response to the question. Finally, a pilot test was given to examine understanding of the questions and determine how long the survey would take students to complete. Twenty-three students tested the survey which took them between 8-10

minutes to finish (Thompson-Cabezas, 2011). After completing the expert review, focus group

study, and pilot test of the PASS survey, Thompson-Cabezas (2011) selected 32 items in Section

I of the PASS to help understand which types of students received inviting messages to enroll in

advanced courses according to the Six E's of invitational theory: empowerment (three items),

encouragement (seven items), enlistment (seven items), enjoyment (four items), equity (seven

items), and expectation (four items).

To determine the internal consistency reliability, Killingsworth (2011) and Thompson-

Cabezas (2011) used Cronbach's alpha. Gay, Mills, and Airasian (2009) noted that Cronbach's

alpha should be used to determine the internal consistency reliability when an instrument has

more than two choices as the PASS does with the five option Likert-scale. Cronbach's alpha

allows researchers to determine "the extent to which items in a single test are consistent among

themselves and with the test as a whole" (Gay, Mills, & Airasian, 2009, p. 160). Killingsworth

(2011), coauthor of the PASS survey, found a very high Cronbach's alpha correlation of 0.904

which suggested that the PASS items accurately measured the internal consistency with the way

in which individuals responded.

<u>Data Collection</u>

After receiving Institutional Review Board approval from both the University of Central

Florida (UCF) and SCPS, data regarding the student reception of inviting messages was collected

through the online Seminole County Senior Exit Survey. SCPS treated the PASS as a district

initiative and attached the survey to the Senior Exit Survey given at the end of the 2013-2014

school year to all seniors. Students were told that the survey would take no longer than ten

minutes to complete and that their results would be confidential (See Appendix B for specific

instructions). Students began by answering 28 of the original 37 Likert-scale questions asking

how invited the students felt with regard to enrolling in AP courses according to the Six E's:

empowerment, encouragement, enlistment, enjoyment, equity, and expectation. Question

numbers 3, 5, 8, 13, 14, 15, 20, 21, and 34 were omitted from the original PASS in order to

shorten the survey to allow the district to attach the PASS to the Senior Exit Survey. The second

section of the PASS consisted of two demographic questions asking students to select their

school and number of AP Exams taken. Gender, race/ethnicity, and socioeconomic status of the

participants were provided to the researcher by SCPS and were not included on the PASS. The

third and final part of the PASS consisted of a single, open-ended question about what schools

should do to encourage more students to take AP courses from a student perspective. Once

students submitted their responses through SCPS' survey website, the data was downloaded into

an Excel spreadsheet by the district and provided to the researcher without any specific student

identifying information so as to keep the survey results anonymous to the researcher. Only

responses from students who were classified as having AP Potential™ in 2011 were included in

the data file. Of the 1,232 seniors who had AP Potential™ in 2011, 962 students completed the

PASS which was a 78 percent survey response rate. The survey results were then imported into

a data software program for analysis (i.e., Statistical Package for the Social Sciences).

Data Analysis

Research Questions and Hypotheses

To measure "perceptions of an inviting school culture," mean scores from the Program

Access Student Survey (PASS) were used to discover the extent that "inviting messages" to

enroll in AP classes were extended to participants. On a scale of 1-5, larger mean scores on the

PASS indicated that participants received more inviting messages from teachers, parents, and peers to enroll in AP classes than lower mean scores on the PASS. To help understand why there is an enrollment gap for traditionally underserved minority students in AP classes, the following questions were used to guide this study (Killingsworth, 2011):

1. Among students with AP Potential™, what is the difference between high involvement AP students' and low involvement AP students' perceptions of an inviting school culture with regard to enrollment in AP classes?

    $H_0 1$. There is no difference between high involvement AP students' and low involvement AP students' perceptions of an inviting school culture with regard to enrollment in AP classes.

2. Among students with AP Potential™, what is the difference between free/reduced lunch students' and non-free/reduced lunch students' perceptions of an inviting school culture with regard to enrollment in AP classes?

    $H_0 2$. There is no difference between free/reduced lunch students' and non-free/reduced lunch students' perceptions of an inviting school culture with regard to enrollment in AP classes.

3. Among students with AP Potential™, what is the difference among White, Hispanic, African American, and Asian students' perceptions of an inviting school culture with regard to enrollment in AP classes?

    $H_0 3$. There is no difference among White, Hispanic, African American, and Asian students' perceptions of an inviting school culture with regard to enrollment in AP classes.

63

4. Among various ethnicities, what factors would encourage more students to enroll in AP

classes?

Variables

The independent categorical variable in research question one was involvement in AP

courses (high/low AP involvement). The dependent continuous variable in research question one

was students' inviting messages mean score as measured by the PASS. The independent

categorical variable for research question two was socioeconomic status as measured by

free/reduced lunch status. The dependent continuous variable in research question two was

students' inviting messages mean score as measured by the PASS.

For research questions one and two, independent-samples t-tests were used to analyze the

data. Gay, Mills, and Airasian (2009) noted that an independent sample t-test "is a parametric

test of significance used to determine whether, at a selected probability level, a significant

difference exists between the means of two independent samples" (p. 335). For this study, the

level of significance for the independent-samples t-tests was set at p=.05.

For research question three, the independent categorical variable was ethnicity. The four

ethnic groups were: White, Hispanic, African American, and Asian. The dependent continuous

variable in research question three was students' inviting messages mean score as measured by

the PASS.

For research question three, a one-way independent analysis of variance (ANOVA) was

used to analyze the data. Creighton (2007) noted that ANOVA "is a procedure for evaluating the

mean difference between two or more samples" (p. 102). For this study, the level of significance

for the one-way independent ANOVA was set at p=.05.

Research question four was qualitative in nature. As the last item on the PASS, students were asked their opinion about what schools should do to increase enrollment in AP classes. Responses to this item were categorized into ten major themes and described in Table 9.

Summary

This chapter started off by restating the problem of high school students, particularly traditionally underserved students, not enrolling in AP classes in proportion to their subgroup's total population. The participants were selected from Seminole County, FL high schools based on their performance on the PSAT/NMSQT administration in 2011. Details about the PASS were presented regarding the type and quantity of questions asked. The validity and reliability of the PASS were also discussed. The PASS was sent to students through SCPS' online survey system to senior students. Finally, independent-samples t-tests and one-way independent ANOVA statistical techniques were used to understand how the role of inviting messages affected student enrollment in AP classes. The next chapter will describe the results of the PASS.

CHAPTER FOUR:
DATA ANALYSIS

Introduction

Advanced Placement (AP) courses provide high school students with the opportunity to enroll in college-level courses and obtain college credit while still in high school (Burton, Whitman, Yepes-Baraya, Cline, & Myung-in Kim, 2002; Keng & Dodd, 2008). This opportunity has caused enrollment in AP courses to grow rapidly over the past ten years. In 2002, over 28,000 Florida high school graduates took at least one AP course. More than 17,000 of those enrolled in AP acquired a score of 3 or higher on an AP Exam. In contrast, in 2012, more than 76,000 high school graduates had taken at least one AP course in high school and more than 39,000 students received a passing score of 3 or higher (College Board, 2013b). This trend of increasing AP enrollments is occurring nationwide with two notable exceptions: (1) traditionally underserved minority and (2) low-income students are not enrolling in AP courses in proportion to their overall population.

Nationwide, Hispanics made up 18.3 percent of the 2012 graduating class, but only 17.8 percent of AP Exam takers were Hispanic and just 15.9 percent of Hispanics received a passing score. Conversely, White students made up 58.5 percent of the 2012 graduating class, with 61.9 percent of White students earning a passing score on an AP Exam. Additionally, Asians consisted of 6 percent of the 2012 graduating class, while 12.5 percent of Asian students passed an AP Exam (College Board, 2013b). This equity gap in participation and success is even starker when examining the data for African Americans.

In the United States, African Americans made up 14.5 percent of the 2012 graduating class, yet only 9.2 percent of AP Exam takers were African American and only 4.4 percent of

these students were successful on an AP Exam (College Board, 2013b). According to the College Board (2013b) and Sawtell, Gillie, and Smith (2012), African American students are the most underrepresented minority group. Furthermore, 58.9 percent of low-income AP Exam takers in 2012 were from traditionally underrepresented minority groups (College Board, 2013c).

Another aspect to this issue is that even though students have the potential to be successful, many minority students nationwide are not enrolling in any AP mathematics classes such as Calculus AB, Calculus BC, Computer Science A, and Statistics (College Board, 2013c). In order to remedy this situation, educators need to better identify and encourage high-potential AP candidates to enroll in AP courses. The College Board (2013c) noted that traditional indicators of success used to determine whether students should enroll in AP classes, such as GPA and course grades, are not reliable. Instead, students' AP Potential™ scores should be used as an indicator because students with AP Potential™, based on scores from PSAT/NMSQT administrations, have a 60 percent or higher chance of being successful in a certain AP course (College Board, 2013a). Despite that fact, 60 percent of students in the 2012 graduating class with AP Potential™ for a mathematics class never took a mathematics-based AP course. Specifically, out of the AP Potential™ candidates, only 40 percent of White students, 30 percent of African American students, and 30 percent of Hispanic students took an AP mathematics class (College Board, 2013c).

In Seminole County Public Schools (SCPS), Florida, students with AP Potential™ are also not enrolling in AP classes as much as the AP Potential™ data would suggest. For instance, when examining PSAT/NMSQT data for African American students for the 2011-2012 school year, 97 students were identified as having AP Potential™ in AP Calculus AB. However, only 28 African American students enrolled in AP Calculus AB and only 14 of those students passed

the AP Exam. For Hispanics, 237 students were identified as having AP Potential™ during the 2011-2012 school year, yet only 65 students took AP Calculus AB, while only 34 scored 3 or higher on the AP Exam. These discrepancies in terms of enrollment in AP classes were also evident for AP English Literature and AP U.S. History (College Board, 2012b).

During the 2012 school year, the ethnic breakdown of SCPS high school students was: White (58.5%), Hispanic (21.2%), African American (12.7%) and Asian (4.3%) (Seminole County Public Schools, 2013). In addition, the percentage breakdown of students who took at least one of the 11,894 AP Exams administered in SCPS was: White (68%), Hispanic (15.2%), African American (5.7%), and Asian (10%) students. Again, another indication that there is an equity gap in AP enrollment for Hispanic and African American students, while White and Asian students are overrepresented in proportion to county level demographic data (Seminole County Public Schools, 2013).

The lack of enrollment of Hispanic and African American students is alarming as many post-secondary institutions examine whether students took rigorous courses in their determination for admission into a university along with traditional measures such as GPA and SAT scores. John Barnhill, Assistant Vice President of Enrollment Management at Florida State University, noted, "When we review transcripts and see an AP course…we know that students have challenged themselves. We know that they are really pushing the envelope of their own intellectual curiosity….We love that spirit" (College Board, 2013b, p. 10). In addition, the rigor of students' high school curriculum is the largest predictor of college graduation rates. AP students are more likely to graduate in four years as compared to non-AP students (College Board, 2003; Hargrove, Godin, & Dodd, 2008). This is important because individuals with college degrees have higher career earning potential than students with high school diplomas

and/or certificates. Over a 40-year career, individuals with a college degree earn roughly

$650,000 more than an individual with a high school diploma (Pew Research Center, 2012). In

sum, minority students are not being provided with opportunities to be as successful as possible

later in their careers.

Statement of the Problem

To date, there has been limited research about how the role of inviting (recruitment)

messages, have affected enrollment in AP courses for traditionally underserved minorities and

low-income students. Killingsworth (2011) and Thompson-Cabezas (2011) focused on how

inviting messages affected student enrollment in advanced courses in limited geographic areas,

in which the researchers analyzed inviting messages for White, African American, and low-

income students. More research should be conducted to determine how inviting messages affect

enrollment in advanced courses for Hispanic students (Thompson-Cabezas, 2011). Hispanic

students are of particular interest as the population of Hispanics is projected to grow from 14

percent of the U.S. population in 2005, to 29 percent of the U.S. population in 2050 (Passel &

Cohn, 2008). Additionally, 10 percent of U.S. high school graduates were Hispanic in 1996,

whereas in 2022, Hispanics are predicted to make up 28 percent of U.S. high school graduates.

In Florida, 4 percent of graduates were Hispanic in 1996, whereas 26 percent of high school

graduates in Florida will be Hispanic in 2022 (Edwards & Duggan, 2012). Increasing diversity

in U.S. schools warrants investigation into how educators can improve minority student access to

a challenging curriculum that readies students for either post-secondary learning or productive

careers after high school (Thompson-Cabezas, 2011).

Purpose of the Study

The purpose of this study was to investigate whether or not the extension of inviting messages to enroll in AP courses was dependent upon students' ethnic and/or socioeconomic background. By replicating studies conducted by Killingsworth (2011) and Thompson-Cabezas (2011), which sought to understand how the role of inviting messages from a student perspective affects enrollment in AP courses, this study will help inform educators on how best to improve equity and access for minority students in AP classrooms

Quantitative and Qualitative Analysis

The PASS was used to measure students' attitudes about how invited or disinvited they felt when it came to enrolling in AP courses. Section I of the PASS consisted of 28 items measuring how students felt about being invited to enroll in AP classes with respect to the six elements of invitational theory: empowerment, encouragement, enlistment, enjoyment, equity, and expectation (Schmidt, 2007). These items were measured on a five point Likert-scale with the following categories: (1) strongly disagree, (2) disagree, (3) neither agree or disagree, (4) agree, and (5) strongly agree. Section II of the PASS survey consisted of two demographic questions asking students which school they attended and to select how many AP Exams they took in high school. Section III of the PASS consisted of one open-ended, qualitative question asking students how their schools could support and encourage more students to take AP classes.

Descriptive Statistics

The PASS was used to gather data from students about how invited students felt with regard to enrolling in AP classes. Out of 1,232 seniors that were classified as having AP

70

Potential™ after the 2011 PSAT administration, 962 students completed the PASS online for a survey return rate of 78 percent. Table 1 provides a summary of the survey respondents categorized by AP involvement. There were 707 (62.5%) students classified as being highly involved in the AP program at their school while 255 (37.5) students were classified as having low involvement in the AP program.

Table 1

AP Involvement of Students Who Took the Program Access Student Survey

	N	%
Involvement		
High AP Involvement	707	62.5
Low AP Involvement	255	37.5
Total	962	100

Table 2 provides a summary of the socioeconomic status of the survey respondents. Out of 962 students, 153 (15.9%) were labeled as free/reduced lunch status, while 809 (84.1) were classified as non-free/reduced lunch status.

Table 2

Socioeconomic Status of Students Who Took the Program Access Student Survey

	N	%
Socioeconomic Status		
Free/Reduced Lunch	153	15.9
Non-Free/Reduced Lunch	809	84.1
Total	962	100

Table 3 offers a breakdown of survey respondents by ethnicity. Survey respondents were represented by four major ethnic groups: 690 White (71.7%), 143 Hispanic (14.9%), 62 Asian (6.4%), and 36 African American (3.7%). Three other ethnic groups, Multi-racial, Pacific Islander, and Native American, were included in the survey responses but were excluded from analysis in this research as the three groups constituted only 31 students.

Table 3

Ethnicity of Students Who Took the Program Access Student Survey

	N	%
Ethnicity		
Asian	62	6.4
African American	36	3.7
Hispanic	143	14.9
White	690	71.7
Total	931	96.7

Table 4 provides a breakdown of survey respondents by gender. Females represented 518 (53.8%) of survey respondents, while males constituted 444 (46.2%) of survey respondents.

Table 4

Gender of Students Who Took the Program Access Student Survey

	N	%
Gender		
Female	518	53.8
Male	444	46.2
Total	962	100

Data Analysis

Research Question and Hypothesis #1

Among students with AP Potential™, what is the difference between high involvement AP students' and low involvement AP students' perceptions of an inviting school culture with regard to enrollment in AP classes?

$H_0 1$. There is no difference between high involvement AP students' and low involvement AP students' perceptions of an inviting school culture with regard to enrollment in AP classes.

This question was analyzed through the use of an independent t-test, in which the PASS score served as the continuous dependent variable and the binary variable of level of involvement in AP served as the independent variable. Level of involvement was defined as

73

having low involvement if students took two or fewer AP courses over their junior and senior years, as it averaged out to only one course per year; students who took more than three courses were given the designation of high involvement.

Assumptions

Prior to running the t-test, the assumption of normality was tested. The t-test is based off the normal distribution, so when testing to see if a model is statistically significant, researchers are technically comparing a standardized value of a test statistic to a standard normal distribution, hence the importance of the data being considered normally distributed. For a t-test, normality was tested for each group (in this case, low or high involvement). Normality can be tested with the following statistics: skewness, kurtosis, and visual assessment of outliers. Skewness refers to the degree to which potential outliers are causing a distribution to be asymmetrical and therefore, skewed. This value should fall between -2 and 2. Kurtosis implies the amount of "peakedness" in the normal distribution; is it shallower or steeper than a standard normal curve? This value should fall between -2 and 2. Finally, for visual assessment of outliers, SPSS provided boxplots for the dependent variable by each independent variable. Very extreme outliers were indicated by an asterisk, while moderate outliers were indicated by an open circle. The goal is to not have the presence of the very extreme outliers, as these can be misleading.

Normality checks showed that, originally, there was one very extreme outlier—the student had values of "strongly disagree" for all 28 questions that comprised the PASS and gave a very cursory answer for the free response question of "I don't know." This evidence suggested that the student did not take the survey seriously and therefore the observation was removed. Values that appear for skewness and kurtosis were from after the removal of the outlier

responses. Low involvement had the following values: skewness = -0.09, kurtosis = 0.08, while high involvement had these values: skewness = -0.18, kurtosis = 0.36. Both groups met suggested criteria for normality.

Analysis

The t-test yielded the following results: Levene's test for inequality of variances, $F = 4.29$, $p = .04$, suggested that the variances among the low involvement and high involvement groups were not equal. Therefore, the t-test that adjusts for unequal variances was used. The t-test, $t(415.90) = -2.60$, $p = .01$, 95% CI for low AP involvement [3.52, 3.67], 95% CI for high AP involvement [3.66, 3.74], indicated that there was a significant difference in PASS mean scores between students with low and high AP involvement. Therefore, the null hypothesis stating that there is no difference between high involvement AP students' and low involvement AP students' perceptions of an inviting school culture with regard to enrollment in AP classes, should be rejected.

On average, students with high AP involvement yielded a higher PASS mean score ($M = 3.70$, $SD = 0.55$) than did students with low AP involvement ($M = 3.59$, $SD = 0.61$). However, it is important to note that both groups yielded scores that were slightly below the value of "Agree," on average. Cohen's d, a measure of practical significance, was calculated to be .25. This indicated a small effect of AP involvement explaining the differences between participants on this measure. According to Cohen's definitions, .20 is small, .50 is medium, and .80 is large in terms of effect size. A summary of descriptive statistics and t-test results are provided in Table 5.

Table 5

Descriptive Statistics for t-Test, PASS Score by AP Involvement

			95% CI	
Involvement	*M*	*SD*	*LL*	*UL*
Low AP Involvement (*n* = 255)	3.59	0.61	3.52	3.67
High AP Involvement (*n* = 706)	3.70	0.55	3.66	3.74

Note. $t(415.90) = -2.60$, $p = .01$, $d = .25$. CI = confidence interval, *LL* = Lower Limit, *UL* = Upper Limit.

Research Question and Hypothesis #2

Among students with AP Potential™, what is the difference between free/reduced lunch students' and non-free/reduced lunch students' perceptions of an inviting school culture with regard to enrollment in AP classes?

$H_0 2$. There is no difference between free/reduced lunch students' and non-free/reduced lunch students' perceptions of an inviting school culture with regard to enrollment in AP classes.

Analysis for this question was similar to that of research question one in the use of the independent t-test, with PASS mean scores serving as the continuous dependent variable and free/reduced lunch status (low SES or high SES) serving as the binary independent variable.

Assumptions

Prior to running the t-test, the same assumptions were run as were for research question one. The same outlier student was also removed, as that observation was deemed to be noise in the data. Normality checks yielded the following results for the high SES group

(skewness = -0.22, kurtosis = 0.42) and for the low SES (skewness = 0.05, kurtosis = -0.33). Both groups met suggested criteria for normality.

Analysis

The t-test yielded the following results: Levene's test for inequality of variances, $F = 1.77$, $p = .18$, suggested that the variances among the high SES and low SES groups were equal. Therefore, the standard, unadjusted t-test was used. The t-test, $t(959) = 0.58$, $p = .56$, indicated that there was not a significant difference in PASS mean scores between high SES and low SES students. Therefore, the null hypothesis stating that there is no difference between free/reduced lunch students' and non-free/reduced lunch students' perceptions of an inviting school culture with regard to enrollment in AP classes, should not be rejected.

On average, students in the higher socioeconomic group yielded a slightly higher PASS mean score ($M = 3.68$, $SD = 0.56$) than did their lower socioeconomic peers ($M = 3.65$, $SD = 0.61$), but again, this difference was not statistically significant. However, it is important to indicate that both groups yielded scores that were slightly below the value of "Agree," on average. Cohen's d, a measure of practical significance, was calculated to be .04. This indicated no effect of socioeconomic status explaining the differences between participants on this measure. According to Cohen's definitions, .20 is small, .50 is medium, and .80 is large in terms of effect size. A summary of descriptive statistics and t-test results are provided in Table 6.

Table 6

Descriptive Statistics for t-Test, PASS Score by Socioeconomic Status

			95% CI	
Socioeconomic Status	*M*	*SD*	*LL*	*UL*
High SES/Non-Free/Reduced (*n* = 808)	3.68	0.56	3.64	3.72
Low SES/Free/Reduced (*n* = 153)	3.65	0.61	3.55	3.75

Note. $t(959) = 0.56$, $p = .56$, $d = .04$. CI = confidence interval, *LL* = Lower Limit, *UL* = Upper Limit.

Research Question and Hypothesis #3

Among students with AP Potential™, what is the difference among White, Hispanic, African American, and Asian students' perceptions of an inviting school culture with regard to enrollment in AP classes?

$H_0 3$. There is no difference among White, Hispanic, African American, and Asian students' perceptions of an inviting school culture with regard to enrollment in AP classes.

Like research questions one and two, this analysis required the evaluation of differences in means, but because the variable of ethnicity is nominal with more than two groups, a one-way ANOVA was utilized. PASS mean scores continued to serve as the continuous dependent variable, while ethnicity (White, Hispanic, African American, and Asian) served as the nominal independent variable.

Prior to running the ANOVA, the same assumptions for normality were run as in the previous analyses. The same outlier student was also removed, as that observation was deemed to be noise in the data. Normality checks yielded the following results:

- White: Skewness = -0.26, Kurtosis = 0.63

- Hispanic: Skewness = 0.12, Kurtosis = -0.38

- African American: Skewness = -0.10, Kurtosis = -0.30

- Asian: Skewness = -0.09, Kurtosis = -0.52

All groups met suggested criteria for normality.

An additional assumption checked in ANOVA was for homogeneity of variance, which means the similarity of the spread of observations within each group. It is desirable for the spread to be similar among groups (in other words, homogeneous). This assumption was checked with Levene's Test of Equality of Error Variances, for which a non-significant ($p > .05$) result is desirable. For this analysis, Levene's test was not significant: $F(3, 926) = 1.41$, $p = .24$. Groups met suggested criterion for homogeneity of variances.

Analysis

The ANOVA yielded the following results: $F(3, 926) = 2.06$, $p = .10$, which indicated that there was not a statistically significant difference in PASS mean scores between students of different ethnicities. Therefore, the null hypothesis stating that there is no difference among White, Hispanic, African American, and Asian students' perceptions of an inviting school culture with regard to enrollment in AP classes, should not be rejected.

On average, Asian students had the highest PASS mean scores ($M = 3.82$, $SD = 0.54$), followed by White students ($M = 3.67$, $SD = 0.56$). African American students ($M = 3.62$,

79

SD = 0.56) and Hispanic students (M = 3.61, SD = 0.61) had the lowest scores. However, again, none of these differences were statistically significant.

Eta-squared (η2), a measure of practical significance, was calculated to be .01. This indicated a very small effect of ethnicity explaining the differences between students' PASS scores, as it can be interpreted that only 1% of the variability in PASS scores could be explained by student ethnicities. According to Cohen, eta-squared values of .01 can be considered small effects, .06 as medium effects, and .14 as large effects. Descriptive statistics are provided in Table 7, while a summary of the ANOVA results are provided in Table 8.

Table 7

Descriptive Statistics for One-Way ANOVA, PASS Score by Ethnicity

			95% CI	
Ethnicity	*M*	*SD*	*LL*	*UL*
White (*n* = 689)	3.68	0.56	3.64	3.72
Hispanic (*n* = 143)	3.61	0.61	3.51	3.71
African American (*n* = 36)	3.63	0.56	3.43	3.82
Asian (*n* = 62)	3.82	0.54	3.68	3.96

Note. $F(3, 926)) = 2.06$, $p = .10$, $\eta^2 = .007$. CI = confidence interval, *LL* = lower limit, *UL* = upper limit.

Table 8

Analysis of Variance Results, PASS Score by Ethnicity

Source	df	F	η^2	p
Ethnicity	3	2.06	.007	.10
S within-group error	926	(0.32)		

Note. Value enclosed in parentheses represents mean square error. S = subjects.
*p < .05. **p < .01.

Research Question #4

Among various ethnicities, what factors would encourage more students to enroll in AP classes?

This question was analyzed by tallying up senior students' short answer responses to the research question in an open-ended short response survey item. The researcher grouped the various responses into common themes. Themes that were only mentioned once or twice were not considered in this analysis which is why the number of student responses in Table 9 does not match the number of students who actually took the survey. Table 9 shows how the student responses were grouped into common themes along with the number of instances that various students mentioned the same theme. Themes are presented from most to least common in Table 9. The most oft-cited way for schools to increase enrollment in AP classes, according to students, was to advertise more the pros and cons of taking AP classes.

Table 9

Tabulation of Student Responses on How Schools Can Increase AP Enrollment

Student Ideas to Increase Enrollment in AP Courses	Number of Student Responses	% of Student Responses
1. Increase advertisement of pros/cons of taking AP	299	31.6
2. Do nothing/stop forcing students to take AP	187	19.8
3. Provide encouragement/ motivation	60	6.3
4. Have better prepared and more caring teachers	60	6.3
5. Make easier and less homework	54	5.7
6. Demystify AP	44	4.7
7. Provide incentives/rewards	44	4.7
8. Offer a larger variety of courses	35	3.7
9. Offer more tutoring and support systems	32	3.4
10. Better preparation to take AP	31	3.3
11. Individual counseling for students by teachers and guidance counselors	30	3.2
12. Make more fun and interesting	24	2.5
13. Have current AP students talk to potential AP students about expectations	21	2.2
14. Offer more sections of AP to prevent scheduling conflicts	14	1.5
15. More interactive/ discussion based	10	1.1
TOTAL	945	100

<u>Summary</u>

In this chapter, an introduction was given which reviewed the problem of underrepresented minority students not having the same level of access to AP programs as compared to White and Asian students. Descriptive statistics were presented to gain a better understanding about which types of students were responding to the survey. This was followed by quantitative t-test and ANOVA analyses for the first three research questions. For the fourth research question, a qualitative approach was used and major themes in the student responses were identified and presented.

Results from research question one showed that there was a statistically significant difference between students classified as having low AP involvement and high AP involvement when students were asked about how welcome they felt by the school to join AP classes. The high AP involvement students had a higher mean score on the PASS which indicated that they felt more invited to enroll in AP classes than did the low AP involvement students.

For the second research question, there was not a statistically significant difference between the mean PASS scores for high and low socioeconomic students. Higher socioeconomic students did have a higher mean score on the PASS than the lower socioeconomic students, but again, this difference was not significant. It is worth noting that both groups of students scored below the value of "Agree."

For the third research question, there was not a statistically significant difference in mean PASS scores among Asian, Black, Hispanic, and White students. However, the overrepresented students in AP classes, Whites and Asians, did have higher mean PASS scores than did the underrepresented Black and Hispanic students.

83

The final research question was qualitative and asked students to give their opinion about what their school could do in order to increase enrollment in AP classes. Results were presented in a table under major themes. The most oft-cited theme mentioned by students was that schools could do more to advertise the pros and cons of taking AP classes more effectively. The second largest response worth noting mentioned that schools should do nothing and stop from encouraging unprepared students to take AP classes for fear that these classes will become watered down for the high performing students.

The final chapter will begin with a summary of the study followed by a discussion of the findings. The chapter will conclude by discussing implications for practice and recommendations for further research.

CHAPTER FIVE:
SUMMARY, DISCUSSION, AND CONCLUSIONS

Introduction

In the prior chapter, results from the PASS were presented. This final chapter will begin with a summary of the study followed by a discussion of the findings, implications for practice, recommendations for further research, and conclusions. The purpose of these sections is to contribute to the existing literature on how invitational theory affects student enrollment in advanced courses. This chapter will provide a better understanding of what schools can do to ensure that access to AP classes is equitable for all different types of students.

Summary of the Study

To date, there has been limited research about how the role of inviting (recruitment) messages, have affected enrollment in AP courses for traditionally underserved minorities and low-income students. Killingsworth (2011) and Thompson-Cabezas (2011) focused on how inviting messages affected student enrollment in advanced courses in limited geographic areas, in which the researchers analyzed inviting messages for White, African American, and low-income students. More research should be conducted to determine how inviting messages affect enrollment in advanced courses for Hispanic students (Thompson-Cabezas, 2011). Hispanic students are of particular interest as the population of Hispanics is projected to grow from 14 percent of the U.S. population in 2005, to 29 percent of the U.S. population in 2050 (Passel & Cohn, 2008). Additionally, 10 percent of U.S. high school graduates were Hispanic in 1996, whereas in 2022, Hispanics are predicted to make up 28 percent of U.S. high school graduates. In Florida, 4 percent of graduates were Hispanic in 1996, whereas 26 percent of high school

graduates in Florida will be Hispanic in 2022 (Edwards & Duggan, 2012). Increasing diversity

in U.S. schools warrants investigation into how educators can improve minority student access to

a challenging curriculum that readies students for either post-secondary learning or productive

careers after high school (Thompson-Cabezas, 2011).

The purpose of this study was to investigate whether or not the extension of inviting

messages to enroll in AP courses was dependent upon students' ethnic and/or socioeconomic

background. By replicating studies conducted by Killingsworth (2011) and Thompson-Cabezas

(2011), which sought to understand how the role of inviting messages from a student perspective

affects enrollment in AP courses, this study sought to inform educators on how best to improve

equity and access for minority students in AP classrooms.

This study was guided by the invitational theory of education that seeks to create systems

and relationships to help people realize their full potential without any discrimination based on

one's ethnicity, sexuality, gender, or religion (Schmidt, 2004). Purkey and Novak (1996) noted

that there are four fundamental beliefs with regard to invitational theory: First, everyone desires

to be accepted for who they are as a person. Second, everyone can create positive messages for

themselves as well as for others. Third, everyone is blessed with unrealized potential in the area

of academic achievement and learning. Finally, realizing this potential is best accomplished

through creating positive, warm environments that allow people to reach their highest potential.

In order for schools to improve access to AP courses for traditionally underserved

minorities, a combined effort by administrators, teachers, and parents must focus on creating

environments that encourage minority students to explore the world of AP. Schools cannot

merely rely on achievement tests as a method to determine who should enroll in advanced

courses. Santelices and Wilson (2010) found that there is racial bias in how some questions are

86

worded on the SAT which can negatively affect the performance of ethnic minorities. In addition, some teachers hold preconceived ideas about children of various ethnicities that affect teacher's recommendations for gifted programs (Elhoweris, Mutua, Alsheikh, & Holloway, 2005). An invitational theory of education will be used to guide this study in order to overcome the barriers to enrollment in advanced courses that achievement tests and teacher attitudes pose for minority students.

To measure the extent of an inviting school culture, Schmidt (2007) proposed six elements including empowerment, encouragement, enlistment, enjoyment, equity, and expectation. The PASS survey developed by Killingsworth (2011) and Thompson-Cabezas (2011) was constructed in accordance with the six elements of an inviting school culture.

To measure "perceptions of an inviting school culture," mean scores from the Program Access Student Survey (PASS) were used to discover the extent that "inviting messages" to enroll in AP classes were extended to participants. On a scale of 1-5, larger mean scores on the PASS indicated that participants received more inviting messages from teachers, parents, and peers to enroll in AP classes than lower mean scores on the PASS. To help understand why there is an enrollment gap for traditionally underserved minority students in AP classes, the following questions were used to guide this study (Killingsworth, 2011):

1. Among students with AP Potential™, what is the difference between high involvement AP students' and low involvement AP students' perceptions of an inviting school culture with regard to enrollment in AP classes?

    $H_0 1$. There is no difference between high involvement AP students' and low involvement AP students' perceptions of an inviting school culture with regard to enrollment in AP classes.

2. Among students with AP Potential™, what is the difference between free/reduced lunch students' and non-free/reduced lunch students' perceptions of an inviting school culture with regard to enrollment in AP classes?

   $H_0$2. There is no difference between free/reduced lunch students' and non-free/reduced lunch students' perceptions of an inviting school culture with regard to enrollment in AP classes.

3. Among students with AP Potential™, what is the difference among White, Hispanic, African American, and Asian students' perceptions of an inviting school culture with regard to enrollment in AP classes?

   $H_0$3. There is no difference among White, Hispanic, African American, and Asian students' perceptions of an inviting school culture with regard to enrollment in AP classes.

4. Among various ethnicities, what factors would encourage more students to enroll in AP classes?

Questions one through three were answered quantitatively by comparing mean PASS scores between various groups, while question four was answered qualitatively by examining responses to an open-ended survey question.

For question one, a t-test was used to compare the means between students defined as having either low or high involvement in AP classes. Results from the t-test indicated that students with high AP involvement felt more invited to enroll in these advanced courses than did students classified as having low AP involvement.

For research question two, a t-test was utilized and the data showed that students of higher socioeconomic status had higher scores on the PASS than did lower socioeconomic students but that these results were not statistically significant.

For research question three, an ANOVA was used to compare mean PASS scores among various ethnic groups. The results from the ANOVA showed that Asian and White students had higher PASS scores, and thus received more inviting messages from school, than did Black and Hispanic students.

For research question four, students were asked an open-ended question on the PASS that stated, "What can we do at this high school to encourage and support more students to take AP courses?" Over 30 percent of students mentioned that schools should advertise the pros and cons of taking AP classes instead of just signing students up to take AP classes in order to bolster the enrollment numbers. Over 19 percent of students suggested that their school's AP programs were fine and did not need to do anything else to increase enrollment in AP classes.

Discussion of the Findings

Previous research (Killingsworth, 2011; Thompson-Cabezas, 2011) studied how the role of inviting messages in schools encouraged or discouraged students to enroll in AP classes. These studies examined rural high schools in Alabama and Georgia with a large percentage of African American students. This study attempted to replicate these prior studies by exploring how the role of inviting messages affected student enrollment in AP classes in suburban Florida high schools with a larger percentage of Hispanic students than the schools in Georgia and Alabama. This section will discuss the implications of the findings for the three quantitative research questions and one qualitative research question.

Among students with AP Potential™, what is the difference between high involvement AP students' and low involvement AP students' perceptions of an inviting school culture with regard to enrollment in AP classes?

The findings from research question one showed that there was a statistically significant difference between students with low and high AP involvement as it related to students' perceptions of an inviting school culture existing at their school. Thus, the null hypothesis stating that there is no difference between high involvement AP students' and low involvement AP students' perceptions of an inviting school culture with regard to enrollment in AP classes should be rejected.

This finding is consistent with previous research that showed that students enrolled in AP courses felt that they received more inviting messages than students who were not enrolled in AP courses (Thompson-Cabezas, 2011). This result is to be expected in light of research on invitational theory that explains how students receive four types of inviting messages from educators: 1) intentionally disinviting, 2) unintentionally disinviting, 3) unintentionally inviting, and 4) intentionally inviting (Novak, 2002; Purkey & Novak, 1984; Stanley, Juhnke, & Purkey, 2004). If a student is not enrolled in an AP class, they are not going to think of the school as having an inviting culture that encourages all students to enroll in advanced classes. Students with low AP involvement have received a higher percentage of disinviting messages than students with high AP involvement. By the same token, students who have taken at least one AP class each year in high school have an attachment to the AP program and are going to score higher on a survey that measures attitudes about how invited they felt to join a particular class.

Research Question Two

Among students with AP Potential™, what is the difference between free/reduced lunch students' and non-free/reduced lunch students' perceptions of an inviting school culture with regard to enrollment in AP classes?

The findings from research question two showed that higher socioeconomic students scored higher on the PASS than did students from lower socioeconomic backgrounds, however the results were not statistically significant so the null hypothesis could not be rejected. The results may not have been statistically significant because the PASS may not have operationalized the variables in the appropriate manner. For this study, some of the original PASS questions were omitted to fit the requirement by Seminole County Public Schools for the PASS to be shorter in order for it to be added to the senior exit survey.

Nevertheless, the fact that non-free/reduced lunch students scored higher on the PASS than did the free/reduced lunch students is aligned to research that shows students from lower socioeconomic backgrounds begin their education in lower quality schools and continue to attend schools with low-resources (Lee & Burkam, 2002). It is no wonder then that these students may have become disillusioned by the school system, and by the time they reach high school, they already feel inferior and that they do not belong in the advanced classes, thus explaining their lower PASS scores compared to their higher socioeconomic peers. According to Novak (2002) and Purkey and Novak (1984), these lower socioeconomic students have been receiving many disinviting messages, intentional and unintentional, throughout their grade school years. These students have not been encouraged to take advanced courses even though there is AP Potential™ data from the College Board that shows that some students, based on PSAT results, have the

91

ability to achieve a passing score on an AP Exam even though they come from a poorer household.

<p align="center">*Research Question Three*</p>

Among students with AP Potential™, what is the difference among White, Hispanic, African American, and Asian students' perceptions of an inviting school culture with regard to enrollment in AP classes?

The findings from research question three showed that overrepresented students in AP classes, Whites and Asians, scored higher on the PASS, and thus felt their school had a more inviting culture, than did traditionally underrepresented Black and Hispanic groups of students.

This finding was inconsistent with previous research which showed White and Hispanic students feeling that their school culture was more inviting as compared to Black students (Killingsworth, 2011). Killingsworth (2011) hypothesized that Hispanics may have had higher PASS scores because some were English Language Learners (ELL) and received support in the form of learning accommodations and testing services. However, even though White and Asian students scored higher on the PASS in this study as compared to Black and Hispanic students, the differences were not statistically significant. Again, this result may be due to an error in the instrument used as some questions from the PASS were omitted to fit survey guidelines established by Seminole County Public Schools. Additionally, the results may not have been statistically significant due to sampling bias as a look at the data show that some ethnic groups were overrepresented, while others were underrepresented. The PASS was attached to the Seminole County Public School senior exit survey. Seventy-eight percent of SCPS senior students returned a survey, but the percentage of respondents did not match the actual proportion of students enrolled in SCPS schools. For instance, during the 2013-2014 school year, the racial

breakdown of SCPS high school students was: White (58.1%), Hispanic (21.7%), African American (12.8%) and Asian (4.1%) (Seminole County Public Schools, 2014). However, of the survey respondents, White and Asian students were overrepresented with White students making up 71.7 percent of survey respondents, while Asian students made up 6.4 percent of survey respondents. In contrast, Hispanic and Black students were underrepresented in the returned surveys as they consisted of only 14.9 percent and 3.7 percent, respectively, of survey respondents. Of the 22 percent of students who did not complete the survey, many of these students were traditionally underserved minority students, which skewed the data and showed that there was no difference among various ethnicities and their attitudes about an inviting school culture.

Since the mean PASS scores were so close to each other, it appears that the expectation gap among students of various ethnicities has decreased. However, the fact that White students still had higher PASS scores, and thus a stronger attitude of feeling invited to enroll in advanced classes, than did Hispanic and Black students, shows that these minority students are not being given the same opportunities even though every person surveyed was classified by the College Board as a likely successful AP student based on AP Potential™ data. This is consistent with one study that showed teachers to have higher expectations for White students than for Black students (Tenenbaum & Ruck, 2007).

Research Question Four

Among various ethnicities, what factors would encourage more students to enroll in AP classes?

The qualitative findings from research question four showed, from a student perspective, what schools should do to increase enrollment in AP classes. The most oft-cited student

suggestion was that schools should do more to advertise the pros and cons of AP classes. Students felt that schools too often just blindly told students to take as many AP classes as possible, but that students did not always know why AP classes were beneficial. Students thought that there should be a trial period to get used to the increased workload and for students to ascertain for themselves if taking an AP class would serve their needs. This attitude is consistent with the "five P's" of invitational theory that stated that inviting school atmospheres should be warm and welcoming and that programs such as AP should seek to advance the educational opportunities for all students (Novak, 2002). In addition, there are six elements of diversity that help determine if schools are adhering to the five "P's" of invitational education. One of those elements, empowerment, is present when students have control of the decision-making process when it comes to enrolling in challenging AP courses (Schmidt, 2007). This is consistent with the results for research question four when the students noted that they would like to know more of the pros and cons of taking an AP class so that they can make a more informed decision when filling out their class schedules for the next year. Schmidt (2007) noted that multiple inviting messages, from a variety of stakeholders, must be sent out to students if a recruitment strategy is to be successful. By advertising more and letting students know the pros and cons of AP classes, schools will create a more inviting culture to allow students to realize their potential.

The second most recorded student response was that the schools should do nothing to increase AP enrollment. These students felt that there were already large numbers of students in AP classes and that adding any more students would dilute the curriculum and increase the student-to-teacher ratio, which would have an adverse impact on students needing more individual instruction to master the complex topics found in AP classes. This is in contrast to

one of the six elements of invitational theory known as enlistment. Schmidt (2007) defined

enlistment as schools trying to cast a net over a wider group of potential students. From a

student perspective, close to one-fifth of the surveyed students were against the idea of trying to

encourage a wider variety of students to enroll in AP classes.

Implications for Practice

With the enactment of No Child Left Behind (NCLB), states began examining their

subgroup data to see which students were falling behind and in what subjects. NCLB brought

attention to the fact that many minority students were behind their White and Asian peers in

reading and mathematics and an achievement gap was identified. In this current era of increased

accountability, the College Board has highlighted how there is an access and equity gap when it

comes to enrollment in AP classes. Asian and White students are overrepresented in AP classes,

while Black and Hispanic students are underrepresented. This study sought to examine from a

student perspective if the culture of a school made a significant difference in students' attitudes

about feeling inviting to enroll in challenging courses in order to reach their full potential.

This study has several implications for educators in regards to improving the access to

rigorous classes for all students. For educational administrators, this study showed that schools

need to get the message out more about the pros and cons of taking AP classes if they want to

increase enrollment in AP classes. As AP Potential™ data shows, many traditionally underserved

minority students have the academic tools necessary to succeed in an AP class, but many

minority students are still not enrolling in these advanced courses. Educators would be wise to

send out letters to students and parents alerting them to that fact that the student has the potential

to be successful in an AP class. Sending out letters and making phone calls to minority students

classified as having AP Potential™ is a very strong and welcoming message from the school that shows the institution is advocating for the student. This inviting message will give students a newfound confidence and allow them to challenge themselves academically in an AP course. This study suggests that many of these students may not be aware of what the AP program is, or if they have heard of AP, they are not sure why they might want to consider taking the class. Schools should hold informational "AP Nights" to introduce and explain the pros and cons of enrolling in AP classes to prospective students and their parents.

This study will also be useful for teachers and guidance counselors as they help students sign up for classes for the upcoming school year. This study showed that various groups of students have different attitudes about how invited they feel to join advanced courses. Black and Hispanic students who scored lower on the PASS are receiving more uninviting messages (intentional or unintentional) than their Asian and White peers. The same can be said for students from lower socioeconomic backgrounds regardless of race. Teachers and guidance counselors would serve all students better by taking a deeper look at the data available to make a more informed recommendation as to whether a student should enroll in an AP course. Teachers in many schools act as gatekeepers to the advanced classes and may intentionally or unintentionally signal to students that they are not an AP student. Instead of relying solely on traditional predictors such as current course grades and GPA, teachers and guidance counselors can add researched-backed AP Potential™ data to make a more informed recommendation.

Finally, the community at large will find this study useful because schools have data at their disposal that alerts them about students who are likely to be the most successful in advanced courses. Parents can now be made aware of their child's potential if schools choose to send out invitations to qualified students to join AP classes. When parents, educators, and local

96

community members are all aware of a particular child's chances at challenging him/herself successfully in a rigorous course, a chorus of invitational messages will surround the child and push that child to reach heights he/she never considered previously.

Recommendations for Further Research

The goal of this study was to expand upon previous research examining from students' perspectives what schools could do to increase access to AP programs for traditionally underserved minority students. Building upon the research of Killingsworth (2011) and Thompson-Cabezas (2011) who examined rural high schools in Georgia and Alabama, this study expanded the research to a suburban school district of over 60,000 students in Central Florida. Using Florida helped contribute to the existing research because there are more Hispanic students in Florida than in Georgia and Alabama combined (United States Census Bureau, 2011, May). Since recent studies have focused on rural and suburban schools in the Southeastern portion of the United States, future research should examine student perspectives regarding inviting school cultures from other populated areas of the United States like the Northeastern, Midwestern, and Western states. Due to having the top three largest state populations, expanding this research into New York, Texas, and California may allow for greater generalizability of the data (United States Census Bureau, 2014). Furthermore, since this and previous studies have focused on suburban and rural high schools, future research should examine student attitudes in urban high schools to get a more well-rounded perspective.

Future studies should also examine the degree to which an educational institution is thought of as being inviting through other stakeholders' eyes such as teachers and parents. By surveying the attitudes of teachers and parents, a school is likely to have a much clearer

97

understanding of what it can do to ensure that it is serving all qualified students with the appropriate programs and curriculum.

Finally, future research should strive to include all questions on the PASS as originally developed by Killingsworth (2011) and Thompson-Cabezas (2011). The results of this study may be misleading because some questions had to be omitted for inclusion on Seminole County's senior exit survey, which may have impacted the data in some uncertain way.

<div align="center">Conclusions</div>

The findings of this study expanded upon previous research on how an inviting school culture leads students to realize their maximum potential. This study showed that students already in AP classes feel more invited by their teachers, guidance counselors, parents, and peers to challenge themselves as compared to students who have little to no involvement in AP classes. Additionally, it was shown that students from higher socioeconomic backgrounds had a more favorable view regarding how the school reaches out to them and invites them into challenging programs as compared to students from lower socioeconomic backgrounds, though these differences were not statistically significant. In the same vein, there were variations among different ethnicities in their view of an inviting school culture, though these differences were also not statistically significant. However it is worth noting that students who are overrepresented in AP classes, Asians and Whites, believed their schools to be more inviting places than the traditionally underrepresented Black and Hispanic students. Finally, it was shown that a major step that schools could take to increase enrollment in AP classes was to advertise the AP program more and let students know what the pros and cons are to taking an AP class.

From the colonial times in America to today, there has always been a gap between the haves and the have-nots with regard to educational opportunities. Historically, richer White students have enjoyed better educational programs than their poorer, minority peers. Whether this lack of opportunities stemmed from laws forbidding certain groups of students from attending school, or originated with educators acting as gatekeepers to educational programs, traditionally underserved students have not been given equal educational opportunities. Even in light of data that shows which minority students would be successful in an academically rigorous AP class, still too many young, qualified minorities are being left out of the conversation and are not being asked to join AP classes which would help these students maximize their potential. Schools should strive to make educational and career pathways available to all students if they are to truly serve their purpose in the community. Examining how schools are reaching out to all students to invite them to learn at the highest level is a worthy goal to strive for if schools want to provide the country with a workforce that can think critically and keep the United States economically competitive into the 21st century.

APPENDIX A:
UCF INSTITUTIONAL REVIEW BOARD APPROVAL

From : **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To : **Jason McDonald**

Date : **April 09, 2014**

Dear Researcher:

On 4/9/2014 the IRB determined that the following proposed activity is not human research as defined by

DHHS regulations at 45 CFR 46 or FDA regulations at 21 CFR 50/56:

Type of Review:	Not Human Research Determination
Project Title:	Minority Student Enrollment in Advanced Placement Courses and the Role of Invitational Theory
Investigator:	Jason McDonald
IRB ID:	SBE-14-10234
Funding Agency:	
Grant Title:	
Research ID:	N/A

University of Central Florida IRB review and approval is not required. This determination applies only to the

activities described in the IRB submission and does not apply should any changes be made. If changes are to be

made and there are questions about whether these activities are research involving human subjects, please

contact the IRB office to discuss the proposed changes.

On behalf of Sophia Dziegielewski, Ph.D., L.C.S.W., UCF IRB Chair, this letter is signed by:

Kanielle Chay

IRB Coordinator

APPENDIX B:
USE OF SURVEY PERMISSION LETTERS

RE: New Email from Jason McDonald.

jason_mcdonald

Thu 6/20/2013 2:28 PM

To:molly.killingsworth <molly.killingsworth@elmoreco.com>;

Dr. Killingsworth,

Thank you so much for your assistance and quick response! I will definitely be in touch if questions arise and will be sure to send you the results once the study is completed sometime next summer.

Sincerely,
Jason McDonald

_____

From: molly.killingsworth [molly.killingsworth@elmoreco.com]
Sent: Sunday, June 16, 2013 2:08 PM
To: jason_mcdonald@knights.ucf.edu
Subject: Re: New Email from Jason McDonald.

Of course- you can definitely use the survey. Also, I'm very interested in the results you get. Please share them with me upon completion of your work. Good luck in your studies. Let me know if I can be of further assistance.

Molly Killingsworth, Ph.D.
Sent from my iPad

On Jun 16, 2013, at 10:52 AM, "jason_mcdonald@knights.ucf.edu" <jason_mcdonald@knights.ucf.edu> wrote:

> Hi,
>
> Jason McDonald has sent you an email from Elmore County!
>
> MESSAGE :
>
> Dear Dr. Killingsworth,
>
> I am a doctoral student at the University of Central Florida and I am just
> beginning my dissertation work. I have taught Advanced Placement Human
> Geography for the past six years and have always wondered why so little
> minority students enrolled in the course. So, naturally, I was very
> excited to have found your dissertation work that addresses this equity
> gap for minorities in AP classes.
>
> I hope to replicate your study by focusing on suburban high schools in
> Central Florida. There is also a sizeable Hispanic population in Central
> Florida that I will examine. To conduct this research, would you allow me
> to use your PASS survey? Of course I will be sure to give you credit in

> my dissertation if you permit me to use your survey. If you would like I
> can also send you a final copy of my dissertation once it is completed. I
> have already contacted Dr. Cabezas asking for her permission as well as it
> appears that you two created this survey together.
>
> I appreciate any assistance that you can provide in my request to use your
> PASS survey. Please email me back at jason_mcdonald@knights.ucf.edu or
> call me at (407) 587-9007 if you have any questions.
>
> Thank you in advance for your assistance.
>
> Sincerely,
>
> Jason McDonald
> Doctoral Candidate
> University of Central Florida
>
> =======================================
>
> The information below can be used to track the message sender.
> Please report any abuse of the messaging service to you system
> administrator.
>
> Source IP Address: 142.196.18.173
> Browser ID: Mozilla/5.0 (Windows NT 6.2; WOW64) AppleWebKit/537.36 (KHTML,
> like Gecko) Chrome/27.0.1453.110 Safari/537.36
> Sent: 6/16/2013 10:38:01 AM
> Email Tracking Code: {9BEB3BF0-193F-4AB2-B352-0AA82CD9E6AD}
>
>
> --
> This message has been scanned for viruses and
> dangerous content by MailScanner, and is
> believed to be clean.
>

RE: Permission to Use PASS Survey

Cabezas, Christy, Dr., CIV, OSD/DoDEA-Americas <Christy.Cabezas@am.dodea.edu>

Sun 6/30/2013 9:56 PM

To:jason_mcdonald <jason_mcdonald@knights.ucf.edu>;

Hi Jason,
I apologize for the delayed response. It would be with great pleasure that you have my permission to use the PASS Survey. I look forward to your sending me an electronic copy of your dissertation upon completion. Best of luck with this very important work!

Christy

Christy Cabezas, Ph.D
Superintendent
DDESS GA/AL District
7441 Custer Rd Bldg 2670
Ft. Benning, GA 31905
706-545-7276

-----Original Message-----
From: jason_mcdonald [mailto:jason_mcdonald@knights.ucf.edu]
Sent: Sunday, June 16, 2013 11:34 AM
To: Superintendent, GAAL DSO
Subject: Permission to Use PASS Survey

Dear Dr. Cabezas,

I am a doctoral student at the University of Central Florida and I am just beginning my dissertation work. I have taught Advanced Placement Human Geography for the past six years and have always wondered why so little minority students enrolled in the course. So, naturally, I was very excited to have found your dissertation work that addresses this equity gap for minorities in AP classes.

I hope to replicate your study by focusing on suburban high schools in Central Florida. There is also a sizeable Hispanic population in Central Florida that I could examine as your research recommended. To conduct this research, would you allow me to use your PASS survey? Of course I will be sure to give you credit in my dissertation if you permit me to use your survey. If you would like I can also send you a final copy of my dissertation once it is completed. I also plan to contact Dr. Killingsworth asking for her permission as well as it appears that you two created this survey together.

I appreciate any assistance that you can provide in my request to use your PASS survey. Please email me back at jason_mcdonald@knights.ucf.edu <mailto:jason_mcdonald@knights.ucf.edu> or call me at (407) 587-9007 if you have any questions.

Thank you in advance for your assistance.

Sincerely,

Jason McDonald, Doctoral Candidate, University of Central Florida

Re: PASS Request

Killingsworth Molly <mkillingsworth@ALSDE.edu>

Sat 3/29/2014 6:04 PM

To:jason_mcdonald <jason_mcdonald@knights.ucf.edu>;

Sure, no problem at all. I'll let Dr. Cabezas know as well.

Sent from my iPad

On Mar 27, 2014, at 7:52 PM, "jason_mcdonald" <jason_mcdonald@knights.ucf.edu> wrote:

> Good evening Dr. Killingsworth,
>
> Thank you so much for your support thus far with my research. I have another request of you. My school district in Central Florida really likes your survey and they were wondering if they could use the PASS in subsequent years to help better understand this equity gap in AP enrollment for traditionally underserved students. Will you grant them permission to use this survey as long as they attribute the survey to you and Dr. Cabezas?
>
> Please let me know your thoughts about this and any concerns you may have. Also, I'll be sure to send my study to you once it is completed. Thanks again for all of your help.
>
> Sincerely,
> Jason McDonald
> UCF Doctoral Candidate
>
> Sent from my iPhone
>
> On Feb 10, 2014, at 11:55 AM, "Killingsworth Molly" <mkillingsworth@ALSDE.edu> wrote:
>
>> Good morning,
>> I attempted to send an email last night, but don't think it went through. I don't mind you making adjustments to the PASS instrument, just so long as it's still valid and reliable. Christy should be emailing you as well. Also, I've recently changed jobs, so this is my new email address. I work for the Alabama Department of Education now. I'm planning on continuing my research, so please forward a copy of your results to me. I'm very interested in them. Thanks, and good luck in your studies.
>>
>>
>> ----------
>> Molly Killingsworth, Ph.D.
>> Secondary Curriculum Supervisor
>> Elmore County Public Schools
>> 100 H.H. Robison Drive
>> P.O. Box 817
>> Wetumpka, AL 36092
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>> (334) 514-2810 (fax)

From: jason_mcdonald [jason_mcdonald@knights.ucf.edu]
Sent: Saturday, February 08, 2014 8:06 PM
To: supt.gaal.dso@am.dodea.edu; molly.killingsworth
Subject: PASS Request

Dear Dr. Killingsworth and Dr. Cabezas,

I want to thank you again for giving me permission to use your PASS in my dissertation. To review from last year, my study looks to add onto your previous research by examining how invitational theory affects minority student enrollment in Advanced Placement courses. I have completed chapters 1-3 and should finish writing chapters 4-5 by June and will email you both the results once I finish.

The school district in Florida that I am working with loves the idea of my dissertation and wants to use your survey as part of a district-wide senior exit survey for nine high schools in April. I am super thrilled with this as the response rate should be high and representative of the population, which will add to your previous research. However, the district asked if I would be able to shorten the PASS at all. How do you feel about me omitting some questions?

I would like to omit questions that may not be directly tied to my topic. I plan to use survey results from seniors who were deemed to have "AP Potential" after taking the PSAT as sophomores in 2011. So a question that I may eliminate might be #3 that asks students if a guidance counselor in middle school advised them about what courses to take when going into 9th grade, for example. I know that there are clusters of questions in the PASS that relate to the six "E's" of invitational theory, so I would not omit so many questions in a cluster that the PASS would fail to measure students' attitudes on one or more of the invitational elements. Do I have your permission to shorten the PASS slightly so as to please my district, but not so shortened that it ruins the integrity of your survey?

Please let me know your thoughts and any concerns that you may have about this request. I look forward to hearing back from you.

Sincerely,
Jason McDonald, Doctoral Candidate, University of Central Florida

APPENDIX C:
PROGRAM ACCESS STUDENT SURVEY (PASS)

Program Access Student Survey (PASS)

	Choose one response for each question.	5 Strongly Agree	4 Agree	3 Neither Agree or Disagree	2 Disagree	1 Strongly Disagree
1	A counselor or teacher advised me on the classes I signed up for this school year.					
2	My counselor or teachers talk to me about taking classes that match my skills.					
3	The classes I took in middle school prepared me to take AP classes in the 9th grade if I wanted to.					
4	I believe AP classes are open to any student who wants to register for an AP class if they have taken the required courses.					
5	I feel like all students have an equal chance of being scheduled into an AP class if they register for one.					
6	My teachers have high expectations for me in class.					
7	Administrators (principal and assistant principals) have high expectations for students in this school.					
8	My parents expect me to make good grades in school.					
9	My friends talk to me about making good grades in school.					
10	My counselor or teachers advise me by providing me with information that helps me choose classes that match my ability.					
11	My teachers challenge me in class.					
12	My academic classes (English, Math, Science, Social Studies) are too easy.					
13	If I struggle in classes, teachers offer extra help or support.					
14	I feel like I have the skills and ability to be successful in an AP class.					

15	A counselor or teacher has talked to my parents about the benefits of taking AP classes.					
16	My counselor has talked to me about the benefits of taking AP classes.					
17	My teachers have talked to me about the benefits of taking AP classes.					
18	Teachers influence my decision on which classes I should register for.					
19	My parent(s) influence my decision on which classes I should register for.					
20	My counselor influences my decision on which classes I should register for.					
21	My friends influence my decision on which classes I should register for.					
22	I try harder in class when my teacher encourages me to make good grades.					
23	I try harder in class when my parent encourages me to make good grades.					
24	I try harder in class when my friends encourage me to make good grades.					
25	I do NOT enjoy being in a class if none of my friends are in the class.					
26	My counselor or teachers talk to me about taking classes that match my interests.					
27	I am more likely to take an AP class if some of my friends are in there.					
28	I enjoy going to school.					

Qualitative	Please give a short, thoughtful response to the question below.
29	What can we do at this high school to encourage and support more students to take AP courses?

112

Demographics	Choose the one answer choice that best describes you.
30	How many <u>total</u> AP Exams did you take during your junior and senior years? 0 1 2 3 4 5 6 7 8 9 10+
31	What high school do you currently attend? -Crooms -Hagerty -Lake Brantley -Lake Howell -Lake Mary -Lyman -Oviedo -Seminole -Winter Springs

APPENDIX D:
PROGRAM ACCESS STUDENT SURVEY (PASS) INSTRUCTIONS

The purpose of this survey is for students to provide their opinion on Seminole County Public Schools' guidance and advisement process for enrolling students in Advanced Placement (AP) courses. This survey should take no more than 5 minutes to complete. Thank you so much for taking this survey as your opinion is highly valued by Seminole County Public Schools!

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