

**Assessing Equity in Advanced Programs through an
Invitational Theoretical Perspective**

by

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Abstract

An enrollment gap in advanced courses (Honors and Advanced Placement) for Black and economically disadvantaged students as compared to their White counterparts (College Board, 2010; Klopfenstein, 2004a; Lubienski, 2002; Taliaferro & DeCuir-Gunby, 2008) has been identified in research studies but few large scale studies exploring this gap from the perspectives of both students qualified and unqualified for advanced courses exist (Klopfenstein, 2004a; Taliferro & DeCuir-Gunby, 2008). Quantitative methods were used in this current study to examine the enrollment gap in advanced courses between Black and economically disadvantaged students as compared to White advantaged students. Participants included 1,462 students from two rural high schools in Georgia. The Program Access Student Survey (PASS) was researcher developed (Cabezas & Killingsworth, 2010). Invitational theoretical framework on the six elements for inviting diversity (Schmidt, 2007) and a thorough literature review guided development of the survey items that assessed students' perceptions on equity, expectation, enlistment, empowerment, encouragement, and enjoyment. The following methods were used to establish validity of the survey: expert feedback, focus group, and a pilot test. Exploratory factor analysis supported a one-factor structure for the PASS. Additionally, one-way analysis of variance (ANOVA) was the method used to measure the relationship between mean scores from the PASS and student enrollment in advanced courses. Results from the PASS indicated that there was a statistically significant difference in the perception of receiving inviting messages between Black, White, and

low socioeconomic (SES) students who were enrolled in Honors and AP courses and Black, White, and low SES students who were not enrolled in Honors and AP courses. In conclusion, students who participated in advanced courses had the perception of receiving inviting messages more than students who never participated in Honors or AP. Finally, the disparity index indicated that Black and economically disadvantaged students were underrepresented in advanced programs and were therefore less likely to receive inviting messages related to advanced programs than White students. Recommendations for closing the enrollment gap are presented as well as suggestions for future research.

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Finally, I dedicate this dissertation to my father who inspired me to fall in love with writing. His words of encouragement lived within me as I sat and wrote this dissertation at the old oak desk where he once wrote.

Table of Contents

Abstract.....	ii
Acknowledgments.....	iv
List of Tables	ix
List of Figures	xi
Chapter I. Introduction.....	1
Background	1
Problem.....	3
Purpose of Study	6
Research Questions.....	6
Significance of Study.....	7
Definitions of Key Terms	8
Limitations	9
Assumptions.....	10
Summary.....	10
Chapter II. Review of Literature.....	12
Effects of Tracking	14
Social Justice Leadership.....	19
Theoretical Framework	24

Six Elements for Inviting Diversity	31
Equity	32
Expectation	38
Enlistment	43
Support Efforts.....	45
Empowerment.....	48
Encouragement	49
Enjoyment.....	52
Summary.....	53
Chapter III. Methods.....	55
Introduction	55
Research Questions.....	56
Hypotheses	57
Null Hypotheses.....	57
Design of Study.....	58
Participants.....	58
Instrumentation	59
Validity	61
Reliability.....	63
Data Collection Procedures.....	64
Data Analysis	65
Research Questions.....	66
Summary.....	70

Chapter IV. Results	72
Problem	72
Demographics of Participants	75
Results.....	77
Survey Instrument: Data Screening	77
Survey Instrument: Factor Analysis	78
Survey Results	86
Comparing Mean Scores from PASS	90
Summary.....	101
Chapter V. Summary, Conclusions, and Recommendations	102
Summary of the Study	102
Discussion — Survey Instrument	103
Implications and Recommendations — Survey Instrument	105
Discussion — PASS Results.....	106
Disparity in Enrollment.....	109
Influence and Advocacy	110
Expectation	114
Student Perceptions.....	116
Implications for School Leaders and Recommendations.....	117
Concluding Remarks.....	123
References.....	124
Appendix A: Program Access Student Survey	134

Appendix B: Survey Instructions.....	137
Appendix C: IRB Approval	138

List of Tables

Table 1	Georgia – Participation and Achievement on AP Exams	4
Table 2	Disparity Index by Demographic Subgroups.....	74
Table 3	PASS Participants: Demographics.....	76
Table 4	EFA – Extraction Sums of Squared Loadings	80
Table 5	Principal Component Factor Analysis – One Factor Expected	83
Table 6	Mean Scores for PASS Results.....	87
Table 7	Levene’s Test: AP Enrollment.....	92
Table 8	Descriptive Statistics: AP Enrollment	92
Table 9	One-way ANOVA: AP Enrollment	93
Table 10	Levene’s Test: Honors Enrollment	94
Table 11	Descriptive Statistics: Honors Enrollment.....	94
Table 12	One-way ANOVA: Honors Enrollment.....	95
Table 13	Levene’s Test: Advanced Course Enrollment (Black Students).....	96
Table 14	Descriptive Statistics: Advanced Course Enrollment (Black Students)	96
Table 15	One-way ANOVA: Advanced Course Enrollment (Black Students).....	97
Table 16	Levene’s Test: Advanced Course Enrollment (White Students)	98
Table 17	Descriptive Statistics: Advanced Course Enrollment (White Students).....	98
Table 18	One-way ANOVA: Advanced Course Enrollment (White Students).....	99
Table 19	Levene’s Test: Advanced Course Enrollment (Low SES Students).....	100

Table 20 Descriptive Statistics: Advanced Course Enrollment (Low SES Students) ..100

Table 21 One-way ANOVA: Advanced Course Enrollment (Low SES Students)101

List of Figures

Figure 1	Number of students enrolled in Georgia public high schools and in AP.....	5
Figure 2	External and Internal Inviting Messages for Diversity.....	29
Figure 3	EFA: Scree Plot – Kaiser’s Rule.....	81

CHAPTER I. INTRODUCTION

Background

Honors and Advanced Placement (AP) courses are options made available to high school students in schools that offer these types of advanced content courses. Honors and AP courses generally serve students who are identified as gifted or non-gifted students who have been identified as high achieving (Herr, 1992). Advanced Placement courses follow the curriculum subscribed by the College Board which mirrors the curriculum found in entry level college courses (College Board, 1999). Students who enroll in AP programs experience teachers who are trained to teach rigorous and challenging curriculum, introducing students to college level courses (College Board, 2002a). The College Board (1999) noted that students benefit from taking challenging curriculum and coursework (College Board, 2000, 2000, 2003), even after taking socioeconomic status, aptitude, and students' prior achievements into consideration. Students who are exposed to challenging and rigorous curriculum in high school are more likely to be accepted to post-secondary schools and complete the college or university program at a higher rate than those who do not participate in challenging high school courses (College Board 1999, 2002a; Darity, Castellino, Tyson, Cobb, & McMillen, 2001; DeCuir & Dixon, 2004). An additional benefit to students enrolled in AP classes is that they have the option of taking an AP exam at the end of the course. Students who score a three or higher on an AP exam are considered successful and may have the opportunity to earn

college credit for these high school courses (College Board, 2008) and are more likely to graduate with a bachelor's degree at a higher rate than their non-AP counterparts (Burdman as cited in Klopfenstein, 2004a; College Board, 2010).

The College Board (2002a) reported figures from 1998 showing that only 4% of the African American high school population participated in AP Calculus in comparison to a 67% participation rate for White students. AP participation in 2001 for Black students was at 4.8% compared to a 65.6% participation rate for White students (College Board, 2002b). Based on AP enrollment data reported by the College Board in 1998, 2001, and 2005, Black students continued to be disproportionately enrolled in AP courses years later. The College Board (2010) 6th Annual AP Report to the Nation released student data relevant to the graduating class of 2009 revealing that across the 50 states there was a 13% increase in the number of African American and Latino students who scored a three or higher on an AP exam in math, science and English (College Board, 2010). Although gains were made across the Nation, the enrollment gap for Black and economically disadvantaged students, specific to Georgia, will be explored. Latino students were not included in this study specifically due to the low number of Latino students enrolled in the school districts that participated in the data collection for this study.

Invitational theory was the framework used in this current study to examine the enrollment gap in advanced courses for Black and economically disadvantaged students. According to Hunter and Smith (2007), educational invitational theory “is a theory of practice for communicating caring and appropriate messages to facilitate individuals to achieve to their full potential as well as for identifying and changing those forces in

schools which would defeat and destroy potential” (p. 8). The foundation of invitational theory provided a framework for assessing inequities found in advanced programs in order to identify barriers that must be overcome in schools so that all students have an equal opportunity to reach their full potential.

Problem

In Georgia, there is a disparity in enrollment in Honors and Advanced Placement (AP) courses for Black students as compared to their White counterparts. The Georgia AP State Report for 2009 showed a 19% participation rate for Black students compared to 60% for White students (College Board, 2009), although Whites comprised 46% of the student population in Georgia and Blacks 38%. Research supports that students who experience rigorous courses, such as Honors and AP, are more likely to see an increase in achievement and will be college ready (College Board 1999, 2002a, 2010; Darity, Castellino, Tyson, Cobb, & McMillen, 2001; DeCuir & Dixson, 2004). Although Honors and AP courses are offered at many high schools across Georgia, students from all social classes and backgrounds have not always benefited from these course offerings. Significant inequities in enrollment in AP programs persist and derail opportunities to be college ready for traditionally underserved populations (College Board, 2010).

Specific to Georgia, the enrollment gap between Black and White students continue to persist, as well as the percent of students who score a three or higher on the AP exam. Table 1 displays the AP enrollment and achievement gap for students in Georgia public schools. Steady gains in enrollment in Georgia public schools were evident over a seven year period of time. Although the percent of Black students enrolled in Georgia public schools remained the same from 2003–2009, the actual number of

Black students increased. Likewise, the actual number of students who took an AP exam in Georgia increased from 2003–2009. The AP participation rate for Black students in 2009 was at 19% in comparison to White students at 60% as measured by the number of students who took an AP exam. An equity gap is evident when traditionally underserved students comprise a smaller percentage of students participating in AP than the percentage of students represented (College Board, 2010).

Table 1

Georgia – Participation and Achievement on AP Exams

	2003	2004	2005	2006	2007	2008	2009
# Students Enrolled							
in GA Public Schools (grades 9–12)*	407,451	419,430	435,058	453,015	462,649	471,012	470,108
% Black	38%	38%	38%	38%	38%	38%	38%
% White	52%	51%	49%	48%	47%	46%	46%
# Students Who Took							
AP Exam in GA**	27,870	30,610	36,358	43,699	49,448	57,115	63,824
% Black	14%	16%	16%	17%	18%	18%	19%
% White	70%	67%	66%	64%	62%	62%	60%
# Students Scoring 3							
or Higher on AP Exam in GA**	27,168	29,049	33,618	39,297	43,719	48,996	56,416
% Black	28%	27%	25%	24%	24%	24%	26%
% White	64%	65%	64%	62%	62%	60%	61%

*Governor’s Office of Student Achievement, 2009; ** College Board State Reports, 2003–2009

Figure 1 displays trend data for the total number of students enrolled in Georgia public high schools and the number of students enrolled in AP courses as measured by participation on AP exams (College Board AP State Annual Reports, 2009; Governor’s Office of Student Achievement, 2009). If the AP enrollment gap was decreasing between Black and White students in Georgia, the trend line would show Black students enrolling in AP at a faster rate than White students. However, data in Figure 1 display trend lines indicating that White students were enrolling in AP at a faster rate than Black students.

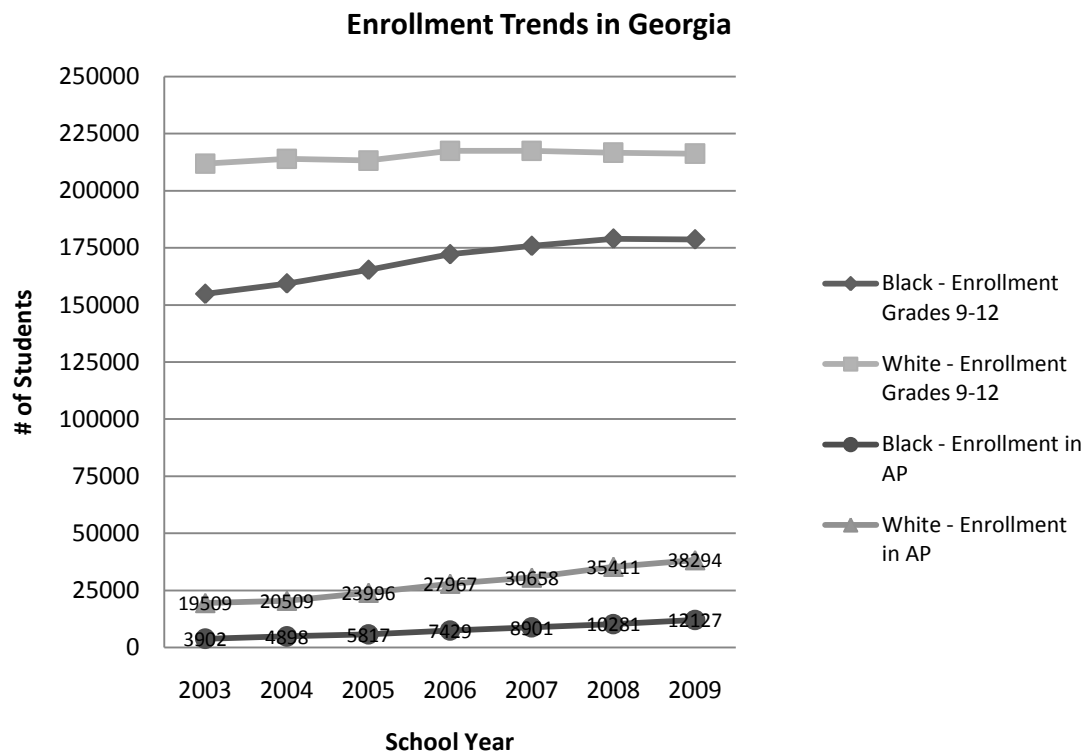


Figure 1. Number of students enrolled in public high schools and AP courses in GA

Three trends from Figure 1 are noted: (1) the number of Black students enrolled in Georgia Public Schools in grades 9–12 increased while enrollment for White students stayed fairly steady, (2) the number of Black and White students participating in AP

increased in Georgia from 2003–2009, and (3) the AP enrollment gap for Black students as compared to White students widened by 25% from 2003 to 2009.

Purpose of Study

As schools attempt to find ways to close the AP enrollment gap for Black students as compared to their White peers it is relevant to investigate how the messages students receive from schools, parents, and peers are determinants for AP enrollment. The primary purpose of this study is to explore reasons for the enrollment gap from the student perspective. Addressing this purpose required 1) developing a survey, and 2) examining differences in inviting messages students receive based on enrollment status in advanced courses. Students' perspectives will be measured through the *Program Access Student Survey* (PASS) instrument for students who participated in advanced courses (Honors and/or AP) and those who have not.

Research Questions

1. What number of factors in the *Program Access Student Survey* (PASS) are identified through exploratory factor analysis procedures?
2. Is there a relationship between AP enrollment and inviting messages?
3. Is there a relationship between Honors enrollment and inviting messages?
4. Is there a difference in mean scores for inviting messages between Black students who were enrolled in advanced courses and Black students who were not enrolled in advanced courses?
5. Is there a difference in mean scores for inviting messages between White students who were enrolled in advanced courses and White students who were not enrolled in advanced courses?

6. Is there a difference in mean scores for inviting messages between economically disadvantaged students who were enrolled in advanced courses and economically disadvantaged students who were not enrolled in advanced courses?

Significance of Study

There is a need for an expansion of understanding students' lived experiences and their perspectives in order to develop sustainable strategies to recruit traditionally marginalized populations into Honors and AP courses. This present study will examine the relationship between inviting messages students receive and enrollment in Honors and/or AP courses. Research from this current study may enlighten school leaders, teachers, counselors, and policy makers on how messages students receive from schools, parents, and peers relate to initial determinants for enrolling in Honors and/or AP courses. Understanding how inviting and uninviting messages students receive affect their decision for enrolling in advanced content courses creates the potential for school leaders to make informed decisions to evaluate current policies and implement reform initiatives to address the disparity in advanced course enrollment for Black and economically disadvantaged students. Additionally, this study addressed gaps found in literature reviews by providing a larger scale study using student perspectives, from both students who qualify for advanced courses and those who do not, to assess determinants for enrollment in advanced courses through an invitational theoretical perspective (Klopfenstein, 2004b; Lubienski, 2002; Schmidt, 2007; Taliaferro & Decuir-Gunby, 2008).

Definitions of Key Terms

Advanced Courses: Honors and Advanced Placement courses are more rigorous than regular college preparatory courses. Honors courses typically follow the same curriculum as college preparatory courses but are differentiated with tasks that require higher order reasoning skills. Advanced Placement courses are modeled upon a comparable college course and the curriculum is approved by college faculty who serve on panels through the College Board.

AP Exam Success: Students who score a three or higher on an AP exam are considered successful. A score of three or higher is indicative of college success and college graduation (College Board, 2010).

AP Participation: For purposes of this study, AP participation is measured by exam participation reported in the College Board State and Nation Annual Reports. Students who are enrolled in AP courses but do not take the AP exam are not reported as participants by the College Board (College Board, 2010).

Economically Disadvantaged: Identified as students who receive free or reduced lunch.

Messages: Invitational theory proposes that messages can be sent by people, places, policies, programs, and processes. These five factors have the potential to send positive or negative messages to students (Schmidt, 2004). Internal messages are messages students receive from within the school from teachers, administrators, counselors, peers, the school culture, policies, procedures, the school environment, expectations, etc. External messages are messages students receive outside of school from parents, siblings, life experiences, etc.

Program Access Student Survey (PASS): A survey instrument used to assess students' perceptions on receiving inviting messages related to equity, expectation, enlistment, empowerment, encouragement, and enjoyment.

Six Inviting Elements of Diversity: Schmidt (2007) proposed six elements of diversity — equity, expectation, enlistment, empowerment, encouragement, and enjoyment — as a framework that researchers can use to assess relationships and behaviors found within organizations in terms of inviting and disinviting messages. For the purpose of this study, Schmidt's proposed six elements of diversity will be referred to as “elements for inviting diversity.”

Limitations

Limitations for this study include accuracy of the number of students who participated in advanced placement courses, student demographics, and generalization beyond the two schools that participated in the PASS. The number of students enrolled in AP courses is reported by the College Board and may not accurately reflect student enrollment in the courses. These numbers are generated from the number of students who take an AP exam. The actual number of students who are enrolled in AP courses may differ due to the option students have for participating in an AP course and not taking an AP exam. Additionally, students may take an AP exam even if they are not enrolled in an AP course in high school. Students self-report ethnicity and socioeconomic status on the PASS and on AP exams. Therefore, AP participation and results from the PASS reported by ethnicity is based on students reporting their ethnicity accurately.

This current study is representative of a small number of rural school districts in Georgia; therefore, there should be no generalization beyond the school districts participating in the PASS. Finally, the six inviting elements for diversity (equity, expectation, enlistment, empowerment, encouragement, and enjoyment) is a suggested framework to assess relationships and behaviors in an organization through an invitational theoretical perspective. This current study does not investigate other variables outside of this framework that could send positive or negative messages to students that could affect determinants for enrollment in AP courses for diverse populations.

Assumptions

Recommendations from researchers and the College Board have charged schools to increase enrollment in advanced courses for Black and economically disadvantaged students. The PASS is a researcher developed instrument used to collect data from students' perspectives to determine if there is a relationship between inviting messages and enrollment in advanced courses. The researcher is assuming that respondents will answer questions on the PASS honestly and that data collected from the PASS is valid and reliable.

Summary

Chapter I provided an introduction to the study, the research problem, purpose of the study, research gaps in the literature, research questions, significance of the study, key terms, limitations, and assumptions. Research indicated that an enrollment gap in advanced courses exist in Georgia for Black and economically disadvantaged students as compared to their White counterparts. An invitational theoretical framework was used to

develop a survey (Cabezas & Killingsworth, 2010) to collect data from the student perspective. The primary purpose of this study is to examine the relationship between inviting messages and enrollment in advanced courses for students who participated on the PASS.

Chapter II provides a review of the literature regarding the effects of tracking, social justice leadership, invitational theory, and the six elements for inviting diversity and their relationship to advanced course enrollment for high school students. Chapter III presents the design of study, description of participants, instrumentation, data collection procedures, and a plan for data analysis. Chapter IV provides a statistical analysis for each research question with graphs and tables that report statistical values. Finally, Chapter V includes a brief overview of the importance and purpose of the study, an interpretation and discussion of the results from statistical analyses, and recommendations for future research.

CHAPTER II. REVIEW OF LITERATURE

Data from the Georgia AP State Report for 2009 indicated that there was a 19% participation rate for Black students compared to 60% for White students (College Board, 2009), although Whites comprised 46% of the student population in Georgia and Blacks 38%. There is a need to explore the enrollment gap that exists in advanced programs for Black and economically disadvantaged students in Georgia public schools. The foundation of the theoretical framework of invitational theory is a natural segue into assessing the inequities found in advanced programs in order to identify barriers that must be overcome in schools so that all students have an equal opportunity to reach their full potential. According to Hunter and Smith (2007), educational invitational theory “is a theory of practice for communicating caring and appropriate messages to facilitate individuals to achieve to their full potential as well as for identifying and changing those forces in schools which would defeat and destroy potential” (p. 8).

Schmidt’s (2007) review of literature found that research on diverse populations through an invitational theoretical perspective was virtually nonexistent and that “perhaps what researchers and practitioners of invitational theory require is a schema or method by which to examine behaviors or other variables within multi-cultural and diverse contexts” (p. 17). Schmidt (2007) proposed six elements of diversity — equity, expectation, enlistment, empowerment, encouragement, and enjoyment — that researchers can use to

assess relationships and behaviors found within organizations in terms of inviting and disinviting messages.

For the purpose of this study, Schmidt's proposed six elements of diversity will be referred to as "elements for inviting diversity." The six elements for inviting diversity guided this current investigation by assessing factors that contributed to initial determinants for students' decisions to enroll in Honors and advanced placement courses. As suggested by several researchers, there is a need for research to explore equitable diversity in programs (Schmidt, 2007) and more specifically, the disparity in enrollment for advance programs (Klopfenstein, 2004a; Lubienski, 2002) through student voice (Jones & Yonezawa, 2002; Taliaferro & Decuir-Gunby, 2008; Whiting, 2009). This present study is intended to fill the gap in research by developing a survey grounded in invitational educational theory to assess and examine how internal and external messages students receive relate to enrollment in advanced programs for Black, White, and economically disadvantaged students.

The literature review and the survey instrument were centralized around the schema of the six elements for inviting diversity formed on the foundation of invitational theory (Schmidt, 2007). The first section of the literature review focuses on the effects of tracking. The second section reviews inclusive practices of social justice leaders who created structures to obtain equitable learning opportunities for students in schools. The third section contains information on the framework of invitational theory. Finally, the remaining sections focus on research that describes contributing factors for the enrollment gap found in advanced programs; which will be bound within themes by the

six elements for inviting diversity: equity, expectation, enlistment, empowerment, encouragement, and enjoyment.

Effects of Tracking

The federal government implemented Title I as one of the largest social programs in the 1960's to symbolize commitment to "equality" – to ensure that all children have the opportunity to obtain a high-quality education and reach proficiency on challenging state standards and assessments (Borman, 2000; Stullich, Eisner & McCrary, 2007; Wong & Meyer, 1998). "During an era in which civil rights and desegregation attained levels of profound national significance, Title I served as an unprecedented symbol of the federal commitment to equality of educational opportunity" (Borman, 2000, p. 27). The Title I program was designed to close the achievement gap between students who were economically disadvantaged and their advantaged peers (U.S. Department of Education [U.S. DOE], 2006). Since that time, the reforms introduced into the Elementary and Secondary Education Act by the No Child Left Behind Act of 2001 went into effect in the 2002–2003 school year (Stullich, et al., 2007). The No Child Left Behind Act (NCLB) Act of 2001 was intended to strengthen Title I accountability among schools whose students are not reaching proficiency in reading and mathematics in order to increase student achievement for all students and more specifically for students who are typically low achieving (Stullich, et al., 2007; U.S. DOE, 2006). Since the inception of NCLB, school leaders have been under high scrutiny to increase student achievement across all ethnicities and social classes.

Fusarelli (2004) conducted a study on the potential impact of No Child Left Behind Act on equity and diversity in education. This study defined educational equity

as all students having an equal opportunity to reach academic proficiency as measured by reading and mathematics for each subgroup to include: all ethnic groups, students with disabilities, English Language Learners, and students from low socioeconomic backgrounds (Fusarelli, 2004). Social justice researchers expand the definition of equity from a movement of creating equal opportunity through inclusionary practices (Anderson, 2001; Theoharis, 2007) to the achievement of equal results (Alexander, 2006). Additionally, the achievement of educational equity can be measured through outcomes such as test scores and pass rates where students from all subgroups meet benchmark competencies (Alexander, 2006; Darling-Hammond, 2007; St. John, 2007) as well as through equitable outcomes as measured by retention and graduation rates (St. John, 2007). For the purpose of this present study, equity was measured by participation in advanced curricular programs for Black and economically disadvantaged students as compared to White students.

Social justice researcher, George Theoharis (2009), conducted a qualitative study exploring the effects that tracking had on student achievement for traditionally marginalized students. Theoharis followed seven principals who practiced social justice leadership and studied their efforts to overcome the negative impact that tracking had on their students. His study concluded that not all students have equal access to a rigorous curriculum and that more inclusive practices have a significant impact on increasing learning for traditionally marginalized populations (Theoharis, 2009). Additionally, Theoharis (2009) stated that while providing access, inclusion, and opportunities to all students creates greater equity, that alone is insufficient for advancing student achievement “if the teachers do not have the will or skills to reach each student” (p. 46).

Similar results were found in Hallinan's (1992) study on the detrimental effects of tracking in middle schools. Hallinan (1992) reported that the consequences of tracking students into lower courses caused differences in ability levels, which created a source of unequal learning opportunities for students. Consequently, Taliaferro and DeCuir-Gunby (2008) reported that early tracking was responsible for the low participation rate of Black students in advanced placement (AP) courses.

A study on schools that changed their tracking practices and made a rigorous curriculum available to all students saw a decrease in the achievement gap for Black students as measured by scores from reagents exams (Burriss & Welner, 2005). Burriss was a school principal who moved toward the inclusive practice of grouping students heterogeneously in advanced content for core courses. Her school not only made advanced content accessible to all students but they also provided additional academic support. Burriss and Welner (2005) suggested that this type of reform "confirms common sense: closing the 'curriculum gap' is an effective way to close the achievement gap" (p. 598). Results from additional studies on tracking support the notion that students who are tracked into more advanced classes tend to learn more than do students who are tracked into regular or remedial courses due to higher quality instruction (Clotfelter, Ladd, & Vigdor, 2005; Lubienski, 2002; Temple, 2006; Yonezawa & Jones, 2006) and access to a more rigorous and challenging curriculum (Burriss & Welner, 2005; DeCuir & Dixson, 2004; Hebert & Reis, 1999; Klopfenstein, 2004b; Temple, 2006).

Researchers blame poor teacher quality (Borman, & Kimball, 2004; Haycock, 1998, 2001; Lubienski, 2002; Temple, 2006), tracking or course taking (Burriss & Welner, 2005; Carbonaro, 2005; Lubienski, 2002; Singham, 2003; Solorzano & Ornelas, 2004;

Taliaferro & Decuir-Gunby, 2008), lack of pre-requisite skills (Ferguson & Kennedy, 2001), racialized peer pressure (Ford, 1998; Fordham & Ogbu as cited in Tyson & Darity, 2005; Lee, 2002), and socioeconomic and family conditions (Ladson-Billings, 2006; Lee, 2002) as factors that contribute to the achievement gap between Black students and their White counterparts. Specific to tracking, other researchers agreed that a negative consequence of low-track course taking was lower academic achievement; which fell disproportionately on minority students (Burriss & Welner, 2005; DeCuir & Dixson, 2004). The issue of access and inequity in Honors and advanced placement courses continues to be a challenge and requires attention by school leaders to create initiatives to increase enrollment for traditionally underserved populations (College Board, 2010). The purpose of this study is to explore reasons for the enrollment gap and to provide research to support initiatives for increasing enrollment in Honors and AP courses for traditionally underperforming students which has the potential to be one of many factors to equalize learning opportunities and academic results. There have been published studies that provided strategies to increase enrollment for minorities into advanced courses but very few of those studies provided data from the student's perspective on their decision for enrolling or not enrolling in advanced courses. Student perspective is a missing component of research on reasons why students are or are not enrolled in AP courses (Klopfenstein, 2004a).

There are a few qualitative studies in regard to tracking and course taking that report student voice (Angus, 2006; Peterson, 2008) but large scale assessments from the student perspective remain virtually nonexistent. Despite the emphasis on equality in the No Child Left Behind Act, surprisingly little research explores students' perspectives for

enrollment decisions in advanced course taking to address the disparity in advanced course enrollment for traditionally underserved populations (Klopfenstein, 2004a; Taliaferro & Decuir-Gunby, 2008). It is important that schools learn “from” rather than just “do to” students to create sustainable change that positively impacts student learning outcomes.

Previous research studies suggested that schools would be better equipped to reform current policies and practices to increase access to advanced programs for traditionally underserved student populations if the enrollment gap was examined from the student perspective (Jones & Yonezawa, 2002; Whiting, 2009). There is a need for an expansion of understanding students’ lived experiences and their perspectives in order to develop sustainable strategies to recruit and support traditionally marginalized populations in Honors and AP courses. It is especially important to assess student perspectives to understand the advanced course enrollment gap since student voice can be a powerful tool in shaping policy and educational reform efforts (Jones & Yonezawa, 2002; Whiting, 2009). Others confirmed the importance of student voice:

It is the duty of school leaders and all teachers to do more than merely invite student voice. There is a moral responsibility for leaders and teachers to invoke student voice — to insist upon, inquire into, try to understand, interrogate, and generate student voice as best they can. The important thing is the attitude and belief that students have voices and opinions and wisdom that is to be respected. The aim is to develop ‘emancipatory leadership’ so that the voices, values, cultures, and actual life circumstances of students are respected, engaged with,

and are incorporated into the life of the school in curriculum and teaching practice. (Angus, 2006, pp. 378–379)

Understanding the many issues students face when making decisions to enroll in advanced courses in high school, from the perspective of both students who are and are not enrolled in advanced courses, will provide insight into factors that can be addressed to equalize access to advanced courses for all students (Taliaferro & Decuir-Gunby, 2008). Unfortunately, often times student beliefs and opinions do not play a central role in the development of policies and reform efforts for detracking.

Social Justice Leadership

School leaders who demonstrate social justice beliefs, values, and practices to overcome structures, policies, and barriers that lead to inequity in learning opportunities for traditionally marginalized students are leaders who work toward creating socially just schools. A characteristic of a social justice leader is one who acknowledges that a school cannot be great until the students who traditionally struggle are given the same rich academic opportunities as their more privileged peers (Theoharis, 2009). As school leaders dig deeper into data to analyze gaps that exist between Black and White students, they must also possess the knowledge and perseverance to address barriers that have been in practice for many years; which are not easily overturned. Specifically, understanding barriers that have led to the underrepresentation of Black and economically disadvantaged students in advanced programs, according to the four tenets of social justice leadership as defined by Theoharis (2009), could better enable school leaders to (1) reform current practices and policies to create equal opportunity and access, (2) rectify inequities for traditionally marginalized populations, (3) regard and treat people as

individuals, and (4) ensure equality of treatment for students. Other researchers define a social justice leader as one who seeks to increase academic achievement for all students (Jones & Yonezawa, 2002; McKenzie et al., 2008), to prepare students to be able to use their skills to challenge injustices (McKenzie et al., 2008) and to maintain inclusive practices so that all students have access to a rigorous and engaging curriculum (Jones & Yonezawa, 2002; McKenzie et al., 2008).

Literature from several social justice researchers have supported that inclusive practices equalize access to a rigorous curriculum and are necessary to attain high levels of academic achievement for all students (Jones & Yonezawa, 2002; Theoharis, 2009). The definition of social justice leadership would suggest that schools should be aware, acknowledge, and discuss inequitable practices between students from different ethnicities and social classes in order to change current practices that continue to hinder the advancement of traditionally marginalized populations in schools. Shields' (2004) study confirmed this stance:

An educational framework for social justice must value, rather than ignore, diversity. Moreover, when educators protest that they are color-blind, that we are all members of the human race and hence are all the same, they are actually denying the very differences that were the impetus behind the statement in the first place. Thus, silence about color and culture leaves some children's traditions and tacit knowledge valued and validated and others' excluded. It becomes more difficult to "make sense of things" and humanity becomes bland and colorless. (pp. 118–119)

In essence, silence about race sends messages to students and educators that determining how the traditional educational setting affects academic advancement for students from different ethnicities is not worthy of discussion.

Theoharis (2009) studied principals who were practicing social justice leaders and found that a common characteristic among these principals included having serious and difficult conversations using data to discuss achievement by race and social class to bring attention to structures and practices that negatively impacted student achievement. If administrators are not having conversations about the achievement of students who are traditionally marginalized, then their silence sends messages to students and teachers that they are not worthy of discussion. This stance is supported by research from Shields (2004) on the effects of silence regarding poverty in schools:

When we close our eyes and our mouths, we are giving children a clear and strong message: Your experience is not normal; it is something to be ashamed of. You do not only need to struggle with your life circumstances, you need to hide them so no one will know your reality. We are sending the implicit message that middle-class experience is the only valid foundation on which to build in school sense-making conversations and relationships. (p. 121)

Generally, people do not want to engage in uncomfortable conversations that do not reflect their “norms.” Conversations that school leaders have with students and teachers generally mean that the topic of discussion is important and warrants attention. A study on leading change in schools with high poverty rates suggested that sending the message that “all individuals” matter is a necessary component for improvement efforts (Harris, 2006). Building relationships with students requires conversations and those

conversations should include the student's reality. By doing so, the educator starts building the foundation for a relationship that sends the message to the student that they are important and that their education matters regardless of their socioeconomic status. It is not enough for educators to simply look at policies and practices that inhibit students from taking advantage of opportunities that are provided through advanced academic programs but they must invite students to be active participants to be involved in restructuring practices and reforming of policies. The students' perspectives are their reality and unless their input is sought and utilized, educators run the risk of creating new policies or structures that continue to produce unintentional harmful consequences; building a greater divide in the enrollment gap in advanced programs.

Leaders can demonstrate their commitment to equity by facilitating discussions regarding academic achievement by subgroups to identify inequities in course taking, academic achievement, and program practices and policies. Leaders and teachers must acknowledge that these inequities exist before school reform can be initiated to implement interventions to create socially just schools. Ignoring inequities found in schools among different social classes and ethnic populations will perpetuate and maintain non-inclusive practices, such as tracking, that have been reported by research as a practice that results in lower student academic achievement. Studies show that minorities and economically disadvantaged students are underserved in Honors and advanced placement courses and are traditionally placed into remedial courses at a higher rate than their more advantaged White peers (Burriss & Welner, 2005; DeCuir & Dixson, 2004).

Social justice leaders are aware of the need for change and act on their desire to overcome forces that encroach upon equalizing access to advanced curriculum for traditionally marginalized student populations. Social class and ethnicity should not be a determining factor of who has access to a rigorous and relevant curriculum. Schools that have a disparity in enrollment for advanced courses cannot be considered just schools as suggested by Shields:

A system of education that is just will ensure equity of access, making available to all children programs that meet their cultural, social, and academic needs (to name a few), giving all children access to the curriculum through the inclusion of their lived experiences; it will offer to all children, regardless of family background, academically challenging programs that can lead to university, college, or a desired workplace. (2004, p. 124)

Theoharis' (2009) study supported Shields' idea that socially just schools require administrators to eliminate structures that marginalize and segregate students from academic rigor by providing structures that create access and inclusive practices. Each of the principals in Theoharis' study had a sense of urgency to eliminate segregated programs so that all students had access to a rigorous curriculum. Many of the principals gathered data from students through surveys and conversations about their interests and school experiences in order to develop strategies and structures that supported inclusive practices. Students who are included in "conversations of schooling" experience greater success, increased academic self-concept, and receive messages that make them feel a sense of belonging (Shields, 2004). Seeking ways to include the voices of leaders, educators, and students from diverse cultures and social classes is a necessary component

of collecting multiple perspectives to inform change and create sustainable reform. The analysis of data on enrollment gaps itself is not enough but leaders must go beyond being informed and challenge traditional norms to extract barriers that hinder inclusive practices so that students from different ethnicities and social classes have equal access and opportunities to achieve in advanced courses that traditionally serve more White advantaged students.

The intention of including social justice leadership theory in this study was to raise awareness that school leaders who seek to acquire just schools will also see the connection to the importance of ensuring that students have equal access to a rigorous curriculum through enrollment in Honors and advanced placement courses as supported by research (Jones & Yonezawa, 2002; McKenzie et al., 2008; Theoharis, 2009). Theoharis (2009) contended that the number one characteristic of social justice leaders is that “leaders must believe in their core that students learn best when they are educated in heterogeneous educational settings” (p. 11). Finally, leaders have the opportunity to empower students by sending the message that every student’s education matters and that multiple perspectives through student voice is an indispensable commodity for school reform efforts to overcome social injustices such as the disparity in enrollment for advanced placement programs.

Theoretical Framework

Several researchers have agreed that when students are engaged in dialogue, they have a sense of belonging which has a positive effect on school improvement (Harris, 2006; Peterson, 2008), student achievement (Angus, 2006; Shields, 2004; Theoharis, 2009), and academic self-concept (Angus, 2006; Shields, 2004). Educators should

encourage the use of student voice to learn how messages students receive from teachers, administrators, and other students can advance a sense of belonging to increase academic achievement and academic self-concept. Research on social justice leadership suggested that educators send messages to students either through silence or by including them as active participants in educational reform (Angus, 2006; Shields, 2004). Additionally, the processes and practices of sending and receiving messages “to facilitate individuals to achieve to their full potential as well as for identifying and changing those forces in schools which would defeat and destroy potential” are traditional thought processes grounded in invitational educational theory (Hunter & Smith, 2007, p. 8). A blend of theories and practices from the invitational educational theoretical framework in combination with the tenets of social justice leadership yields essential components school leaders can use to foster and celebrate diversity and equitable practices in schools.

Founded under the assumptions of perceptual psychology and self-concept theory (Hunter & Smith, 2007; Pajaras, 2001; Schmidt, 2004), invitational theory “acknowledges the power of human perception and its impact on self-development” (Schmidt, 2004, pp. 27–28). Perception is linked to messages that students receive from themselves and others under which they develop beliefs; bridging their perception and interpretation of the meaning of those messages (Pajares, 2001). “Theorists contend that people can intentionally send uplifting and empowering messages to themselves and others, and they define the *sending of invitations* as a process by which people are summoned to realize their own potential and to enhance the potential of others” (Purkey & Novak, 1996 as cited in Pajares, 2001, p. 28). Sending of invitations can be helpful or harmful behaviors and are identified through four continuous levels of functioning to

include: intentionally disinviting, unintentionally disinviting, unintentionally inviting, and intentionally inviting (Schmidt, 2004). Intentionally disinviting messages “intend” to devalue others. Unintentionally disinviting messages are hurtful and generally come from carelessness or ignorance of cultural backgrounds. These messages are counter-productive for building relationships with students and can produce severe consequences. People have engaged in helpful behaviors through unintentionally inviting messages but these tend not to have lasting effects since the sender of the message may be uncertain of what they have done. For long-term lasting effects, educators must be purposeful in sending intentionally inviting messages “that enable diverse populations to feel accepted, valued, and worthwhile” (Schmidt, 2004, p. 30). In addition to the four continuous levels of functioning, there are five factors (called the 5 P’s) — people, places, policies, programs, and processes — that are identified through invitational theory as contributors or detractors in human development (Schmidt, 2004).

Advocating for personal and professional practices that change and empower the people, places, programs, processes and policies in educational settings and relationships within the organization is the goal of invitational education theorists (Paxton, 1993). Achieving this goal requires leaders to forge relationships and create environments that intentionally invite students to realize their full potential. When students receive positive messages from educators and others, they are empowered and encouraged to grow developmentally. Purkey and Schmidt (1987) asserted that there are four fundamental assumptions for encouraging optimal development of empowered students and that is trust, respect, optimism, and intentionality. Trust is the process of collaboratively developing a relationship whereby the process is as important as the outcome (Purkey &

Schmidt, 1987; Purkey, 1992). Respect, as defined by Purkey (1992), “is manifested in the caring and appropriate behaviors exhibited by people as well as the places, policies, programs, and processes they create and maintain. It is also manifested by establishing positions of equality and shared power” (p. 7). One of the underlying concepts in invitational theory is the existence of untapped human potential. Purkey (1992) stated that “it is not enough to be inviting; it is critical to be optimistic about the process” (p. 7) and that “seeing people as possessing untapped potential determines the policies established, the programs supported, the processes encouraged, the physical environments created, and the relationships established and maintained” (p. 7). Finally, intentionality requires action that enables people to create environments that invite the realization of human potential (Purkey, 1992).

The four assumptions of trust, respect, optimism, and intentionality are concepts grounded in the theoretical framework of invitational theory. Using invitational perspective in education is an approach that has the promise to create learning opportunities for traditionally struggling students so they may reach their full potential by being served and supported in a rich learning environment. Advanced placement courses are rigorous and challenging academic programs that motivate students (National Governor’s Association Center for Best Practices [NGA], 2009), provides students with the opportunity to be exposed to college-level material in high school (Camara, Dorans, Morgan, & Myford, 2000), exposure to teachers who have high expectations (College Board, 2002a), and go on to experience success in college (College Board, 2008). Understanding the benefits students receive from advanced courses is the impetus behind

bridging the gap. All students regardless of race or socioeconomic status should have equal access to these benefits.

The invitational perspective assesses belief systems and relationships in organizations “in terms of accepting, embracing, and celebrating diversity” (Schmidt, 2007, p. 16). Additionally, social justice leaders examine programs, school climate, relationships with students, and student achievement data to implement structures, policies, and inclusive practices that promote and embrace diversity (Shields, 2004; Theoharis, 2009). Guided by invitational theory, Schmidt (2007) proposed a framework researchers can use to assess variables within diverse contexts in organizations. Schmidt (2007) named his framework the Six Elements of Diversity (the Six E’s) and it includes: equity, expectation, enlistment, empowerment, encouragement, and enjoyment. This framework provides a structure to assess how internal and external messages received by diverse populations effect relationships and behaviors within an organization. First, assessing equity in a school program examines conditions that promote justice and nondiscrimination to ensure access for everyone to participate. Second, expectations are solicited through messages students receive about behaviors, policies, and processes that schools implement and can be assessed through students’ perceptions, which “serve as a reference point for behavior” and “establish expectations of what we believe will likely occur” (Schmidt, 2007, p. 18). Third, enlistment is a process by which schools collaborate with and support students which requires active and intentional invitations that are “extended equitably across an organization” (Schmidt, 2007, p. 19). Fourth, empowerment is connected to self-confidence, self-efficacy, and self-concept which when assessed will measure “nurturing helpful relationships that combat oppression,

negate marginalization, and elevate the elements of equity and enlistment” (Schmidt, 2007, p. 19). Fifth, encouragement encompasses the qualities of “optimism, respect, and trust into intentionally helpful relationships” which “incorporates the fundamental philosophy of being with versus doing to” (Schmidt, 2007, p. 20). Finally, characteristics of enjoyment can be found in schools that honor and celebrate diverse cultures, backgrounds, beliefs, and ethnicities to provide opportunities that enrich understanding and experiences of others (Schmidt, 2007). Figure 2 is a model of the invitational framework of the six elements for inviting diversity.

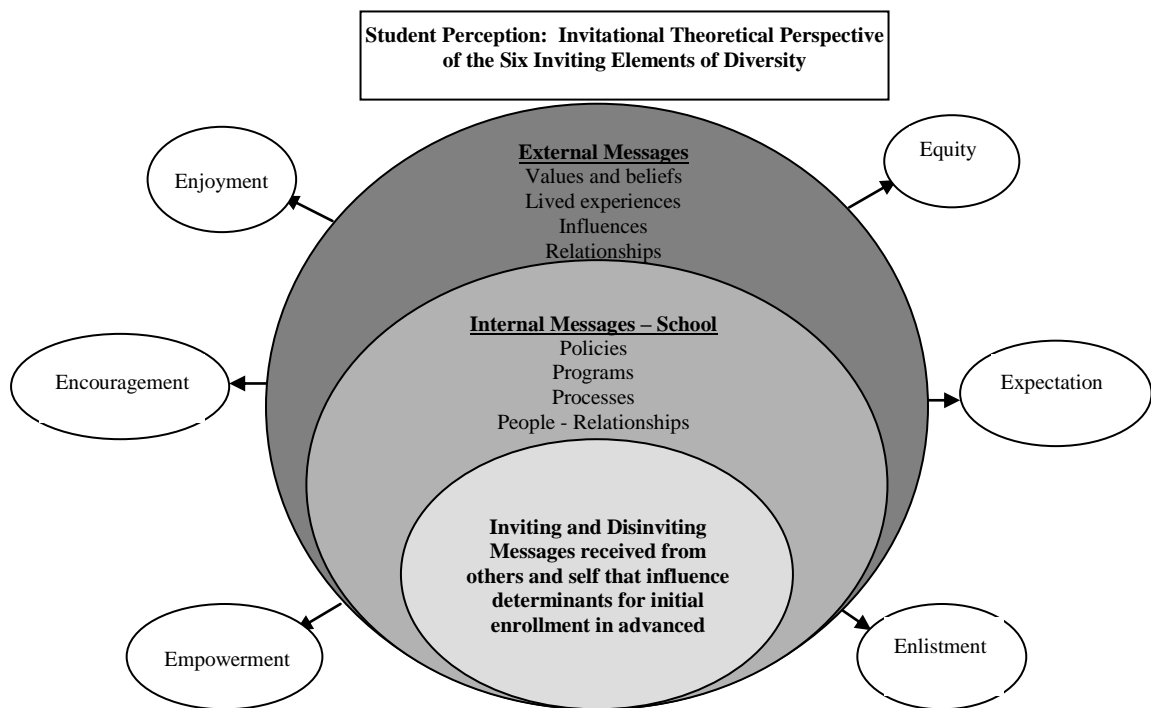


Figure 2. External and Internal Inviting Messages for Diversity

Invitational education encompasses the study and application of invitational theory and practice. School leaders practice invitational education when they intentionally create structures and learning environments that aspire students to develop at their greatest potential; similar to practices found in Theoharis' (2009) study on social justice leaders. Schools must assess where they are currently by understanding student perception, unintended consequences of policies, and inequities found in programs to develop necessary actions to overcome barriers that inhibit students from enrolling in advanced programs. Assessing student perception and their beliefs about messages they receive through policies, people, and procedures for gaining access to advanced programs is the first step in understanding how they are influenced, their level of academic self-concept, and whether or not they feel empowered and encouraged. Are educators contributing or detracting from the human development of students? Are messages students receive inviting or uninviting? Are messages educators send harming or helping students? Are relationships with students built upon the assumptions of respect, trust, optimism, and intentionality? Schools do not need leaders who use the "knee-jerk reaction" for a quick fix to address the disparity in achievement for students from different social classes and ethnicities found in reports from No Child Left Behind. However, traditionally marginalized students need leaders in their schools who (1) intentionally evaluate data through the lens of equity; (2) engage others, and more specifically the students, in the development of reform initiatives if gaps exist; and (3) continuously monitor disaggregated data and student perspectives to assess the effects of the reform efforts. By doing so, the school (place) sends intentionally inviting messages to students (people) that are both encouraging and empowering to student development.

Advocating for change in practices that “transform and energize the people, places, programs, processes and policies involved in educational relationships” (Paxton, 1993, p. 29) is the framework from which invitational practices are built upon and the context in which diversity in Honors and advanced placement programs were investigated and assessed in this study.

Six Elements for Inviting Diversity

This research study is focused on assessing access to advanced academic programs, Honors and AP courses in particular, for Black and economically disadvantaged students through an invitational perspective. The people, places, policies, and processes can either send inviting or disinviting messages to students; which have the potential to affect students’ decisions for enrolling in advanced programs. Educators are responsible for building processes that build trusting, respectful, and optimistic relationships with students through the intentional creation of inviting messages for all involved in the process. The sending and receiving of messages from schools, peers, and parents and how they influence a student’s decision to participate in academically advanced programs was explored in this present study.

Review of the literature on inviting and disinviting messages from people, policies, processes, programs, and places is structured through the schema of the six elements for inviting diversity: equity, expectation, enlistment, empowerment, encouragement, and enjoyment as proposed variables for assessing diversity and behaviors in organizations by Schmidt (2007). In my investigation, I chose to rename the “six elements of diversity” to “six elements for inviting diversity” since these six elements may not be inclusive of all elements that invite diverse populations into

advanced programs in high school. However, a thorough review of the literature will provide insight into how these six elements for inviting diversity relate to the Honors and AP enrollment gap for Black and economically disadvantaged students. The question remains, “is there a relationship between inviting messages students receive and participation in Honors and AP courses?”

Equity

Equitable education is a broad term and can be defined as equity in access to learning opportunities as well as equity in student outcomes. A study conducted by Theoharis (2007) on equity and social justice leadership noted that there is a great need for improving student achievement for marginalized students. Additionally, research suggested that equitable inclusive practices made positive gains in student achievement (Burriss & Welner, 2005; Theoharis, 2007). Based on research, one can conclude that schools that exclude traditionally marginalized populations from Honors and advanced placement programs propagate inequity in student achievement.

Researchers and leaders may be able to define educational equity but much work is still needed on how to create equitable access to academic programs and equity in student outcomes. Shields (2004) contended that “if strong relationships with all children are at the heart of educational equity, then it is essential to acknowledge differences in children’s lived experiences” (p. 110). Similarly, Schmidt (2007) cited Novak stating that invitational practices have a “deep and abiding relationship with participative democracy” (p. 17) and that equitable organizations celebrate the uniqueness that each person brings to the relationship. Therefore educational equity through an invitational perspective is an intentional act to “ensure access for everyone to participate in programs,

fair treatment across places, policies, and processes designed and implemented by the organization” (Schmidt, 2007, p. 17) and are conditions that require participation in democratic relationships. Keeping in mind that “equity is a powerful element of democratic relationships and organizations” (Schmidt, 2007, p. 17) it is necessary to assess democratic principles found in schools by examining people, processes, policies, and procedures that promote or inhibit access to Honors and AP programs for traditionally underrepresented populations.

A research study conducted on enrollment and achievement of Black students in advanced math courses revealed that an inequity in enrollment in high achieving math classes exist and that Black students are disproportionately enrolled in low achieving math classes (Gross, 1993). Findings from a similar study conducted in 2006 by Johnson and Kritsonis articulated that Black students continue to be underrepresented in gifted math classes 13 years later and are denied the same rich instructional practices by highly qualified math teachers than White students experience. The consequence of Black and disadvantaged students being enrolled in low achieving math classes is that they do not have access to the same educational experiences as the more advantaged White students. Studies have suggested that students who are enrolled in low achieving classes are generally taught by teachers with less years of teaching experience (Carbonaro, 2005; Ferguson, 2003; Gross, 1993; Johnson & Kritsonis, 2006) and are denied a rich and rigorous curriculum that students in high achieving classes encounter (Burris & Welner, 2005; Carbonaro, 2005; Ferguson, 2003; Gross, 1993). Research has suggested that early tracking practices often perpetuate inequity in learning opportunities for marginalized students since they rarely are able to move from remedial courses to higher ability

courses (Archbald, Glutting, & Qian, 2009; Darity, Castellino, Tyson, Cobb, & McMillen, 2001; Gross 1993; Hallinan, 1992; Klopfenstein, 2004a). Johnson and Kritsonis (2006) indicated that in order to improve the participation rate for Black students in advanced math classes in high school, resources and funding need to be allocated toward programs that improve the quality of instruction in the elementary and middle grade years and especially for predominantly Black schools. Students who are tracked into low or remedial courses do not experience the same learning opportunities as students who are tracked into more challenging courses. Students in advanced courses tend to experience engaging and knowledgeable teachers, access to a rigorous curriculum, and learning higher order thinking skills (Johnson & Kritsonis, 2006).

What message does tracking practices send to students when they are the ones who feel excluded or isolated? Disinviting messages are spoken to students in various forms as confirmed in a study conducted by Noguera (2003):

As schools sort children by perceived measures of their ability and as they single out certain children for discipline, implicit and explicit messages about racial and gender identities are conveyed. To the degree that White or Asian children are disproportionately placed in gifted and Honors classes, the idea that such children are inherently smarter may be inadvertently reinforced. (p. 444)

Additionally, a qualitative study captured the voice of a student and her experience being the only Black student in an advanced class:

I feel kind of weird if I am the only Black person in a class or in a group. If I am the only Black person, it makes me feel uncomfortable. I don't know. It seems like everyone looks at me. I feel like I can't be me. I feel like White people

expect Black people to say the wrong things. I felt like I can hardly talk because I would probably say the wrong thing and then it would be like “Oops, she is like all of the other ones.” That is what I feel like sometimes. (Peterson, 2008, p. 177)

That student’s perception is her reality and the messages she was receiving about her experience in an all White class was one of discomfort and disinviting. Consequently, through observations and behaviors of her classmates, she received messages that made her feel like she didn’t want to talk around others which may be viewed by the teacher as uninterested or not wanting to participate in class. Black students often hesitate to enroll in Honors and AP classes for fear of feeling isolated when there are no other students like them in the class (Wakelyn, 2009). School leaders may not be aware of the decisions students make when they feel isolated from their friends and people who are of similar ethnicity. School leaders are responsible for creating policies, processes and programs to recruit Black students into high achieving classes rather than making students choose between advanced classes or being with their peers in regular or remedial courses in high school.

Policies and procedures schools use to enroll students into Honors and AP courses need to be examined to determine the consequences of these policies and procedures and if or how they contribute to inequitable practices for advanced programs. There is much controversy over how students are placed into Honors and AP courses. Schools tend to base enrollment decisions on prior and current academic achievement scores (Archbald, Glutting, & Qian, 2009). Results from research has revealed that many schools have an achievement gap between Black and White students and that more Black students score

lower on academic achievement tests. If schools base enrollment decisions for Honors and AP courses primarily or solely on academic achievement scores, then Black students will continue to be disproportionately enrolled in Honors and AP courses (Darity, Castellino, Tyson, Cobb, & McMillen, 2001) which can easily be recognized from researchers who have already identified that achievement gaps exist between Black and White students (Clotfelter, Ladd, & Vigdor, 2005; Ferguson, 2003; Haycock, 2001). Additionally, standardized test scores do not provide enough information to make an informed decision about a student's future placement in high school courses due to reasons such as: students being sick the day of testing, not having access to the same learning opportunities as other students, not having access to more experienced and knowledgeable teachers, or they may not have recognized the importance behind the test itself.

The most commonly used processes to place students in different tracks in high school are the use of standardized tests scores and students' grades. Results from a study conducted by Klopfenstein (2004a) examined the effects of 8th grade teacher recommendations for students entering 9th grade and found that placement into low, medium, and high track courses based on students' grades was statistically significant. Teacher and counselor recommendations for placement in 9th grade courses tends to be the most used procedures found in schools (Klopfenstein, 2004a). The unfortunate problem with this is that decisions made for the placement of students in the 9th grade are predictors of the level of classes they will take for the remainder of high school (Klopfenstein, 2004a). Although many high schools allow students to make course

requests with the input of their parents, many schools require students to meet specific criteria to be eligible to enroll in advanced courses.

There are other factors that attribute to the underrepresentation of Black students in advanced courses such as low referral rates for gifted courses in elementary or middle school years (Taliaferro & DeCuir-Gunby, 2008), inadequate guidance from counselors (Johnson & Kritsonis, 2006; Wakelyn, 2009) and overrepresentation of Black students in special education (Klopfenstein, 2004a). Additionally, Archibald et al. (2009) found that when accounting for all variables being equal, with the exception of peer influence and parent advocacy, that Black students and students from disadvantaged backgrounds are less likely to be tracked into advanced courses as were White advantaged students. The conclusion drawn from that study was that more advantaged White peers had parental advocacy who requested that their children be placed in an advanced class even if they did not meet the criteria. For economically disadvantaged and Black students, the teacher or counselor often serves as their only advocate for placement (Archibald et al., 2009) and they tend to be “overly rigid gatekeepers for AP courses, permitting access only to those they think are likely to do well on the exam” (Wakelyn, 2009, p. 6).

A study conducted by Klopfenstein (2004b) suggested that the underrepresentation of Black students in Honors and AP courses can be attributed to the overrepresentation of Black students placed into special education during elementary or middle school years (Klopfenstein, 2004b). Klopfenstein (2004b) found that “academic tracking, as represented by special education experience, is also a strong negative predictor of AP participation” (p. 124). Students who are placed into special education have historically been served in isolation from their peers or are tracked into remedial

courses. As mentioned previously, once students are tracked in lower achieving classes, it is difficult for them to move to a more advanced track (Archibald, Glutting, & Qian, 2009; Darity, Castellino, Tyson, Cobb, & McMillen, 2001; Gross 1993; Hallinan, 1992; Klopfenstein, 2004b) and often times they did not receive the prerequisite skills necessary to be successful in more advanced courses (Klopfenstein, 2004b).

Consequently, the overrepresentation of Black students in special education created an underrepresentation of Black students being referred into gifted classes in elementary school. Taliaferro and DeCuir-Gunby (2008) interviewed high school academic advisors and found that students were not being continually assessed throughout elementary and middle school years to determine ongoing placement or movement into higher achieving classes, but rather, once they were placed in low or average classes in their primary years, that is where they stayed throughout high school. Whether students are intentionally or unintentionally disinclined into Honors and AP courses, research clearly demonstrated that equitable practices that ensure access to the same learning opportunities for all students have not yet been achieved. Policies, people, programs, and procedures are factors that can be viewed through the lens of equity to initiate structures and implement new reforms that are more just.

Expectation

A student's perception is the pathway in which they draw conclusions and make decisions as suggested by invitational theory (Schmidt, 2007). "As a part of that process, people form *expectations* about situations and relationships based on experience and knowledge" (Schmidt, 2007, p. 18). Student perceptions are formed based on past experiences leading students to make decisions for the future based on those experiences.

Students can experience teachers who either have high or low expectations and those messages are bound within the relationship between the student and teacher. Schmidt (2007) proposed that assessing “basic relationships and the degree and direction of expectations within them is essential to understanding how the larger institutions—schools—operate” (p. 18). Additionally, measuring behaviors, examining policies and processes that schools implement is a method by which expectations can be assessed and monitored.

Lubienski (2002) conducted a study on the Black-White achievement gap in math and suggested that it is possible that teachers have lower expectations for Black and economically disadvantaged students in math. Similar studies on the underrepresentation of Black students in advanced classes expressed the idea that teacher expectation by race is lower for Black students than White students (Ferguson, 2003; Gross, 1993; Johnson & Kritsonis, 2006; Lubienski, 2002; Taliaferro & DeCuir-Gunby, 2008). Conversely, Lubienski (2002) suggested that teachers try to adapt instruction to the culturally-based needs of students as a means to meet the needs and expectations of Black and economically disadvantaged students. Teachers may be presumptuous and automatically think that all Black and low SES students learn math through rote memory (Lubienski, 2002) and therefore do not adjust instruction to engage students in authentic, engaging curriculum that requires higher-order thinking skills.

High teacher expectation has been linked to student motivation, sense of belonging to school, and increased student achievement (Taliaferro & DeCuir-Gunby, 2008). Results from a study on the advanced placement opportunity gap demonstrated

the damaging effects low teacher expectations had on student enrollment in AP courses. The researcher confirmed their findings with a strong message that:

These low expectations help explain why many African American students are underachievers. An additional manifestation of this phenomenon includes the underrepresentation of African American students in AP programs. As such, teacher involvement is critical for African American students (Tucker et al., 2002, 2005). African American students need positive teacher/student relationships. Such relationships are essential to helping African American students feel as though they belong, particularly in the AP classroom. (Taliaferro & DeCuir-Gunby, 2008, p. 168)

Consequences of low expectations do more than disinvite students from taking AP courses but they also disengage students in the curriculum due to boredom (Haycock, 1998). Haycock went on to explain that very little was expected from students who attended school in high poverty areas. This was evident based on the low number of assignments students received as well as the types of assignments in high minority and poverty schools when compared to schools in wealthier districts. Students who have experienced low teacher expectations in achievement and low counselor expectations by placement in low achieving classes will likely never make the decision to enroll in Honors and AP classes. School leaders and teachers are obligated to provide an inviting environment that holds high expectations for all students in order to increase student access to advanced programs.

External pressures and expectations held by peers also influence decisions students make about enrollment in advanced courses. A quantitative study measured

homework completion relative to student behaviors by collecting data from a survey administered to students. Results from the survey revealed that Black students identified “tough” as a characteristic that popular Black students possessed (College Board, 2001). Additional data from the survey discovered that negative peer pressures caused some students to hold back from doing their best and this was more relevant for students who were not in advanced courses. Noguera’s (2003) research confirmed the notion that as students get older there is a set of expectations that influence students to conform to racial identity. Researchers have studied peer influences and the negative connotations that come with Black students being academically successful such as the “acting White syndrome” (Fordham & Ogbu as cited in Tyson & Darity, 2005), and Black students calling high achieving Black students “sell outs” (Noguera, 2003). Others have contradicted this view and stated that there is little empirical evidence that supports these behaviors as cultural norms for the Black community (Tyson & Darity, 2005). Tyson and Darity (2005) found that the “acting White syndrome” did exist in some cases but was not prevalent among middle school groups in relation to academic performance. Additionally, studies have suggested that if students do experience negative peer influences, those who enroll in AP courses seem less prone to allow peer pressures to hold them back (College Board, 2001).

A study by Ndura, Robinson, and Ochs (2003) investigated how ethnicity, socioeconomic status, and parent’s education impacted students’ enrollment in AP classes. The researchers administered a questionnaire to AP students from eight high schools. The participants included 69 minority (Native American, Hispanic, Asian, and African American) students and 246 White students who were all enrolled in AP courses.

Analysis of the data lead the researchers to conclude that the person who was most influential for minority students to enroll in AP courses were their parents and the next most influential were their friends followed by their counselor and then teacher. Results showed that for Caucasian Non-Hispanic students the most influential person for their decision to enroll in AP courses was their parents followed by their teacher, friend, and least influenced by their counselor. Results from this study suggested that teachers and counselors played less of role in influencing minority students to take advanced courses than peers and their parents. The history of the AP enrollment gap between Black and White students would cause one to assume that it is less likely that parents and peers of Black students have experienced and/or understand the full realm of the benefits students acquire by participating in advanced programs. Previous research has suggested that parents of Black students are not as informed about access to AP programs (Taliafero & DeCuir-Gunby, 2008) which enhances the importance of teachers and counselors supporting and encouraging students to enroll in AP courses.

Although parents have the greatest influence on decisions students make in course taking, teachers and counselors must also act as advocates by providing high expectations and guidance for the academic advancement of all students to reach their full potential. A research study conducted by the College Board (2002a) administered a questionnaire to an AP teacher focus group to identify characteristics and teaching behaviors of AP teachers who successfully teach minority students. Results from these focus groups indicated that AP teachers who were successful at teaching AP courses to Black students tended to focus their energy exclusively on teaching the content and very few of the teachers focused their time in recruitment efforts (College Board, 2002a). The

combination of lack of effort by AP teachers to actively recruit students and the lack of knowledge by parents and students on the benefits of taking advanced courses cause concern for persistence in enrollment gaps in advanced courses for Black students. With the understanding that parents are the most influential person in a child's decision to enroll in AP courses, it is essential that counselors and teachers be proactive by informing parents how their child can benefit from participating in advanced curricular programs. The next element discussed is enlistment and it ties into intentional actions school can take to partner with parents and students to raise the expectation of students to enroll in advanced courses.

Enlistment

Schools use different avenues to recruit students into Honors and advanced placement courses; however, there is a need to assess processes and policies used by schools to ensure equity within advanced programs. School leaders who practice from an invitational perspective invite students from all backgrounds and actively seek their input and participation. Schmidt (2007) proposed enlistment as a measure "to give a sense of how an organization invites a wide audience of participation across its diverse groups" (p. 19). Enlistment is an active role of sending multiple invitations to students to expand the social class and ethnic groups that are represented in an organization (Schmidt, 2007) and more specifically for this study, in academically advanced programs. Schools can assess enlistment by examining supports they offer to students (Rubin, 2003; Taliaferro & DeCuir-Gunby, 2008), the number of students engaged in rigorous and challenging curricula (Schweinle, Turner, & Meyer, 2008), policies and processes that offer incentives for AP participation (Klopfenstein, 2004b), parents' and students' knowledge

on the benefits of taking advanced courses (College Board 2002a; Klopfenstein, 2004b; Taliaferro & DeCuir-Gunby, 2008), and teachers and parents advocating for students to enroll in advanced courses (Taliaferro & DeCuir-Gunby, 2008). Schools must examine their processes, policies, and procedures to determine if they inhibit students from enrolling in advanced courses. They need to establish an inclusive environment that actively seeks to implement new policies and processes that create equitable opportunities for students. Additionally, these processes should include support structures to help students feel like they can be successful once enrolled.

The College Board (2010) conducted a study on the National Math Science Initiative (NMSI) for increasing enrollment in AP courses for traditionally underserved populations. NMSI provides financial and human resources to schools they partner with to recruit and retain students in AP. The Advanced Placement Training and Incentive Program (ATPIP) is an initiative implemented in schools that partner with NMSI. ATPIP offers after school tutorials and extracurricular study sessions during the school day. They also provide incentives to students by paying for their AP exam if they are economically disadvantaged or one-half of the cost if they are not. Additionally, students receive \$100 for every AP exam they pass with a score of three or higher.

School leaders who participated in the APTIP program implemented strategies in their schools to enlist students into advanced courses. This program requires leaders to take an active role in creating equality and social justice within their school. The position that social justice leaders take on practicing equality is “creating a greater good for all individuals, [and] social justice can mean finding ways to fix inequitable access” (Marshall & Ward cited in Theoharis, 2009, p. 10). Enlistment is intentional and actively

seeks ways to recruit students into advanced programs. School leaders have the opportunity to decrease the enrollment gap in advanced content programs by creating a school culture that enlists participation from traditionally underserved populations.

Support efforts. One of the underlying concepts in invitational theory is the existence of untapped human potential. Purkey (1992) stated that “it is not enough to be inviting; it is critical to be optimistic about the process” (p. 7) and that “seeing people as possessing untapped potential determines the policies established and the programs supported (p. 7). Enlistment encompasses intentionality which requires action taken by schools to provide support to students to acquire the skills and confidence needed to be successful in advanced programs. While changing policies to open access to advanced courses is the first step in overcoming the enrollment gap, it is vital that student success in these courses is attainable. Support structures must be put in place to overcome varying abilities due to earlier tracking experiences that may have inhibited academic growth and caused low student self-efficacy.

A qualitative study conducted by Yonezawa, Wells, and Serna (2002) examined how the new policy, “freedom of choice”, in a California school district effected enrollment in advanced courses for minorities and students from low socioeconomic backgrounds. The freedom of choice initiative set into place in this school district was an open door policy into Honors courses. The study found that Black students did not take advantage of the open doors into Honors courses due to institutional barriers of not providing information of the new policy to all students, feelings of inadequacy, and not wanting to leave the low and middle track classes where the majority of their friends

were to go into an Honors class with White students where they felt unwelcomed (Yonezawa, Wells, & Serna, 2002).

Consequently, Yonezawa, Wells, and Serna's (2002) study also supports Lubienski's (2002) belief that students who do not enjoy being in classes where they feel unwanted prevents them from registering for advanced courses. Peer beliefs and school culture influenced students' decisions regarding lack of participation in advanced courses even though a "freedom of choice" policy was put into place. Additionally, the students were not empowered to make well informed decisions in this study since the information about the policy change was not distributed to all students nor was the time taken to explain to these students which courses were pre-requisite courses needed to enroll in an Honors or advanced placement course. Enlistment, enjoyment, and empowerment were all variables that did not exist in this school district's failed initiative to increase enrollment in advanced courses for traditionally underrepresented populations. Results from a mixed methods research study conducted by Watt, Yanez, and Cossio (2003) confirm the belief that students who are enlisted into advance curriculum, encouraged by teachers, and provided with support structures will enjoy school, thereby increasing attendance and participation rates in advanced courses which supports research conducted by Yonezawa, Wells, and Serna (2002) and Lubienski (2002).

Watt, Yanez, and Cossio (2003) examined institutional barriers and how the implementation of Advancement Via Individual Determination (AVID) strategies overcame institutional barriers that denied Black and economically disadvantaged students access to AP programs. Reform efforts were studied over a two-year implementation period for 26 secondary schools in Texas through school visits,

observations, interviews, and student performance data analysis. Researchers examined similarities and differences in student achievement and course enrollment prior to participating in AVID as compared to two years after participating in AVID. AVID was an elective class that provided social and academic support to students who were enrolled in rigorous curriculum, including Honors, Pre-AP, and AP courses, for the first time (Watt, Yanez, & Cossio, 2003). Results from this study indicated that Black and economically disadvantaged students who were served through the AVID support program gained access and success in advanced courses. The benefits students received from participating in these classes included: learning skills necessary to be successful in advanced curriculum, a high GPA despite the increase in rigor, and increased attendance (Watt, Yanez, & Cossio, 2003). AVID was most successful in schools that had strong instructional leaders who took ownership of implementing this program (Watt, Yanez, & Cossio, 2003). Although there were several districts that still had policies requiring students to meet specific criteria to enroll in AP courses, the principals ignored the district policy and enrolled students in AVID and advanced courses.

Research supports that policy change alone is not enough to close the enrollment gap in advanced courses (Klopfenstein, 2004b; Watt, Yanez, & Cossio, 2003; Yonezawa, Wells, & Serna, 2002) but there must be efforts to support inclusive practices to increase participation for minority and low socioeconomic students into advanced courses; such as a special class of some sort to provide academic and social support students need to be successful in advanced courses (College Board, 2010; Solorzano & Ornelas, 2002; Watt, Yanez, & Cossio, 2003; Yonezawa, Wells, & Serna, 2002). Research has suggested that early tracking into remedial courses is related to low academic efficacy for students

(Yonezawa & Jones, 2006). If support structures are not provided to students to increase their skills and overcome deficits due to early tracking, then lack of interest to participate in advanced courses will likely persist for traditionally underserved populations as seen in the “freedom of choice” study (Yonezawa, Wells, & Serna, 2002). Additionally, students who do not feel like they have the skills necessary to be successful in advanced courses will not enroll due to fear of not doing well academically (Tyson, Darity, & Castellino, 2005). Student self-efficacy is related to empowerment. The meaning and importance of inviting messages for empowerment and enjoyment are to follow.

Empowerment

Empowering students gives them a sense of having power and authority over decisions they make (Schmidt, 2007). Grounded within invitational theory is the idea of self-confidence and self-efficacy as they are connected to the theory of self-concept (Pajares, 2001; Schmidt, 2007). “Empowerment is the outcome of establishing and nurturing helpful relationships that combat oppression, negate marginalization, and elevate the elements of equity and enlistment” (Schmidt, 2007, p. 19). Organizations that pursue an invitational philosophy should examine how they empower people and analyze factors such as the environment, policies, programs, and processes to determine if those factors make positive contributions to the empowerment of others (Schmidt, 2007). However, before schools begin to assess empowerment, they must first determine what schools want students to become empowered to do. In the case of this current study, the researcher questioned, “how are schools empowering traditionally marginalized populations to participate in Honors and advanced placement classes?”

Consistent equitable practices within a school provide opportunities that empower students to be successful. Students who are motivated and given the skills and knowledge needed to be successful in advanced courses are receiving messages that increase their self-efficacy (Klopfenstein, 2004a; Schweinle, Turner, & Meyer, 2008; Taliaferro & DeCuir-Gunby, 2008). Consequently, students who are tracked into lower level classes often fear that they do not have the skills to be successful in advanced courses and lack confidence to try to move into higher achieving courses (Tyson, Darity & Castellino, 2005; Whiting, 2009). Enlisting students into advanced programs requires schools to send intentionally inviting messages to students.

By the time students are in high school, they have had several years to develop their academic self-efficacy. Efficacy is more impacted by perceived skills than by the challenge of the course (Schweinle, Turner, & Meyer, 2008). Students with a poor academic self-efficacy more than likely have received messages from themselves and teachers over time that make them believe that they are not capable of being successful in rigorous coursework and therefore are not willing to take the risk of enrolling in advanced courses. Students must believe that their actions can produce the results they desire or else they have little incentive to act or to persevere in the face of difficulty (Pajares, 2001). It would only make sense then, that in order to create equitable access to advanced programs, schools must empower students with the confidence and skills they need in order to be successful in those programs.

Encouragement

Schmidt (2007) articulated encouragement as an act of “being with” rather than “doing to”. When sending intentionally inviting messages of encouragement to students,

it enables students who have “experienced oppression, neglect, unfair discrimination, and devaluation to take risks and make substantive changes in their lives” (Schmidt, 2007, p. 20). Several researchers agree that encouragement plays a central role in the latitude of success students’ experience. Shields (2004) contended that teachers must initiate dialogue with students to have a greater understanding of how they discourage or encourage student success. Policies and flexibility in tracking practices must be viewed from a stance of how they support and encourage students to continue to move into advanced courses (Klopfenstein, 2004a; St John, 2007). In a qualitative study conducted by Yonezawa and Jones (2006), students were asked several questions about tracking in their school. The majority of the students felt like tracking was unfair and unjust. They adamantly told the researchers that efforts to detrack required far more than simple, structural changes. One student stated that “detracking required all teachers to believe in all students” (Yonezawa & Jones, 2006, p. 20). They also suggested that teachers tend to favor students who are the “A” students which made the other students feel like they were viewed as unintelligent (Yonezawa & Jones, 2006). Consequently, participation in low-track classes was discouraging to students. They were discouraged from sitting through classes that were boring and felt as if their teachers did not know how to meet the curricular needs of all students in the classroom.

Alternately, Carbonaro (2005) suggested that students who are in high-track classes are encouraged by teachers to put forth greater intellectual efforts. School structures and practices have the ability to send uninviting messages to students as seen in the interview responses about tracking being unfair and unjust. Additionally, the students had enough forethought to understand that changing the structure of detracking was not

enough but that teachers had to believe in and be invested in their students. Yonezawa and Jones (2006) interviewed students who were in remedial, college prep, and advanced level courses to investigate the effects of tracking. Student responses suggested that the messages they received from the school and their teachers regarding tracking were discouraging. These findings support Schmidt's articulation of encouragement as an act of "being with" and not "doing to". These students didn't want a structural change to be "done to them" but they wanted teachers who believed in them and invested their time and effort into them.

Another informative study that is relevant to encouragement was conducted by Ndura, Robinson, and Ochs (2003). They surveyed 6,344 students and found that over 40% of the minority student populations were not encouraged by anyone to enroll in AP courses but those who were encouraged to enroll were most influenced by their parents. In contrast, a study cited by Ferguson (2003) found that Black students reported wanting to please their teachers more than their parents and that students' concept of their ability was more closely related with perceived teachers' ratings of their ability. Wakelyn (2009) suggested that school administrators, counselors, and teachers should personally contact parents and students to encourage enrollment into advanced courses. Taliaferro and DeCuir-Gunby (2007) noted that many Black parents have not had any knowledge of, involvement in, or interaction with Honors or AP classes. Administrators, counselors, and teachers can send intentionally inviting messages of encouragement and enlistment simply by contacting parents and students individually to help them understand the benefits of participating in advanced courses and encouraging the student to enroll in advanced courses. These intentional acts send the message to students that they belong in

advanced classes. Feelings of belonging and teachers believing in students have the potential to increase enjoyment in school for students. The meaning for enjoyment is to follow.

Enjoyment

Students who enjoy school tend to have good relationships, are academically successful, and take advantage of opportunities to celebrate life even when it can become challenging. Schmidt's (2007) work on diversity offered the notion that diversity should be celebrated and embraced. Do schools celebrate cultural diversity? How are relationships among peers and teachers from different backgrounds developed within schools? Do schools provide processes that allow students to be in classes with other students who are similar to them as well as being mixed heterogeneously with students from different cultural backgrounds? Several researchers suggested that because of the disparity in enrollment in Honors and AP courses, Black students who enrolled in these courses often felt isolated and those who chose not to enroll did so out of fear of isolation (Ferguson & Kennedy, 2001; Ford, 1998; Tyson, Darity, & Castellino, 2005; Wakelyn, 2009). It is difficult for students to experience the same type of enjoyment in advanced courses as White students when they are dealing with feelings of being isolated due to a lack of cultural diversity within these classes.

Another form of enjoyment is academic success. Students in higher-level courses often experience the enjoyment of making high academic gains, whereas Black students who are overrepresented in remedial courses generally do not have those same experiences (Carbonaro, 2005). In addition to academic success, students tend to enjoy classes that match their interests. Klopfenstein (2004a) found that students' interests are

rarely taken into consideration when schools are building AP programs and that too can cause lack of interest in AP participation.

Finally, Theoharis (2009) highlighted strategies social justice leaders used in their schools to make students and parents feel welcomed. These principals focused on building a school climate where students connected with one another by incorporating activities into the curriculum that gave students a deeper understanding and respect for diversity which created a sense of belonging for students from all ethnicities and socioeconomic backgrounds. Students can experience joy in terms of academic success, a sense of belonging, and having the opportunity to participate in advanced courses that match their interests. Acts of enjoyment must be intentional and inviting to students (Schmidt, 2007; Theoharis, 2009; Yonezawa, Wells, & Serna, 2002).

Summary

One of the inequitable practices that is still evident in schools across the nation and specifically still lingering in Georgia public schools is a disparity in enrollment in advanced courses for Black and economically disadvantaged students as compared to more advantaged White peers. Although research has supported that students who have access to advanced courses make greater gains in academic achievement and are more likely to be successful in college earning a bachelor's degree (College Board, 2010), Black and economically disadvantaged students still do not receive the same learning opportunities and equitable achievement outcomes as do advantaged White students.

Schools have to act intentionally to invite students to participate in advanced courses and provide support to students through policies, processes, people, and programs. Literature supports that the receiving and sending of messages from each of

these six elements for inviting diversity — equity, expectation, enlistment, empowerment, encouragement, and enjoyment — can either positively or negatively affect a student’s decision to participate in advanced courses. Invitational education theory is grounded in the belief that intentionally inviting messages students receive can help them reach their greatest potential (Schmidt, 2007). In an attempt to increase access and inclusionary practices in advanced programs for all students in Georgia, it is important for educators to understand the relationship between messages students receive and how they affect students’ decisions to enroll in advanced courses. Research suggests that the act of changing policies alone is not enough to close the enrollment gap in advanced courses (Klopfenstein, 2004b; Yonezawa, Wells, & Serna, 2002). The researcher believes that schools with intentional actions that promote high expectations, enlistment, empowerment, encouragement, and enjoyment in addition to policy change have the potential to create school environments that are inviting to equitable inclusion of traditionally underserved populations into advanced programs.

CHAPTER III. METHODS

Introduction

Several research studies suggest that there are many benefits for students who participate in Honors and/or AP courses, such as experiencing teachers who are trained to teach rigorous and challenging curriculum, introducing students to college level curriculum (College Board, 2002a), higher acceptance rates into post-secondary schools, completing a college or university program at a higher rate (College Board 1999, 2002a; Darity, Castellino, Tyson, Cobb, & McMillen, 2001; DeCuir & Dixson, 2004) and specific to AP, students have the option of taking an AP exam at the end of the course and may earn college credits for that high school course (College Board, 2008). Results from annual College Board AP reports for Georgia indicated that there was a disparity in AP participation for Black students as compared to White students and that gap has widened by 25% from 2003 to 2009.

This study examined how inviting messages students received in regard to equity, expectation, enlistment, empowerment, encouragement, and enjoyment relate to enrollment in Honors and AP courses. There was a need for this study because of the lack of research that existed on assessing student access to advanced content courses for diverse populations through an invitational theoretical perspective (Schmidt, 2007).

Additionally, there was a need to use student voice from both students who were and were not enrolled in advanced courses (Taliaferro & Decuir-Gunby, 2008) to consider determinants for initial AP enrollment decisions (Klopfenstein, 2004b).

The purpose of this present study is twofold: (1) to develop a survey instrument to administer to high school students to measure how messages students receive relate to their decision for enrolling in Honors and/or advanced placement courses; and (2) to determine if there is a statistically significant difference between students who participate in advanced courses and those who do not based on their perception of the six elements for inviting messages: diversity; equity, expectation, enlistment, empowerment, encouragement, and enjoyment.

Research Questions

1. What number of factors in the *Program Access Student Survey (PASS)* are identified through exploratory factor analysis procedures?
2. Is there a relationship between AP enrollment and inviting messages?
3. Is there a relationship between Honors enrollment and inviting messages?
4. Is there a difference in mean scores for inviting messages between Black students who were enrolled in advanced courses and Black students who were not enrolled in advanced courses?
5. Is there a difference in mean scores for inviting messages between White students who were enrolled in advanced courses and White students who were not enrolled in advanced courses?

6. Is there a difference in mean scores for inviting messages between economically disadvantaged students who were enrolled in advanced courses and economically disadvantaged students who were not enrolled in advanced courses?

Hypotheses

1. Exploratory factor analysis will suggest a six factor structure on the *Program Access Student Survey* (PASS).

Null hypotheses

2. There is no statistically significant difference in the mean scores for inviting messages between students who were enrolled in AP courses and those who were not as measured by results from the PASS.
3. There is no statistically significant difference in the mean scores for inviting messages between students who were enrolled in Honors courses and those who were not as measured by results from the PASS.
4. There is no statistically significant difference in mean scores for inviting messages between Black students who were enrolled in advanced courses and Black students who were not enrolled in advanced courses as measured by results from the PASS.
5. There is no statistically significant difference in mean scores for inviting messages between White students who were enrolled in advanced courses and White students who were not enrolled in advanced courses as measured by results from the PASS.
6. There is no statistically significant difference in mean scores for inviting messages between economically disadvantaged students who were enrolled in

advanced courses and economically disadvantaged students who were not enrolled in advanced courses as measured by results from the PASS.

This chapter describes the research design, participants, development of instrumentation, data collection procedures, and data analysis for this study.

Design of Study

The design of this research is descriptive. Descriptive research involves collecting data to answer questions about the current status of an issue (Gay & Airasian, 2003). “Because researchers are often asking questions that have not been asked before, they must develop instruments to suit each specific descriptive study” (Gay & Airasian, 2003, p. 10), which is the case for this current study. The instrument used in this study was a researcher-designed survey called the *Program Access Student Survey* (PASS) (Cabezas & Killingsworth, 2010). Using results from the PASS, the researcher examined the relationship between inviting messages and (1) student enrollment in AP courses; (2) student enrollment in Honors courses; and (3) enrollment in advanced courses for Black, White, and economically disadvantaged students. Inviting messages serve as the single dependent variable for research questions two through six and the independent variables are enrollment in AP, enrollment in Honors, enrollment in advanced courses by ethnicity and socioeconomic status.

Participants

Two rural high schools in Georgia surveyed students on inviting messages. These high schools administered the PASS to students for the purpose of collecting data for school improvement initiatives. Participants from both high schools had a combined total of 1,462 students who completed the PASS survey; 1,029 students from South Eastern

High School 1 (SEHS 1) and 433 students from South Eastern High School 2 (SEHS 2). The principal at SEHS 1 chose to survey the student population with the exception of students who were enrolled in the alternative school. The principal at SEHS 2 chose to use convenience sampling which consisted of students who were in classes that had access to computer labs. Respondents included:

- Sex: males (52%) and females (48%),
- Ethnicity: Black (22%), White (64%), and Other (14%),
- Socioeconomic background as determined by free/reduced lunch status: low SES (29%) and non-low SES (71%), and
- Grade level: 9th grade (26%), 10th grade (25%), 11th grade (25%), 12th grade (24%).

The focus of this current study is on Black, White, and economically disadvantaged students only. There was not a large enough sample size of other subgroups in the schools surveyed to expand beyond the three subgroups examined in this study.

Instrumentation

Researchers (Cabezas & Killingsworth, 2010) developed the *Program Access Student Survey* (PASS) to measure the relationship between inviting messages and enrollment in advanced courses. Fink (2003) suggested one way of establishing meaning and defining the concept being measured in a survey is through the review of literature of theoretical or conceptual frameworks. Invitational theory, the framework for inviting messages (Schmidt, 2007), and research on the enrollment gap for Black and economically disadvantaged students guided construction of the PASS (see Appendix A). A comprehensive review of the literature (Archbald, Glutting & Qian, 2009; Carbonaro,

2005; College Board, 2002a; Darrity, Castellino, Tyson, Cobb & McMillen, 2001; Ferguson, 2003; Ferguson & Kennedy, 2001; Ford, 1998; Herr, 1992; Johnson & Kritsonis, 2006; Klopfenstein, 2004a; Lubienski, 2002; Ndura, Robinson & Ochs, 2003; Rubin, 2003; Schweinle, Turner, & Meyer, 2008; Taliaferro & Decuir-Gunby, 2008; Wakely, 2009; Yonezawa, Wells, & Serna, 2002) was conducted before constructing survey items for the PASS.

There are two sections in the PASS. Section I of the survey assessed inviting messages under the six proposed constructs of equity, expectation, enlistment, empowerment, encouragement, and enjoyment (Schmidt, 2007). All survey items in the PASS pertained to inviting messages; specifically eight items collected information on equity, five items collected information on expectation, six items collected information on enlistment, six items collected information on empowerment, seven items collected information on encouragement, and five items collected information on enjoyment. Participants responded to 37 items using a five point Likert-type scale as follows: (1) strongly disagree, (2) disagree, (3) neither agree or disagree, (4) agree, and (5) strongly agree. Research suggested that using a 5- to 7- point response scale is appropriate for surveys that use ordered responses (Fink, 2003). Using a Likert-type scale asks the respondent to rate each item on a scale from positive to negative and produces ordinal data (Fink, 2003).

Section II of the survey consisted of 14 demographic questions. The purpose of including questions related to demographic data was to enable answering research questions related to subgroups of students.

Validity

Content validity refers to the extent in which the survey measures what it was intended to measure (Fink, 2003). Researchers (Cabezas & Killingsworth, 2010) sought expert review as a method for assessing validity of the survey instrument. Additionally, a focus group and a pilot test were used to examine validity of scores from the PASS (Cabezas, 2010). Items in section I of the PASS were sent to two experts for review. The first reviewer was an expert in the field of invitational theory and the second reviewer was an expert in survey development. The expert on invitational theory provided the following feedback on items in the PASS: (1) consider rewording questions 2, 10, 14, 15, 27, 28, 29, and 34, and (2) move items 23, 24, and 25 from empowerment to enlistment. The expert on survey development provided the following feedback on items in the PASS: (1) consider rewording questions 17, 18, 19, and 20 by separating class into specific classes; (2) if asking a question about mother's level of education, what about father?; and (3) consider using a pull-down box for question 48. Revisions were made to some of the items in the PASS as well as moving three items from empowerment to enlistment. This was the final stage in which both researchers, Cabezas and Killingsworth (2010), worked together on the development of the PASS. We chose to conduct separate focus groups and pilot tests for students in the states of Georgia and Alabama for further analysis of validity on the PASS.

A cognitive pre-test was the second method used for examining validity of scores from the PASS. Fink (2003) indicated that the purpose for conducting a cognitive pretest on a survey is to allow the surveyor to administer the survey to potential respondents and ask them individually to review each question for meaning, readability, and feedback on

the response format (Fink, 2003). A cognitive pre-test was conducted on the PASS using a focus group with four students from SEHS 1. A student from each grade level, that represented both male and female and Black and White students, participated in the focus group. Students were able to read and comprehend the meaning of each item and how to mark the responses. Positive feedback regarding the five point response scale was noted. Students stated that having “neither agree nor disagree” as an option made them feel like they weren’t forced into selecting a positive or negative response. The students didn’t feel like section I of the survey was too long and that it was an appropriate length. One student pointed out that questions 14 and 15 asked the same thing as question 18, just in a different way. Other students agreed with this comment. Seeing that those two questions were redundant of Question 18, questions 14 and 15 were deleted. Additionally, some students felt like section II of the survey where demographic information was requested was too long. After the focus group, the number of demographic questions was reduced from 14 to 9.

A pilot test was the third method used for examining validity of scores from the PASS. Fink (2003) noted that the purpose for pilot testing a survey is to administer the survey in its intended setting to determine the time the survey will take to complete, understanding of the directions, understanding of the questions and how to mark the responses. The PASS was pilot tested in a classroom with 23 students at SEHS 1. The lead counselor read the instructions (see Appendix B) to the students about how to take the survey and the purpose of the survey. It took students between 8–10 minutes to complete the survey. Students had no problems with selecting a response to each item or with the understanding of what each item asked. Revisions and deletion of certain items

were made on the PASS after receiving feedback from the focus group and pilot test. The researcher used different methods for examining validity resulting in 32 items in section I of the PASS. After revisions were made to the PASS, the number of items for inviting messages specific to the six elements include: equity – seven items, expectation – four items, enlistment – seven items, empowerment – three items, encouragement – seven items, and enjoyment – four items. All 32 of these items on the PASS assess student perception on the receiving of inviting messages. The decision to reduce the number of items in section II of the PASS from 14 to 9 was based on feedback from the focus group and pilot test. There were no changes made to the directions read to students before administering the PASS or the five-point Likert response scale.

The final stage in construction of the PASS was determining the number of factors to retain. Field (2005) suggested that the retention of factors can be analyzed through exploratory factor analysis. Factor analysis is a technique used to “identify groups or clusters of variables” (Field, 2005, p. 619). The six elements for inviting diversity was the guiding framework used in this current study for development of the PASS to measure messages students receive in relation to participation in advanced programs.

Reliability

Reliability refers to the ability of a measure to produce consistent and repeatable results (Field, 2005). “If you’re using factor analysis to validate a questionnaire, it is useful to check the reliability of your scale” (Field, 2005, p. 666). Reliability of factor(s) in the PASS was determined using Cronbach’s alpha. Cronbach’s alpha is “a measure of the reliability of a scale” (Field, 2005, p. 727) and is the most commonly used measure of

scale reliability. The alpha value can interpret the strength of the one underlying factor in the data (Field, 2005). It has been suggested that if subscales emerge from factor analysis that Cronbach's alpha be applied to each subscale (Field, 2005). Generally, the most commonly accepted value for reliability of a scale is .80 (Field, 2005). However, as noted by Field (2005), when dealing with psychological constructs, a value of .70 is also acceptable.

Data Collection Procedures

There is a need for expanding our understanding of students' lived experiences and their perspective in order to develop sustainable strategies to recruit traditionally marginalized populations into Honors and AP courses (Taliaferro & Decuir-Gunby, 2008). It is especially important to assess student perspectives to understand the advanced course enrollment gap since student voice can be a powerful tool in shaping policy and educational reform efforts (Jones & Yonezawa, 2002; Whiting, 2009). For this reason, data from students' perspectives were collected for this study. Results from the PASS were used to learn if there is a relationship between inviting messages for diversity and enrollment in advanced courses.

After receiving approval letters from each participating school's superintendent, the Research Protocol Review application was submitted to the Office of Human Subject Research at Auburn University for approval (see Appendix C) to use data from two South Eastern High Schools. These schools used the PASS as an instrument to collect perception data for the purpose of identifying needs for school improvement efforts. At SEHS 1, the lead counselor spearheaded the administration of the PASS and at SEHS 2, the district school improvement specialist organized the administration of the PASS.

SEHS 1 chose to administer the PASS by pencil and paper and SEHS 2 chose to administer the PASS through an online survey resource called Zoomerang. Fink's (2003) research discusses different methods researchers use to administer surveys and how those methods influence reliability and validity of the instrument. Discussions on reliability and validity of surveys administered by paper and pencil or online were used interchangeably in Fink's work; provided the paper and pencil and online survey was a standardized administration (Fink, 2003). For this study, the technique for administering the PASS at SEHS 1 and SEHS 2 was recognized as a supervised group administration. In supervised group administrations each student heard the same instructions and were expected to complete the survey without conversing with other people in the group (Fink, 2003). Since the administration of the PASS was standardized for both high schools it lends support that reliability and validity of the PASS were not affected by either administration. Upon receiving approval from the IRB, the researcher was given access to the paper survey responses and the online survey responses in the form of excel spreadsheets. Numbers were assigned to each case who participated in the PASS. The PASS was administered as anonymous and names are not attached to the survey for the schools or the researcher.

Data Analysis

Quantitative methods were used in this study to examine the relationship between inviting messages and enrollment in advanced courses. The PASS was administered to students in grades 9–12 at two public high schools in South Eastern, Georgia. Section I of the PASS consisted of questions that gathered data from the student's perspective on inviting messages of equity, expectation, enlistment, empowerment, encouragement, and

enjoyment. Section II of the PASS consisted of questions gathering demographic data about the participants. Using the computer program Statistical Package for the Social Sciences (SPSS) 18.0, data was analyzed to examine the research questions that guided this study.

Research Questions

Research Question 1 was, “What number of factors in the *Program Access Student Survey* (PASS) are identified through exploratory factor analysis procedures?” The goal of exploratory factor analysis is to “describe and summarize data by grouping together variables that are correlated” (Mertler & Vanatta, 2001, p. 257). Exploratory factor analysis is a method used to (1) understand the structure of the variables, (2) examine the relationship between variables that are measured, and (3) analyze the number of factors that emerge on an instrument (Field, 2005). Through exploratory factor analysis, psychometric properties of the PASS were explored for construct validity and identifying latent variables that clustered together in a meaningful way. Exploratory factor analysis was conducted using 1,462 cases. Principal component analysis is a method for factor extraction that is most commonly used when searching for the structure of variables (Mertler & Vanatta, 2001). The goal of principal component analysis is “establishing which linear components exist within the data and how a particular variable might contribute to that component” (Field, 2005, p. 631). Field (2005) noted that a researcher’s choice for rotation of factors depends on whether the factors are expected to be independent or if the underlying factors are expected to be related. Direct oblimin allows correlation between factors (Field, 2005). In exploratory factor analysis for the

PASS, principal components analysis was used as the factor extraction method and direct oblimin was used as the method for factor rotation.

Assumptions to consider for exploratory factor analysis were multivariate normality, linearity, and the distribution of variables in the population. First, Mertler and Vanatta (2001) stated that “since recent revisions of SPSS have omitted the chi-square test of model fit, this criterion can obviously no longer be used to determine the number of factors to interpret; therefore, it is not necessary to test the assumptions of multivariate normality and linearity” (p. 258). Second, factor analysis for this study was used in a descriptive fashion. Descriptive methods refer to applying findings from factor analysis to the sample collected (Field, 2005). When using a descriptive method “assumptions regarding the distributions of variables in the population are really not in force and, therefore, do not need to be assessed” (Tabachnick & Fidell as cited in Mertler & Vanatta, 2001, p. 257).

Initially, the data was screened to determine adequacy of the sample size, intercorrelation among variables, and correlation coefficients among variables before running exploratory factor analysis. Kaiser-Meyer-Olkin was the method used to determine if the sample size was adequate for factor analysis. Second, results from Bartlett’s test of sphericity measured the intercorrelation among variables. Finally, a correlation matrix was used to measure correlation coefficients among variables. Field (2005) suggested that if variables do not correlate to any other variables, then exclusion of these variables should be considered before running factor analysis.

After screening the data set for sampling adequacy and relationships among variables, factor analysis was run to determine the factor structure of the PASS.

Eigenvalues provide initial guidance on which and how many factors to retain (Field, 2005). Eigenvalues in factor analysis are measures of the amount of total variance explained by each factor (Field, 2005). Research suggested that Kaiser's criterion was reliable for retaining factors if eigenvalues have a value of one or greater when the number of variables were less than 30 and communalities after extraction were all greater than .70. It has also been suggested that if the sample size is greater than 250 and the average communality is .60 or higher, then eigenvalues can be used as a measure to retain factors (Field, 2005). If meeting the criteria for using eigenvalues is questionable, the next criterion to assess is variance to retain components that account for at least 70% total variability (Mertler & Vanatta, 2001). Finally, Field (2005) stated that if using eigenvalues to determine the number of factors is not reliable, then use a scree plot for this purpose. A scree plot is a graphic representation of each eigenvalue plotted against the factor with which it is associated (Field, 2005). Using the scree plot is reliable when the number of individuals is greater than 250 and communalities are greater than .30 (Mertler & Vanatta, 2001). Cattell (as cited in Field, 2005) argued that "the cut-off point for selecting factors should be at the point of inflexion of the curve in the scree plot" (p. 633). After determining the number of factors to retain, the final step in the process is to determine the component for which variables have the highest loading.

Depending on the number of factors identified by exploratory factor analysis, Cronbach's alpha was applied to each factor as a measure for reliability. "If several factors exist then the formula should be applied separately to items relating to different factors" (Cronbach, 1951 as cited in Field, 2005, p. 668). Alpha coefficients range in value from 0 to 1. Field (2005) noted that .70-.80 is an acceptable value for Cronbach's

alpha and he later reported that research also suggested that “when dealing with psychological constructs, values below even .70 can, realistically, be expected because of the diversity of the constructs being measured” (p. 668).

Research questions two through six were concerned with the relationship between inviting messages and enrollment in AP, enrollment in Honors, and enrollment in advanced courses for Black, White, and economically disadvantaged students. Inviting messages (the dependent variable) and enrollment in AP, enrollment in Honors, and enrollment in advanced courses by ethnicity and socioeconomic status (independent variables) served as the variables for this study. One-way analysis of variance (ANOVA) was used to determine whether a statistically significant difference existed between inviting messages for students who were enrolled in advanced courses and those who were not.

To determine the appropriateness for conducting ANOVA, the following assumptions were examined:

1. PASS scores from participants were normally distributed.
2. Random sampling took place and the PASS scores were independent of each other.
3. The population variances associated between the two distributions were equal.

Histograms show the frequency of different scores and are useful for checking normal distribution of scores (Field, 2005). If the sample data looks normal, then researchers can assume that the populations are also normal (Field, 2005). Using results from the PASS, histograms were used to check for normal distribution of scores. Field (2005) suggested that if the sample size is large, Levene’s test should be used to test the hypothesis that the

variances in different groups are equal to determine if homogeneity of variances has been violated. If the Levene's test is $p > .05$, the null hypothesis will not be rejected indicating that the difference between the variance is zero (Field, 2005). Before results from the PASS were measured through ANOVA, Levene's test was conducted to determine if the population variances in different groups were equal.

Finally, after the F statistic was found, eta square was used to calculate and report an effect size. Eta square calculates the strength of association between the independent variable and the dependent variable producing an effect size (Ross & Shannon, 2008). Small eta squares are approximately .01, medium is .06, and large is .14 (Cohen, 1988 as cited in Ross & Shannon, 2008). If the effect size is large, then the differences in groups are likely to have practical value (Cohen, 1988 as cited in Ross & Shannon, 2008).

Summary

Researchers (Cabezas & Killingsworth, 2010) developed the *Program Access Student Survey* (PASS) to measure the relationship between inviting messages and enrollment in advanced courses. Invitational theory, the framework for inviting messages (Schmidt, 2007), and research on the enrollment gap for Black and economically disadvantaged students guided construction of the PASS. The researchers used expert review to examine validity. Feedback from expert reviewers was used to make revisions to the PASS. After this point, the researchers chose to work separately for further validation of the PASS using focus groups and pilot testing with students from their own state; Alabama and Georgia. I also chose to use exploratory factor analysis to determine the number of factors to retain on the PASS. Finally, data analysis procedures and assumptions were presented. Chapter III presented the design of the study, participants,

instrumentation, data collection procedures, and a plan for data analysis. Additionally, development of the survey instrument was included along with the process used for validity and reliability of the instrument. Chapter IV will present the results of this study.

CHAPTER IV. RESULTS

In chapter four, a brief description of the problem will be presented first, followed by the demographic description of the participants, results relative to the assumptions, and finally, the results for each research question.

Problem

In Georgia, there is a disparity in enrollment in Honors and Advanced Placement (AP) courses for Black students as compared to their White counterparts. The Georgia AP State Report for 2009 displayed a 19% participation rate for Black students compared to 60% for White students (College Board, 2009), although Whites comprised 46% of the student population in Georgia and Blacks 38%. Klopfenstein (2004b) conducted a study to determine if an AP incentive program closed the enrollment gap for minority and low income students in rural schools. Klopfenstein (2004b) measured the enrollment gap by using

... a ratio of the fraction of AP students who are members of a group (e.g., percent AP students Black) divided by the fraction of students in the school population who are members of the same group (e.g., percent all students Black). This “disparity index” equals one if a group is equally represented in AP courses relative to their presence in the school population, less than one if the group is underrepresented in AP, and greater than one if the group is over represented. In order to generate the disparity index for a school, the school must offer at least

one AP class and have at least one student from the group examined in attendance (p. 8).

The “disparity index” was a method used in other studies to measure the disparity between groups of students served in advanced course programs (Darity, Castellino, Tyson, Cobb, & McMillen, 2001) and was also calculated for this study.

The number of AP courses available to students and the number of students by subgroup who participated on an AP exam were reported through the Governor’s Office of Student Achievement (GOSA) in Georgia for all schools. In the 2008–2009 school year, SEHS 1 offered 10 AP courses of which three Black students and 52 White students were reported as taking an AP exam, and SEHS 2 offered 13 AP courses of which six Black students and 111 White students were reported as taking an AP exam (Governor’s Office of Student Achievement [GOSA], 2009). In section II of the PASS, data was collected that indicated the number of students enrolled in Honors courses in high school and the number of students who were enrolled in a gifted program when they were in elementary school. Data collected from GOSA and the PASS have established that each high school offered AP and Honors courses and therefore the disparity index for AP and Honors/Gifted programs are calculated and presented in Table 2. The AP disparity index for economically disadvantaged students cannot be calculated since socioeconomic status (SES) data was not reported to GOSA by the College Board. The Honors disparity index and the gifted elementary disparity index cannot be calculated for SEHS 2 since their student population was not surveyed. The lowest possible value of the disparity index is zero, indicating that there is no participation for that subgroup in the advanced course. Overrepresentation is observed when scores are greater than one.

Table 2

Disparity Index by Demographic Subgroups

Subgroup	Avg % of AP Students in SEHS 1 & 2	Avg % of AP Students in SEHS 1 & 2	AP Disparity Index	Avg % served in Honors SEHS 1	Avg % of AP Students in SEHS 1	Honors Disparity Index
Enrollment in High School Advanced Course Programs						
Black	5%	27%	0.19	13%	22%	0.59
White	95%	64%	1.48	75%	73%	1.03
Low SES				18%	30%	0.60
PASS Participants Previously Served in an Elementary Gifted Program						
				Avg % served in Gifted SEHS 1	Avg % of Elementary Gifted Students in SEHS 1	Elementary Gifted Disparity Index
Black				11%	22%	0.50
White				75%	73%	1.02
Low SES				20%	30%	0.66

GOSA, 2009; PASS, 2010

The AP disparity index was less than one for Black students (0.19) but greater than one for White students (1.48) who attended SEHS 1 and SEHS 2. The Honors disparity index was less than one for Black students (0.59) and students from low socioeconomic backgrounds (0.60) but higher than one for White students (1.03) who attended SEHS 1. The disparity index for students who were served in the gifted program when they were in elementary school was less than one for Black students (0.50) and students from low socioeconomic backgrounds (0.66) but greater than one for White students (1.02) who attended SEHS 1.

Demographics of Participants

Annually, the Governor’s Office of Student Achievement (GOSA) in Georgia reports student populations by ethnicity and SES status as well as standardized test results on state and national tests for all schools. In Georgia, students who receive a free or reduced lunch price were designated as economically disadvantaged for reporting purposes for No Child Left Behind (GOSA). For the 2008–2009 school year, GOSA reported the student population for each school as follows:

- SEHS 1 — 20% Black, 71% White, and 32% economically disadvantaged
- SEHS 2 — 33% Black, 51% White, and 42% economically disadvantaged
- Combined total “population” for SEHS 1 and SEHS 2 — 26% Black, 62% White, and 36% economically disadvantaged
- Combined total “respondents” on the PASS for SEHS 1 and SEHS 2 — 22% Black, 64% White, and 29% economically disadvantaged

The focus of this current study is on Black, White, and economically disadvantaged students only. Demographics of the students who participated in the PASS were representative of the student populations who attended SEHS 1 and SEHS 2 when accounting for socioeconomic status and percent of Black and White students. Table 3 displays the demographics of the PASS participants who attended SEHS 1 and SEHS 2. The demographics include sex, ethnicity, grade level, socioeconomic status, number of students who participated in Honors courses, number of students who participated in AP courses, and the number of students who were served in a gifted program when they were in elementary school.

Table 3

PASS Participants: Demographics

	(N) # students	% of students
Sex		
Male	762	52%
Female	700	48%
Ethnicity		
Asian	32	2%
Black	322	22%
Hispanic	78	5%
Indian/Alaskan Native	18	1%
Multiracial	80	6%
White	932	64%
Grade Level		
9th Grade	380	26%
10th Grade	366	25%
11th Grade	366	25%
12th Grade	350	24%
Socioeconomic Status		
Economically Disadvantaged	424	29%
Economically Advantaged	1038	71%
Participated in Honors Courses (grades 9-12)		
Total	840	57%
Black Students	134	16%
White Students	596	71%
Participated in AP Courses (grades 9-12)		
Total	366	25%
Black Students	66	18%
White Students	243	66%
Served in Gifted Program in Elementary School		
Total	502	34%
Black Students	78	16%
White Students	352	70%

Results

Survey Instrument: Data Screening

Research Question 1. What number of factors in the *Program Access Student Survey* (PASS) are identified through exploratory factor analysis procedures?

It is important to screen the data set to ensure that running factor analysis is appropriate (Field, 2005). Results from the R-matrix were used to check for patterns of relationships between questions to detect issues of singularity and multicollinearity (Field, 2005). The R-matrix contained the Pearson correlation coefficient between all pairs of questions and the one-tailed significance of these coefficients. There are two methods for finding issues of singularity in the data: (1) if items are perfectly correlated, and (2) if any one item is not statistically significant with several other items ($p > .05$). Field (2005) suggested that if items do not correlate or if they correlate highly with others, then consider excluding those items before running factor analysis. In the data set, there were no items that were perfectly correlated. Questions 14 and 19 were not statistically significantly correlated with several other variables in the data set and were deleted before running factor analysis due to issues of singularity. The determinant value (.000013) from the R-matrix was slightly greater than .00001 indicating that there were no issues of multicollinearity among variables. After deleting questions 14 and 19, the determinant value increased to (.00002) which provided greater confidence that there were not issues of multicollinearity among variables in this data set. In summary, the remaining questions in the PASS correlate fairly well with all others with statistical significance, ranging in values from .000 to .047.

The Kaiser-Meyer-Olkin (KMO) value was used to determine if the sample size was adequate for factor analysis. Values greater than .8 are very good and values at .9 or greater are considered superb (Field, 2005). The KMO value for my data set was .911 and was considered an excellent sampling size for running factor analysis. Bartlett's test of sphericity was another measure used to analyze relationships between variables. If Bartlett's test is highly significant ($p < .001$) then running factor analysis is appropriate. The statistic for Bartlett's test of sphericity was highly significant at a value of $p < .001$; therefore the assumption that there was a relationship between variables was accepted and running factor analysis with this data set was appropriate.

Survey Instrument: Factor Analysis

Results from the data screening indicated that questions 14 and 19 should be excluded from factor analysis, leaving 30 items within this data set. After screening the data set for sampling adequacy and relationships among variables, factor analysis was run using principal component analysis with a direct oblimin rotation. There were 1,462 cases included in the data set and 30 items factored into exploratory factor analysis for the PASS. A six factor structure is expected based on the theoretical framework of the six elements for inviting diversity.

Mertler and Vanatta (2001) described the following methods as fairly reliable when interpreting results for retaining factors provided certain criteria are met:

1. Eigenvalues – Kaiser's rule states that components with eigenvalues greater than one should be retained if the number of variables is less than 30 and communalities are greater than .7, or the number of individuals is greater than 250 and the mean communality is equal to or greater than .60.

2. Variance – retain components that account for at least 70% total variability.
3. Scree Plot – retain all components within the sharp descent, before eigenvalues level off, if the number of individuals is greater than 250 and communalities are greater than .30
4. Residuals – retain the components generated by the model if only a few residuals exceed .05 (p. 260).

Table 4 presents the eigenvalues and cumulative percent that accounts for variance for each of the six components extracted. There were six eigenvalues with a value greater than one. The total variance explained was 54.8%. Generally, 70% of the total variance is desired to retain factors. Since there were less than 30 variables and more than 250 cases, the mean communalities should be greater than .60 to retain factors based on eigenvalues (Field, 2005; Mertler & Vannatta, 2001). Communality refers to common variance or variance that is shared with other variables (Field, 2005). “The communality is a measure of the proportion of variance explained by the extracted factors” (Field, 2005, p. 630). The mean value of communalities was .548 and therefore did not meet the criteria to use eigenvalues for retention of factors. Although the criterion for using eigenvalues was not met, these values are reported to display the series of decisions made by the researcher on the number of factors retained for the PASS.

Table 4

EFA – Extraction Sums of Squared Loadings

6 Factors	Eigenvalue	Cumulative %
1	8.157	27
2	2.164	34
3	1.891	41
4	1.689	46
5	1.483	51
6	1.059	55

Mertler and Vanatta (2001) suggested that data sets with a sample size greater than 250 and communalities greater than .30, a scree plot is considered reliable for making a decision for retention of factors, whereas others suggest that “with a sample of more than 200 participants, the scree plot provides a fairly reliable criterion for factor selection” (Stevens, 1992 as cited in Field, 2005, p. 633). Results from extracted communalities revealed that all variables had a communality score greater than .3 with the exception of variable three; which was .196. However, since the number of cases exceeded 250, using the scree plot for making decisions for retaining factors is considered fairly reliable. Stevens’ (1992 as cited in Mertler & Vannatta, 2001) recommendation is to retain factors in the sharp descent of the line before the first one where the leveling effect occurs. The scree plot was extrapolated using Kaiser’s recommendation with eigenvalues over one. The curve (see Figure 3) begins to tail off after one factor, but there is another drop off after five factors before the factors plateau

into a leveling effect. Rather than solely using the results from the scree plot, additional analysis of results from exploratory factor analysis were taken into consideration to make a decision on the number of factors to retain for the PASS.

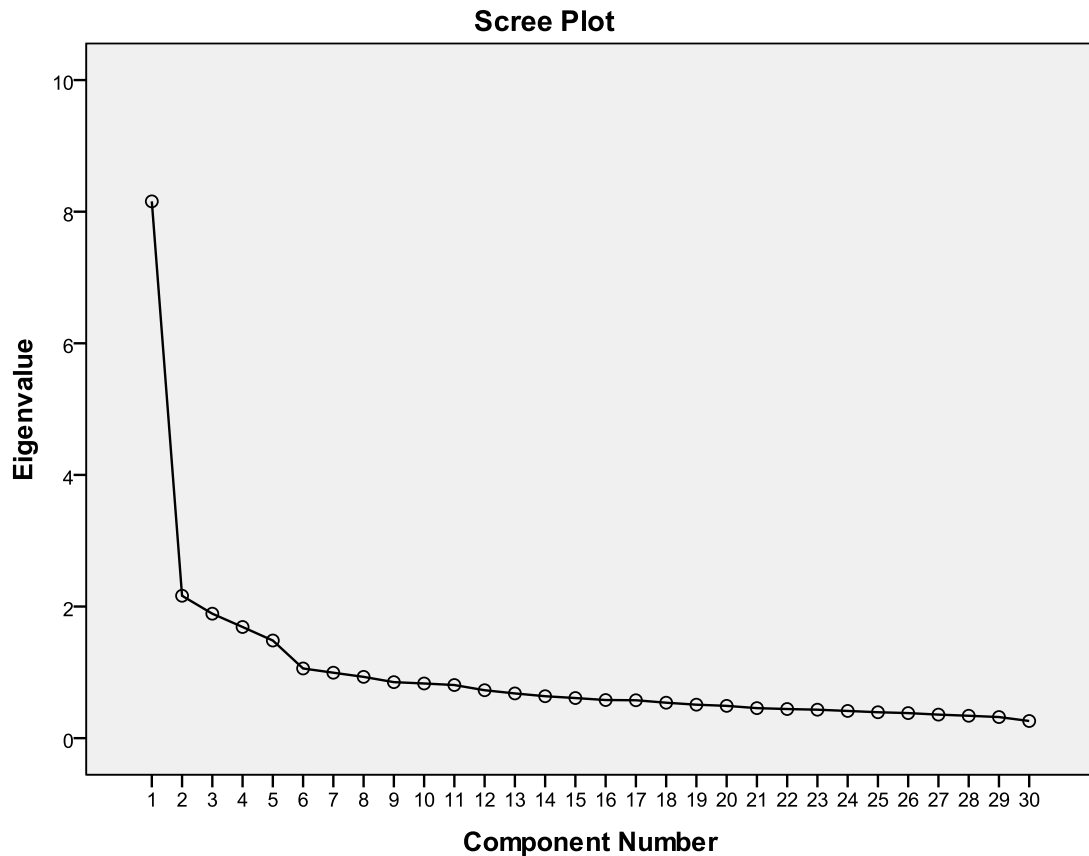


Figure 3. EFA Scree Plot – Kaiser’s Rule

Finally, the last method used to help determine how many factors to retain was the analysis of residual values. The purpose for analyzing residual values was to assess the fit of the model; which is determined by looking at the differences between the matrix based on the factor model and the matrix based on the observed data (Field, 2005).

Components generated by the model should be retained only if a few residuals exceed .05

(Mertler & Vanatta; 2001). There are no set rules about the proportion of residuals that should be below .05 but Field (2005) suggested that there should be no more than 50% of the residuals greater than .05. There were six components generated by the model with 111 residuals with values greater than .05. This means that 25% of the correlation coefficients cannot be reproduced appropriately with a six factor solution.

Four methods (eigenvalues, total variance, scree plot, and residuals) were used to provide data to determine how many factors should be retained for the PASS. Results from exploratory factor analysis did not fully support a multiple factor structure; therefore a single factor was retained. There were six eigenvalues greater than one but the mean value of communalities was .548 and therefore did not meet the mean value criterion (.60) to use eigenvalues for retention of factors (Mertler & Vanatta, 2001). Additionally, there were six eigenvalues greater than one but the total variance explained was 54.8% and therefore did not meet the suggested 70% total variance explained criterion (Mertler & Vanatta, 2001). Results from the scree plot suggested a possible five factor solution but not all communalities had a value of .30 or higher to meet the criterion for retaining factors using a scree plot (Mertler & Vanatta, 2001). Given concerns related to the percent of variance explained, values of communalities, and reliabilities with subscales, there was not enough conclusive evidence that supported retaining more than one factor. Therefore, the full scale will be used for analyses of results from the PASS rather than subscales. Correlation coefficients and communality values for the full scale were reported in Table 5.

Table 5

Principal Component Factor Analysis – One Factor Expected

Item	Factor 1: Inviting Messages	h^2
1 A counselor or teacher advised me on the classes I signed up for this school year.	0.51	.259
2 My counselor or teachers talk to me about taking classes that match my skills.	0.57	.321
3 A counselor or teacher at the middle school advised me on classes I picked for my 9th grade year.	0.41	.167
4 The classes I took in middle school prepared me to take Honors classes in the 9th grade if I wanted to.	0.54	.288
5 I believe Honors classes are open to any student who wants to register for an Honors class.	0.42	.181
6 I believe AP classes are open to any student who wants to register for an AP class if they have taken the required courses.	0.43	.181
7 I feel like all students have an equal chance of being scheduled into an Honors or AP class if they register for one.	0.46	.214
8 My teachers have high expectations for me in class.	0.57	.326
9 Administrators (principal and assistant principals) have high expectations for students in this school.	0.58	.339
10 My parents expect me to make good grades in school.	0.37	.140
11 My friends talk to me about making good grades in school.	0.47	.219
12 My counselor or teachers advise me by providing me with information that helps me choose classes that match my ability.	0.63	.400
13 My teachers challenge me in class.	0.52	.275
15 If I struggle in classes, teachers offer extra help or support.	0.51	.259
16 A counselor or teacher has talked to my parents about the benefits of taking Honors or AP classes.	0.6	.361

(table continues)

Table 5 (continued)

Item		Factor 1: Inviting Messages	h^2
17	My counselor has talked to me about the benefits of taking Honors or AP classes.	0.65	.423
18	My teachers have talked to me about the benefits of taking Honors or AP classes.	0.66	.431
20	I make good grades in school.	0.45	.204
21	I feel like I have the skills and ability to be successful in an Honors or AP class.	0.47	.223
22	Teachers influence my decision on which classes I should register for.	0.61	.374
23	My parent(s) influence my decision on which classes I should register for.	0.48	.230
24	My counselor influences my decision on which classes I should register for.	0.57	.330
25	My friends influence my decision on which classes I should register for.	0.36	.131
26	I try harder in class when my teacher encourages me to make good grades.	0.54	.295
27	I try harder in class when my parent encourages me to make good grades.	0.49	.245
28	I try harder in class when my friends encourage me to make good grades.	0.46	.213
29	My school offers Honors or AP classes in an area that I am interested in.	0.59	.347
30	My counselor or teachers talk to me about taking classes that match my interests.	0.64	.409
31	I am more likely to take an Honors or AP class if some of my friends are in there.	0.4	.163
32	I enjoy going to school.	0.46	.208

Note: These values are from Principal Component Analysis with one factor expected set as the rule; therefore post-rotation values are unavailable. Coefficients greater than .40 are in bold, h^2 = communalities. Items 14 and 19 have been deleted due to singularity issues and are not included in this analysis.

Pearson's correlation coefficient r measures the strength of the relationship between two variables and produces values between zero (having no effect) and one (perfect effect) and is widely accepted as an effect size measure (Field, 2005). Effect sizes can range from small (.10), medium (.30), to large (.50) and are interpreted as objective measures of the importance of an effect (Field, 2005). Pearson's r values produced from scores extracted from the PASS ranged from .36 to .66; with 14 variables in the medium range and 16 variables ranging within the large effect size (Field, 2005). In exploratory factor analysis, researchers look for common underlying dimensions within the data and are interested primarily in common variance (Field, 2005). Communality values refer to variance that is shared with other variables and range from zero (shares no variance) to one (random variance). Communalities produced from scores from the PASS ranged from .131 to .431. Finally, if six factors were retained the reliability alpha values ranged from .561 to .898. However, only one factor was retained and the reliability alpha value of the full scale was .904. All of the items in the PASS were related to messages from an invitational theoretical perspective and therefore factor one was named "inviting messages". Underlying theoretical concepts of factor one include six elements for inviting messages but these elements were not considered factors; instead they will be referred to as elements for "inviting messages" for this study.

The six “elements” found in the invitational theoretical framework under which this study was conducted include: equity, expectation, enlistment, empowerment, encouragement, and enjoyment. These elements are not subscales of factor one, inviting messages, but rather are all encompassed as concepts interwoven within “inviting messages”. A one factor solution will be retained for the PASS with a recommendation for exploring higher order factors in future research.

Survey Results

Table 6 presents the mean scores on the 30 items from the PASS. Participants responded to items using a five point Likert-type scale as follows: (1) strongly disagree, (2) disagree, (3) neither agree or disagree, (4) agree, and (5) strongly agree. Mean scores are disaggregated by subgroups and are organized under two headings: (1) students who have participated in an Honors and/or AP course and (2) students who have not participated in an Honors or AP courses. The number of students (N) who participated in the survey was also reported by subgroup.

Table 6

Mean Scores for PASS Results

Item	1. Enrolled in Advanced Courses			2. Not Enrolled in Advanced Courses		
	Black (N=151)	White (N=615)	Low SES (N=179)	Black (N=171)	White (N=317)	Low SES (N=245)
1 A counselor or teacher advised me on the classes I signed up for this school year.	3.58	3.52	3.60	3.43	3.45	3.45
2 My counselor or teachers talk to me about taking classes that match my skills.	3.41	3.26	3.39	3.29	3.38	3.29
3 A counselor or teacher at the middle school advised me on classes I picked for my 9th grade year.	3.26	3.06	3.14	3.11	2.92	3.02
4 The classes I took in middle school prepared me to take Honors classes in the 9th grade if I wanted to.	3.36	3.35	3.44	2.68	2.57	2.60
5 I believe Honors classes are open to any student who wants to register for an Honors class.	3.52	3.38	3.50	3.22	2.97	3.02
6 I believe AP classes are open to any student who wants to register for an AP class if they have taken the required courses.	3.53	3.50	3.61	3.52	3.31	3.38
7 I feel like all students have an equal chance of being scheduled into an Honors or AP class if they register for one.	3.15	3.13	3.30	3.39	3.02	3.19
8 My teachers have high expectations for me in class.	4.10	4.02	4.19	3.95	3.84	3.89
9 Administrators (principal and assistant principals) have high expectations for students in this school.	3.84	3.74	3.88	3.80	3.67	3.83

(table continues)

Table 6 (continued)

Item	1. Enrolled in Advanced Courses			2. Not Enrolled in Advanced Courses			
	Black	White	Low SES	Black	White	Low SES	
10	My parents expect me to make good grades in school.	4.72	4.61	4.69	4.67	4.45	4.48
11	My friends talk to me about making good grades in school.	3.43	3.23	3.39	3.51	3.06	3.22
12	My counselor or teachers advise me by providing me with information that helps me choose classes that match my ability.	3.46	3.22	3.32	3.48	3.38	3.42
13	My teachers challenge me in class.	3.72	3.73	3.72	3.63	3.51	3.62
15	If I struggle in classes, teachers offer extra help or support.	3.66	3.68	3.71	3.74	3.61	3.63
16	A counselor or teacher has talked to my parents about the benefits of taking Honors or AP classes.	3.14	2.93	2.90	2.36	2.43	2.44
17	My counselor has talked to me about the benefits of taking Honors or AP classes.	3.13	3.20	3.13	2.47	2.51	2.47
18	My teachers have talked to me about the benefits of taking Honors or AP classes.	3.40	3.39	3.33	2.53	2.45	2.49
20	I make good grades in school.	4.03	4.12	4.06	3.80	3.66	3.63
21	I feel like I have the skills and ability to be successful in an Honors or AP class.	3.99	4.06	4.11	3.26	2.81	3.04
22	Teachers influence my decision on which classes I should register for.	3.42	3.49	3.49	3.16	3.16	3.11
23	My parent(s) influence my decision on which classes I should register for.	3.68	3.66	3.69	3.66	3.38	3.54
24	My counselor influences my decision on which classes I should register for.	3.21	3.02	3.12	3.23	3.12	3.20

(table continues)

Table 6 (continued)

Item	1. Enrolled in Advanced Courses			2. Not Enrolled in Advanced Courses			
	Black	White	Low SES	Black	White	Low SES	
25	My friends influence my decision on which classes I should register for.	3.16	3.25	3.25	2.99	3.10	3.02
26	I try harder in class when my teacher encourages me to make good grades.	3.88	3.76	3.94	3.91	3.70	3.87
27	I try harder in class when my parent encourages me to make good grades.	4.01	3.86	4.13	4.10	3.77	3.93
28	I try harder in class when my friends encourage me to make good grades.	3.68	3.53	3.70	3.70	3.36	3.56
29	My school offers Honors or AP classes in an area that I am interested in.	3.72	3.72	3.77	3.11	3.04	3.04
30	My counselor or teachers talk to me about taking classes that match my interests.	3.54	3.35	3.53	3.44	3.43	3.38
31	I am more likely to take an Honors or AP class if some of my friends are in there.	3.28	3.67	3.50	2.86	3.00	2.85
32	I enjoy going to school.	3.32	3.06	3.48	3.13	2.97	3.07

N = Participants

Due to results from factor analysis, mean scores for questions 14 and 19 were not included in calculations for descriptive or inferential statistics. Question 14 asked if students felt like their academic classes (English, math, science, and social studies) were too easy. Question 19 asked students if they took their school work more serious in high school than when they were in middle school. Question 14 was related to research on enlistment and the disinviting messages students received from being tracked into remedial classes. Question 19 pertained to assessing the relationship between

empowerment and developing greater student academic efficacy at the high school level. Although questions 14 and 19 were no longer included in the analysis of the mean scores for the PASS, there were other questions in the survey that pertained to measuring students' perceptions on receiving messages of empowerment and enlistment.

Comparing Mean Scores from PASS

One-way analysis of variance (ANOVA) was completed to answer research questions two through six using results from the PASS to examine the relationship between the dependent variable (six elements for inviting messages) and the independent variables (enrollment in AP, enrollment in Honors, enrollment in advanced courses by ethnicity and socioeconomic status). In order to reduce type I errors, a table of random numbers was used to select scores from the PASS to obtain equal sample sizes for subgroups of students who participated in advanced programs and students who did not participate in advanced programs. The PASS scores were independent of each other. The population variances associated between the two distributions were equal. Histograms were analyzed and indicated that scores from the PASS were normally distributed. The final assumption examined was variance between groups; which was determined by using the Levene's test.

If results from ANOVA indicated that there was a statistically significant difference between mean scores, then effect size was calculated and reported to express the magnitude of the relationships. Eta square calculates the strength of association between the independent variable and the dependent variable producing an effect size (Ross & Shannon, 2008). Small eta squares are approximately .01, medium is .06, and large is .14 (Cohen, 1988 as cited in Ross & Shannon, 2008). If the effect size was large,

then the difference in groups were likely to have practical value (Cohen, 1988 as cited in Ross & Shannon, 2008). Descriptive statistics and results from ANOVA follow each research question.

Research Question 2: Is there a relationship between AP enrollment and inviting messages?

A one-way ANOVA was conducted to address the research hypothesis that there was no statistically significant difference in the mean scores of inviting messages between students who were enrolled in AP courses and those who were not as measured by results from the PASS. AP enrollment status acted as the independent variable in the analysis and mean scores from the PASS served as the single dependent variable. All students regardless of ethnicity or SES status were included as cases in ANOVA. To control for Type I error, like sample sizes were used (Field, 2005) for the independent variable. SPSS was used to select a random sample of 366 students who have not participated in AP courses regardless of ethnicity or SES status. The value for the alpha level was .05; which is standard for educational research (Gay, Mills, & Airasian, 2006).

Using an alpha level of .05, Levene's test (see Table 7) indicated that the assumption of homogeneity of variances was not violated; $p > .318$. The ANOVA (see Table 9) was statistically significant, $p < .001$, with the mean for students enrolled in AP higher than students who were not enrolled in AP (see Table 8). Eta square calculates the strength of association between the independent variable and the dependent variable producing an effect size (Ross & Shannon, 2008). Small eta squares are approximately .01, medium is .06, and large is .14 (Cohen, 1988 as cited in Ross & Shannon, 2008). If the effect size was large, then the difference in groups were likely to have practical value

(Cohen, 1988 as cited in Ross & Shannon, 2008). The effect size was just below medium at .05 (Ross & Shannon, 2008). The ANOVA results supported rejecting the null hypothesis suggesting that students who were enrolled in AP courses were more likely to have the perception of receiving inviting messages than students who were not enrolled in AP.

Table 7

Levene's Test: AP Enrollment

Test of Homogeneity of Variance

	Levene Statistic	df1	df2	Sig.
Score	.999	1	730	.318*

* Not statistically significant, $p > .05$

Table 8

Descriptive Statistics: AP Enrollment

Descriptive Statistics from PASS results

Enrollment Status in AP	Mean	Std. Deviation	N
Not Enrolled in AP	3.3676	.52933	366
Enrolled in AP	3.6230	.57805	366
Total	3.4953	.56840	732

Table 9

One-way ANOVA: AP Enrollment

		ANOVA					
		Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Score	Between Groups	11.943	1	11.943	38.882	.000*	.051
	Within Groups	224.229	730	.307			
	Total	236.172	731				

* Statistically significant; $p < .05$

Research Question 3: Is there a relationship between Honors enrollment and inviting messages?

A one-way ANOVA was completed to address the research hypothesis that there was no statistically significant difference in the mean scores for inviting messages between students who were enrolled in Honors courses and those who were not as measured by results from the PASS. Enrollment status in Honors courses acted as the independent variable in the analysis and mean scores from the PASS as the single dependent variable. All students regardless of ethnicity or SES status were included as cases in ANOVA. To control for Type I error, like sample sizes were used (Field, 2005) for the independent variable. SPSS was used to select a random sample of 622 students who have not participated in Honors courses regardless of ethnicity or SES status. The value for the alpha level was .05.

Using an alpha level of .05, Levene's test (see Table 10) indicated that the assumption of homogeneity of variances was not violated; $p > .928$. The ANOVA (see Table 12) was statistically significant, $p < .001$, with the mean for students enrolled in

Honors courses higher than students who were not enrolled in Honors (see Table 11). The effect size was just below medium at .04 (Ross & Shannon, 2008). The ANOVA results supported rejecting the null hypothesis suggesting that students who were enrolled in Honors courses were more likely to have the perception of receiving inviting messages than students who were not enrolled in Honors.

Table 10

Levene's Test: Honors Enrollment

Test of Homogeneity of Variance				
	Levene Statistic	df1	df2	Sig.
Score	.010	1	1242	.921*

* Not statistically significant, $p > .05$

Table 11

Descriptive Statistics: Honors Enrollment

Descriptive Statistics from PASS results			
Enrollment Status in Honors	Mean	Std. Deviation	N
Not Enrolled in Honors	3.2859	.54938	622
Enrolled in Honors	3.5115	.53409	622
Total	3.3987	.55320	1244

Table 12

One-way ANOVA: Honors Enrollment

		ANOVA					
		Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Score	Between Groups	15.823	1	15.823	53.906	.000*	.042
	Within Groups	364.571	1242	.294			
	Total	380.395	1243				

* Statistically significant; $p < .05$

Research Question 4: Is there a difference in the mean scores of inviting messages between Black students who were enrolled in advanced courses and Black students who were not enrolled in advanced classes?

A one-way ANOVA was completed to address the research hypothesis that there was no statistically significant difference in the mean scores of inviting messages between Black students who were enrolled in advanced courses and Black students who were not as measured by results from the PASS. Enrollment in advanced courses (AP and/or Honors) for Black students acted as the independent variable in the analysis and mean scores from inviting messages as the single dependent variable. To control for Type I error, like sample sizes were used for the independent variable. SPSS was used to select a random sample of 150 Black students who have not participated in AP or Honors courses regardless of SES status. The value for the alpha level was .05.

Using an alpha level of .05, Levene's test (see Table 13) indicated that the assumption of homogeneity of variances was not violated; $p > .604$. The ANOVA (see Table 15) was statistically significant, $p < .05$, with the mean for Black students enrolled

in advanced courses higher than students who were not enrolled in advanced courses (see Table 14). The effect size was small with a value of .02 (Ross & Shannon, 2008). The ANOVA results supported rejecting the null hypothesis suggesting that Black students who were enrolled in advanced courses were more likely to have the perception of receiving inviting messages than Black students who were not enrolled in advanced courses.

Table 13

Levene's Test: Advanced Course Enrollment (Black Students)

Test of Homogeneity of Variance				
	Levene Statistic	df1	df2	Sig.
Score	.296	1	298	.604

* Not statistically significant, $p > .05$

Table 14

Descriptive Statistics: Advanced Course Enrollment (Black Students)

Descriptive Statistics from PASS results			
Enrollment in Advanced Courses	Mean	Std. Deviation	N
Black Students— Not Enrolled in Advanced Courses	3.3936	.57648	150
Black Students— Enrolled in Advanced Courses	3.5751	.54060	150
Total	3.4843	.56525	300

Table 15

One-way ANOVA: Advanced Course Enrollment (Black Students)

		ANOVA					
		Sum of		Mean			Partial Eta
		Squares	df	Square	F	Sig.	Squared
Score	Between Groups	2.472	1	2.472	7.916	.005*	.026
	Within Groups	93.062	298	.312			
	Total	95.534	299				

* Statistically significant, $p < .05$

Research Question 5: Is there a difference in mean scores of inviting messages between White students who were enrolled in advanced courses and White students who were not enrolled in advanced courses?

A one-way ANOVA was completed to address the research hypothesis that there was no statistically significant difference in the mean scores of inviting messages between White students who were enrolled in advanced courses and White students who were not as measured by results from the PASS. Enrollment in advanced courses (AP and/or Honors) for White students acted as the independent variable in the analysis and mean scores for inviting messages as the single dependent variable. To control for Type I error, like sample sizes were used for the independent variable. SPSS was used to select a random sample of 317 White students who participated in AP or Honors courses regardless of SES status. The value for the alpha level was .05.

Using an alpha level of .05, Levene's test (see Table 16) indicated that the assumption of homogeneity of variances was not violated; $p > .459$. The ANOVA (see Table 18) was statistically significant, $p < .001$, with the mean for White students

enrolled in advanced courses higher than students who were not enrolled in advanced courses (see Table 17). The effect size was medium with a value of .065 (Ross & Shannon, 2008). The ANOVA results supported rejecting the null hypothesis suggesting that White students who were enrolled in advanced courses were more likely to have the perception of receiving inviting messages than White students who were not enrolled in advanced courses.

Table 16

Levene's Test for Advanced Course Enrollment (White Students)

Test of Homogeneity of Variance				
	Levene Statistic	df1	df2	Sig.
Score	.549	1	632	.459*

* Not statistically significant, $p > .05$

Table 17

Descriptive Statistics: Advanced Course Enrollment (White Students)

Descriptive Statistics from PASS results			
	Mean	Std. Deviation	N
White – Enrollment in Advanced Courses			
White Students – No Advanced Courses	3.2662	.48842	317
White Students – Advanced Courses	3.5244	.49436	317
Total	3.3953	.50774	634

Table 18

One-way ANOVA: Advanced Course Enrollment (White Students)

		ANOVA					
		Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Score	Between Groups	10.573	1	10.573	43.787	.000*	.065
	Within Groups	152.612	632	.241			
	Total	163.186	633				

* Statistically significant, $p < .05$

Research Question 6: Is there a difference in the mean scores of inviting messages between economically disadvantaged students who were enrolled in advanced courses and economically disadvantaged students who were not enrolled in advanced courses?

A one-way ANOVA was completed to address the research hypothesis that there was no statistically significant difference in the mean scores of inviting messages between economically disadvantaged students who were enrolled in advanced courses and economically disadvantaged students who were not enrolled in advanced courses as measured by results from the PASS. Enrollment in advanced courses (AP and/or Honors) for economically disadvantaged students acted as the independent variable in the analysis and mean scores for inviting messages as the single dependent variable. To control for Type I error, like sample sizes were used for the independent variable. SPSS was used to select a random sample of 179 low SES students who have not participated in AP or Honors courses regardless of ethnicity. The value for the alpha level was .05.

Using an alpha level of .05, Levene’s test (see Table 19) indicated that the assumption of homogeneity of variances was not violated; $p > .824$. The ANOVA (see Table 21) was statistically significant, $p < .001$, with the mean for low SES students enrolled in advanced courses higher than students who were not enrolled in advanced courses (see Table 20). The effect size was medium with a value of .086 (Ross & Shannon, 2008). The ANOVA results supported rejecting the null hypothesis suggesting that economically disadvantaged students who were enrolled in advanced courses were more likely to have the perception of receiving inviting messages than economically disadvantaged students who were not enrolled in advanced courses.

Table 19

Levene’s Test: Advanced Course Enrollment (Low SES Students)

Test of Homogeneity of Variance				
	Levene Statistic	df1	df2	Sig.
Score	.049	1	356	.824

* Not statistically significant, $p > .05$

Table 20

Descriptive Statistics: Advanced Course Enrollment (Low SES Students)

Descriptive Statistics from PASS results			
Socioeconomic Status	Mean	Std. Deviation	N
Low SES Students – Not Enrolled in Advanced Courses	3.2644	.54087	179
Low SES Students – Enrolled in Advanced Courses	3.5998	.55492	179
Total	3.4321	.57236	358

Table 21

One-way ANOVA: Advanced Course Enrollment (Low SES Students)

		ANOVA					
		Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Score	Between Groups	10.067	1	10.067	33.530	.000*	.086
	Within Groups	106.885	356	.300			
	Total	116.952	357				

* Statistically significant, $p < .05$

Summary

This chapter represented the statement of the problem as mentioned in chapter two and a statistical analysis for each research question. Both descriptive and inferential statistical values were reported in tables and graphs with a brief description of the results. Chapter Five will present a brief overview of the importance and purpose of the study. Additionally, results from the statistical analyses will be interpreted and discussed followed by implications and recommendations for future research.

CHAPTER V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

This chapter presents a summary of the study and a discussion of findings drawn from the data presented in Chapter Four. Following findings will be a discussion of limitations, implications for education, and recommendations for future research. Finally, concluding remarks will summarize the main points drawn throughout this chapter.

Summary of the Study

There is a need for an expansion of understanding students' lived experiences and their perspective in order to develop sustainable strategies for recruiting traditionally marginalized populations into Honors and AP courses (Klopfenstein, 2004b; Lubienski, 2002; Taliaferro & Decuir-Gunby, 2008). The Georgia AP State Report for 2009 showed a 19% participation rate for Black students compared to 60% for White students (College Board, 2009), although Whites comprised 46% of the student population in Georgia and Blacks 38%. As schools attempt to find ways to close the enrollment gap in advanced courses for Black students it is relevant to investigate how the messages students receive from schools, parents, and peers are related to participation in advanced courses.

As schools attempt to find ways to close the AP enrollment gap for Black students as compared to their White peers it is relevant to investigate how the inviting messages students receive are determinants for AP enrollment. The primary purpose of this study is to explore reasons for the enrollment gap from the student perspective. Addressing this

purpose required (1) developing a survey, and (2) examining differences in inviting messages students receive based on enrollment status in advanced courses. Students' perspectives will be measured through the *Program Access Student Survey* (PASS) instrument for students who participated in advanced courses (Honors and/or AP) and those who have not. The survey instrument was analyzed by the researcher using exploratory factor analysis to determine if the six elements for inviting messages cluster together in a meaningful way to form multiple factors. Results from exploratory factor analysis did not fully support a multiple factor solution for the PASS; therefore a one factor solution was retained. Quantitative methods were used in this study to collect data from students' perspectives through a researcher-developed survey named the *Program Access Student Survey* (PASS). Responses from the PASS were collected from two rural high schools in Georgia resulting in a total of 1,462 participants.

Discussion — Survey Instrument

Research Question One: What factors in the *Program Access Student Survey* (PASS) are identified through exploratory factor analysis procedures?

The survey instrument was developed to collect data for examining behaviors within organizations that relate to enrollment in AP and Honors courses. Survey items in the PASS were centralized around the schema of the six elements for inviting diversity formed on the foundation of invitational theory (Schmidt, 2007). The survey items in the PASS were developed after a thorough review of the literature on invitational theory and the underrepresentation of Black and economically disadvantaged students in advanced courses through the lens of equity, expectation, enlistment, empowerment, encouragement, and enjoyment (Cabezas & Killingsworth, 2010). The original survey

consisted of 37 items in Section I that explored inviting messages and 14 demographic questions in Section II. The PASS was checked for validity through expert review, feedback from a focus group, pilot testing, and factor analysis (Cabezas & Killingsworth, 2010). The final survey used for this study consisted of 30 items in Section I and nine demographic questions in Section II. Additionally, factor analysis was used to determine the number of factors retained in the PASS survey. Results from the PASS were collected from a total of 1,462 participants from two rural schools in Georgia. All of these cases were used in factor analysis. Several criteria guided the determination of the number of factors to retain to include Kaiser's Rule, total variance explained, examination of the scree plot, and analysis of residual values (Field, 2005; Mertler & Vanatta, 2001).

Results from exploratory factor analysis did not fully support a multiple factor structure; therefore a single factor was retained. Although there were six eigenvalues greater than one, total variance, communality values, and alpha reliability values did not support a six factor structure. All of the items in the PASS were related to messages from an invitational theoretical perspective and therefore factor one was named "inviting messages". Underlying theoretical concepts of factor one include six elements for inviting messages but these elements were not considered factors. The six "elements" found in the invitational theoretical framework under which this study was conducted include: equity, expectation, enlistment, empowerment, encouragement, and enjoyment. These elements are not subscales of factor one, inviting messages, but rather are all encompassed as concepts interwoven within "inviting messages". An example of the interconnectedness of equity, encouragement, enjoyment, expectation, enlistment, and

empowerment was found in research that concluded that when Black students were tracked into remedial courses and excluded from advanced courses (equity) this sent disinviting messages that created feelings of discrimination (encouragement), isolation from their peers if they enrolled in advanced courses (enjoyment), boredom due to not being engaged with challenging curriculum (expectation), students not understanding the benefits of taking advanced courses (enlistment) and fear of not doing well (empowerment) in advanced courses which resulted in low academic efficacy and lack of motivation to enroll in advanced courses (Ferguson & Kennedy, 2001; Lubienski, 2002; Tyson, Darity, & Castellino, 2005; Yonezawa & Jones, 2006; Yonezawa, Wells, & Serna, 2002). In these studies, disinviting messages of encouragement, enjoyment, expectation, enlistment, and empowerment were all related to issues of inequity.

Implications and Recommendations — Survey Instrument

Through the use of multiple measures, initial results indicate that the PASS is both valid and reliable. This study provides a survey instrument researchers can use to assess the relationship between inviting messages students receive from schools (teacher, counselor, administrator), parents, and peers and how they relate to enrollment in advanced courses. This study addressed gaps found in this current literature review by providing a larger scale study using student perspectives, from both students who qualify for advanced courses and those who do not, to assess determinants for enrollment in advanced courses through an invitational theoretical perspective (Klopfenstein, 2004b; Lubienski, 2002; Schmidt, 2007; Taliaferro & Decuir-Gunby, 2008). Understanding student perception through the use of the PASS provides leaders with an opportunity to use student voice as a powerful tool for shaping policy and educational reform efforts

(Jones & Yonezawa, 2002; Whiting, 2009). Ultimately, the PASS provides educational leaders with an instrument that can be used to collect student perception data to help inform initiatives aimed at closing the enrollment gap in advanced courses for Black and economically disadvantaged students.

Given the results from exploratory factor analysis and research on the interrelatedness of the six elements for inviting diversity, a one factor solution for the PASS was retained. However, the fact that six eigenvalues and residual values suggest a possible six factor solution, further research on higher order factors is recommended. Because survey results were collected from two rural schools in Georgia, with an average student population of 1,400 students, further validation of the survey instrument is recommended. Data obtained from multiple schools across multiple geographic locations and school sizes are needed to provide further empirical support for the validity of the PASS, as well as generalizations beyond the findings from the two rural southern high schools where data was collected.

Discussion — PASS Results

Results will be discussed for research questions two through six:

2. Is there a relationship between AP enrollment and inviting messages?
3. Is there a relationship between Honors enrollment and inviting messages?
4. Is there a difference in mean scores of inviting messages between Black students who were enrolled in advanced courses and Black students who were not enrolled in advanced courses?

5. Is there a difference in mean scores of inviting messages between White students who were enrolled in advanced courses and White students who were not enrolled in advanced courses?

6. Is there a difference in mean scores of inviting messages between economically disadvantaged students who were enrolled in advanced courses and economically disadvantaged students who were not enrolled in advanced courses?

The AP and Honors disparity index (see Table 2) provided evidence of the magnitude of the enrollment gap that existed at SEHS 1 and SEHS 2 in the 2008–2009 school year. Black students were underrepresented in advanced placement courses in both high schools and were underserved in Honors courses at SEHS 1. Economically disadvantaged students were underrepresented in Honors courses at almost the same rate as Black students at SEHS 1. In this present study, the percent of economically disadvantaged students, disaggregated by race, who participated in advanced courses include: 45% Black and 36% White students. The disparity in access to advanced courses for Black students continues to persist as seen in this current study and in previous research (College Board, 2009; College Board, 2010).

Results from the PASS were used to examine the relationship between participation in advanced courses and inviting messages. The PASS was developed through the lens of invitational theory using Schmidt's (2007) framework known as the six elements for inviting diversity. Through statistical methods, mean scores from the PASS were used to measure differences between students who participated in advanced courses and those who have not.

According to Ross and Shannon (2008), “analysis of variance (ANOVA) procedures are used to assess differences across groups based on means” (p. 57). One-way ANOVAs were conducted to answer research questions two through six. An alpha of .05 was selected since this is the standard for educational research (Gay, Mills & Airasian, 2006; Ross & Shannon, 2006). If results from ANOVA indicated that there was a statistically significant difference between mean scores, then effect size was calculated and reported to express the magnitude of the relationships. Eta square calculates the strength of association between the independent variable and the dependent variable producing an effect size (Ross & Shannon, 2008). Small eta squares are approximately .01, medium is .06, and large is .14 (Cohen, 1988 as cited in Ross & Shannon, 2008).

Based on the analysis of results from the PASS, the researcher concludes that to some degree students who enrolled in Honors and/or AP courses in SEHS 1 and SEHS 2 received inviting messages of equity, expectation, enlistment, empowerment, encouragement, and enjoyment more so than students who never enrolled in advanced courses. Results from the AP and Honors disparity index indicated that Black and economically disadvantaged students were underrepresented in the schools that participated in the PASS. Seeing that there is a statistically significant difference in the receiving of inviting messages between students who participated in advanced courses and those who did not would lend support that fewer Black and economically disadvantaged students received inviting messages as compared to White students who were overrepresented in AP and Honors courses.

Disparity in Enrollment

In a qualitative study conducted by Yonezawa and Jones (2006) students were interviewed about their feelings on tracking and strategies schools use to detrack. One student stated that “detracking required teachers to believe in all students” (Yonezawa & Jones, 2006, p. 20). Social justice researcher Theoharris (2009) stated that while providing access, inclusion, and opportunities to all students creates greater equity, that alone is insufficient for advancing student achievement “if the curriculum is inadequate and the teachers do not have the will or skills to reach each student” (p. 46). The emphasis drawn from that statement is the “will” to reach each student.

The disparity index for students served in the gifted program during their elementary years is almost identical to the disparity index for each of the subgroups of students who participated in Honors courses years later in high school. The participation gap in the gifted program for Black and economically disadvantaged students during primary school did not close during high school as seen by the disparity in enrollment in Honors courses. There is an abundant amount of research that supports the devastating effects of early tracking into remedial courses; which falls disproportionately on minority students (Burris & Welner, 2005; Carbonaro, 2005; DeCuir & Dixson, 2004; Hallinan, 1992; Lubienski, 2002; Singham, 2003; Solorzano & Ornelas, 2004; Taliaferro & Decuir-Gunby, 2008). Taliaferro and DeCuir-Gunby (2008) suggested that early tracking was responsible for the low participation rate of Black students in AP courses. Similarly, Hallinan (1992) reported that the consequences of tracking students into lower courses caused differences in ability levels, which creates a source of unequal learning opportunities for students. Likewise, other studies have noted that students who are

tracked into more advanced classes tend to learn more than do students who are tracked into regular or remedial courses due to higher quality instruction (Clotfelter, Ladd, & Vigdor, 2005; Lubienski, 2002; Temple, 2006; Yonezawa & Jones, 2006) and access to a more rigorous and challenging curriculum (Burriss & Welner, 2005; DeCuir & Dixon, 2004; Hebert & Reis, 1999; Klopfenstein, 2004a; Temple, 2006). Students who experience rigorous and challenging curriculum in earlier years are given the opportunity to obtain the pre-requisite skills necessary to be successful in AP courses (College Board, 2010).

Item 21 asked students if they felt like they had the skills and ability to be successful in Honors or AP classes. The average mean score for students who were in advanced classes was 4.05 compared to 3.03 for students who never participated in advanced classes. Research indicated that students will not enroll in advanced courses if they do not feel like they have the pre-requisite skills to be successful (College Board, 2010; Tyson, Darity, & Castellino, 2005). Data from the PASS and previous research leads the researcher to conclude that since advantaged White students are overrepresented in advanced courses, based on the disparity index, these students more than likely experienced higher track classes and obtained the pre-requisite skills needed to be successful in Honors and/or AP at a higher rate than Black or economically disadvantaged students.

Influence and Advocacy

Survey questions 22, 23, 24, and 25 assessed who was most influential on the student's decision on classes they registered for in high school: teachers, parents, counselors, or friends. Mean scores for each subgroup indicated that parents were the

most influential person for students' course selection for all subgroups of students who were enrolled in advanced courses and for students who were not enrolled in advanced courses. Additionally, item 16 asked students if a counselor or teacher talked to their parents about the benefits of taking honors or AP classes. The mean score for Black students who participated in advanced classes was 3.14 as compared to 2.36 for Black students who have never participated in advanced courses. Previous research has suggested that parents of Black students are not as informed about access to AP programs (Taliaferro & DeCuir-Gunby, 2008); which enhances the importance of teachers and counselors supporting and encouraging students to enroll in AP courses. It appears that for Black students who participated in advanced courses, their parents more than likely had guidance from the school in understanding the benefits of taking Honors or AP courses than for the parents of the Black students who never enrolled in advanced courses.

All subgroups of students who were enrolled in advanced courses and White students who were not enrolled in advanced courses rated teachers as second most influential whereas Black and economically disadvantaged students who never enrolled in advanced courses rated counselors as second most influential followed by teachers. Conclusions drawn from previous research suggested that more advantaged White peers had parental advocacy who requested that their children be placed in an advanced class even if they did not meet the criteria whereas for economically disadvantaged and Black students, the teacher or counselor often serves as their only advocate for placement (Archbald, Glutting, & Qian, 2009) and they tend to be "overly rigid gatekeepers for AP courses, permitting access only to those they think are likely to do well on the exam"

(Wakelyn, 2009, p. 6). The results were surprising that any subgroup of students would be more influenced for course selection by a counselor than a teacher due solely on the amount of time students spend with teachers and the opportunities teachers have to discuss the importance of course selection to prepare for college readiness.

In addition to teacher and counselor influence on course selection, student perception on measures schools used to help students understand the benefits of taking Honors and AP courses were also examined. Previous research noted that teacher and counselor recommendations for placement in courses tend to be the most used procedures found in schools (Klopfenstein, 2004a). The unfortunate problem with this is that decisions made for the placement of students in the 9th grade are predictors of the level of classes they will take for the remainder of high school (Klopfenstein, 2004a). Rather than teachers and counselors only using test scores, grades, and other standardized measures for making recommendations for course placement, it is important that they talk to students about the benefits of taking advanced courses and involve students in the process of course selection. Items 17 and 18 on the PASS inquire about teachers and counselors talking to students about the benefits of taking Honors and AP courses. The mean score for teachers talking to students about the benefits of taking advanced courses was higher for students who were enrolled in advanced courses at 3.37 compared to 2.49 for students who never participated in advanced courses. The average mean score for counselors talking to students about the benefits of taking advanced courses was higher for students who were enrolled in advanced courses at 3.15 compared to 2.48 for students who never participated in advanced courses. Based on data from student perception it appears that students who have never enrolled in advanced courses have less experience

receiving guidance from teachers and counselors on the benefits of taking advanced courses in high school. Results from mean scores on the PASS and evidence of overrepresentation of more advantaged White students in advanced courses indicate that White students more than likely experienced encouragement and guidance for course selection from teachers more so than Black and economically disadvantaged students.

Black students who were enrolled in advanced courses and all subgroups of students who have never been enrolled in advanced courses rated counselors as more influential than friends in course selection. Only White and economically disadvantaged students who were enrolled in advanced courses rated friends as the third most influential person in course selection followed by counselors. Additionally, mean scores from item 31 on the PASS indicated that for students who were enrolled in advanced courses, White (3.67) and economically disadvantaged (3.50) students are more likely to take an Honors or AP class if some of their friends are in there as compared to the mean score for Black students (3.28). Based on previous research studies and the AP and Honors disparity index, it is not surprising that Black students enrolled in advanced courses rated counselors more influential for courses selection than friends (the opposite rating from White students) and had a lower mean score for willingness to enroll in an AP or Honors course if their friend was in there than White students. There is a large discrepancy in the number of Black students who participate in Honors and AP courses as compared to White students meaning that Black students who have participated in an advanced course had to choose to enroll in those courses even if their friends are not taking the course. In contrast, more White students have had past experience being surrounded by their friends

in advanced courses and have come to value that experience as more influential in their course selection than guidance from a school counselor.

Ndura, Robinson, and Ochs (2003) conducted a study where they administered a questionnaire to students who were in AP courses. They asked the students who encouraged them to take an AP class: parent, teacher, friend, or counselor. Results from their study indicated that White students enrolled in advanced courses rated the most influential person who encouraged their course selection was parents, followed by teacher, friend, and then counselor last. Results from the PASS for White students enrolled in advanced courses were identical to the findings in Ndura et al.'s (2003) study. However, results for Black students who were enrolled in advanced courses in this present study rated the most influential person in course selection starting with parent, teacher, counselor, and then friend, which contradicts results from Ndura et al.'s (2003) study where the most influential person for Black students were rated as parent, friend, counselor, and teacher last. One possible reason for the difference in results for Black students is that the sample size for Ndura et al.'s (2003) study was less than 10 students whereas the sample size for Black students enrolled in advanced courses in this present study included 150 students. The sample size for White students who were enrolled in advanced courses included over 200 students for both studies.

Expectation

Items 8–11 on the PASS assess student perception on expectations; in particular receiving messages of expectation from teachers, administrators, parents, and friends. Regardless of subgroups or enrollment status in advanced courses, students rated receiving inviting messages of expectations from parents higher than any other person,

followed by teachers, administrators, and then friends. Mean scores for receiving messages of expectation were higher for each subgroup of students who have participated in advanced courses as compared to the mean scores for the like subgroup of students who have not participated in advanced courses. Additionally, Black students rated perception of receiving messages of high expectations from teachers, administrators, parents and friends higher than White students. This contradicts previous studies stating that teachers tend to have lower expectations for Black students (Ferguson, 2003; Gross, 1993; Johnson & Kritsonis, 2006; Lubienski, 2002) making students feel less motivated to succeed (Taliaferro & DeCuir-Gunby, 2008). Based on mean scores from the PASS, the researcher concludes that students who participated in advanced courses more than likely had more experience receiving feelings of high expectations from parents, teachers, administrators, and friends to make good grades in class than students who have never participated in advanced courses. These results are similar to a study where students were interviewed and results indicated that teachers tend to favor students who are the “A” students which made the other students feel like they were viewed as unintelligent (Yonezawa & Jones, 2006).

There was one surprising result in regard to receiving inviting messages of expectations from friends. Black students who were “not enrolled” in advanced courses felt like their friends expected them to make good grades more so than friends of Black students who “were enrolled” in advanced courses. All other subgroups of students who participated in advanced courses rated expectations from friends higher than like subgroups of students who never participated in advanced courses. I am perplexed by these results and will lean on previous research to explain this phenomenon. Results

from a quantitative study on peer influence conducted by the College Board (2001) suggested that for Black students negative peer pressures caused some students to hold back from doing their best and this was more relevant for students who were not in advanced courses. The conclusion drawn from this study was that if Black students experience negative peer influences, those who enroll in AP courses seem less prone to allow peer pressures to hold them back (College Board, 2001). Other studies have indicated that because of the disparity in enrollment in Honors and AP courses, students who enrolled in these courses often feel isolated and those who chose not to enroll did so out of fear of isolation (Ferguson & Kennedy, 2001; Ford, 1998; Tyson, Darity, & Castellino, 2005; Wakelyn, 2009). In summary of the literature, Black students who participate in advanced courses are more likely to have feelings of isolation since there are so few of their peers from the same race enrolled in the advanced courses with them. Did Black students have to sacrifice their friendships to be in advanced courses and therefore not have the same sense of belonging with their peers? Mean scores from the PASS indicate that Black students who participated in advanced courses felt like they received fewer inviting messages of expectation from their friends than Black students who never participated in advanced courses.

Student Perceptions

Results from ANOVA indicate that students who enrolled in AP and/or Honors courses have a greater perception of receiving inviting messages than students who have never experienced advanced courses at a level of statistical significance. Items found in the PASS were derived around the theoretical framework of receiving inviting messages related to equity, expectation, enlistment, empowerment, encouragement, and enjoyment.

The conclusion can be drawn that students who participated in advanced courses had the perception of receiving inviting messages more than students who never participated in Honors or AP. Finally, the disparity index indicated that Black and economically disadvantaged students were underrepresented in advanced programs and were therefore less likely to receive fewer inviting messages related to advanced programs than White students. Although one of the limitations to this study is that it is not inclusive of all variables related to the disparity in enrollment in advanced courses for Black and economically disadvantaged students, it does offer insight into the relationship of inviting messages and advanced course enrollment. Finally, results from the PASS suggest that students who never enrolled in advanced courses perceived receiving more disinviting messages than students who were in advanced courses. It is relevant to mention that silence equates to disinviting messages. A study on leading change in schools with high poverty rates suggested that sending the message that “all individuals” matter is a necessary component for improvement efforts (Harris, 2006). Building relationships with students require conversations and those conversations should include the student’s reality.

Implications for School Leaders and Recommendations

Why is this study relevant to education? It is important to collect data using student perception to understand differences found between students who are in advanced courses and those who are not to enable leaders and researchers to make informed decisions on closing the enrollment gap in advanced courses. Creating equitable opportunities for students to participate in advanced courses is important for several reasons: (1) research supports that closing the curriculum gap is an effective way to close

the achievement gap (Burris & Welner, 2005), (2) students who are exposed to challenging and rigorous curriculum in high school are more likely to be accepted to post-secondary schools (Burdman as cited in Klopfenstein, 2004a; College Board, 2010), (3) students who are exposed to advanced courses complete the college or university program at a higher rate than those who do not participate in challenging high school courses (College Board 1999, 2002a; Darity, Castellino, Tyson, Cobb, & McMillen, 2001; DeCuir & Dixson, 2004), and (4) students who enroll in AP and pass the AP exam with a score of three or higher have the opportunity to earn college credits for those high school courses (College Board, 2008).

What did the findings of this study suggest regarding the enrollment gap?

Findings from this study confirm that an enrollment gap in advanced courses between Black and economically disadvantaged students as compared to White students continue to persist in Georgia and more specifically in the schools included in this current study. However, before school leaders can move toward establishing more effective initiatives to close the enrollment gap, they must gain an understanding about why the gap exists. The PASS was developed through an invitational theoretical perspective for the purpose of gaining an understanding on how messages students receive from schools (administrators, teachers, and counselors), parents, and friends are different between students who enroll in advanced courses and those who don't. Results from the PASS confirm that there is a statistically significant difference in student perception for receiving inviting messages of equity, expectation, enlistment, empowerment, encouragement, and enjoyment between students who participate in advanced courses and those who do not.

How can school leaders use the findings in this study to close the enrollment gap? A characteristic of a social justice leader is one who acknowledges that a school cannot be great until the students who traditionally struggle are given the same rich academic opportunities as their more privileged peers (Theoharis, 2009). Once the enrollment gap has been identified and acknowledged, school leaders need to be armed with possible reasons why the gap exists from the student perspective to better enable them to (1) reform current practices and policies to create equal opportunity and access, (2) rectify inequities for traditionally marginalized populations, (3) regard and treat people as individuals, and (4) ensure equality of treatment for students (Theoharis, 2009). The findings of this study provide support for school leaders to use the four tenets of social justice leadership as a framework for closing the enrollment gap for Black and economically disadvantaged students in Honors and AP programs.

Recommendations for strategies leaders can use to close the enrollment gap in advanced courses are based on findings in this current study and from previous research. There is a movement to increase Honors and AP enrollment for minority and underprivileged students as reported by the College Board and other organizations. However, before implementing reform efforts to close the enrollment gap, the first and most important strategy is to examine beliefs within a school. A common characteristic found in seven principals from high poverty schools who closed the curriculum gap is the belief that “students learn best when they are educated in heterogeneous educational settings (Theoharis, 2009, p. 11). Purkey (1992) stated that “it is not enough to be inviting; it is critical to be optimistic about the process” and that “seeing people as possessing

untapped potential determines the policies established and the programs supported” (p. 7).

Second, school leaders must invite students to be active participants to be involved in restructuring practices and reforming of policies. The students’ perspectives are their reality and unless their input is sought and utilized, educators run the risk of creating new policies or structures that continue to produce unintentional harmful consequences as seen in the “freedom of choice” study. Students who are included in “conversations of schooling” experience greater success, increased academic self-concept, and receive messages that make them feel a sense of belonging (Angus, 2006; Shields, 2004; Theoharis, 2009).

Third, school leaders have the opportunity to empower and enlist students by sending the message that every student’s education matters. Enlistment encompasses intentionality; which requires action taken by schools to provide support to students to acquire the skills and confidence needed to be successful in advanced programs. Empowerment and enlistment can be achieved for traditionally underrepresented populations by creating support programs that provide the following: (1) intentional efforts to increase students’ and parents’ knowledge on the benefits of taking advanced courses, (2) implement tutorial structures to overcome deficits from earlier tracking, (3) extracurricular AP study sessions and tutorials, (4) provide social support through relationships with students, and (5) offer incentives such as paying for the AP exam or reducing the cost. Overcoming disinviting messages of enlistment and empowerment can be accomplished by removing barriers such as applications for enrollment in advanced courses. Students may fear rejection and never complete an application to register for

advanced courses. Additionally, schools should review procedures currently used to recruit students into advanced courses to determine if their recruitment efforts are effective in increasing enrollment for Black and economically disadvantaged students. Research suggested that schools base their decision to enroll students in advanced courses based on achievement scores (Archbald, Glutting, & Qian, 2009). By doing so, Black students will continue to be disproportionately enrolled in Honors and AP courses. Researchers have already identified that achievement gaps exist between Black and White students (Clotfelter, Ladd, & Vigdor, 2005; Ferguson, 2003; Haycock, 2001). The National Math and Science Initiative program encourages schools to have open enrollment policies and recruitment of all students, including high-need students, along with the implementation of academic and social support structures (College Board, 2010).

Fourth, school leaders and teachers must have uncomfortable conversations using data to discuss achievement by race and social class to bring attention to structures and policies that create barriers to equalizing access to advanced courses. If administrators are not having conversations about the achievement of students who are traditionally marginalized, then their silence sends unintentionally disinviting messages to students and teachers (Shields, 2004). Traditionally marginalized students need school leaders who (1) intentionally evaluate data through the lens of equity; (2) engage stakeholders, and more specifically the students, in the development of reform initiatives if gaps exist; and (3) continuously monitor disaggregated data and student perspectives to assess the effects of the reform efforts.

Finally, when students receive positive messages from educators and others, they are encouraged to grow academically. The invitational perspective assesses belief systems and relationships in organization “in terms of accepting, embracing, and celebrating diversity” (Schmidt, 2007, p. 16). Additionally, social justice leaders examine programs, school climate, relationships with students, and student achievement data to implement structures, policies, and inclusive practices that promote and embrace diversity (Shields, 2004; Theoharis, 2009). Strategies district leaders can implement to help improve the participation rate in advanced courses for traditionally marginalized students include (1) allocating resources and funding for support programs, (2) provide professional development to teachers on differentiating instruction to include tasks that require higher order reasoning skills, (3) equalize access to a rigorous curriculum at all grade levels, and (4) analyze policies to determine if they support and encourage students to continue to move into advanced courses.

Because the development and validation of the PASS was restricted to two rural schools in Georgia, it is necessary to collect data across multiple regions and school sizes to provide further empirical support for the validity of the PASS, as well as the generalization of the current findings beyond the school districts participating in the PASS. It is recommended that further research be conducted using the PASS as the instrument to collect data from urban and suburban schools that have high rates of poverty and/or populations that are primarily minority. Although research in the literature indicated that Hispanic students are underrepresented in Honors and AP courses, the student population in the districts included in this study did not have a large enough Hispanic population to study as a subgroup. Further research using the PASS to

assess relationships between inviting messages and enrollment in advanced courses for Hispanic students is recommended. The main focus of this research was on assessing differences in perception of inviting messages between students who were enrolled in advanced courses and those who were not. Additional research on how to ensure success in advanced programs for high-need students recruited into advanced courses is suggested. It is equally important to identify strategies that help students succeed in advanced programs once they are recruited. Last, a follow-up qualitative study is recommended to gain deeper insight into conclusions drawn from the results of this study. Interviewing students, teachers, counselors, administrators, and parents could provide the researcher with variables beyond the six elements for inviting diversity into advanced programs that cannot be identified through the PASS.

Concluding Remarks

Advocating for personal and professional practices that change and empower the people, places, programs, processes and policies in educational settings and relationships within the organization is the goal of invitational education theorists (Paxton, 1993). Achieving this goal requires leaders to forge relationships and create environments that intentionally invite students to realize their full potential. School leaders practice invitational education when they intentionally create structures and learning environments that inspire students to develop at their greatest potential. It is hoped that the results of this study will inform policymakers and impact practices that will ultimately close the enrollment gap in advanced programs and help students reach their fullest potential.

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Appendix A

Program Access Student Survey

	Choose one 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	A counselor or teacher at the middle school advised me on classes I picked for my 9th grade year.					
4	The classes I took in middle school prepared me to take honors classes in the 9th grade if I wanted to.					
5	I believe honors classes are open to any student who wants to register for an honors class.					
6	I believe AP classes are open to any student who wants to register for an AP class if they have taken the required courses.					
7	I feel like all students have an equal chance of being scheduled into an honors or AP class if they register for one.					
8	My teachers have high expectations for me in class.					
9	Administrators (principal and assistant principals) have high expectations for students in this school.					
10	My parents expect me to make good grades in school.					
11	My friends talk to me about making good grades in school.					
12	My counselor or teachers advise me by providing me with information that helps me choose classes that match my ability.					

(survey continues)

	Choose one for each question.	5 Strongly Agree	4 Agree	3 Neither Agree or Disagree	2 Disagree	1 Strongly Disagree
13	My teachers challenge me in class.					
14	My academic classes (English, Math, Science, Social Studies) are too easy. (Reverse order)					
15	If I struggle in classes, teachers offer extra help or support.					
16	I take my class work in high school more serious than when I was in middle school.					
17	I make good grades in school.					
18	I feel like I have the skills and ability to be successful in an honors or AP class.					
19	A counselor or teacher has talked to my parents about the benefits of taking honors or AP classes.					
20	My counselor has talked to me about the benefits of taking honors or AP classes.					
21	My teachers have talked to me about the benefits of taking honors or AP classes.					
22	Teachers influence my decision on which classes I should register for.					
23	My parent(s) influence my decision on which classes I should register for.					
24	My counselor influences my decision on which classes I should register for.					
25	My friends influence my decision on which classes I should register for.					
26	I try harder in class when my teacher encourages me to make good grades.					
27	I try harder in class when my parent encourages me to make good grades.					
28	I try harder in class when my friends encourage me to make good grades.					
29	My school offers honors or AP classes in an area that I am interested in.					
30	My counselor or teachers talk to me about taking classes that match my interests.					

(survey continues)

	Choose one for each question.	5 Strongly Agree	4 Agree	3 Neither Agree or Disagree	2 Disagree	1 Strongly Disagree
31	I am more likely to take an honors or AP class if some of my friends are in there.					
32	I enjoy going to school.					

Demographics	Select the number that matches your answer for the following questions.	
33	I have taken an honors class in high school. 1=yes, 0=No	
34	I have taken an AP course in high school. 1=yes, 0=no	
35	Were you served in the gifted program in elementary school? 1=yes, 0=no	
36	I am in the: 1-9th, 2-10th, 3-11th, 4-12th grade	
37	I started going to this high school in the: 1-9th, 2-10th, 3-11th, 4-12th grade	
38	I am: 1-male, 2-female	
39	I am: 1-Asian, 2-Black, 3-Hispanic, 4-Indian, Alaskan, 5-Multiracial, 6-White	
40	In my last math class, my final grade was: A or B = 2, C or F = 1	
41	If I buy lunch at school, I am charged: 1-free/reduced price, 2-full price	

Appendix B

Survey Instructions

In just a moment you will be asked to take a survey. The purpose of this survey is for students to provide their opinion on our guidance and advisement process to help students register for appropriately challenging courses that match your career interest and skills.

This survey should take no more than 5–10 minutes to complete:

- Select one answer for each question.
- This survey is anonymous. Please give us your honest feedback.

Appendix C

IRB Approval

Revisions approved for protocol # 10-359

IRB Chair [irbchai@auburn.edu]

Sent: Monday, January 03, 2011 5:27 AM

To: Christy Cabezas

Cc: Lisa Kensler

Attachments:)

Dear Ms. Cabezas,

Your revisions to your protocol entitled "" have been reviewed. The protocol has now been approved as "EX 45 CFR 46.101(b) 4".

This e-mail serves as official notice that your protocol has been approved. Please conduct your study at your convenience. A formal approval letter will not be sent unless you notify us that you need one.

By accepting this approval, you also accept your responsibilities associated with this approval. Details of your responsibilities are attached. Please print and retain.

Your protocol will expire on December 29, 2011. Put that date on your calendar now. About three weeks before that time you will need to submit a final report or renewal request. (You may want to consider sending yourself a reminder e-mail to be received next November.)

If you have any questions, please let us know.

Best wishes for success with your research!

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