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What Are The Doorways And Barriers To Enrollment In College Preparatory Courses For Students Who Are Black, Hispanic, And American Indian?

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WHAT ARE THE DOORWAYS AND BARRIERS TO ENROLLMENT IN

COLLEGE PREPARATORY COURSES FOR STUDENTS WHO ARE BLACK,

HISPANIC, AND AMERICAN INDIAN?

by

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A capstone submitted in partial fulfillment of the
requirements for the degree of Master of Arts in Education.

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DEDICATION

I have rarely taken the easy path, and my struggles are never alone. I dedicate this thesis to my husband and children, who have supported me through the struggle. You reminded me to finish what I started and never never let me give up. Thank you for your complete love and support for my work.

"A lot of what is most beautiful about the world arises from struggle."

Malcolm Gladwell

ACKNOWLEDGEMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER ONE

Introduction

If an outsider walked through the hallways of my high school, peeking in the classroom doors, they may notice a disturbing phenomenon. The student population in each classroom vary to a noticeable degree. In the science wing, one can identify Advanced Placement (AP) Chemistry and AP Physics by a quick glance at the students. These courses are majority male, exclusively white and Asian. One can also identify the lowest level required science course. General chemistry is racially diverse, fairly equal gender. College Biology had gender balance, but is predominantly white and Asian students. Upper level math courses are achieving gender balance, but they are the whitest courses in the school. Remedial Algebra and extended-year Geometry reflect greater racial diversity than the school population as a whole.

In the social studies department, the demographics are not quite as extreme, but the racial disparity still exists. The English department's most rigorous course is College In the Schools (CIS) English language and composition, and it resembles a mostly white, slightly Asian population. The "reading for graduation" course, for those students who have not yet passed the state required reading assessment, looks nothing like the CIS course. It is racially and economically diverse.

Though Brown vs Board of Education occurred nearly 65 years ago, schools still have work to do to accomplish greater integration. Students are divided, grouped, and labeled throughout elementary and middle school, resulting in segregated classrooms in

high schools. If we want to continue the work of integration, educators must also examine the segregation within our advanced high school courses.

Educational Inequity

These observations from the science, math, social studies and English departments are disturbing for two reasons: (1) students of color experience a damaging opportunity gap, significantly influencing their future learning and earning potential, and (2) the majority of the staff at my school are passive participants in this cycle of inequity. Since most AP/honors teachers do not teach remedial courses and most remedial teachers do not teach AP courses, they are unaware of how differently their classrooms look than others. They are unaware of how their classroom compares to our overall student demographics. Our collective blindness to the reality of racial segregation is unacceptable. Without knowing it, teachers are playing active roles in moving black, Hispanic, and American Indian students toward a different future than white and Asian students.

My school is not full of overtly racist teachers. In fact, most of my colleagues would say that they chose this career to help kids find a better future. Most are trying to do the very best job that they can. Some would even describe themselves as social justice educators, working toward dismantling a racist society. Many actively work to examine their own blindspots and assumptions in order to build inclusive educational communities.

My school is not abnormal. In fact, my school fits with national trends. We are blind to this racial disparity because an extraordinary degree of attention has been paid to

state testing achievement gaps, and little attention has been given to examining gaps in student rigor and gifted education. If we do not pull back the layers to examine all possible educational inequities, we will do little to change the status quo.

National Relevance

When administrators, politicians, and journalists give attention to the achievement gap, they generally speak of data on standardized achievement tests. Students of color fail to meet minimum graduation standards on mandated testing (MDE, 2014 Minnesota School Report card; Howard, 2010). Students of color are overrepresented in special education and remedial courses (Darling-Hammond, 2010). Though some targeted efforts have resulted in improvement since Darling-Hammond's 2010 publication, all states continue to have measurable racial and ethnic disparities in special education (U.S. Department of Education, 2016). These concerns are real, significant, and worthy of national attention.

Educational policy has specifically targeted discrimination and achievement gaps since the 2002 update to the Elementary and Secondary Education Act (ESEA). The latest update, the 2015 Every Student Succeeds Act (ESSA), states specific achievement goals for all subgroups in reading and math (Minnesota Department of Education, 2018). Unfortunately, most solutions target remediation. Most solutions examine ways schools can get underperforming students up to the standard benchmark. These solutions stop at the minimal grade level benchmark. Policies have failed to examine the higher achievement gap. Closer examination reveals a disturbing pattern of segregation in high schools (Darling-Hammond, 2010). African-American, Hispanic, and American Indian

students are not represented in advanced high school courses. These students are consistently over-enrolled in mainstream courses or remedial courses. Their opportunities for a rigorous education fail to compare to those opportunities of white students. In a democracy that depends on an educated population, these inequalities are morally and ethically wrong. As a teacher committed to dismantling systems of oppression, I am compelled to change the current condition.

Personal Relevance

My diverse experience in education has led me to this question: *What are the doorways and barriers to college preparatory course enrollment for students who are black, Hispanic, and American Indian?* I taught ESL at a diverse, under-resourced elementary school for my first four years in education. I taught summer school to middle school English Language Learners in between those years, which gave me a broader long-term view of the implications of my work as an ESL teacher. I spent the next six years teaching ESL at the high school level. I then transitioned to the social studies department where I have taught for the last five years. I currently teach ninth grade Civics, a required social studies course. I also teach Psychology, Multicultural Perspectives and AP Psychology, all elective courses, to primarily juniors and seniors.

My first year teaching AP Psychology, I was struck by the differences in racial demographics between my AP Psychology class and my Civics class. Over the years, I have worked deliberately to build connections with ninth grade students to encourage them to take an AP class. I refer to AP Psychology as a "gateway to AP" course. The course is an elective, not required for graduation. Prior knowledge is not required for

success in the course. The reading is difficult and the time commitment is great, but all students are capable of success if they are motivated. The critical thinking skills acquired through the course build a strong foundation for future college level courses. In the first two months of the course, I spend considerable time making the class accessible to all and teaching the dispositions required to be successful. I have witnessed considerable growth in enrollment in the last three years, and the number of students taking the AP exam has doubled each year. Our AP exam scores have continued to increase as well. Greater access has resulted in greater success for all. The course's reputation had fed this dramatic increase in enrollment. Today, the course attracts highly motivated students. Many students take AP Psychology as their first AP course.

Though I have worked hard at creating this change over the years, I still see significant racial disparities in course enrollment. In addition, I have no clear data to identify how the positive changes have happened. I attribute much of this enrollment growth to deliberate relationships. I would like to apply the positive lessons from my course to other advanced courses in my school, and I would like to examine what strategies other teachers use to actively increase enrollment in their advanced courses. Beyond individual teacher-student interactions, I would like to move forward to examine the structural changes that need to take place to further eliminate the racial enrollment gap at the systemic level.

This topic is important to me for several reasons. If given the opportunity, students of color will find success and engagement in the AP, Honors, and CIS courses. We have an increasingly diverse student body, yet most students of color who have

enrolled in my AP Psychology course are Asian. Few African-American, Hispanic, or American Indian students have enrolled. All students suffer in such a situation. Students of color are not given the opportunity to experience rigorous college preparatory curriculum. They are more likely to be tracked into career-specific job-training, and they are less likely to earn a four-year college degree. Students may feel disengaged in their education, and they internalize negative beliefs about their intelligence and academic potential. White students are educated in a bubble, with very few opportunities to engage and interact with students different from themselves. All miss out on learning more about psychology and themselves when the classroom discourse is limited to a singular white middle class experience.

School Community Relevance

This topic is professionally important to my building as a whole. I was very fortunate to have Peggy McIntosh and Emily Styles as my mentors through Seeking Educational Equity and Diversity (SEED), and I have facilitated SEED seminars for my colleagues over the past decade in my district. Many teachers and administrators in my building have worked for several years with Gary Howard, author of *You Can't Teach What You Don't Know*, on culturally responsive teaching. I am currently the chair of my school's Culturally Responsive Teaching committee, working with representatives from all departments to train and evaluate our teaching practices to move toward more culturally responsive pedagogy. These staff development opportunities have allowed me to invest in my colleagues, building a strong, passionate network of educators in my school and district. Because I have invested in this work for over a decade with a strong

community of passionate educators around me, I have gained tremendous support and knowledge along the way.

Many teachers are just starting to ask what they can do differently. The school improvement plan reflects goals for improving the achievement gap, and teachers are beginning to examine the opportunity gap between white students and students of color in my school. Many strategies have been discussed to decrease this gap. Most of the action, however, has been through Minnesota Comprehensive Assessment test remediation and preparation groups. Though this may show some positive results in test scores, it is a short-term solution. It does not confront the racial inequities built into our system. There are many examples of racial inequities such as referrals, suspensions, sped referrals, and remedial reading course enrollment. Each example deserves a multi-faceted approach to moving toward improvement. At this point, I would like to tackle one in which I am directly involved. Students of color in my school, specifically black, Latino, and American Indian students, do not enroll in the college preparatory curriculum at a rate similar to that of other students. My research is to find out *to what extent* this exists in my school, *why* this inequity exists, and what my school can do to improve opportunities for students of color. Since I teach a balance of AP and mainstream courses, both required and elective courses, I am in a unique position to survey and personally connect with a broad range of students. Once I develop a research-based action plan, my unique teaching schedule allows me to implement changes within my classroom. My role as a staff educator allows me to assist my colleagues in implementing school-wide change as well.

My research will first precisely identify the racial difference in college preparatory enrollment compared to mainstream and remedial course enrollment. Second, my research will identify the barriers and doorways for students of color in enrolling in advanced college preparatory courses at one high school. The results of this study will provide my school with data-driven recommendations for improvement. Without specific data, improvement plans that include cultural competence or cultural responsive teaching are rarely fully implemented or evaluated. Schools can include culturally responsive teaching in the school improvement plan, but if they do not include specific targets for improvement, it is difficult to measure its effectiveness. The College Board reported that many schools have goals of increasing AP course enrollment for underrepresented groups, but few have actually included data analysis in their plans (Edwards & Duggan, 2012). If the school does not know the current data and does not have a target for improvement, it will be impossible to determine success.

My principal has given me full support and holds a personal interest in my research. With clear data as guidance, our school has continued reason to develop deeper staff development on building a more inclusive community. My selected high school is part of a large suburban district with several other large high schools. My recommendations will be shared with the district's student services department, and I look forward to working with the department to cohesively integrate improvement goals throughout the district.

One bias worthy of discussion is that of the value of an Advanced Placement or other college preparatory course. This study is operating under the assumption that an AP

course experience has value. It is quite possible that some educators disagree with this assumption. In my building, a significant distinction exists between the rigor and expectations of a mainstream course and an AP course. Further discussion of the data to support this assumption is included in the literature review.

Conclusion

In this chapter, I elaborated on the value and relevance of my research. My dedication to social justice and eliminating inequities has led me to pursue this topic. At this point in my professional career, I would like to make significant structural changes. Through examining the elements within my locus of control, I have settled upon a topic that will positively influence the lives of students of color in my building.

The next section will review the literature that shaped my research question. The literature review begins by examining the overarching theme of educational inequity. It builds background with research on the achievement gap, implications of inequities in discipline and special education, and then examines current literature on racial gaps in gifted education. Next, the review shines a light on what is known about factors contributing to the advanced placement enrollment gap like stereotype threat, teacher perceptions and implicit biases, and the experience of racial isolation. I end the literature review by highlighting successful models that have improved the racial enrollment gap, synthesizing what individual and systemic behaviors work.

Many researchers have gone before me to study elements of my research question. Yin (2014) states that the purpose of a literature review is not to determine the answers about what is known, rather "experienced investigators review previous research

to develop sharper and more insightful *questions* about the topic." (2014, pg. 14-15). The research process is a cycle of revision, a process in which the investigator continues to re-examine the literature from multiple lenses. The quest of a literature review is not to summarize answers already. Rather, through the sharpening of questions and deeper self-reflection, the result is a clearer path to questioning what is unknown. The literature review on the following pages moves the investigation to clarity and purpose.

CHAPTER TWO

Literature Review

Introduction

Racism is a powerful word in America. Nobody wants to be called a racist. Conversations about it are scary and often result in feelings of misunderstanding. It is much easier to see and discuss explicit, overt racism (ex. a member of the KKK) than it is to examine how systems uphold racism in our society. It is extraordinarily difficult for individuals to acknowledge that they may be passively contributing to systemic racism. Racism plays a role in all aspects of daily life. "Racism is like smog in the air. Sometimes it is so thick it is visible, other times it is less apparent, but always, day in an day out, we are breathing it in." (Tatum, 1997, p. 5). Though it is not always noticed, its impact is long-term. An individual may not recognize the negative health effects of smog for years. Some Americans have the privilege of living without having to think about racism, others deal with it on a daily basis. In conversations about race, one can feel angry, guilty and powerless. It can be paralyzing to identify the exponential consequences of racism. These problems are so great that is seems impossible to change.

My research topic is my attempt to do something. One teacher cannot fix the pervasive system of racism, but I can do something beyond the work in my classroom. I can work with my school community to make systemic changes. The topic of race and education is vast. I chose to examine and change the disparity in enrollment in college preparatory coursework for black, Hispanic, and American Indian students because it is

within my sphere of influence and it reaches toward dismantling structural inequities in education.

Many experts have gone before me to research, experiment, and investigate elements of race and education. The purpose of this literature review is to explore the existing literature related to the following questions: *What are the barriers and doorways to enrollment in college preparatory courses for students who are black, Hispanic, and American Indian?* The review will begin with an overview of racial inequalities in education and then focus directly on racial inequities in college preparatory course enrollment. Within this section, the review will define college preparatory courses to include Advanced Placement, dual enrollment, and "College in the Schools" programs. The review will then transition to explore identity factors associated with students of color. Next, teacher expectations and perceptions will be examined. Finally, the review includes an analysis of successful school models.

Definitions and Research Parameters

In order to fully explore the issue of advanced course enrollment disparity, key concepts need to be defined. An advanced secondary course includes honors, Advanced Placement, and any dual enrollment program. This study investigates enrollment in college preparatory courses. Honors, Advanced Placement, and dual enrollment courses all are included in the operational definition for college preparatory courses. Honors courses have no clear national standard. Schools create "honors" level courses to increase rigor for those students capable of more than a grade-level course. Students do not earn college credit for honors courses; they are seen as college preparatory in nature. Due to

this lack of uniformity, honors courses are included in this study with scrutiny. The research acknowledges that standards for honors courses in one high school could be drastically different from another school.

The College Board's Advanced Placement (AP) Program, established in 1955, gives high school students the opportunity to take college courses. These courses are the equivalent of a college course, but they are taught at a high school. Each of the 38 courses offered ends with a summative assessment. Core content areas courses use a comprehensive exam as the summative assessment. Each exam is scored on a 1 to 5 rating. Earning a three or higher will typically result in college credits for that course, though colleges vary in their criteria for giving credit for AP scores. More selective schools required a 4 or 5 on the exam in order to receive college credit (Godfrey, Matos-Elefonte, Ewing, & Patel, 2014). AP courses use a common curriculum structured on key concepts created by the College Board. The universality of course expectations offered by the College Board provides a solid database to examine. These courses allow a stronger operational definition to research national data and compare course enrollment. It eliminates possible variables. It is for these reasons that I selected AP course enrollment as the operational definition for "college preparatory courses."

Dual-enrollment (DE) programs vary somewhat more than AP courses. They are not affiliated with the College Board. Dual-enrollment includes courses with names like "College in the schools (CIS)," "Dual-credit," or "Senior to Sophomore (S2S)" program. Individual colleges allow their courses to be taught by high school teachers within a high school, and students' grades in those courses become part of the student's college

transcript. In other words, students are actually enrolled in the college and earning credit in the college. They earn credit for free while in high school (University of Minnesota 2016). Generally, a grade of a C or higher in a DE course earns the student college credit. The student receives a transcript from that college with their earned grade on it. Most DE programs require admission to the host college in order to earn college credit. Most require a minimum GPA or class rank (often top 20%) for admission into the college and, therefore, admission into the course. Though these courses have some variation, they provide a strong source of data to examine course enrollment disparity as well. DE courses will also be included in my operation definition of college preparatory courses.

All advanced programs aid students in a successful transition to college. Students experience rigorous and engaging coursework, often a weighted GPA, and a positive component to their college admissions application. Success on AP exams or in DE courses saves students tuition. Students that earn a 3 or higher on AP exams have higher GPAs in college and graduate in less time (Godfrey, Matos-Elefonte, Ewing, & Patel, 2014).

The literature in this review includes data on honors enrollment, AP enrollment and dual enrollment programs. The most robust data available is regarding AP enrollment. The College Board has a national system and most schools in the United States use at least a part of this system. Dual enrollment programs have considerable variation from course to course and college to college. Nationally, DE programs often include career and technical courses, which can contrast significantly with four-year college driven AP courses. Of the total DE courses offered in 2010-11, almost 30% had a

technical-education focus (Thomas et al, 2013). Because my research is focused specifically on the four core academic areas, data on DE course enrollment isolated to the four core academic areas was quite limited.

In addition to the literature on high school course offerings, data on overall gifted and accelerated programs is worthwhile to examine. These programs have great variation nationally, yet considerable research has been conducted using the general terms "gifted and talented" or "accelerated."

In order to contextualize enrollment in college preparatory courses, an overview of inequities within the whole system of education is valuable. This next section will review racial inequities in the overall achievement gap, special education services, school discipline data, and, finally, gifted education and advanced course enrollment. An underlying assumption of representation is that "the proportion of a racial and ethnic group in any categories or programs should be equal to the proportion of that ethnic group in the school population if there is no discrimination" (Yoon & Gentry, 2009, p. 125). Inequities in education are examples where there are proportional differences between a racial and ethnic group and that group in the overall school population (MacMillan & Reschly, 1998).

Racial Inequalities in the School System

Students of color face racial disparities throughout their education. They are more like to be referred to special education and less likely to be referred to gifted and talented programs (Losen & Orfield, 2002; Schott, Cross & Donovan, 2002). They are more likely to be removed from the classroom, suspended, and expelled (Schott, 2015, p. 31; NEA

2011). They are less likely to meet state standards for math and reading benchmarks (MDE, 2014 Minnesota School Report card; Howard, 2010), causing them to be unprepared for college (US Department of Education, 2014). They are less likely to graduate from high school, less likely to attend college, more likely to be in remedial courses in college, and less likely to graduate from college (Schott, 2015; Bettinger & Long, 2009). The achievement gap results in an opportunity gap. Students of color become laborers in the workforce with less opportunities for employment (Kochhar, 2014).

Elementary and Secondary Education Act: the impact of No Child Left Behind and Every Student Succeeds. No Child Left Behind was the 2002 reauthorization of the 1965 Elementary and Secondary Education Act, and Every Student Succeeds is the latest reauthorization, passed in 2015. No Child Left Behind legislation brought public attention to the achievement gap in American schools. The results of state educational testing show that students of color achieve at a lower level than white students in most school districts across the country. Every Student Succeeds Act (ESSA) made significant changes by increasing state and local authority and flexibility. Both of these acts focus on academic achievement of specific subgroup populations and eliminating disparities across subgroups. Minnesota, though a high achieving state in overall test scores, ranks among the bottom in the nation for achievement disparity (Minnesota Department of Education, 2015). The Minnesota Department of Education reports that though 85% of white students in Minnesota graduated from high school on time in 2013, only 58% of black students, 59% of Hispanic students, and 49% of

American Indian students graduated. Though 69% of white students met proficiency standards for reading in grades 3-8 in Minnesota, only 33% of black and 35% of Hispanic and American Indians did (2015). The National Assessment of Educational Progress (NAEP) and the Programme for International Student Achievement (PISA) are used to evaluate American students' progress compared to students around the globe. Both measures show significant racial disparities in achievement (Schleicher & Davidson, 2012; Schott, 2015, pg 37).

Much national attention has been placed in these deficiencies. In the 17 years since the first NCLB legislation was passed, schools have purchased an assortment of remedial materials to get students up to the state and national benchmarks. Most school resources have been allocated to minimizing academic deficits. In the district that I belong to, for example, several special programs have been developed to help students with academic deficiencies catch up. The elementary schools use reading and math recovery support. Reading and math specialists and interventionalists have been hired to help fill in the gaps for students who are not meeting the grade level benchmarks. In middle schools, programs such a "second scoop" reading and math targeted students who are developing below grade level. Districts across the country have developed programs such as these to ensure that no child is left behind in making adequate yearly progress, as measured by their state's educational accountability tests. Unfortunately, for most of these special remedial programs, students of color are disproportionately represented (Grantham et al, 2011, pg 15).

Racial disparities in special education. Students of color have been

disproportionately placed in special education. Harry and Klinger note that disparity in

special education referrals and services is part of a historic pattern. Data from the 1960s

notes disparities, and the data has been quite consistent through the decades of

educational reform and increase access to education for those with disabilities (2014, pg.

1).

In 1988, black boys were three times more likely to be placed in classes for

"mentally retarded students" than white boys (Grantham et al., 2011, pg 24). The current

data shows that this is still a significant problem. Though black males made up 9% of the

student population in America in 2012, they made up 20% of special education students

(Holtzman, 2012).

American Indians experience similar disparities. About 14 percent of American

Indian/Alaska Native children received IDEA services (special education services) in

2006, compared to 8 percent of White children. In addition, the percentage of American

Indian/Alaska Native children served under IDEA increased from 10 percent in 1998 to

14 percent in 2006 (US Department of Education, 2015).

Referral rates for Hispanic children vary by state. Though some states do not have

a disproportionate number of Hispanic children in special education services, the majority

do. (Yates & Ortiz, 1998) The relationship between English Language Learner services

and special education services seems to make a difference. Many Hispanic students also

qualify for English Language Learner services, and many referral systems lack clarity to

differentiate between language acquisition development and a learning disability. Over

80% of special education referrals are generated from teachers concerns over reading problems. Many of these referrals are due to language acquisition rather than learning disabilities, yet the child receives services for a disability rather than English language and literacy services (Snow, Burns, & Griffin, 1998).

Of those Hispanic students in special education programs, their experience varies from that of a white student. They are about twice as likely as white students to be removed from a general education setting and placed in a restrictive educational environment (Frankenberg & Lee, 2002). "Overall, 36 percent of Latino students classified as having learning disabilities spend the majority of their day in separate settings, such as restricted classrooms or schools, compared with only 20 percent of white students classified as having learning disabilities" (NEA Report 2007). Education in a separate environment takes away that student's access to the standard curriculum, the classroom community, and the grade level teacher that other students have access to, resulting in a different educational experience. Special education services for white students includes greater emphasis on least restrictive environment, using a push-in model that allows the special education teacher to come in to the child's classroom for assistance rather than removal from class (Frankenberg & Lee, 2002).

Racial disparities in discipline. In addition to academic deficits, public attention has also been given to black, Hispanic and American Indian students regarding their perceived social deficiencies (Grantham et al., 2011, p. 3). Black males are three times more likely to be suspended than white males (NEA, 2011). Black girls are six times more likely to be suspended than white girls (Chrenshaw, 2015). When suspensions are

combined with expulsions, office referrals, detention, and removal from the classroom due to behavior, the disproportionality is compounded for blacks, Hispanics, and American Indians (Gregory, Skiba, & Noguera, 2010). The National Center for Educational Statistics reports that American Indian students had the highest rates of suspension or expulsion at 38%, black students following close behind at 32%, and Hispanic students at 20%. White students (15%) and Asian students (13%) had the lowest rates (Hoffman & Lagas, 2003). In an analysis of 10th grade students in 2008, 50% of black students reported having been suspended or expelled at some point in their schooling. 20% of white students reported the same (Wallace, 2008).

Racial disparities in gifted education. When school officials and the public examine assessments displaying a racial achievement gap, most of the solutions focus on those students who have not met proficiency targets. Focusing on closing the achievement gap and raising academic proficiency is essential to improvement in the US education system. However, if resources are only allocated to basic skills and remediation, the bar for all students drops. Much of the focus has been on the lower performing students, which has resulted in diverting resources away from the higher potential students and programs. Extra state aid and money from the general education budget has targeted underachieving students and programs. These programs are basic, often scripted programs, that do not expand the higher order thinking capacity of students. Many high minority and high poverty schools spent considerable time and resources on test preparation, in effect eliminating advanced programs (McCarty, 2009) and programs encouraging cultural and linguistic development (Gentry & Fugate, 2012).

Though the gap between students deemed proficient and not proficient is important to analyze and eliminate, little attention has been given to the achievement gap among high performing students. Few resources have targeted high potential students of color. Minimal attention has been given to scrutinize the disparity in opportunities for high potential students of color. According to Otterman (2010), gifted, honors, and college preparatory education is also color-coded. A system of tracking students begins in the early grades, some as early as kindergarten.

Sparks (2015) describes the opportunity gap within high-performing groups of students:

> Achievement gaps between high-performing black and white students actually grew faster than the gaps between low-achieving black and white students. A study from the University of California, Los Angeles, for example, examined how gaps in math and reading performance changed from kindergarten to 5th grade. The gap between black and white students who performed well at an early age grew twice as fast as the gap between their low-performing peers.

Today, gifted programs are the most segregated academic programs in the United States (Grantham et al, 2011, pg 23). Black and Latino students are underrepresented in gifted and talented programs. Overall, schools offering gifted programs had an aggregate enrollment that was 15 percent black and 25 percent Latino, but their gifted and talented enrollment was only 9 percent black and 17 percent Latino (Lhamon, 2014, pg. 3-4).

Black boys are 2.5 times less likely to be in a gifted program (NEA, 2011). In fact, many gifted black boys may be in isolated special education programs instead of gifted programs. (Grantham et al, 2011, pg. 45). In the New York City school district, which is made up of 85% students of color, only 66% of gifted students are students of color (Otterman, 2010).

Within the overall body of literature on gifted education, only a few exist that specifically examine American Indian students. Many call for more research, but few have taken up this task. In fact, one comprehensive report suggests that only a few empirical articles exist (Gentry, Fugate, Wu, & Castellano, 2014)..

College preparatory enrollment. College preparatory course enrollment is fed by the pipeline of "advanced" and "gifted" students. These labels were given in elementary and middle school (Ford, 2015). It is no wonder, then, that the same disparities for gifted education identification exist for honors, Advanced Placement, and Dual Enrollment courses in high school. The data is virtually the same. The United States Department of Education Office of Civil Rights acknowledges that students of color are less likely than white students to be enrolled in advanced courses and programs within their schools that hold advanced offerings (Lhamon, 2014, pg. 3). This is important to note because the explanation of national disparity is two-faceted. Many students of color are isolated in low-performing schools, and some of these schools do not even offer Advanced Placement courses. However, the disparity cannot be disregarded as a problem isolated within low-performing schools. Llamon's 2014 study shows that even within high-performing schools, students of color are not enrolling in these college preparatory

courses. Gifted and honors classes are whiter and wealthier than the students in the schools as a whole (Kao & Thompson, 2003). In 2007, 14% of graduating seniors in US public schools were black. However, only 7% of AP exam test-takers were black (Long & Congers, 2009, p. 556; College Board, 2008a). In the 2012-13 school year, 18.4% of white males enrolled in an Advanced Placement course, but only 7.6% of black males did (Schott Foundation for Public Education, 2015, pg 42).

According to the College Board's Equity and Access Statement, the board "encourages all teachers to make equitable access a guiding principle" for all Advanced Placement courses, stating that all students who are willing and academically prepared should be given the opportunity to take a course (The College Board, 2015). Despite its mission to promote equitable access to AP courses, students enrolled in these courses do not reflect the racial demographics of their schools. National AP data reveals strong participation by Asian students and white students, but inequitable participation by other students of color (Edwards & Sawtell, 2013). Of all 2013 high school graduates in the United States, 32% took an AP exam, but significant racial and ethnic disparity nationwide exists within that 32%. Over half of all Asian students take at least one AP Exam and nearly one third of white students do. 9% of black students, 19% of Hispanic students, and 0.5% of American Indian students take at least one exam (Edwards & Sawtell, 2013).

The College Board uses its PSAT and NMSQT tests to determine "AP Potential." Students take these tests in their sophomore or junior years of high school. Higher achieving students are given the label of "AP Potential." Of all the black students

identified as having "AP potential," only 20% enrolled in an AP course in 2010. This

participation gap has persisted throughout the history of Advanced Placement, with little

improvement over the last decade (Edwards & Duggan, 2012). For American Indian

students, only 26% identified as having "AP potential" enrolled in an AP course. Of all

racial and ethnic groups, American Indians had the lowest AP participation rate with only

15% of all American Indian students taking one AP exam (Edwards & Duggan, 2012, p.

44). Less than one percent of all AP exams taken were by American Indian students (The

College Board, 2013). The AP Potential program is a method used by the College Board

to identify and hopefully promote enrollment for more rigorous courses for all students.

However, school counselors and AP testing coordinators are the school officials with

access to this data. Many underfunded, underserved schools have very high counselor to

student ratios. Minnesota ranks near the bottom. In 2016, Minnesota schools have a ratio

of 743 students per licensed school counselor (Cronin, 2016). This varies by country and

school district. Students who are black or American Indian are more likely to lack access

to a licenced school counselor (Cronin, 2016). Without a school counselor identifying

students with potential to succeed in AP courses, it is highly unlikely enrollment in AP

courses for students of these underrepresented groups will change.

Hispanic student Advanced Placement participation matched the overall national

participation rate and the rate of white students in 2012 (Edwards & Sawtell, 2013, p.

12). However, over one third of those who took an Advanced Placement course took AP

Spanish. If AP Spanish was pulled out of the data, the participation rate declines

(Edwards & Sawtell, 2013, p. 35). The success rate also declines. Though over half of

Hispanic students succeeded on an AP exam, only 39% did when Spanish language was pulled out of the data (p. 36).

The data is clear. Students who are black, American Indian, and Hispanic are underrepresented across academic advancement programs. They are less likely to be a part of a gifted education program, and they are less likely to enroll in an AP or dual credit course in high school. This persistent gap is too often ignored, and systemic change is required to see improvement.

Data-driven equity plans. Despite the vast data on equity and disparity collected by the College Board, few schools use this data to reduce inequities (Edwards & Duggan, 2012). Only six percent of public schools reported "using data to evaluate inequities and had actually achieved equity in participation and performance," and of those schools, the majority did not compare AP and school enrollment data (Edwards & Duggan, 2012, p 14). Edwards' and Duggan's research showed us that few schools are actually using this data to implement real change in access and outcomes for marginalized student populations. A school needs to have an equity plan, baseline data needs to be collected, and clear measures of outcomes need to be determined and analyzed. Comparing AP data to school enrollment is a starting point. "True equity is not achieved until the demographics both of AP classrooms and of the successful AP student population mirror the demographics of the state and nation" (Edwards & Duggan, 2012, p. 20). Unfortunately, this type of data review is not a part of a school improvement process, and teachers and counselors cannot be expected to voluntarily calculate and analyze this data for the good of their institution.

The Value of Advanced Courses

With such an intense analysis specifically of Advanced Placement course data, an examination of why such data matters is valuable. Success of high school graduates could be measured in many ways. Few would presume advanced courses are the sole way to measure a successful or quality education. However, AP course enrollment has become an important factor for admission to many selective colleges and universities (Geiser & Santelices, 2004). Besides GPA, colleges look at the rigor of a student's schedule combined with grades and/or exam scores to determine college preparedness (Geiser & Santelices, 2004). Since Black, Hispanic, and American Indian students are less likely to enroll in these courses, they are being systematically excluded from admission to the best colleges and universities in our country.

Enrollment in Advanced Placement (AP) and dual enrollment (DE) courses prepares students for college. "Students in more advanced courses tend to put in significantly more effort, and student effort is in turn correlated with higher achievement, regardless of the student's entering level of achievement and regardless of which courses the student takes." (Lhamon, 2014, pg. 3). This body of research supports the claim that college preparatory courses in high school are ideal for college success. Taking a college rigor course within the context of a high school learning environment may provide the ideal level of scaffolding students need to succeed in college. In high school, students are still required to go to school every day, parents have daily access to their child's grades, and students are regularly assessed on their learning. So students are given very high

academic expectations, yet they are supported along the way to allow proper transition to college. This structure facilitates better preparation for college.

Students who took AP courses in high school do better in their first year of college. They are less likely to drop out of college, and they earn higher GPAs. They achieve higher GPAs within the disciplines in which they took AP courses, and they graduate from college more quickly, leaving them with a smaller tuition bill (Godfrey, Matos-Elefonte, Ewing, & Patel, 2014, pg. 7). Looking at all college outcomes, the data suggests that AP students outperform non-AP students in college. This data does not distinguish between students who took the AP exam and students who took the AP course but did not take the exam. It may be the case that simply taking the course is significant enough to result in greater success in college. The more intense the high school curriculum (the course schedule, not performance on AP exams), the stronger correlation with bachelor's degree completion (Adelman, 2006).

Enrollment in college preparatory courses academically and, ultimately, financially, benefits students. Teachers, administrators, counselors, and students should actively work together to facilitate enrollment in these courses.

In addition to benefiting individual students, high Advanced Placement participation rates promote a school's status. AP enrollment has become a way for high schools to measure their level of excellence and improve their reputation. Newsweek's High School Rankings includes AP/DE course enrollment as part of its methodology (Finster & Miller, 2015).

Many more students would benefit from the rigors of advanced college preparatory courses. High school students report lack of engagement in mainstream courses. Engagement is defined as "the student's psychological investment in learning, comprehending, and mastering knowledge or skills" (McCarthy & Kuh, 2006). In a national study on engagement in high school, only half of high school seniors reported being challenged to do their best, and less than half stated that their courses made them "curious to learn new things" (McCarthy & Kuh, 2006). Half of high school students reported being bored at least once every day, but students in honors and college preparatory courses report being more engaged in school than all other students (Yazzie-Mintz, 2007). Instruction at the lower tracks or remedial programs are often low cognition tasks with teacher focused more on behavioral criticisms, particularly for minority students (Darling-Hammond, 2010, p. 55). Advanced courses not only change the curriculum, but the content is often taught differently, asking students to think critically and engage more meaningfully in the text (Darling-Hammond, 2010). These differences in curriculum and teacher quality influence a student's engagement in school, thus, their preparedness for college.

Barriers to Enrollment

It is clear that racial disparities in enrollment in advanced courses exist, and the implications are clear for students' futures. The important question here is why. What barriers exist that prevent black, Hispanic, and American Indian students from enrolling in these courses? This next section examines several possible barriers. Overcoming racial disparities requires understanding educators' views and behaviors, analyzing student

beliefs and behaviors, and identifying key structural barriers of inequity. The research in this section is not specific to enrollment in college preparatory courses. This research examines a broader understanding of race and perceptions of achievement in the educational system. The literature included is foundational in any plan to create fully inclusive educational communities with high expectations for all students. The following issues will be examined: psychological theories of belonging, mindset, beliefs and behavior, and implicit bias.

Psychological theories of belonging: students don't feel smart enough, they don't belong. "Students' willingness to commit to school and their own futures is interwoven with their perceptions about whether the society, their schools, and their teachers believe they are worthwhile investments-- perceptions that enable them to invest in themselves." (Darling-Hammond, 2010, p. 30). Strong achievement is obtained through the intersection of students' dedication, student knowledge of what is needed to succeed, and access to the curriculum. Students of color are missing out on access to high quality teachers and curriculum (Darling-Hammond, 2010).

As described in the prior section, early tracking in school molds a student's identity. If they were never allowed access to special gifted or honors programs prior to high school, they may not see themselves as belonging in an honors track program. Interestingly, most high school students plan to attend college, though these aspirations decline as a student progresses through high school. A national longitudinal study from 2009 to 2015 shows 99% of ninth grade students state that they were either "very sure" they would earn a Bachelor's degree or they thought they "probably" would. By 11th

grade, those numbers declined to 81%. This study, completed by the National Center for Educational Statistics, began with a nationally representative sample of students enrolled in ninth grade. The study followed the students to 2013 to determine change in attitudes and finally enrollment in college. A key indicator of college enrollment for all students, regardless of income, was AP or DE enrollment in high school. In addition, students who enrolled in AP courses performed better in their first year of college and were more likely to graduate on time, regardless of their score on the actual AP exam (Broer & Ikoma, 2015). A large percentage of students intend to go to college, yet a gap exists between a student's goal of attending college and the behaviors required to meet that goal. Perhaps, as students move through their first two years of high school, their sense of belonging (or not belonging) in college level courses becomes more solidified. If they do not see themselves as a member of the college bound cohort, they are less inclined to take courses that will better prepare them for college.

Though most students plan to attend college, few are prepared for it. In the College Board's 2013 report of ACT scores, just over one quarter of high school students met all four college readiness benchmarks (ACT). Students may be stuck in a self-fulfilling prophecy. If they do not see themselves as belonging in academically rigorous courses, they do not see themselves as having academic potential or academic gifts. They do not take the steps necessary to be college ready. Students' decisions based on their sense of belonging, not their actual potential, impact their opportunities after high school.

Honors and college preparatory courses are a student's best resources to prepare for college. Research from the College Board along with independent institutions like the National Assessment of Educational Progress and the National Center for Educational Statistics show that students who take AP or Dual Enrollment courses play a strong role in supporting a student's path to college. Students who take these courses are more likely to attend college, are more likely to succeed in their first year of college, and are more likely to graduate with a degree (Adelman, 1999; AVID 2013; Broer & Ikoma, 2015; Conger & Long, 2009).

Despite data supporting enrollment in higher level courses, students choose to take classes where they feel they belong. They often choose courses based on their peer groups and their relationships with their teachers. Students report that school is much more fun with friends, and they prefer to be in classes with people they know than strangers. Many students discuss course decisions with their friends, and this may be a larger factor in decisions than course rigor or college readiness (Kwok, 2018). Since students tend to have social groups of the same race (Tatum, 1997), they tend to choose courses that may further racial segregation. If students do not believe they will belong in a particular course, they will not enroll in that course (Howard, 2016). This can be particularly problematic in schools with racially isolated groups.

The problem of a fixed mindset. This tracked system of education can build a fixed mindset in students of all abilities. Students placed on the lower level track can doubt their academic ability, and this doubt fosters an innate view of intelligence (Darling-Hammond, 2010). This view of intelligence is the belief that people are born

with academic abilities, that some people are born smart and others are not (Blackwell, Trześniewski, & Dweck, 2007).

Are some people more talented in some areas than others? Yes, absolutely. However, cognitive psychology has yet to define talent. A person can develop skills in all areas despite perhaps lacking talent. The line of limitation is continuing to move. Psychologist Carol Dweck summarizes, "Just because some people can do something with little or no training, it doesn't mean that others can't do it (and sometimes do it even better)." (2008, p. 70).

One example of this is with art. Many believe art ability is a talent, something an individual is born with, rather than a learned skill. This is because people do not understand the "learnable components" of drawing, or rather, the skills of visual perception (Dweck, 2008, p. 68). One example that disproves the notion that only a select few possess drawing ability is the work of Betty Edwards, art instructor and author of *Drawing on the Right Side of the Brain* (2008). Art students draw a self portrait at the beginning and end of a five day course on drawing. This course focused on the "seeing skills" of art, perceiving lights and shadows, edges, spaces, and relationships. After a five-day class, those with "no artistic ability" produced the works below:

Image 1: day one of class; Image 2: end of course; From Carol Dweck's *Mindset*, p. 69 (2008)

Though something called talent must certainly exist in art, much of art is learned and developed. It is a combination of many skills coordination visual observation and fine motor production. Improvement in these skills is best developed with a growth mindset. If those students had never been taught the skills of art, they would have continued to believe they were bad artists (Dweck, 2008, p. 70).

When this is broken down on the synaptic level, it is clear that a growth mindset better approaches how our brains are wired to learn. In the initial, *hard*, part of learning something new, axons of neurons are building connections with the dendrites of other

neurons. These connections form in the synapses, or gaps, between neurons. The electrical charge from one neuron transfers to another across the synapse with neurotransmitters. Initially, this connection is weak, but once this connection has been made, the transmission between the two neurons strengthens. This process of prolonged strengthening of potential neural firing is called long-term potentiation, and it is the brain's process of wiring and building memories in long-term storage. The greater the instruction and opportunity for practice, the stronger the neural network. The stronger the neural network, the more efficient the connection, and the stronger the skill (Myers, 2011, p. 269).

Beliefs and behavior. Most people would deny that their personal beliefs and biases influence how they treat other people. Most are unaware that their background and life experiences influence how they see the world. Yet cognitive psychology shows us that people make decisions based on their implicit biases all the time. In fact, one could even say that implicit biases play a greater role in influencing behavior and decision-making than conscious factors.

Is it possible for one person's thoughts to influence another's actions? Do the thoughts of a teacher have the power to influence a child? How will a teacher's beliefs about a child influence their abilities? Two foundational studies in educational psychology completed by Robert Rosenthal and Lenore Jacobsen provide a framework for understanding the relationship between teacher beliefs and student intellectual development. In the first experiment, Rosenthal and Jacobson devised an experimenter expectation study with rats. The researchers took a group of standard lab rights and put

labels on their cages: "smart" or "dumb." The graduate students running the experiment were told that the smart rats were bred for good performance, and the dumb rats were bred for low performance. The graduate students ran these rats through a maze over the course of a week. By the end of the week trial, the "smart" rats completed the maze twice as fast as the "dumb" rats. These rats were all exactly the same. Somehow, over the course of the week, the "smart" rats had gained an advantage. After further analysis and experimentation, the researchers observed that the experimenters treated the rats differently. Rats respond well to physical touch. The handlers were gentler with the "smart" rats. They spoke more and with a warmer tone. These micro-behaviors, barely detectable, are what made the difference.

Next, Rosenthal and Jacobson (1968) did a similar experiment with children. Students took a standard skill test in math and reading at the beginning of the school year. Rosenthal then gave teachers a false list of student IQ scores. A random group of students in the class were labeled "gifted," and a random group were labeled "slow." Through the course of the year, all of the teachers believed that they treated each child the same. Children were given the same standard post-test of reading and math at the end of the year. Those labeled "gifted" achieved far greater than anyone else. Those labeled "slow" achieved far below the benchmark standard. In fact, some scored lower than they had at the beginning of the year.

Rosenthal called this concept "Pygmalion in the classroom" (1968). Such an experiment has not been replicated, yet this behavior is repeated every day, unintentionally, by teachers across the country. What a teacher believes about a student

profoundly influences our expectations of that child, and our expectations influence student performance.

Rosenthal and Jacobsen's foundational research has allowed other psychologists to extend this argument and test its limitations. Carol Dweck's work, as previously described, shows that a person's mindset can move the individual much further than previous assessments of talent or intellect allowed. Dweck asserts that the line of limitation is always moving. "As we come to understand things that are possible and mechanisms through which a belief affects an outcome or one person affects another person, that line can move." (Rosen & Spiegel, 2015). Dweck states that the data is showing growth in areas never thought possible before. "The great teachers believe in the growth of the intellect and talent, and they are fascinated with the process of learning" (2008, p. 194). Dweck's work connects personal mindset with Rosenthal's expectancy effects, showing that teachers could potentially harm children if they approach students with a focus on what they lack and what they have not achieved. Great teachers continue to believe that all children can grow and achieve. Educators need to continually seek ways to eliminate barriers and limits for children. Teachers need to allow children to see the larger and more difficult challenges ahead of them as achievable goals. In order to push students in this direction, teachers need to facilitate children's mindsets so that they view the struggles, the failures and "the hard" as fun challenges that they will overcome.

Race and implicit bias. Biases about intelligence play a role in teacher expectations and student performance. When intelligence is connected to race, the role of expectations is even more pronounced. Most teachers in American schools are white,

middle class, monocultural, and monolingual (Kugler, 2002, p. 46). Though 90% of

teachers are white today, many school districts are experiencing rapid changing

demographics. Many white teachers do not believe that their race influences their

teaching; they do not believe they have racial biases. They believe that they see all

students as the same, and, therefore, equal. Belief in the fairness of a colorblind approach

perseveres. According to Christine Sleeter, the notion of a colorblind approach asserts

that a child's background is not important. Teachers with this approach are preventing

themselves from seeing the student (Au, 2014, p. 44). Since most teachers are white, a

colorblind approach is actually a perspective that forces all students, regardless of race

and culture, to be white. Michelle Alexander calls this "the mythology of

colorblindness." This is the idea that we are beyond race, that people don't make

decisions based on race anymore and people treat all equally all the time. This myth is

dangerous because it prevents people from examining the history of race in our country

and the way race has been reproducing itself in modern times (Au, 2014, p. 60). This

attitude prevents teachers from seeing their own biases and taking action to facilitate

greater inclusiveness.

Everyone has biases. All human beings have hidden biases, blindspots, that are

capable of guiding our behavior without our being aware of their role (Banaji &

Greenwald, 2013, p. 5). Racial biases are very difficult to measure. Most Americans of

all races feel quite uncomfortable with the idea of racial bias. The discomfort is so great

that our brains have developed streamlined strategies to eliminate that discomfort.

Cognitive dissonance is the discomfort experienced when an individual is faced with an

idea that their beliefs differ from their actions (Myers, 2011, p. 648). For example, a white woman walking down a sidewalk may clutch her purse when passing a black man. If confronted with this behavior, she may not be willing to admit that she felt fear of the man, and she may feel more uncomfortable with the idea that she felt the black man was more likely to steal her purse than the white man. She may instead come up with a reasonable excuse in her mind. "Just want to keep my purse close" (Steele, 1996).

Most of these ideas programmed in our brains about race are implicit. They are unconscious, in which the beholder is completely unaware (Myers, 2011, p. 666). How does one assess a person's implicit biases? You cannot ask them how they feel about something because they would say what they want to believe about themselves. Banaji and Greenwald (2013) created a measurement of implicit biases, the Implicit Association test. This test measures the strength of automatic mental associations between certain concepts (women, black people, Asians, gay people, etc) and an evaluation of those concepts. An individual is asked to make associations between words and pictures, and those associations are timed.

These implicit associations can measure a person's attitude on body size, gender, religion, and race. Millions have taken these tests (Myers, 2011, p. 666). Typical results show a preference for whites over blacks, straight over gay, thin over fat, light skin over dark. Participants showed strong association between males and science versus females and liberal arts, females and family versus males and careers, and blacks and with versus whites unarmed. These associations occurred typically across all groups.

If most Americans hold negative implicit associations about race (Banaji & Greenwald, 2013), and, according to Rosenthal (1968), teacher beliefs influence student achievement, then the implicit racial biases teachers hold influence the performance of students of color. This begins in preschool when teachers make recommendations for special education evaluation, this continues in kindergarten when students are tested to qualify for gifted services, and this carries through high school when teacher recommendations play a role in enrollment in honors and Advanced Placement courses.

Schools should do everything they can to eliminate barriers of access. Raising the bar for all students in core required courses will allow students to gain the skills needed to better access advanced college preparatory courses. Along with increased demands for rigor, teachers of core required courses can help promote access for high potential students. They need to be particularly aware of how their implicit biases could impact their beliefs about a child's academic potential. Teacher recommendations should not be relied on as the only consideration for gifted services, honors, courses, or Advanced Placement courses. At the secondary level, all students interested in higher level coursework should be allowed access. Acknowledgement of historically underrepresented groups may help teachers consider students outside of their prototype of an honors student. School systems need to consider the data that reveals how high-achieving students of color are underrecognized. Schools need to incorporate systems around this blind spot.

The current racial disparity in college preparatory enrollment could be equated to the "handling of rats," the undetected micro-behaviors of teachers that, over time, have

shaped students' current level of academic achievement. A student is likely to arrive in high school with a strong assessment of their ability in all academic subjects. Teachers and school systems need to collectively work to undermine this fixed ability mindset. Teachers need to encourage students to engage in challenges for the purpose of growth.

Moving Forward

One person cannot fix everything. But if the individual does nothing, surely nothing will change. If educators continue to produce the status quo, teachers will continue to hold students of color back. Teacher beliefs and behaviors will further perpetuate these disparities. If educators do nothing, teachers—even those teachers who want to help bring about social justice—will continue to carry on systemic racism in schools, thus ensuring racism controls American society. How can teachers fix this? How can teachers combat implicit biases?

Begin with self-reflection. Before anything else, educators need to recognize they have biases. Training that encourages introspective, facilitating recognition of the influence of personal culture on behavior, proves most effective. Banaji and Greenwald (2013) state that surrounding oneself with counter-stereotypical modeling helps. Posters that provide models of underrepresented and marginalized populations is a place for teachers to start. Teachers need to not only work on their own implicit biases, but they need to provide their students with models to assist students in eliminating their biases as well (Banaji & Greenwald, 2013).

Posters are a start, but experts in inclusive curriculum like James Banks (1993) and Peggy McIntosh (2000) describe such a change as surface-level. True change in

educational practice and transformative beliefs require structural changes at the curriculum level. Peggy McIntosh, founder of SEED, describes representative posters as a level two change. One step beyond a colorblind approach, posters on walls acknowledge a few token representatives from marginalized groups in society. Phase three would integrate more representation of minority groups, but it would be presented as separate anecdotes. Often history textbooks include pop-up boxes or a special "historical spotlight" feature. Banks and McIntosh challenge educators to move towards levels four and five, which revise curriculum by integrating the history of all groups into a historical analysis, considering life beyond the winners and losers, examining the spheres of community participants. A level five revision is a full paradigm shift, eliminating a winner and loser perspective, making way for the voices, ideas, and perspectives of students in transforming the learning experience. Level five transformation is difficult to achieve, and teachers are challenged to continually evaluate how to fully integrate voice and perspective in their curriculum.

As teachers work to build inclusive curriculum, they engage in a continual process of evaluating their own blindspots and perspectives in the context of emerging voices in the classroom. There are some examples where, despite personal transformation and curriculum revision, individuals still behave in ways contrary to their explicit beliefs. Banaji and Greenwald identify some examples where, regardless of one's effort, a person's implicit beliefs appear to be stuck. One simple example is of this image:
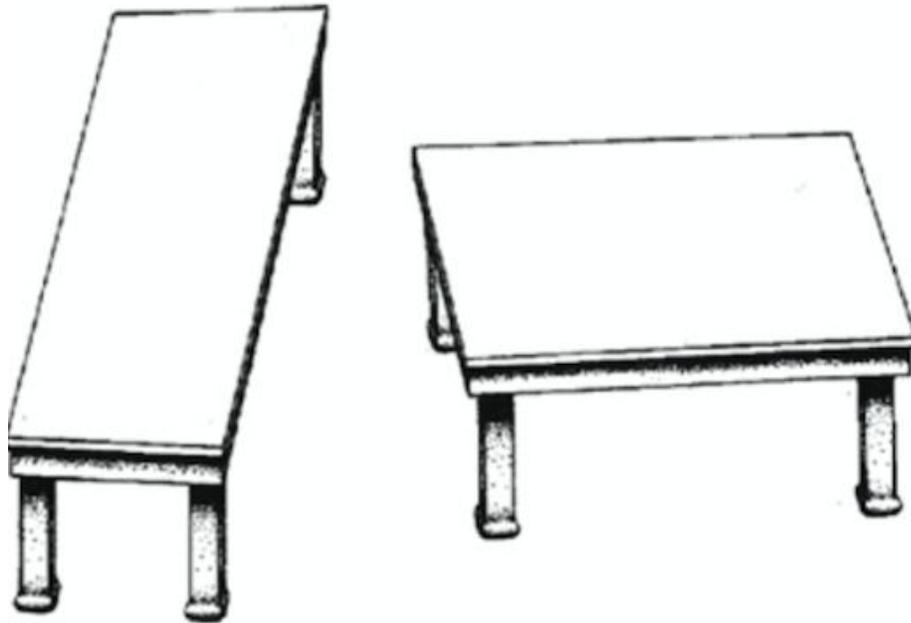
These two tabletops are exactly the same in size and shape. The only way to truly

believe this claim is to actually cut these two images out. It is true. They are the same.

However, even knowing this to be true, the two images do not look the same. They still

appear different (Banaji & Greenwald, 2013, p. 8).

To circumvent the effect of implicit belief perseverance, they identify ways to

work around the biases. Women were significantly underrepresented in orchestras. Once

orchestras began using blind auditions, women were 50% more likely to move to the next

round (2013, p. 87). In another example, doctors had continually missed diagnosing

female patients having symptoms of a heart attack. Though the doctors explicitly

(consciously) made decisions based on their expertise, they overlooked heart attack

symptoms experienced by females when paired with additional symptoms, like neck pain,

dizziness, or nausea. Women are more likely to describe additional symptoms. One change that saved lives was creating a standard checklist protocol for male and female patients. This forced doctors to evaluate each symptom separately and consider whether any symptoms would suggest a heart attack. This example illustrates that solutions need to be made systemically. Some changes need to be made to override the brain's messaging based on prototypes. (Banaji & Greenwald, 2013).

Culturally responsive teachers. Training in cultural responsiveness helps educators examine their own biases. "Culturally responsive teaching builds meaningful bridges between the home culture and the school context and uses cultural referents to impart knowledge, skills, and attitudes and create more successful learners. Culturally responsive teaching values students' cultural heritages and validates their life experiences" (Kugler, pg. 47). It cannot be seen as a checklist or a series of steps to complete; it must be viewed as a paradigm shift of self-reflection and growth. Teaching is relational. Elements of culturally responsive teaching include helping teachers uncover their own biases, become reflective practitioners, and working to create inclusive, respectful classroom environments. (Pewewardy and Hammer, 2003, pg. 3). It is an ongoing process, a reciprocal relationship. Student diversity, teacher reflection, and teacher-student interaction each work together to influence further growth (Howard, 1999).

All students should have the opportunity to see themselves reflected in the school curriculum (Styles, 1998). "Schools that reflect the cultures of the students they serve support student learning." (Kugler, 2002, p. 47). Recent history reveals that students and

marginalized groups have had to ask for their group's inclusion in the curriculum. Recognizing that not a single American Indian was a part of Montana's Constitutional Convention in 1972, two high school students requested to testify. These students asked their state's representatives if they could have the opportunity to learn about themselves (the Assiniboine and Sioux) along with the Roman empire, ancient Greece, etc. in their social studies curriculum. (Kugler, pg. 49). Arizona recently ended an ethnic studies program, including a course which taught about the history of Hispanics in American society, examining chicano and latino culture. Study of African Americans in social studies classes usually is limited to slavery, Martin Luther King, and Rosa Parks (Degruy, 2013)

What mirrors of American Indians are reflected in high schools across America? Mascots, headbands, and a small, sugar-coated dose of guilt about the Trail of Tears. Hispanics? Immigration, usually referenced as illegal. African Americans? Rosa Parks sat down, MLK had a dream, and the white folks saved the day. Teachers interested in change need to reflect on their curriculum. Curriculum needs to reflect depth in diversity. Actors in history must extend beyond the heroes; history lessons must include depth of experience across social classes and racial groups.

Doorways to increasing AP/DE Course Enrollment

How might a school eliminate these barriers? This section examines the existing literature for successfully reducing or eliminating the enrollment disparity gap. In order to create a comprehensive system of change, it is worthwhile to investigate both how to affect the individual and how to affect the system. This section begins by analyzing those

targeted interventions that have measurable results on specific marginalized populations. The review elaborates on research that targets individual students of color. Various psychologists have designed interventions that give students of color opportunities to build resilience and positive academic self-perceptions.

The second half of this section examines school models that have succeeded in eliminating the advanced course racial enrollment gap. Many schools have successfully bridged the AP enrollment gap, and this section will synthesize those interventions that proved transformative. Program models are easier to study due to the uniformity of the program and the large numbers of schools using the program. Many schools have developed special programs to target college preparatory enrollment numbers, and they have produced positive results. This section of the review of literature examines successful models, and their work toward creating doorways to enrollment in AP and DE courses. School communities have varying demographics, so it is important to recognize that a one-size-fits-all approach is never advisable. However, many elements from these successful models are worthy of adapting to fit into an individual school community. The successful examples examined in this section include the Advanced Scholar program in Portland, the Ambassadors for AP program in Texas, the One Day Intro to AP program in Florida, and AP Bootcamp in California (College Board, 2013). In additional, Advancement Via Individual Determination (AVID) is a national program with positive results, increasing AP enrollment for students of color in which 65% of AVID students took at least one AP exam in 2012 compared to 33% of the general population (AVID Center, 2013). It should be noted that the purpose of finding systemic doorways to

increasing enrollment is not to find a program that works. Rather, the purpose is to find the behaviors and school systemic responses that work.

In this context, the definition of success is limited in scope to enrollment. This does not look at factors of individual or group success upon enrolling in the course. The study does not include grades in the course or scores on the AP exam upon completion of the course. Both of these data points are important to examine. Does greater enrollment correlate to high test scores? Many believe that the greater the enrollment, the lower the AP exam scores. Such a belief is worthy of putting to the test. I experienced the opposite in my course. As enrollment increased, the students' scores on the AP exam increased as well. Is this an outlier or does it fit in with others? These questions will be left unresolved for now, but they are worth returning to in an additional study.

The successful AP programs have several components in common. The facilitation of relationships between students of color and AP teachers bridged a significant divide. A school culture that promotes growth and equity proved a worthwhile investment (College Board, 2013). Implementation of culturally responsive teaching pedagogy increased engagement in students of color (Gay, 2010).

Targeted interventions for the individual student. How can a teacher or administrative behavior influence a student's self-concept? How can a teacher or administrative behavior influence teacher beliefs about student potential?

Some brief, social-psychological interventions show potential to bring significant change in one's sense of self-integrity and belonging by combating stereotype threat (Cohen, 2006; Dweck, 2008; Steele & Aronson, 1996). African-American students, in

particular, face a specific stereotype about their intelligence, which produces great stress on the individual student (Steele & Aronson, 1996).

Schools should examine interventions as movements toward long-term gains. Some very small, singular interventions could jumpstart a "recursive virtuous cycle" (Walton & Cohen, 2011, p. 1448), where students gained small assurances, which led them to improve their performance, which gave them greater assurances, and which led them to greater performance. Essentially, some small, targeted interventions can result in a repeating feedback loop (Cohen, 2006). This feedback loop gives students multiple growing opportunities to gain confidence through accomplishment. At the end of their high school career, they would not consciously credit their success to one small intervention. Their success would be credited to their own achievements. Their own perceptions would attribute their success to their work. The very small intervention in the beginning is what created this virtuous cycle.

Cohen, Garcia, Apfel, and Master (2006) developed one single 15- minute intervention which focused on affirmation. White and African-American middle school students were given a list of values, such as relationships with friends or family or being good at art. The treatment group was then asked to choose a value most important to them, and write about its importance. The control group picked their least important value and wrote about it. With this one, small activity, African Americans in this treatment group showed significant gains in GPA, closing the achievement gap by 40%. White students show no difference. The gains in GPA applied to all courses. The researchers hypothesize that this process affirmed the individual's sense of self-integrity

(Cohen, Garcia, Apfel, & Master, 2006). This study is important because it shows how a small intervention can set off a positive schooling cycle. A small intervention to offset the feeling that a student does not belong in the class can have large long-term consequences.

In another study by Cohen and Walton (2011), a brief intervention facilitating social belonging shows measurable results in long term GPA for African American college students. This study was completed in students' second semester of college. Students read the results of a survey of belonging by senior students. The message given to these first year students was that belonging was hard at first, but the discomfort was temporary. Things got better with time. Difficulty with belonging was attributed to the college transition, and it was expressed as common across all groups. For example, one survey stated the following:

> "Freshman year, even though I met large numbers of people, I didn't have a small group of close friends…I was pretty homesick, and I had to remind myself that making close friends takes time. Since then…I have met people, some of whom are now just as close as my friends in high school were." (2011, online text).

Students in the study internalized this message by writing an essay describing how their own experiences are similar. Next, the students turned their essay into a speech and recorded it on a video camera. These students' GPAs were analyzed when they completed college, three years later. Participants' grades were compared to grades of non-participants. The GPAs of African-American students who participated in this study increased over time. Though the GPAs of African American students who did not

participate in this study did not change, the gap between white students and African American students (who participated in the study) closed by 79% (2011).

Social belonging is a significant factor in the achievement of all students, and it has been identified as a significant barrier for students of color. Social belonging is the sense of having a positive relationship with others (Walton & Cohen, 2011). Great teachers build the foundation for belonging early. They create a classroom community that enhances student contribution by allowing each student to believe they are capable of succeeding. Walton and Cohen's study demonstrates how "Social belonging may thus constitute a psychological lever where targeted intervention could yield broad benefits." (2011, p. 1447).

The power of relationships. Strong, positive relationships between teachers and students are critical components to success. Teachers who make considerable effort to get to know their students show strong results in increasing student achievement (Noguera, 2012). DeGruy, in her research on African-Americans in education, states that relationships are central to African-American culture. Students will tire of working for an extrinsic reward, but they will work for a teacher that connects with them, to whom they have a relationship with. (DeGruy, 2012).

Teachers that invest early in building relationships with their students are able to move students to greater academic achievement. Teachers also report stronger facilitation of classroom management, less discipline issues, and greater engagement. Relationships make a difference across the spectrum for all students of all abilities, racial groups, and

economic groups. Teachers who show that they care about their students gain the "buy in" required to push students to achieve to their highest potential (Howard, 2016).

A solid foundation of literature supports the value of relationships within the classroom. One element that has not been isolated is the role of relationships in course selection. A further area of study here would be the reputation of a teacher. It can be assumed that a teacher who works to build strong relationships with their students has a positive reputation within a school community, and a positive reputation would increase course enrollment. At this time, data scrutinizing race, teacher-student relationships, teacher reputation, and course enrollment is difficult to find. This is another recommended area of research.

Successful School Models. "Access to curriculum opportunities is a more powerful determinant of achievement than initial achievement levels" (Darling-Hammond, 2010, p. 55). The key for success is access. Barriers to access must be eliminated. If students are given the opportunity to take a challenging course, regardless of their initial achievement levels, they will rise to meet that challenge.

Case studies, most collected by The College Board (2012, 2013), show us how schools have tackled the enrollment disparities. Though schools vary, these successful school models are worthy of review. Sustainability is key. How does a school create a culture in which all students feel able and welcome to take AP courses? What do staff need to do? What does the administration need to do? What do students need to do? How can counselors assist and support these students?

The College Board encourages schools to take on the problems of racial equity. The first item of discussion in AP teacher training is regarding equitable access. On the first page of every course guide, the College Board includes its equity and access policy:

The College Board strongly encourages educators to make equitable access a guiding principle for their AP® programs by giving all willing and academically prepared students the opportunity to participate in AP. We encourage the elimination of barriers that restrict access to AP for students from ethnic, racial, and socioeconomic groups that have been traditionally underrepresented. Schools should make every effort to ensure that their AP classes reflect the diversity of their student population. The College Board also believes that all students should have access to academically challenging coursework before they enroll in AP classes, which can prepare them for AP success. It is only through a commitment to equitable preparation and access that true equity and excellence can be achieved (The College Board, 2016).

Schools across the country have taken on the challenge of increasing AP enrollment for students of color, particularly African-American, Native American, and Hispanic students. These schools have creating systemic changes to reduce their enrollment gap. The College Board has documented numerous case studies of schools that have succeeded in increasing access.

Two major themes emerged in these case studies: access and support. Successful schools worked hard to identify key access points (or barriers that prevented access), and they built a system of support so that students are successful.

Doorways Include Access

Universally, schools in The College Board's "Spotlight on Success" reports identified removing official prerequisites as an important factor (2012, 2013). Students should not have a minimum GPA requirement or a teacher recommendation requirement for enrollment. The removal of these barriers led to significantly higher rates of enrollment for all students, particularly students of color (2012, 2013).

Many "spotlight schools" used the AP Potential database to help increase enrollment. The College Board has created this tool free for schools to access and use. The data tool uses the strong correlation between Preliminary SAT scores (PSAT) and AP Exam scores to predict future AP students based on PSAT scores (Zhang, Patel, & Ewing, 2014). Students generally take the PSAT in their junior year of high school, so this tool can boost enrollment for high school seniors.

In 2012, nearly 62% of high school graduates with AP Potential did not take an AP course (The College Board, 2012). Many schools do not make use of the AP Potential tool to recruit students. It is hard to identify precisely why this tool is so underutilized. Schools often operate with minimal support staff. Funding cuts have reduced counselors, administrators, and support staff. Use of this AP Potential tool is only available to designated authorized users in each school, so teachers and students would be unaware of this tool and its potential impact.

Successful schools used AP Potential to aid in recruitment. School counselors identify potential AP students, and administrators send letters to potential AP students. These letters replace previous prerequisites like teacher recommendations, and

administrators commend the students on their potential and invite these students to enroll in AP courses (The College Board 2012, p 13). Building on this, schools invite potential AP students to a special "AP Preview" night program or breakfast before school. At this program, teachers speak about the expectations of AP courses, and current AP students speak about how they were successful in an AP course (The College Board 2012, p. 16). Schools found that this helped get parents invested in their child's rigorous coursework.

Appoquinimink High School in Middletown, DE, made significant gains in AP enrollment. This school is similar in demographics to that of my case study high school. Since students of color make up less than 30% of the total school population, students of color can feel isolated. Teachers make assumptions about the majority population without considering the diversity of the school. In addition to the steps mentioned above, administrators at this school paid special attention to underrepresented populations, and reached out individually to these students (The College Board, 2012). Administrators credited this personal connection as a key component to building a community of learners that belong. The connection between a systemic tool and personal relationships resulted in a significant shift in enrollment for previously underrepresented populations.

Connection programs helped eliminate barriers as well. In one high school, AP teachers invite 9th and 10th grade students to sit in on their AP courses to see what it is like. In another school, AP students created an "Angels for AP" program. For one week, 10th grade students could shadow an AP student in an AP course (The College Board, 2013, p. 4). These programs were systemic, so individual teachers did not have to build these structures on their own. These connection programs became a part of the academic

schedule. Students could take part in a low risk opportunity to see themselves in a college preparatory community. As enrollment for underrepresented students increased, younger students' beliefs about belonging in those rigorous courses increased, creating the ideal positive feedback loop.

Support is Essential

The belief that all students can take an AP class is not universally held. In fact, a school leader with this belief may experience push-back from parents, students, and teachers. Teachers of required on-level courses may not support a directive that takes away students with potential from their classes.A true change in culture and mindset needs to take place in order for the AP expectation to be effective. Just as a fixed mindset is harmful for students self-perceptions about their potential, so, too, is teacher perception about student potential. Teachers still label students using a fixed mindset (ex. "Not an AP kid") (Dweck, 2008). Schools that decrease disparity have equity goals (Ford, 2015). Without equity as a targeted part of a school's improvement plan, it will often be treated as a dream rather than a purposeful goal. Schools making gains in reducing achievement gaps chose to "bypass mediocrity and aim for excellence" (College Board, 2013, p. 20).

A culture of scholarship takes commitment, buy-in, and time. The College Board (2012) cited several examples of schools models that foster an academically driven culture. At North Central High School in Spokane, WA, students are asked to identify the "academic press" or rigor, in their schedule selection (The College Board, 2012). These individual conversations, holding students accountable for explaining their course selection, proved quite powerful levers in increasing enrollment. Holding AP events at

North Central High School helped build an academic culture, more like a college campus, within a school building. At these events, former students come to speak about how their courses prepared them for success in college. Counselors, administrators and teachers push students to take on more rigorous courses. They spoke about how AP courses fostered their "intellectual tenacity" (The College Board, 2012, p 18). Rather than having pep fest supporting sports teams, schools hold pep fests to celebrate scholarship. AP enrollment, AP exam scores, and college admission are all celebrated through a pep fest to build a culture of scholarship and engagement. Changing school culture is no small task. These key examples of how to change culture resulted in real measurable results.

Student support. Students entering these courses may need additional literacy and study skills support. The successful schools identified by the College Board both increased enrollment for underrepresented groups and increased AP exam scores overall (The College Board 2012; 2013). Some schools created a summer AP program, run by AP teachers and voluntarily attended by prospective AP students. In the Elizabeth Learning Center school, students and parents were given contracts to complete with their course registration. The contract helps parents understand from the start that when their teens take an AP course, they must take it seriously. The contract states that an AP course requires twice the preparation than that of a regular course. Students were required to attend Saturday preparation workshops and weekday homework sessions to support their learning (The College Board, 2013, p. 14). In this school, students were required to take the AP exam as well. The Elizabeth Learning Center case study produced strong results on three ends: increasing enrollment overall, increasing enrollment for underrepresented

populations (including black, Hispanic, American Indian, and free/reduced lunch), and increasing AP exam score results.

The College Board's equity and access policy states, "The College Board believes that all students should have access to academically challenging coursework before they enroll in AP classes. It is only through a commitment to equitable preparation and access that true equity and excellence can be achieved." (The College Board 2019). This is an overlooked aspect of student support. Schools who are fully committed to supporting students through these courses need to ensure prior courses are vertically aligned with the skills required for success in AP courses (College Board, 2013).

Teacher support. The success of any educational reform effort hinges on "the capacity of teachers to carry it out" (Darling-Hammond, 2010). Teacher support is often the forgotten aspect of closing the racial disparity gap. Teachers, as well as students, need support to build a positive AP program and positive relationships with students. Schools need to identify and motivate traditionally underrepresented students to challenge themselves by taking an AP course. Teachers must be committed to serving all students in AP, not just those who are academically ready to enroll in an AP course. These teachers need to see themselves as academic coaches for students (College Board, 2013, p 13). Buy-in is required by the staff involved, and teachers will not support efforts that do not support them.

The majority of schools identified as successfully closing the enrollment gap included teacher support in their model. The demands of content knowledge preparation as well as providing timely feedback on student work can be grueling for any AP or DE

teacher. Increasing student numbers and needs can lead to resistance or burn-out quickly. School administration can support teachers in an "AP for all" model by keeping class sizes as low as possible and increasing teacher prep time. Other examples of effective administrative support are giving teachers fewer preps or eliminating a duty and ensuring teachers do not travel between classrooms (The College Board, 2012).

Teacher expertise is the most important measurable cause of increased student learning (Darling-Hammond, 2010). Schools need to invest in teacher quality and high quality staff development. "Skilled teachers are the most critical of all schooling inputs." (Darling-Hammond, 2010, p. 106). New teachers were able to attend the week-long AP institute and connected with a mentor teacher from another school. All teachers were encouraged to attend the 2-3-4-or 5-day AP institutes every few years as a course refresher. This helped maintain equitable access to curriculum for all students (The College Board, 2012).

As enrollment increases, teachers may fear that their course will be watered down. AP Vertical Team meetings were an essential component identified in several AP Honor schools (College Board, 2013; College Board, 2012). These were collaborative teams created within a discipline. Vertical teams could include teachers of on-level, honors, AP prep, AP and Dual Enrollment courses. These meetings allowed 9-12 grade teachers to understand the expectations and standards for being successful in all classes. It was a means of creating common rigor and common expectations to fully support and prepare all students for rigorous college level courses. Teachers reported that this component

allowed schools to more fully fulfill the College Board's equity and access policy.

(College Board, 2013)

Culturally responsive teaching. The integration of culturally responsive

teaching has produced measurable results in learning for black, Hispanic, and American

Indian students. (NEA, 2011). Culturally responsive teaching shifts the perspective from

a deficit perspective to a structural perspective. Teachers examine the structures that may

reinforce institutionalized racism and seek to change those structures. (Gorski, 2015).

Educators focus on why individual students are not learning:

> The attitude gap (the gap between students who believe in themselves and those
>
> who don't), the relationship gap (students who have a solid relationship with
>
> educators versus those who don't), the opportunity gap (students who have access
>
> to a great public school versus those who don't), and the relevance gap (lessons
>
> that students can apply to their daily lives versus lessons that are abstract and
>
> intangible.)" (NEA, 2011, 2).

This commitment to more fully inclusive educational communities led to teachers

making individual and collaborative commitments to re-examine the practices and

assumptions that drive their practice. When teachers begin to reflect on their curriculum,

examining ways to making it accessible to all learners, real change is seen in the

classroom. Effective teachers are able to build windows and mirrors in their curriculum

that reflects the identities of the learners and challenges the learners to explore new

cultures and perspectives in new ways (Styles, 1996). When students can see themselves

in the curriculum, they see their value as learners. Culturally responsive teaching leads to

reduction in the overall achievement gap among students of color (NEA, 2011). As students grasped more of the content in lower level courses that were vertically aligned with AP courses, they had stronger skills to prepare them for college level rigor, which led to higher enrollment in AP courses (College Board, 2013; College Board, 2012).

Conclusion

Race is complicated. The history of education in this country is incomplete without an analysis of the role of race. Social justice advocates argue that the institution of education does more to withhold power from people of color than it does to build equality among races. Our systems need revision. Education is powerful. It is incomprehensible that our system continues to grant education to some and not all.

Enrollment in college preparatory courses is but a small component of a huge, exhausting problem. The successful models provide optimism.

Systemic changes to the pipeline system are needed. This paper is limited in scope to only those actions that I have control over. At this point, I am not in a position of power to make changes to the elementary and middle school gifted programs. I am limited this scope to those changes attainable within my school.

Through this research, I have identified two clear areas of growth to reduce our disparities in enrollment: teacher training and systemic commitments. In the area of teacher training, relationships are key. Before any other professional development will work, teachers need to be committed to a foundation based on relationships. The strongest teacher training areas identified are in the areas of culturally responsive teaching and an understanding of implicit biases and associations.

Successful school models provided some excellent examples of feasible systemic commitments within the high school system.

1) Registration should be simple and accessible. All possible barriers should be eliminated, and educators should actively reflect on potential barriers of access.

2) A school-wide commitment to a culture of scholarship is key. Scholarship should be expected, celebrated, and rewarded.

3) Schools need an explicit recruitment plan that includes building connections among students across grade levels. Using alums as models and allowing potential students to preview AP courses proves highly successful.

4) Schools must have a plan for support embedded into their AP/DE program. Students will not take this risk if they have no support network. Many of the students we are seeking are fearful of failure. We need to build support to ease that fear.

5) Vertical teams of AP/DE teachers build skills across grade level. Teachers using common language, skills, and expectations facilitate a cohesive culture where students grow continually from year to year.

Inequitable access to these courses is pervasive, and solutions to this enrollment disparity are complex. A strong commitment is needed to seek and maintain solutions that work. My research, beginning with the next chapter, is designed to develop a clear understanding of the disparities within my school. I will analyze the enrollment data for core academic AP and DE courses. I then interview some select students to discuss their feelings about college preparatory course enrollment. The results of this research, along

with the results from this literature review, will provide me with the tools to build a

measured plan of action to improve my school.

CHAPTER THREE

Research Methodology

Introduction

Though much research has been completed on racial disparities in education, my research examined the unique culture within a white majority suburban school environment. Students of color experience school differently than white students within such a school. In addition, students of color in white majority suburban schools have a different educational experience than that of students of color within a minority-majority school, which is most common in urban schools. The purpose of this research was to explore the racial disparities in college preparatory course enrollment within the context of a white majority suburban high school. *What are the barriers to enrollment in Advanced Placement and Dual Enrollment courses for students who are Black, Hispanic, and American Indian? What are the doorways to facilitate more equitable enrollment?*

In this section, I will explain the methods used to conduct research on the questions stated above. First, the setting and participants will be identified and described. Next, I will describe the research approach that was employed, giving a rationale for the selected framework. A visual model is included to illustrate the research approach. I will elaborate on the various forms of data collected, outline how the data was analyzed, and explain the process that protected the privacy of each participant. Finally, this chapter will include a discussion on the limitations of this study.

School Setting and Participants

  The district and school. This study took place in a large suburban district in the upper midwest, serving over 38,000 students and 248,000 residents. The district has five high schools and an alternative high school. The research study was conducted at the largest high school in the district, with enrollment at 2,864 for the 2015-16 school year. Among these students, 78% identified as white, 22% were students of color. Racial grouping consisted of: 8% Asian/pacific islander, 8% black, non-Hispanic, 4% Hispanic, and 2% American Indian. Students who qualified for free or reduced lunch made up 28% of the student population. Students who received English as a Second Language services made up 2.2% of the population. Students of color, free and reduced lunch, and English Language Learner students have all steadily increased over the last decade. The school employed 122 teachers, 95% of whom identify as white. Over 60% of those teachers have their master's degree.

  The high school day begins at 7:40. Students had five period days, each class lasting 67 minutes with seven minutes passing time. The academic year was divided into trimesters. Each student had essentially 15 course selections available to them each school year.

  The school offered a wide variety of courses for students over the course of their four years. Each required core class had a parallel honors, Advanced Placement, or College in the Schools (CIS) option for students looking for more rigor. The school also had a magnet program for engineering, math, and science, offering specialized classes and a targeted program for students interested in careers in math, science, and

engineering. Students from outside of the school's attendance area could apply to enroll in this program. The school provided free public transportation to students who are a part of this program. The program enrolled approximately 300 students.

The school had just recently added the Advancement via Individual Determination (AVID) program. This program targets students with high potential and the desire to go to college. Admission to this program is determined in eighth grade. The school had 100 AVID students.

Both the CEMS magnet program and the AVID program targeted marginalized students in their mission statements. The purpose was to create structural programs and supports to encourage more students across more differences to participate more fully in rigorous academic experiences.

Student participants. College prep course enrollment data from all students and all grades was analyzed. A college preparatory course is operationally defined as any honors, Advanced Placement (AP), and College in the Schools (CIS) course. Interviews were conducted with seven students.

Students not enrolled in a college prep course, with pseudonyms:

1 American Indian student (Michelle)

1 black student (Faith)

1 white student (Bartholomew)

Students enrolled in one or more college prep courses:

1 American Indian student (KK)

1 Hispanic student (RS)

2 black students (AB, Dominick)

Research Approach

Black, Hispanic, and American Indian students are unequally prepared for college (U.S. Department of Education Office for Civil Rights, 2014). This is a marginalized population, and inequitable access to college preparatory curriculum furthers their marginalized position. The purpose of this study was to identify the barriers to enrollment in Advanced Placement and Dual Enrollment courses for students who were Black, Hispanic, and American Indian and to identify the doorways to increasing enrollment.

I chose a transformative explanatory sequential mixed methods approach to this study. A transformative framework drives this study. This design provided a picture of racial inequality and expectations in preparation for college. The purpose of this study was to substantiate students' inequitable access to college preparatory curriculum in one suburban high school, find the underlying assumptions that drove inequitable access and to challenge these oppressive social structures (Creswell, 2014, p. 71). The results of this study will be used to enhance social justice efforts in the selected high school and apply these results to other high schools in the suburban school district.

The mixed methods approach combined the strengths of qualitative and quantitative research. The explanatory sequential mixed methods approach allowed quantitative data to be collected first. Analysis of this data gives the researcher a clear point to begin to quantify the problem. The results were used to build onto the second qualitative phase. The second phase refined this data and enriched my understanding of the issue. The qualitative study elaborated and enhanced the quantitative study. This

research methodology gave me a stronger understanding of the complex structures that influence student enrollment behavior. The mixed method design overcomes the limitations of doing only one side of the data collection, and it brings depth and texture to the this study (Creswell, 2014, p. 237).

Data Collection

 Quantitative data collection. I collected multiple forms of quantitative data in phase one. First, enrollment data was collected, disaggregated by race. I examined enrollment data for all honors, Advanced Placement, and College courses in the four core content areas (Math, Science, English, and Social Studies) offered at the high school. Enrollment data was divided by seven racial categories: White, Black, Asian, Hispanic, American Indian, Hawaiian/Pacific Islander, and multiracial. This enrollment data was then compared to the overall data of the school as a whole. Key racial disparities were identified in each course. A summary was completed by course and by department.

 Qualitative data collection. Phase two was the qualitative portion of the research. Initial student survey results are explained in greater depth through the use of student interviews. The qualitative interviews expanded on the quantitative surveys. Select students were asked to participate in an interview (see Appendix C). I prepared questions regarding the experience of racial isolation in a classroom, the decision to choose or not choose an honors course, what supports assisted them, and what deterred them. Students were asked what they thought were the characteristics of a successful AP student, and discussed why they believe the racial demographics are unbalanced in AP course enrollment. They were also asked about teacher perceptions of their abilities. This

method of research gave the big picture of the college preparation process in high school

accompanied by the personal stories of marginalized students.

Figure 1. Visual model of research design (Creswell, 2014, p)

Explanatory Sequential Mixed Methods
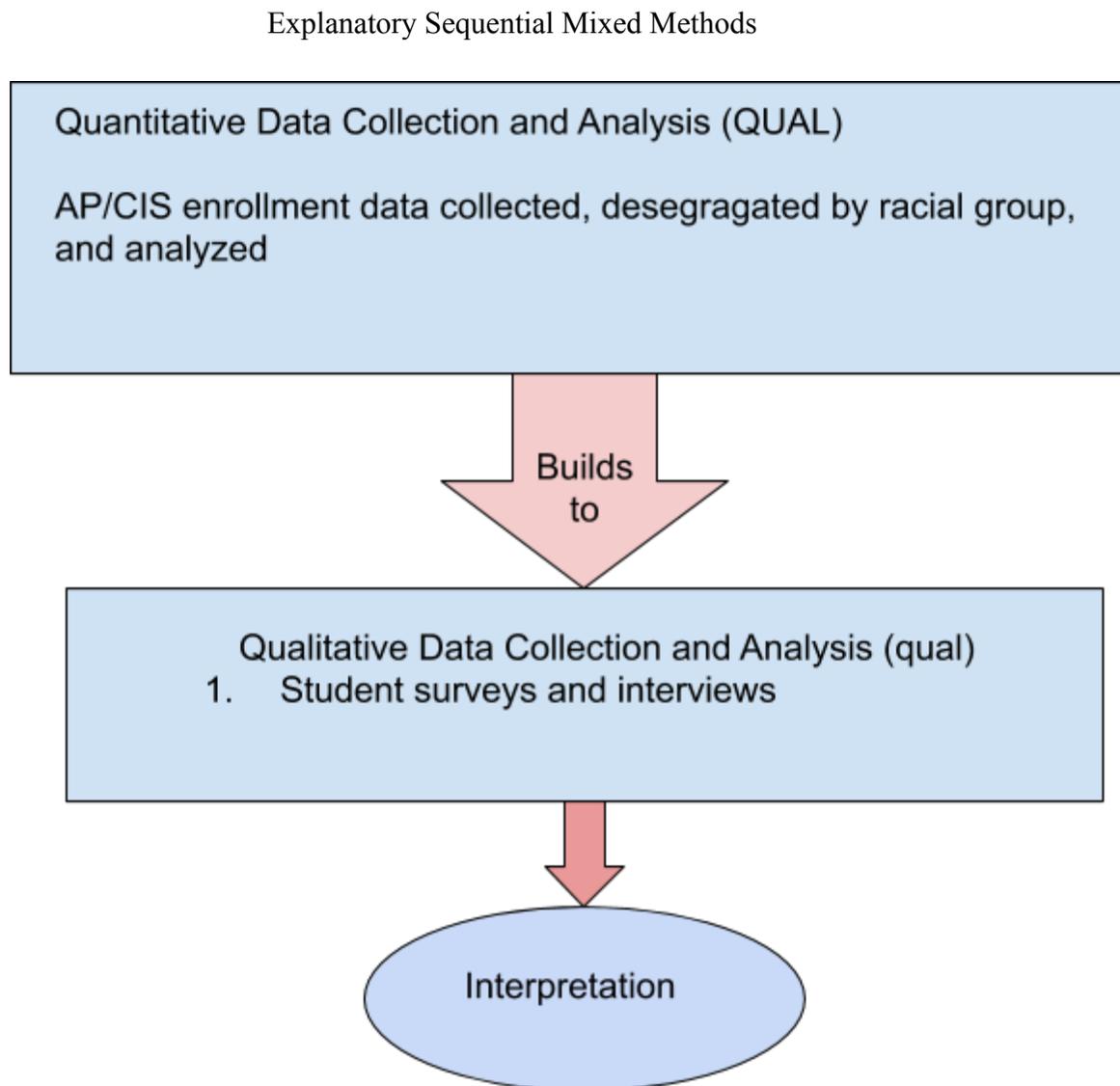
Data Analysis

Mills (2011) described data analysis as the attempt to fully and accurately summarize and represent the data that has been collected (p. 120). Because I am used multiple forms of data and multiple samples, extensive analysis was essential to form meaningful conclusions and interpretations of this data.

Descriptive statistical measures. First, I quantified the data collection through enrollment records. Enrollment results were desegregated by racial group, and those percentages were compared with the overall racial data for the school population. Gaps in enrollment for Black, Hispanic, and American Indian students was identified.

Explanatory research analysis. Mills (2011, p. 144) described explanatory research as a "follow up on outliers." In this case, the outliers were Black, Hispanic, and American Indian students. Once the quantitative data was collected and analyzed, outliers were quantified and more clearly identified. The qualitative portion of this study followed up on these outliers. The student interviews provided an opportunity to gain further understanding of each racial group independently. Student responses were recorded, transcribed, and coded according to major themes and patterns.

Once themes were identified in each group, I wrote about the major findings. An analysis of these two separate samples of data revealed clues to my major question: why are few students who are Black, Hispanic, and American Indian choosing to enroll in college preparatory courses? I described how the results of the different sources of data support each other. These independent sources of qualitative data gave strong evidence of student perceptions. It is the gaps in these perceptions that I interpreted in the final section of this paper.

Participant Confidentiality

Several measures were implemented to ensure protection of the participants' privacy throughout the research study. First, research approval was granted from the school in which the study took place. Next the district Research, Evaluation, and Testing

department approved the student survey and interview questions. Upon approval, an informed consent letter was sent home to gain approval for student participation in the research study. Because the research involved human subjects, approval was required from the Human Subject Research Subcommittee. A human subject research request was completed, reviewed, and approved.

Conclusion

In this chapter, the research methodology has been elaborated. I provided a description of the research setting and participants, and I described the explanatory sequential mixed methods research design. Quantitative data tools were identified and discussed. Explanatory qualitative data tools were described. I explained how data analysis tools will be used to gain meaning from the results. Finally, I ensured for the protection of privacy for the participants of this study.

In chapter four, the results and findings of the action research will be shared. A description of how the data was collected will be included. The results of each data collection tool will be summarized and analyzed. Graphs, tables, and appropriate visual representations of the results of multiple forms of data will accompany this section. An interpretation of the results will follow the description of the results. Patterns and themes that emerged from the data will be shared and elaborated. Finally, the major conclusions of the study will be stated.

CHAPTER FOUR

Results

Introduction

This chapter contains two phases of results. Phase one is the quantitative analysis of course registration; phase two is the qualitative analysis of student interviews. Each phase will include the analysis and the interpretation of the results.

Phase one data analysis

Appendix D includes specific data sets per AP/honors course at the selected high school. Total enrollment for the school was 2865 in the 2014-15 school year. This school's demographics were as follows:

Table 1. 2014-2015 Student enrollment demographic data for the selected high school

| Racial group	Percentage of total student population	Total number of students enrolled
white	78%	2236
Asian/pacific islander	8.4%	240
Black, non-Hispanic	8.3%	239
Hispanic	3.7%	105
American Indian	1.6%	45
All groups	100	2865

In my data analysis, I will describe each core content area separately and provide commentary. The important notes in this analysis are comparing college preparatory enrollment to the overall student population, broken up by racial demographics. Since

this paper is limited to examining enrollment for black, Hispanic, and American Indian students, my analysis will only include data on these subgroups.

Social studies. Overall, the racial demographics college preparatory courses held similar percentages to the overall student population. Four courses were within one percentage of the school population of white students, 78%. The whitest course in the social studies department was CIS Economics, a senior level course, with 6% more white students than the general student population. AP US History and AP Geography were the most diverse courses, with 5% fewer white students than the overall population. AP US History and AP Geography also had the highest percentage of black students, 2.3% and 2.4% respectively higher than the overall school population. CIS Economics had nearly 3% less black students than the overall school population.

The Hispanic population was quite similar throughout all courses, ranging from 2% (AP Government) to 4.7% (AP Geography) compared to the overall student population of 3.7%.

Figure 2. Advanced Social Studies Courses Compared to General Student Population
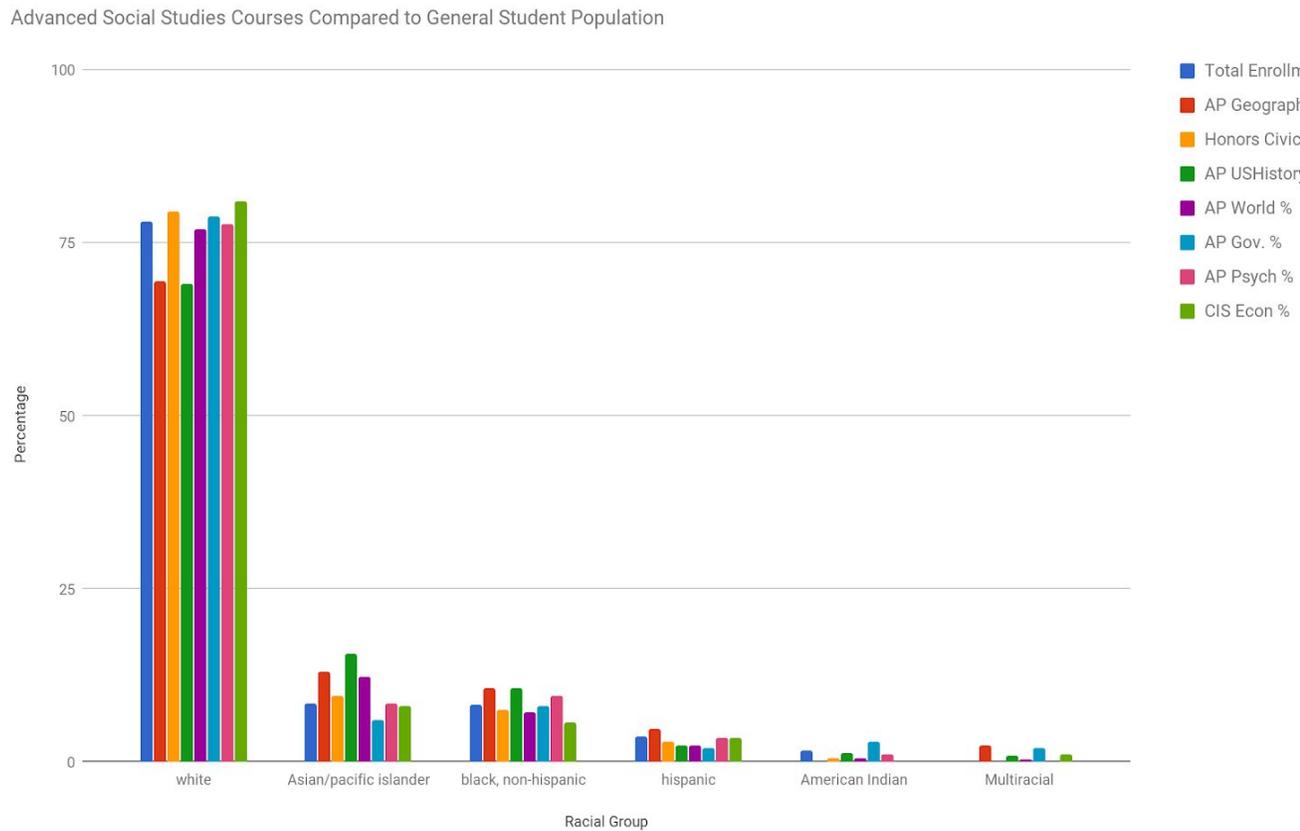
Science Racial disparities grow in science and math courses. One interesting comparison in the sciences is within the two ninth grade honors courses, Honors Physical Science 9 and Honors Physics 9. Honors Physical Science 9 is offered to all incoming freshmen, and Honors Physics 9 is strictly offered to students in the science and engineering magnet program. Students need to apply for admission to the program as eighth graders, and the program attracts students from outside the school district boundaries. One mission of the program is to increase students from diverse backgrounds, and the difference in honors course enrollment is a clear illustration of the success of this program. Honors Physical Science is 85% white (7% whiter than the overall student population of 78%); Honors Physics is 73% white. Honors Physical Science 9 has smaller percentages of black, Hispanic and Native American students than the general student population. Honors Physics has 2.3% more black students and very similar percentages of Hispanic and Native American students.

The starkest example in the science department of racial disparities is with College Biology and AP Physics. Of the 316 students enrolled in College Biology, 10 are black (3.1%) and 6 are Hispanic (1.9%). This is half the percentage of the overall black and Hispanic student population. Divided into 9-10 sections, a black or Hispanic student is almost guaranteed to be isolated. AP Physics follows the same pattern. These two courses are upper level science courses, almost always taken the junior and senior years of high school, respectively. Students are not required to take a science class their senior

year, so enrollment is limited to those with a stronger interest in the sciences and already

well on their way to a four year college.

Figure 3. Advanced Science Courses Compared to General Student Population


Advanced Science Courses Compared to General Student Population
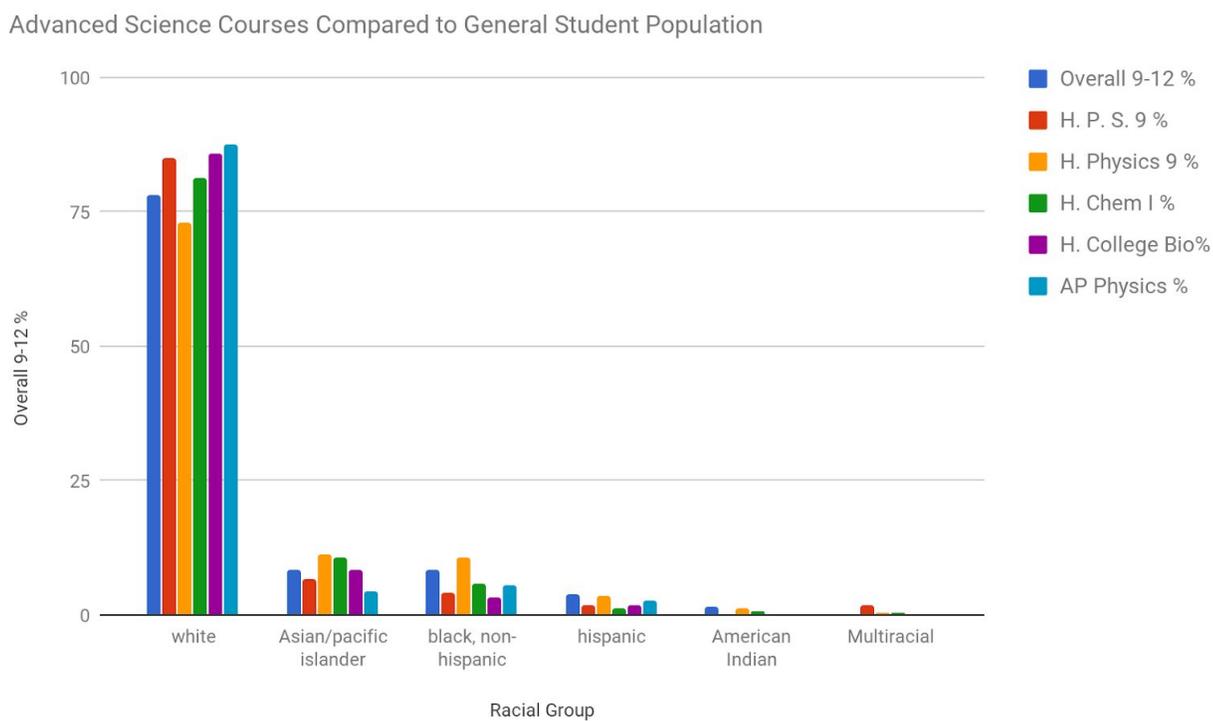
Math. Similar to the ninth grade science options, AP Statistics enrollment provides a distinctive comparison. This school offers AP Statistics to the general population and CEMS AP Statistics to students enrolled in the science and engineering program. Of the 140 students enrolled in AP Statistics, only one student was black (0.7%), two students were Hispanic (1.4%), and 2 students were Native American (1.4%). An experience of extreme racial isolation was guaranteed for these four students. Enrollment in CEMS AP Statistics showed significant differences. Of the 192 students enrolled in this course, 13 (6.8%) were black. Though 6.8% is still below the general black student population of 8.3%, the specialty program is clearly demonstrating success at recruiting black students to enroll in higher level math courses. Only 2, however, were Hispanic (1%), and zero Native American students enrolled.

Another example of a fairly successful course is College Algebra. Student enrollment for black students is 6.9%, 1.4% less than the overall student population. Enrollment for Hispanic students is 6.9%, significantly greater than the overall student population of 3.7%.

AP Calculus AB and BC enrolled very few black, Hispanic, or Native American students. Most of the diversity in these courses was due to the Asian student population. Only 2.9% of students in Calc AB were black, and 4% of students in Calc BC were black. Hispanic student enrollment was 1.9% and 3.1%, respectively. And American Indian enrollment was miniscule, with 1 student in each course (0.5% and 0.4%).

Figure 4. Advanced Math Courses Compared to General Student Population
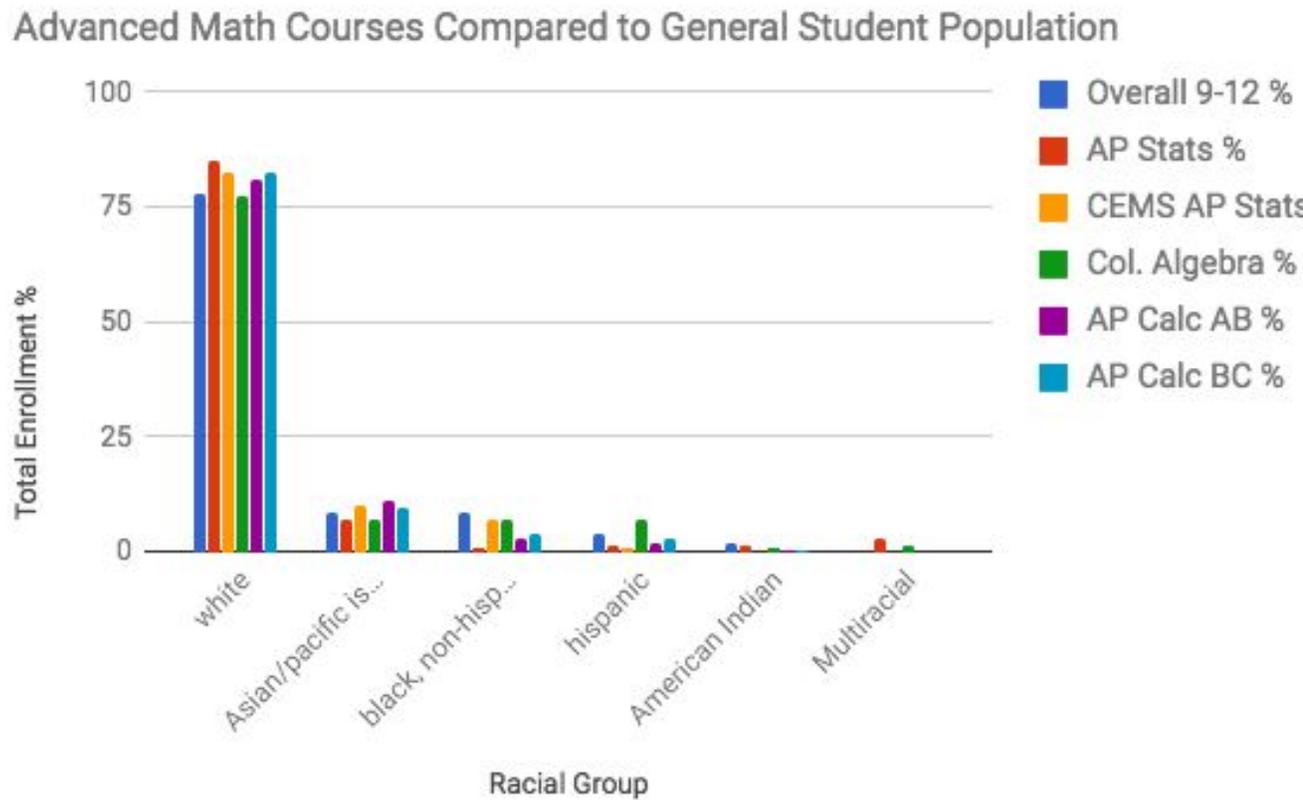
English. The English department offers fewer college preparatory courses. The differences are easiest to examine with a close-up view of the black, Hispanic, and American Indian racial subgroups. Though no courses match the overall black student population percentage, three of the four courses are within two percentages. AP Language and Composition, a junior level course, shows a significantly higher Hispanic population. Honors English 9 and 10 along with CIS Literature have a very small Hispanic population.

Figure 5. English Comparison of only black, Hispanic, and American Indian student enrollment

English Comparison of only black, hispanic, and American Indian student enrollment
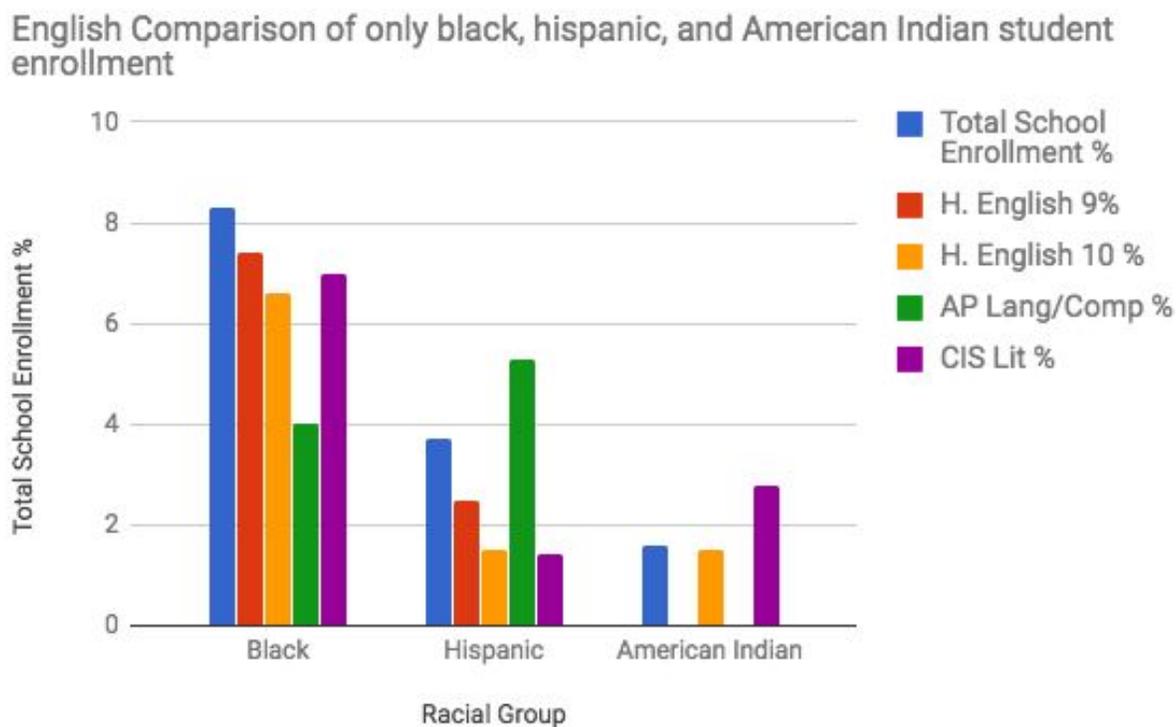
This data is encouraging because, like social studies, the racial gap in enrollment is minimal. Though a student could still feel racially isolated due to the small overall populations, the gaps are not as striking as those in the math and science courses.

Figure 6. Advanced English Courses Compared to General Student Population
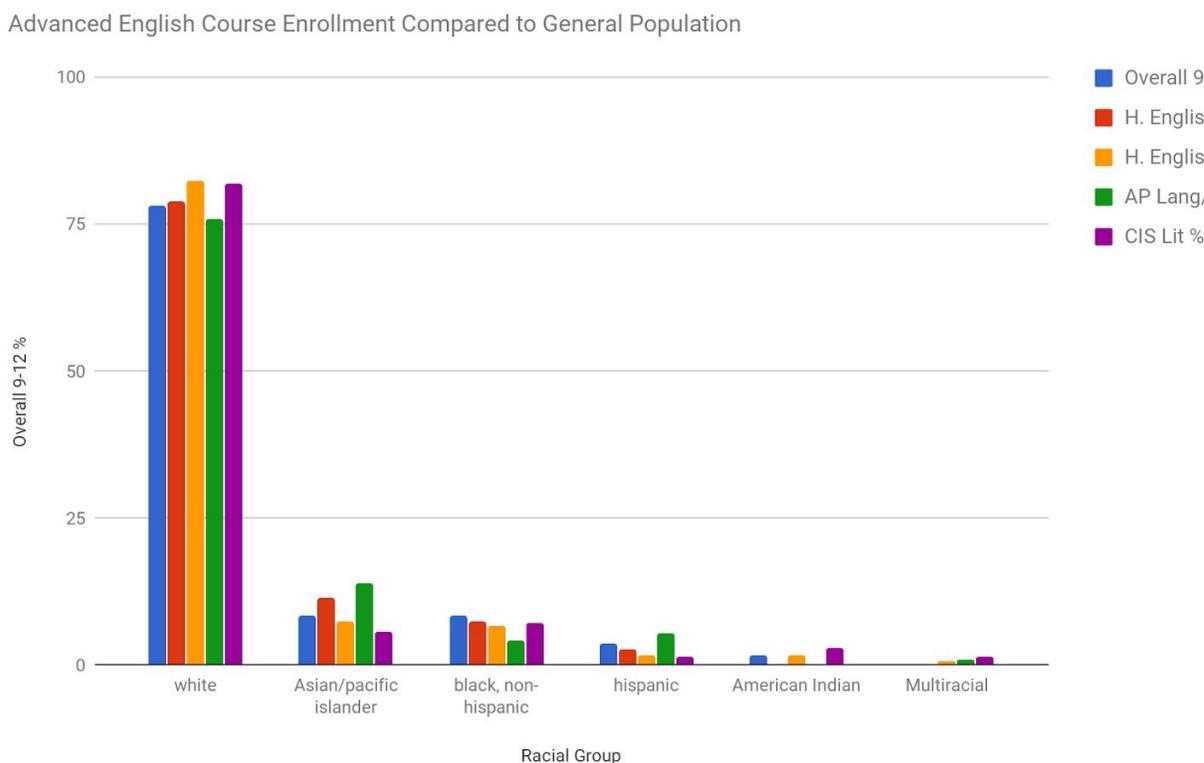
Phase one data limitations and recommendations for further research

In a school with a majority white population, small data sets statistically limit strong conclusions. It is difficult to make assertions regarding a particular course or department when 1 or 2 students of a particular population would swing the percentages

to form different conclusions. However, it is better to identify these disparities, despite the small data set, rather than ignore them. American Indians, in particular, are invisible from many national studies due to the smaller population. Examining data trends over multiple years would provide a stronger understanding of growth versus stagnation. In this particular school, college preparatory teachers generally keep their course for many years. Longitudinal data would help individual teachers better understand their role in influencing the racial composition of their course.

An additional data set that would illuminate further differences is the on-level course enrollment data. It would be quite powerful to examine on level Civics 9, for example, next to Honors Civics 9. On-level Statistics compared to AP Statistics or CIS AP Statistics. The school offers three levels of Chemistry: General Chemistry, Chemistry, and Honors Chemistry. Examining the racial trends for these three course may shed light on these racial disparities.

Finally, comparing grade level racial demographics would provide information for a deeper analysis. The general trend in the district in this study shows increasingly diverse groups of students in the younger populations. The freshman class has more students of color than the senior class. This data analysis did not break down the racial demographics by class. Doing so would help better explain the difference in diversity between freshman honors courses and senior level college preparatory courses. This may explain why AP Geography, a ninth grade course, is significantly more diverse than AP Government and CIS Economics, senior level courses. Such an analysis will not explain

why Honors Civics 9 and Physical Science 9 are more white, however, further illuminating the racial disparity.

One interesting area to explore is the overrepresentation of the Asian student population in college prep courses. While one should not classify overrepresentation of a minority group as a concern, some may see this data as evidence of success in increasing enrollment for students of color. Nationwide, data shows Asian students are overrepresented in honors courses. This should not gloss over the fact that black, Hispanic, and American Indian students are still not enrolling in these more challenging courses. If a course enrollment increases for students of color, it is important to identify which subgroups are actually growing. The science and engineering magnet program at this school has been very successful in attracting students of color. Much of that increase, however, has been with Asian students. Work still needs to be done with black, Hispanic, and American Indian students. Disparity may be found within the Asian subgroup as well. Are Hmong students faring as well as other Asian students? This is another data set to unravel in further research.

Phase One Interpretation

Any student of color in any course at this school may feel racially isolated due to the high percentage of white students.What is most startling is what I described in the introduction to this paper. Since many honors and AP courses are significantly whiter than the general student population, the mainstream or on-level option is filled with the students of color and includes less white students. This is how a visitor could visually see the difference walking down the hallway, looking into various classroom. A person could

successful guess the level of the course by the visual appearance of the student population. Some classes are quite diverse yet others are mostly white. The most significant examples of these racial differences are in the math and science departments.

Upon analyzing this data, the need for student perspective is clear. The enrollment gaps have been identified. This data stimulates further questions for the researcher. Why are students choosing not to enroll in these courses? All courses in social studies and English have zero entrance requirements. All students who register may take the course. Why are students choosing to take the on-level version? All students must take a Statistics course for graduation. Why are so few students of color choosing AP Statistics? Why are so few choosing Honors Chemistry and College Biology to meet their science requirements? These questions inform phase two of my research, the student interviews.

Phase Two Data Analysis

Upon collecting and analyzing enrollment data, I created several qualitative questions for students. The student interviews provided an opportunity to gain further understanding of an individual student perspective. Students were selected based on racial group and enrollment path. Seven students participated in phase two. Three students were not enrolled in any college preparatory course, and four students had been enrolled in at least one college preparatory course.

Students not enrolled in a college prep course (with pseudonym):

1 American Indian student (Michelle)

1 black student (Faith)

1 white student (Bartholomew)

Students enrolled in one or more college prep courses:

1 American Indian student (KK)

1 Hispanic student (RS)

2 black students (AB, Dominick)

I interviewed students with eleven prepared questions (Appendix A). Students showed enthusiasm about being selected for their interview, and they were quite animated in their responses. All interviews lasted more than 30 minutes, many extending the length of the designated class period. Students spoke with maturity and candor. After coding the transcribed interviews, several major themes emerged: counselor and teacher support; family expectations; peer influence; past success in school/pipeline; life goals; confidence; and racial isolation.

Counselor and teacher support. Counselors and teachers can have a powerful role in encouraging students to take college preparatory courses. One student, Dominick, spoke about a village of support that pushed him to enroll in AP US History, including his ninth grade social studies teacher, his counselor, the Student Support Advocate, and his football coach. For this student, it started when the AP US History teacher came into his ninth grade class with information about the course. "My teacher talked about apush. We had a conversation about the struggles and challenges." He was further persuaded by his football coaches, "All my teachers, like, they try to get me to the next step… My football coaches told me to step outside of my comfort zone and improve. My coaches were very proud of me and wanted me to stick with it. They brought it up every time we

were in the locker room, 'did you hear [Dominick] was in APUSH?' [They] kept talking about it. They wanted me to be different than the other kids."

Dominick spoke of how important this support system was through the year enrolled in AP US History. "Mrs. Trettel and Mrs. Pohl had my back throughout the whole way. I felt like they were my motivation, they were my support." His AP US teacher also encouraged him throughout the year, "Even when I didn't want the help, they still tried. T. wouldn't let me drop." This student's connections with teachers gave him the courage to enroll in the first place, and it was this network of support that kept him from dropping the course throughout the year.

Unfortunately, other students did not share such an experience. One student, Michelle, who never enrolled in an advanced course, said, "Nope, no teacher or counselor spoke to me about these harder classes. I would try it if someone thought I could do it. I feel like I still would get a bad grade." Her comment illuminates the lack of faith she had in herself and the lack of connections she had to supportive adults in the school. Another student, Faith, said, "No teachers ever recommended I take honors classes. If they did, I would try it to see what it's like for myself." KK, a student who did enroll in various honors and college preparatory courses, stated, "I had no conversations with counselors and teachers. I just decided for myself." She is a student who did not need the extra push; she knew that she wanted to challenge herself.

These various types of experiences reveal the significant impact a teacher or counselor has in influencing enrollment decisions. This is a challenge when many class sizes are near 40 and counselors' caseloads are over 500 students. It is quite possible for a

student to go through four years of high school and never make a connection with a teacher or counselor. And other students manage to make several connections.

Family expectations. Students like KK did not need the extra encouragement because she had a strong support network at home. Parent expectations emerged as another significant factor in determining why students chose to enroll in advanced courses. Both KK and Dominick were raised by a single parent, and they spoke about their mother's high expectations. KK explained, "My mom expects As and Bs. I have never gotten a C. If I got a C, she'd be mad. She expects me to go to a four year college." Dominick reflected on his mother's past experience, "My mother took AP classes when she was in high school. My mom thought I could do it."

RS, another student of color who enrolled in many AP and CIS courses, spoke of how his parents always expect him to be challenging himself. "I have always been placed high in class, and my parents expect that I take higher level classes because they know I rank pretty high in things."

Michelle, an American Indian student, had little family encouragement. "My mom doesn't really care what I do." Michelle held a 3.18 GPA, taking all on level courses. She had responsibilities at home, however, and she worked 5 hours each weeknight at her part time job. When reflecting on the racial enrollment gap, Michelle said, "I feel like the parents are the ones who make the white kids do the AP classes." Bartholomew, a white student who did not enroll in any AP courses, said, "My family expectations are that I at least go to community college and that I pass all my classes and graduate. For some classes, they don't care too much if I get a D because I try."

Past success in school/pipeline. A significant part of my literature review examines the early years of schooling and its impact on student success later. Tracking students begins at a very early age through the gifted and talented and special education pipelines. None of the students I interviewed had been a part of a special education program. Only one, KK, had been in a gifted program in middle school. An interesting data set for future research would be to examine longitudinal data regarding what percentage of students in a gifted and talented program were enrolled in advanced courses in high school.

The students who chose to enroll in advanced courses did so because of past success in courses. KK explained, "I was pretty good at science, so I took honors science in ninth grade. I was hesitant to take honors chem because other sophomores said it was really hard. I just thought that it might be hard for them, but I wanted to try it out and see for myself. I did not want to take regular science in 10th grade." Dominick explained his decision to take AP English, "I always excelled in English, it was always fun to me." "I have always been placed high in class," RS stated, "so I prefered to take the harder courses."

Confidence. All of these factors-- counselor/teacher support, family expectation and previous schooling experience-- contribute to a student's confidence in their academic ability. The students who did not enroll in advanced courses did so because they were certain they could not succeed. Michelle, with a 3.18 GPA, stated, "I just thought they were too hard. I thought it would be too hard. My grades were not as good, so if I did AP classes, they would be even worse than they are." Faith had no interest in

taking advanced courses, saying, "Those classes are way too hard for me." Bartholomew explained his desire to take an AP course, "I wanted to take AP Psych because I know more about it and it is interesting, and I want to learn more in depth about the class. I want to get ready for college." Yet, he never enrolled. He chose on level psychology instead. "I didn't feel I was ready for a college level class. I'm not there yet. I should wait until I get into college. I can't do it. If I bring home homework, my home life becomes horrible and stressful. I don't bring anything home."

When asked why she thought so few students of color enrolled in advanced courses, AB reflected, "Part of it is the same reason as mine. I think maybe some kids might not think they are smart enough to take those classes. They don't think they can do it. They don't think they belong in those classes."

Even the students who chose to enroll in advanced courses doubted themselves often. Dominick, in describing why he took the class, explained, "Honestly, I wanted to be the geek. I wanted other people to call me the geek, the smart one." However, he struggled with fear and insecurity throughout the year taking AP US History. "I had fears that I would fail and mess up my GPA. I was so scared. I remember that I didn't do the summer homework. The first day of school I didn't do it. I pulled out the sheet and it was blank. It was over 100 points, and I was so scared that I would fail. I wish I would have taken the class and been mentally stronger and more prepared. Everyone does it and is nice. I was so afraid everything was going to be hard. I was scared of Ms. T. for the longest time." His teacher, whom he was so afraid of, reached out to him as the year went along. "We had a heart to heart moment, she was talking about the right choices in life

and the bad choices. Ms. T. knew I was scared of the class and the AP exam. I was so scared that I didn't go to the AP exam, I stayed home that day. I woke up, my alarm went off. I knew if was the exam day. I just didn't want to fail it and look bad. T. came to talk to me and said, 'It is okay to try your hardest and still fail.' She told me the Wayne Gretzky quote about missing 100% of the shots you don't take. I felt that was where we started really bonding. I took it seriously again. I stayed after school, went to study hall, did my work.

Dominick's story illustrates the need for a support system to keep students in these challenging courses. If he had not made a connection with this teacher, he would have dropped the course and not taken another challenging course. Instead, he managed to end the course positively, and he has greater confidence going into next year's AP World History course. Michelle, along with no self-confidence, also spoke earlier of having no adults encourage her to take an advanced course. I wonder, with a 3.18 GPA, how well she would have done if she had tried. It is hard to know, but it is disappointing that she never tried.

Peer influence. Another powerful influence that emerged was behavior of peers. Many students choose courses based on what their friends choose. If friends are not choosing advanced courses, the option does not appear on a student's radar. Bartholomew, KK, Faith, Michelle, AB and Dominick all said that they did not have friends who chose advanced courses. Michelle reflected, "Most of my friend group is not in AP classes." AB, who tried some honors courses as a freshman but failed, said, "Some of it was because of friends influence not doing my work. Me being hard-headed, being

lazy, not doing my work, hanging out with the wrong crowd-- hanging out, not studying, not doing my work."

Dominick said that he signed up for an AP course because he thought his friend was going to do it, but his friend dropped out. "My friends were asking me why I was doing it. They were asking me why I would risk ruining my GPA? I took AP World next year. None of my good friends are taking AP World next year." For his AP English class, however, the decision was not as difficult, "Two of my friends were in it, and that made it easier," he reflected.

This experience is in contrast to that of many white students who enroll in AP courses. Even if they are not academically ready, they may choose advanced courses to stay with their friends. Dominick stated, "Caucasians take AP because their friends are going to take it.They already know they are going to meet friends there. I think caucasians are fearless. They can take risks. I have a fear of being judged."

For white students who are in AP courses, enrolling in an advanced course is an act of keeping with the status quo. For students of color, it is the opposite. Many do not even consider enrolling, and those that do think long and hard about what that will mean if they go through with it. The risks can feel significant.

Racial isolation. Having one friend in a class can make a tremendous difference, and having no friends can be enough to persuade a student to drop. Being the only student of color in a class can add to the feeling of isolation and not belonging. Though students of color are in the minority at this suburban high school anyway, the experience is clearly noticed in advanced courses.

Michelle did not know of any American Indian students in advanced courses. KK, also an American Indian, was enrolled in several advanced courses, and never to her knowledge knew of other students like herself in any of her advanced courses. AB moved to the school from a more diverse urban community. She chose to enroll in an honors course when she first moved to the school, and she noticed right away that she was alone. "I thought it was weird that I was the only person of color in the classroom. It was awkward and weird and I wouldn't talk to anyone."

RS, who has taken advanced courses in all core subject areas for three years, agrees that being racially isolated affected his ability to connect with other students. "Especially in the higher level classes. I am always the only Latino in the class. I actually made some jokes about that in AP Lang last tri. There were 3 of us brown-skinned people. We tried to stick together."

Dominick elaborates on how much harder it was to connect with peers in a class that is almost all white. "In my AP classes, the classmates are a big difference, big difference. They are all caucasian. There was one African-American male. I couldn't connect with him well. He connected with the white group of friends, and I couldn't jump into that circle." He felt more comfortable in his on level classes. "I felt like I could talk, I could stretch my arms, relax."

In addition to not having peers like themselves, most students of color have rarely had a teacher of the same race. KK explains, "I don't think I have ever had a teacher who is native. I may have, but they never told the class that. I never had the ability to connect with a teacher like others do because of my race." AB said, "I had a teacher who is the

same race as me in 7th grade. It was nice, but that was the only time. Um, well, it would be easier for me to connect with them because I don't know how to explain. It just is." Dominick is still hopeful, "I have not yet had a teacher who is my race. Not yet. Two more years left, though."

With these cases, the overall discomfort is magnified when racial issues are discussed in class. Dominick explained, "Yeah, it was kind of hard when we were talking about the Civil War and slavery and slaves being taken from Africa. It was hard sitting there. I felt like all the eyes were on me. I was hot, and I hated sitting there. I sat in the front row."

Ignorant comments from classmates and teachers can also rattle a student. Dominick describes one incident, "I came into a couple of conflicts. I was taking a group test after school and there were 3 of us African American kids. A white student came over and said 'Africa is a terrible continent, African countries are 3rd world.' I was like, yikes!"

RS, in an honors band class, describes an incident with his band teacher. "During band, a friend asked me a question about what was going on with the saxophone. The teacher was like, 'You amigos quiet down!' I didn't really have a response. My mom was furious."

The experience of racial isolation is a difficult one to eliminate in a majority white suburban high school. It can be alleviated as a school increases the number of students of color taking advanced courses. Even so, students of color need adults in the school who will listen and support them through these experiences.

Phase II Interpretation

The voices of seven students certainly does not reflect all students. This research was never intended to be a representative sample of the student body, and each student does not speak for their race. The value in these interviews is the extent to which each student has considered what influenced their decisions or non-decisions. Two students-- Michelle and Faith-- hardly considered taking advanced courses. As we spoke, they were unraveling through their words why they never considered it. One student, Bartholomew, went back and forth on his decision and ultimately decided against it.

The four students who chose to enroll had various results. RS was part of the special science and engineering program. He applied to come to this school from another district. Taking difficult courses was an expectation; it was not a new decision to mull over. His success in science and math courses gave him the academic confidence to take advanced social studies and English courses as well. He belonged to a cohort of high achieving students through the magnet program, and it would have been more uncomfortable for him to enroll in a mainstream course.

KK also entered high school with a foundation of confidence and expectations. She had experienced academic success already and had grown the academic confidence to try courses with rigor. She struggled significantly in her 10th grade honors science class, however. When we spoke at the end of that year, her confidence was shaken. She stated, "I used to be good at science, but I'm not good anymore." She reached a point where she was questioning the limitations of her potential. Her comments, within the context of the phase one data, are worth evaluating. 11th grade and 12th grade AP

science courses are the whitest in the school. This case study is worth digging into deeper. Could that 10th grade honors science teacher play a more pivotal role in a positive direction?

AB had the confidence to enroll, yet she failed. She blamed herself, "I was just not doing my work like I was supposed to." She described how she did not know what she was doing, and she did not know how to complete the work. She was trapped in a downward spiral of failure. All this was happening in her first year transferring to this school from an urban school. Could an adult have intervened through this transition? The only intervention for AB was to change her schedule and drop her honors course.

Dominick provides an example of resiliency. He struggled with his AP US History course. He was so certain and fearful of failure that he did not even show up to the AP exam. He, however, ended the year with a positive resolution. He was ready to conquer the next AP course, and he knew what he had to do to be successful. His counselor and the Student Support Advocate were connecting with him throughout the year, and his teacher used his failure as an opportunity for growth.

In each of these students' stories, one sole factor did not determine whether or not a student chose to take an advanced course. Several factors worked together. Counselor and teacher support, its existence or non-existence, played a significant role in all cases. Students like RS and KK had the family expectations, past success in school, four year college goals, and confidence to get through the racial isolation without needing counselor or teacher support. Dominick needed that support to overcome the problems of confidence, peer influence and racial isolation. Bartholomew, Michelle, and Faith did not

have the counselor or teacher support that perhaps they needed. Without family expectations, peers in advanced courses, four year college goals, and academic confidence, it is no wonder they did not choose to enroll in an advanced course.

Summary of the Data

The research question asks what are the doorways and barriers to college preparatory enrollment for black, Latino, and American Indian students. The two sets of data provide clarity within the context of the review of literature on this topic. Phase one of the research illuminates specific racial disparities that exist within this high school. The school course data fits in with the national data presented in Chapter Two. Some courses are exceptionally well-represented, with percentages exceeding those of the overall school population. These courses, like AP US History and AP Geography, are worth investigating to better clarify doorways to college preparatory enrollment. This shows that some important doorways currently exist in my school, and they are worth identifying and elaborating. Most courses, however, enroll a very small number of students who are black, Latino, or American Indian. Phase one provides the data set, the "proof," that my school has barriers to enrollment. Identifying those barriers and building larger doorways are worthy goals to achieve in my school's continued efforts to reduce the achievement gap.

Phase two of the research personalizes the literature from Chapter Two. My students told personal stories of their experiences at my school. The review of literature in Chapter Two included a list of recommendations for building doorways and

eliminating barriers. The phase two qualitative data results allow me to focus on those examples acute to this particular school.

What are the doorways and barriers to enrollment in college preparatory courses for students who are black, Hispanic, and American Indian?

Doorways include:

- Inclusion in gifted or honors pipeline in earlier grades

- Success in previous courses, creating academic confidence

- High expectations from family

- Student understanding of how college prep courses fit into the long term goal of college success

- Finding peers with similar goals, building a sense of belonging

- Strong support from counselors and teachers

Barriers include:

- Previous exclusion from gifted or honors academic pipeline in earlier grades

- Low academic confidence

- Low expectations from family

- No peers enrolled in a college prep course

- Lack of teacher and counselor connection

- Racial isolation

Recommendations for Greater Doorways

Actual goals need to be based on data. The College Board reported that many schools have goals of increasing AP course enrollment for underrepresented groups, but

few have actually included data analysis in their plans (Edwards & Duggan, 2012). If the school does not know the current data and does not have a target for improvement, it will be impossible to determine success. My school needs to continue to collect, analyze and monitor our enrollment data. Individual teachers could use this data as part of their professional growth plan.Teachers could include this data in their collaborative team discussions.

Intentional limitation of school improvement plan. Schools cannot control everything. Building some of these doorways extends beyond the influence of this high school and costs money and legislative support that is beyond the scope of this research. It would be easy to recommend schools appropriate greater dollars to decreasing class sizes, which would allow teachers to build stronger relationships with all students. Our state legislature could also allocate more funding for counselors, allowing them to experiencing a counselor-student ratio lower than 732 to 1 (Cronin, 2016), and greater funding for talent development in the earlier grades, allowing more students of color to be identified to grow skills and academic confidence. However, all of these solutions extend outside of my initial research goal, which is to identify what I can do within my sphere of influence.

The solutions to be shared with administration and colleagues as part of a school improvement plan are to be items that we, collectively, could implement within our school, regardless of outside support and funding. The data from my research along with the review of literature in Chapter Two illuminate a path to follow for positive results.

There are two general areas in which this plan should be approached: teacher training and systemic commitments.

Teacher training. My school has been through several cycles of training to better meet the needs of all students. The most recent training was in culturally responsive teaching. The most important component of this training was that it led teachers to self-reflection about their own beliefs and biases. Teachers moved from resistance to fear to openness and awareness. As a result, teachers have worked with their collaborative teams to examine better ways to build inclusive practices and curriculum. Implicit bias and stereotypes are frequently discussed within a culturally responsive teaching framework. The teachers mentioned in the student interviews are deeply engaged in reflective practices. I recommend a continuation of this program. Culturally responsive teaching programs are always difficult to evaluate on a quantitative level because teachers invest at varying levels. Though an entire school may have implemented a culturally responsive teaching program, individual teachers may choose to engage or disengage depending on their level of comfort. Success of culturally responsive teaching professional development programs are difficult to measure. The focus is on the process of greater inclusion, not necessarily test scores or enrollment numbers. My qualitative research is helpful in identifying this key commonality among student voices. Teachers engaged in this reflective work are making a difference in the lives of the students interviewed.

The foundation of all professional development is relationship-building. Without a focus on relationships, actions of an individual are forgotten and lost. Culturally

responsive teacher training uses tone and trust as the foundation for deeper introspective work. Trust and relationships among colleagues are essential to creating collaborative communities. Teachers need support through relationships with their colleagues. These relationships allow teachers to work collaboratively to address the needs of more students.

The second key focus of staff development should be on mindset. Students need to learn in a growth mindset environment. Students need modeling and training to hold a growth mindset rather than a fixed one. Students afraid of failure will drop a challenging course at the first threat to their identity. My building frequently selects one to three books to study each year. All staff members who wish receive a free copy, and staff are encouraged to attend book discussions throughout a trimester. Probationary teachers are required to attend these discussions. Veteran teachers may attend when convenient. I recommend my school purchases *Mindset*, by Carol Dweck, for all staff members. I recommend providing an incentive for veteran teachers to attend the discussion. Perhaps dedicating staff development funds to pay teachers their hourly rate would entice some. Food and collegial relationships is often a stronger incentive in my building. Carol Dweck has videos as well. Viewing a video and discussing the concept of mindset in small groups may be a sufficient way to get all staff members introduced to the ideas. I think this shift in mindsets is key to moving ourselves, our students, and our courses more towards learning-centered rather than grade-centered.

Systemic commitments. Schools need to systematically address the disparities. In Chapter Two, I listed five key systemic commitments that successful schools: 1)

Accessible registration, 2) Culture of Scholarship, 3) recruitment plan with connections, 4) Student support, 5) Vertical integration. We are actively engaged in some of these already, and we have some areas of growth.

1) **Accessible registration.** We have no barriers to registration for AP courses. All students who wish may enroll in AP courses. Dual enrollment courses in the core academic areas have greater barriers. Colleges set either minimal GPA requirements or a required class rank..

2) **Culture of Scholarship.** We have many assemblies and pep fests throughout the year, but success in AP/DE courses has never been mentioned. I recommend we use our assemblies to praise students who chose to challenge themselves academically. Students enrolled in these courses should be asked to stand up to be acknowledged for taking college prep courses. Successful AP scores should be commended. A culture of scholarship should include the expectation that all students take at least one AP/DE course before they graduate. This builds a new normal, that all students are AP students. As freshmen, they should discuss which one they will take.

3) **Recruitment plan with connections.** Within the social studies department, we take one day each year to introduce AP/DE courses to interested students. AP/DE teachers host short informational sessions, and all interested students can leave their social studies class to learn about potential courses for next year. Teachers often include former students in the session to speak to potential students about

the course. Though there are complaints about losing a day of instruction, it is worth it to continue this practice until a systemic school-wide process is built.

I have several recruitment recommendations to build on this:

a) **AP Potential.** My school should make use of the AP Potential tool. We already have a process in place for all junior students to meet individually with their counselor one time to discuss post-secondary plans. The AP Potential tool should be added to the counselor checklist. As counselors and students go through the transcript, counselors can check to see if an AP Potential student has enrolled in AP/DE courses. If not, the process will provide the conversation tools to encourage a student to enroll in one course for their senior year. Rather than an individual conversation, this process could be in the form of a letter sent from administration. The letter would congratulate the student for their potential and invite the student to enroll in AP/DE courses.

b) **"AP/DE Preview."** Potential AP students would be invited to a special "AP/DE Preview" night program or breakfast. Teachers would speak about the expectations of AP/DE courses, and current AP students would speak about how they were successful. This would help get parents invested in their child's rigorous coursework.

c) **"Angels for AP/DE" program**. My school could replicate the program referred to by the College Board's own research (2013) in which sophomore students shadow an AP student for a week. I recommend this

week to be in early December. Registration takes place in early January, and this should take place prior to registration. The greatest challenge to carrying out this plan would be space. Our classrooms are already overcrowded, so it would be very difficult to manage any additional students in these classes.

4) **Student support.** My recommendation for this school is to focus on the doorways of building stronger teacher-student and counselor-student support and to build a peer-mentor network. Schools can reinforce strong teacher and counselor connections. An important doorway for increasing enrollment is to further these connections.

   a) **Counselor support**. The research presented supports that this support system assists students through the experience of racial isolation and allows students to engage in opportunities to build academic confidence. Since class sizes are quite high and counselors are already overwhelmed, a targeted approach would be more efficient. One support staff position, the student support advocate, was mentioned many times. This staff member has been a key influence in many students' lives because she has built relationships with many students of color over the course of their four years in high school. Her influence and ability to communicate and connect with counselors is a key part of building the support students needed to take the risk of a college prep course. I recommend including conversations about high potential students of color in the counselors'

weekly collaborative team meetings. This should be an item on the agenda

for each weekly meeting. Counselors can review grades and discus areas

of need. These conversations will assist counselors in connecting with the

targeted students throughout the year and registering these students for

more demanding courses as they grow in their skills and confidence.

b) **Peer mentoring**. Though schools have limited control over students' peer

groups, the use of mentors can provide students with a new or expanded

network of peers. I recommend specifically target higher achieving and

high potential students of color and pair these students with a mentor or

informal support group. The mentor could be a supportive teacher, or it

could be an older student of color who has chosen college prep courses.

These students could meet weekly or biweekly during the school's

advisory time. Teachers, along with counselors, identify the high potential

students of color in 9th and 10th grade. AP and CIS teachers identify the

mentor students. Building mentor-mentee relationships will allow students

to ask questions, express fears, and gain access to resources for assistant.

This also works toward building greater academic confidence because the

student will work through struggles and celebrate success with their

mentor. An upperclassmen peer mentor of the same race will assist the

student in overcoming the barrier of racial isolation. This will also have a

greater effect as growth occurs after several years of implementation.

Racial isolation will diminish as greater numbers of students enroll, and this feeling of isolation will not feel as formidable.

5) **Vertical integration**. Core departments need time to collaborate across grade levels to provide all students the opportunity to access AP/DE level coursework. Higher level skills, like writing document-based question essays and analyzing primary documents, need to be taught and scaffolding in earlier grades so all students have the skill set to access future college preparatory courses. Currently, AP/DE teachers rely too heavily on honors level courses preparing students for AP/DE courses, yet we eliminate the higher level thinking expectations from on-level courses. This places students outside of the gifted and talented pipeline at a significant disadvantage. Increasing the rigor of on-level core courses would improve academic achievement and college preparedness school-wide. It would boost the confidence of those students outside of the gifted and talented pipeline and those who did not take honors courses in ninth and tenth grade.

CHAPTER FIVE

Conclusion

Introduction

This capstone explored factors associated with enrollment in college preparatory courses for black, Hispanic, and American Indian students. The research question guiding this study was: *What are the doorways and barriers to enrollment in college preparatory courses for students who are black, Hispanic, and American Indian?* My objective was to highlight factors identified in the literature review and investigate to what extent these factors applied to my unique building. My research began by identifying the extent of racial disparity in college preparatory course enrollment within my building with an analysis of enrollment data demographics. Finally, my research concluded with student interviews, allowing for qualitative data collection that honed in on personal experiences of students who enrolled in college preparatory courses and those who did not. The student interviews provided a powerful opportunity to hear a diversity of student voices.

I began my research in the fall of 2015, four years ago. Since that time, I moved to a different community. I currently work in a different building and school district. I now teach both on-level and Advanced Placement world history. I no longer chair a culturally responsive teaching committee. My new district does not have the foundation of Gary Howard's training or SEED, though they do have an equity team and occasional equity staff development inservice programs. My new content demands have kept me from connecting with district groups and resources within the equity framework. The time invested in teaching a new college course has reminded me why it is so difficult to

ask AP and DE teachers to do more than they are already doing. Education is exhausting. Any request for more can put an overworked teacher, counselor, or administrator over the edge, and can lead to resistance even when those hearts desire the same positive change.

I have had time to reflect on my research, and the gap in time allows me to approach this conclusion with a different perspective, seeing the long view. I will include in this summary an account of continuities that persevere and positive changes that have come about. The remainder of this chapter will include four major sections. First, I will revisit the literature review. I will highlight the key works that proved relevant to my capstone and examine how the data from my research supports the body of literature on this topic. Next, I will include an analysis of the results of my study. This will include a personal reflection, a description of the limitations of this research, an exploration of further areas of study, and a plan to implement my findings in my school community. Finally, I offer a summary of the major emphasis and learnings of the chapter.

Literature Review Reflection

This section contains a reflection of the literature review from chapter two and connects the most important strands to the results of my study. Leadership at the federal and state level has changed since I began my research. An update to the 1965 Elementary and Secondary Education Act was passed, and the College Board's influence has grown substantially. This section will address these changes and analyze new connections and understandings I have made to the literature review.

     Continuities and changes. In the four years since I wrote the literature review in chapter two, some significant changes have occurred and some continuities persist. ESEA

changed from No Child Left Behind to Every Student Succeeds Act, giving local school

districts and states much broader authority over how funds are allocated and how they

will target low performing student groups. Minnesota still has one of the largest K-12

achievement gaps in the nation, ranking from 5th worst to second worst, depending on

the area of assessment, and it has not changed since 2014 (Magan, 2017). In addition,

Minnesota schools have become more segregated (Wagner 2017).

The College Board reports continuous growth in course enrollment and exams

taken for all students, and scores on exams have increased by 12% across

underrepresented minority students. A significant achievement gap still exists, however,

between Asian and white students and other students of color. (Tugend, 2017).

One exciting area of growth in Minnesota is the increased role that Minnesota

colleges are playing in assisting students in college readiness. The Minnesota State

system serves a growing population of lower-income, minority, and first-generation

college students. Community colleges have reported that up to 40% of incoming students

were not prepared for college courses. These students had to enroll in remedial courses,

which put them further behind. In addition to supporting dual enrollment, post secondary

enrollment, and technical college options while students are still in high school, the

Minnesota State system has developed a new Summer Scholars Academy (SSA). This

new program is designed to help prepare students for college during the summer. The

results of this new program have been strikingly positive. 72% of students were able to

enroll in credit courses the following fall, eliminating the need for remedial courses, and

they were able to move to higher placement courses (Klingensmith & Gillespie, 2019).

Perhaps this is one excellent model to examine of institutions of higher education working along with the K-12 to eliminate the achievement gap.

   Connections between my research and previous studies. With this gap of four years since collecting my initial research, I have had time to reflect on the significance of my results and what elements of the literature review most strongly connect to my research question: *What are the doorways and barriers to enrollment in college preparatory courses for students who are black, Hispanic, and American Indian?* Research on aspirations, affirmation, and belonging proved even more powerful upon the completion of the student interview analysis. These students gave voice to the 2009-2015 longitudinal study from the National Center for Educational Statistics on how student aspirations for college change over their high school experience (Broer & Ikoma, 2015). Though some dreamed of college as freshmen, they described a more nuanced mindset about their potential and their hopes and failures. The simple 15 minute affirmation intervention, developed by Cohen, Garcia, Apfel, and Master (2006), stands out as a clear action that will produce results. Students were given a list of values, such as relationships with friends or family or being good at art. They were asked to choose a value most important to them, and write about its importance. African Americans in this group showed significant gains in GPA, closing the achievement gap by 40%. The theory behind these results is that a small change could set off a positive schooling cycle. This could be implemented in advisory as early as eighth grade, creating a catalyst for positive academic success prior to enrollment in high school courses.

The feeling of not belonging in AP courses was articulated by several students interviewed. There is a certain clique within the AP student community that can be perceived as exclusive. Students already feeling racially isolated within their school community will particularly struggle to break in to that in-group. Cohen's additional study (Cohen and Walton, 2011), could provide another strong intervention to support racially isolated students in suburban schools. Students read the results of a survey of belonging by senior students. The surveys read described how belonging was hard at first, things got better with time. Though Cohen's study was targeted to college freshmen, this could be altered for high school freshmen. This intervention could also be implemented in an advisory program.

Finally, literature that points to a genuine opportunity for students to talk to teachers and counselors about their opportunities proved fundamental. Though many examples of successful school models were cited by the College Board, North Central High School's small intervention at registration time connected strongly with my reflection from student interviews. Students individually were asked to identify the "academic press" in their schedules. This forced the conversation about potential, mindset, and belonging that I lamented never having with my students. At my current school, we individually talk with each student about their course decisions during registration time. This question could be a part of those conversations already happening. Currently, those conversations last less than one minute in order to get through all students in one class period. Some additional time would need to be built in to allow more honest, student-centered conversations.

The selection of research included in my literature review was broad and overarching. Each component (gifted and talented pipeline, historic racial disparity in special education, mindset, cultural competency and implicit bias) can be expanded upon, challenged and evaluated. The overview situated my research within this broader understanding of educational equity and improvement. The results of my study agreed with the findings of the literature review. Even with this separation of time, the research still proves relevant to the research question, *What are the doorways and barriers to enrollment in college preparatory courses for students who are black, Hispanic, and American Indian.* This next section, a personal reflection, brings forward the process of reflection required to connect the literature review back to my study and its implications for my practice.

Personal Reflection

Listening to the honest words of students was a powerful experience. In this section, I process the layers of significance this study held for me. I identify the parts of the interviews that spoke loudest to me, I analyze the lost opportunities for these conversations, and I reflect on future opportunities to include student voice in educational improvement. Finally, I describe the transformative power of qualitative research.

KK's story. As I compiled the qualitative data, I kept coming back to KK's story. KK is confident and fearless. She is driven to do what is best for her, and she makes decisions based on her personal goals. The factors that other students struggle with (for example, peer influence, teacher connection, and racial isolation) did not shake her. She seemed immune from the doubt and anxiety that other students exhibited. Her solid sense

of identity has provided her with the foundation required to weather the academic and non-academic struggles of typical high school students. What made her so intrepid and assured? Even with that strong sense of assurance, her experience in 10th grade honors science proved pivotal. At the age of 16, she believed she had reached her limit in science.

In my experience as an educator, I have met many students like KK. These students are never in the majority, and they always impress me. Much of what I would like to build in my school is a culture that supports the students who do not have this solid foundation of support and confidence within them. Such a culture transcends race. All students need a system of support beneath their feet to allow them to take risks and grow. Often, in white schools with white teachers, the culture excludes students of color. They are forgotten. The marginalized subgroups must be specifically targeted, or they will be forgotten.

Valuable conversations. After completing these interviews, I reflected on how valuable it was for me and the students to talk about these experiences. Nobody had ever talked to them about these issues. These students had never had an adult in school ask them about racial isolation or the experience of taking challenging courses. They were surprised to be asked, and they enjoyed reflecting on their experiences. I realized that I, too, had never had a chance to sit down with my students and listen to their reflections on their experiences. I never before had a chance to sit, one on one with a student, and tell them I was proud of them for taking challenging courses or I was surprised they had not enrolled in advanced courses. It is disturbing that such an experience had never

happened. I had these students in class for at minimum one trimester and some over a year, yet we never had a chance to chat openly about these experiences. Though I have spoken to many colleagues about this topic extensively, I never sat down with a student to discuss this. Though I am armed with extensive research on the best action plan to increase enrollment, my students sit by unaware, unaware that educators care so deeply about their future, unaware that their teachers believe in them, and unaware that the courses they enroll in can truly have a significant impact on their future. At the same time, I sit at my desk unaware of their individual experiences at my school, unaware of their perspective on this issue, and unaware of the outside pieces that influence their lives.

This only makes clearer the need to include student voice in all processes. It serves three functions-- listening for students' excellent ideas, using the opportunity to communicate with students how much we believe in them, and using the opportunity for students to talk honestly with teachers about the realities of their worlds.

The transformative approach to qualitative research. Prior to my capstone, I interviewed the director of Research, Evaluation and Testing in my school district. I asked her about her philosophy within her field of work. She explained how the process itself was just as valuable as the results. In undergoing a program evaluation, the greatest value was getting teachers, administrators, and other stake-holders to feel ownership in the program. She believed strongly in the collaboration process as an essential agent of change. The final results of an evaluation are important, but a central goal is in generating commitment and empowering the participants to be transformative agents through the

process. I experienced this as a participant in the English Language Learner program evaluation. We committed multiple days to engaging in the creation of a philosophy, mission, curriculum, and evaluation of the program. The process built uniformity, connection across buildings and personnel roles, and commitment to best addressing the needs of our students.

When conducting student interviews, I saw this process happen again. Involving students in this process generated genuine interest and ownership in improving our school together. It seemed as if our conversations had the potential to be a driving force to change the behavior of these students. They were interested in choosing rigorous schedules. I could see an "ah ha" moment with these students at the conclusion of this process.

Engaging in the same exploratory process with teachers could produce similar results. Not only would I have more information to craft an effective plan to produce change, but the teachers may experience growth through the process. The evaluation process may be another component to producing positive change.

Limitations of the research

In this section, I identify limitations of my research, including personal biases with regard to selection and confirmation bias. I also include acknowledgement of the incentives of the College Board.

My interpretations of the results are influenced by my personal culture, history, and experiences. The qualitative research is limiting due to the small number of students interviewed. I interviewed students whom I genuinely wanted to hear from. Would I have gotten different results if I had chosen different students? Selection bias is important to note as the students selected are not representative of the entire school population, and they are not representative of their racial identity group.

The researcher is influenced by their own biases and beliefs. Confirmation bias is the tendency to interpret new evidence as confirmation of one's existing beliefs or theories. I tried to structure my questions in a way that facilitated an open dialogue where students could freely comment and elaborate on their experience.

In addition to the personal limitations of the researcher, one must also identify the limitations of the research question. The question itself relies on the College Board's assumption that AP courses are one factor to reduce the achievement gap for black, Hispanic, and American Indian students. The College Board is interested in increasing enrollment in these courses to increased participation in exams that require a fee. The more students taking AP courses results in more fees paid for AP exams, which results in greater revenue for the College Board. The implicit bias in this agenda is important to acknowledge.

Future Areas of Study

  This section includes further areas of research to develop. The first section, expanding the initial research, outlines avenues to pursue to gather more information to better target improvement strategies. Even though I work in a different building with a different culture, I still see these items as possible ways to build greater collegial buy-in and support in creating a school with high academic expectations. The second section, future research interests, takes the results of my study and reconnects these results with the literature review.

  Expanding the initial research. I chose each of these students because I had a relationship with them, either through an on level or an AP course. Their experiences provide a good data point for deeper exploration into the individual case study. This phase of the research provides a strong foundation to develop questions for further research.

  When I first began this capstone, I created a teacher survey. The survey asked teachers about their perceptions of student potential, AP/DE course enrollment growth and achievement gap solutions. Using the results of this current study, I would like to review and revise this survey and complete teacher surveys. It would provide valuable information to better refine and execute an action plan that authentically addressed the culture of my school.

  In addition, I would like to interview select teachers in my building. I want to learn more about those who have the successful enrollment numbers. I would like to hear about their beliefs and practices to see what lines up with my recommendations and what

would better refine our school improvement work. I would also like to hear from those teachers whose classes are very white. How do their practices differ from other teachers? Are there specific content-related factors that would influence course enrollment?

Some teachers in this school worked as a cohort over several years to improve their culturally responsive teaching practices. A future area of research would include studying how that cohort of teachers matched up with the course data sets, and what teachers have done to change their teacher practice to become more culturally responsive. The changes could be much deeper than teacher-student relationships, altering curriculum that engage more students and reflect the diversity of the student body.

Future research interests. The overview of current literature on racial disparities in education and effective programs stimulated greater interest in further research. I often found myself deep into a rabbit hole of research, losing sight of my initial research question to a dozen additional questions. I would like to pursue further research in several areas in the future: racial disparity in gifted education, the correlation between increasing enrollment and AP exam scores, and program maintenance over time.

Racial inequity in gifted education is an area of study I would like to explore further. The further I researched racial disparity in college preparatory course enrollment, the literature kept circling back to inequities in pipeline programs. Very little data includes American Indian students, and I would like to learn more about this area. Within my school district, I would like to calculate the demographics of students in gifted programs compared with overall demographics. Unlike AP/DE programs, gifted programs required students to meet criteria to be enrolled. I would like to examine model

case studies of gifted programs nationally that have managed to balance the racial composition of students in their programs.

Another future area of study is the correlation between increasing enrollment in these courses and test scores. Many teachers believe that, as enrollment increases, test score averages will decrease. I experienced the opposite in my AP Psychology course, but, as I stated earlier, this may be an outlier example. It is likely that at some point there may be a plateau of growth. Some teachers fear that allowing more students to enroll in these courses, particularly students who do not have the reading and writing skills to succeed, will lead to watered down curriculum. I would like to examine the College Board data on these trends.

One significant gap in the literature in any program designed to produce educational reform is about maintenance. In my 17 years of experience teaching grades K-12, I have seen a lot of programs die. The challenge with educational reform is maintenance. How do you keep the focus on the goal over time? I would like to revisit the case studies from College Board's research (2012, 2013) to see how long these programs lasted and to what level of improvement. What were their initial goals, and to what extent were these goals met?

I have many research interests, and I hope to continue to press for documentation and dynamic research to better center my teaching practice and to contribute to positive changes within my building and my district.

Implications of the research

This section reviews the implications of the study elaborated in chapter four and applies these results to a plan of action. Each item listed specifically addressed the research question: *What are the doorways and barriers to enrollment in college preparatory courses for students who are black, Hispanic, and American Indian?* This section begins by addressing the big picture, whether people should care about college preparatory enrollment. Next, I address doorways and conclude with the barriers. I include changes that I would like to make within the sphere of my classroom, my department, my building, and my district. My plan asserts that I have skills and data that may contribute to the improvement of the system. It is important that I acknowledge and rely on the extensive knowledge and experience of my peers and leaders.

The big picture. Does it really matter if a student gets through high school without taking a college preparatory course? Some might answer that no, students end up just fine. Plenty of students will succeed in postsecondary education programs without having taken advanced courses in high school. However, the data shows us different paths for white students and students of color. Students of color are more likely to take remedial courses, costing them more money and delaying their progress toward graduation. Due to these factors, students of color are more likely to drop out of college. Students who enroll in advanced courses in high school are more prepared for college and more likely to succeed in college.

In addition to this data, my concern is for those students of color who are capable of taking advanced courses but are not enrolling. Each of the students I interviewed had

strong GPAs, all had achieving a 3.0 or higher. Motivation is a dynamic factor, changing depending on the student's interest in the subject, the teacher-student relationship, and student's personal situation. If overall academic motivation is low, taking an advanced course may not be a good fit for the student. However, many students are like those I interviewed. They were not particularly passionate about an academic subject, but they would have benefitted from taking more challenging courses. They had the skills to be successful; they simply did not believe or imagine that taking such a course was something they could do.

The College Board had no entrance requirements for AP courses, but most teachers agree that some students are simply not the best candidates for an AP course. Low GPA, low reading level, and low motivation are all factors that would impede a student from succeeding in a college level course. They should not be used as a reason to exclude students, however, since a student may have a particularly strong interest in a subject that would propel them to work above their current achievement level. I am not convinced that a proper solution would be to require all students to take AP or honors courses. Student motivation is a significant factor.

The results of my study have convinced me, however, that many more students should be taking these courses than currently do. I look forward to implementing these recommended changes and annually reviewing the results. I plan to share the results of this research with my social studies department, my school's equity team, my administration, and the Equity and Inclusion Coordinator of my district. I am now entering my fourth year in the district, and I have learned that cultivating relationships

across staff members produce positive effects. I plan to slowly integrate pieces, starting with those I can control, and build buy-in along with way.

Doorways to enrollment. Key doorways to enrollment in college preparatory courses identified are: Counselor and teacher support, high family expectations, membership in the gifted pipeline, academic confidence, finding peers with similar goals (sense of belonging), and student understanding of how college prep courses fit into the long term goal of college success.

Barriers to enrollment. Key barriers to enrollment in college preparatory courses identified are: lack of connection with a teacher or counselor, low expectations from family, previous exclusion from the gifted or honors academic pipeline, low of academic confidence, few or no peers enrolled in rigorous courses, and racial isolation.

The barriers and doorways identified can be addressed in many ways. Connecting the results of my study with key successful case studies from the literature review produce some clear and specific interventions to address the disparity within my classroom, department, building, and district.

Improvement within my practice. I plan to implement the following items into my teaching practice this school year:

1) Increase the rigor of my on-level world history course. I teach juniors. Senior have four AP/DE options in my building: AP Psychology, AP Economics, AP Government, and Developmental Psychology. My goal is to prepare on level students for success in one of those courses for their senior year.

2) Further develop our vertical social studies team. Though we tend to have discussions annually across our department to vertically align our curriculum, I would like to create a clearer scaffold of the skills required to be successful in AP World so that ninth and tenth grade on-level teachers have the resources needed to develop those higher level skills.

3) Pilot a mentoring program. I can select senior AP World veteran students of color and pair them with high potential students of color in ninth and tenth grade.

4) Ask for the list of AP Potential students. I could connect with those in my on-level world history courses and encourage them to challenge themselves next year.

5) During registration time, individually challenge my students to identify the "academic press" of their schedule.

Improvement within my department. I plan to share my research with my colleagues and present possible solutions. Few teachers appreciate being told what to do by their peers, so a collaborative approach is ideal. I plan to implement the following items:

1) Build support and interest in better vertically aligning curriculum.

2) Create an AP recruitment plan. In the past, AP teachers stop in to classroom prior to registration to talk about their course and answer any questions students may have. This is generally five minutes or less and is not consistent across course, grade level, and instructor. I would like to

work with my colleagues to build in a day where students can hear from other students about their experiences in the course. One sensitive issue in my building is with competition. We have several AP options that compete with each other. Students can choose AP World History or AP European History as juniors, and they have four choices (listed above) as seniors. It is imperative that all teachers are on board to keep this focused on increasing overall enrollment, not recruiting students away from other teachers' courses.

3) Social Studies AP Preview night. This is most important for those students who choose to enroll in APUSH, since it is the first AP course offered to students in the social studies department. However, any student taking an AP course for the first time could be invited to attend this event. This could be a breakfast before school or it could be an evening event in which parents are included also. We could have current or former students speak about the challenges and celebrations of taking rigorous courses, and teachers could speak about the expectations of the course.

Improvement within my building. These items require administration and building-wide support. Their implementation requires buy-in and simplicity.

1) Building a culture of scholarship through further celebration at school pep fests, including recognition of AP/DE course enrollment.

2) Use of AP Potential data tool. Teachers could use this data to better connect with students who have not chosen to enroll in rigorous courses.

The building data secretary could run the data to determine who on the list

is not enrolled in an AP or DE course. Counselors could individually meet

with those students prior to registration time. A letter could be drafted to

be sent to those families congratulating the students on their success and

encouraging the student to choose more demanding courses.

3) Schoolwide AP/DE Preview.

4) Advisory intervention. We could implement both the recursive virtuous

cycle addressed by Cohen et. all through two small interventions. The

affirmation intervention and the social belonging intervention are both

small interventions that require little from teachers yet may produce

positive gains for marginalized populations.

District level support. The staff development on culturally responsive teaching is

satisfactory, but it could use some enhancement and authenticity. I would like to start

SEED in my district. I experienced the power of transformative inclusive practice as well

as strong collegial relationships and support in my previous building. My current district

lacks strength in its equity framework, and I would like to contribute to this department.

In addition, Cohen's interventions, as described above, may be more effective used in

eighth grade. Students have a stronger homeroom advisor structure, and this may play a

significant impact on course registration for ninth grade.

Summary

The process of research affirmed the need for educators to continue to stay

connected to new research on educational improvement, specifically in the context of

transformative practice. Too often, teachers and educational leaders make decisions based on their observations with little reference to the broader picture and the overarching patterns across disciplines across classrooms in various regions. Decisions should not be made based on gut instincts, and educators need to continually questions assumptions about best practices and behaviors.

In addition to the need to stay connected to educational research, this study also affirmed the need to stay connected to students. Students' voices are valuable, and they need opportunities to be heard. The next phase for this research is implementation. As I seek to implement each recommendation for improvement, I need to create space to have honest conversations with individual students about their path forward. I have learned that listening is a key element to change.

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APPENDIX A

DATA COLLECTION INSTRUMENT

Student Interview Questions

Group 1: enrollment in college preparatory courses

Group 2: no enrollment in college preparatory courses

Appendix A

Student Interview

Group 1: Enrollment in college prep course

Date: _____
Racial Identity Group (circle):   black   Hispanic   American Indian
Participant Names: _____
Chosen Pseudonyms: _____
Interviewer Name: _____

Introduction: Good afternoon, thank you for agreeing to participate in my study as well as taking the time to allow me to interview you.

1. You stated on your questionnaire that you have taken _____ (college prep) courses. Why did you choose to enroll in college prep courses? Speak about your personal goals, your family expectations, your relationships with teachers, counselors, and other students.

2. What hesitations, if any, did you have about this decision?

3. Describe what racial isolation means to you.

4. Do you experience racially isolation at Blaine High School? If so, in what ways?

5. Does the experience of racial isolation change moving from a mainstream required course to a college preparatory class? If so, in what ways?

6. Does it impact your ability to connect with other students in your classes? If so, in what ways?

7. Does it impact your ability to connect with your teachers? If so, in what ways?

8. What differences exist between college prep courses and regular courses?

9. We have a racial gap in enrollment in college prep courses for students who are black, Hispanic, and American Indian in our school. Why do you think that gap exists?

<p style="text-align:center">Student Interview</p>

<p style="text-align:center">Group 2: No enrollment in college prep course</p>

Date: _____
Racial Identity Group (circle):   black   Hispanic   American Indian
Participant Names: _____
Chosen Pseudonyms: _____
Interviewer Name: _____

Introduction: Good afternoon, thank you for agreeing to participate in my study as well as taking the time to allow me to interview you.

1. You have not enrolled in a college preparatory course. Why not? Speak about your personal goals, your family expectations, and your relationships with teachers, counselors, and other students.

2. Have you considered enrolling in a college prep course? Why or why not?

3. Has a teacher/counselor ever recommended to you to enroll in an honors, AP or CIS course?

4. Would this impact your decision to enroll? Why or why not?

5. What would you need to be ready to enroll in a college preparatory course?

6. Describe what racial isolation means to you.

7. Do you feel racially isolated? If so, in what ways?

8. Does it impact your ability to connect with other students in your classes? If so, in what ways?

9. Does it impact your ability to connect with your teachers? If so, in what ways?

10. What differences do you perceive between college prep courses and regular courses?

11. We have a racial gap in enrollment in college prep courses for students black, Hispanic, and American Indian in our school. Why do you think that gap exists?

APPENDIX B

DATA COLLECTION INSTRUMENT

Student Questionnaire

Student Questionnaire

Date: _____

Name: _____

Grade: _____

Current GPA: _____

Race: _____

1. What are your academic strengths?

2. What classes do you have the highest level of interest in?

3. What honors/AP/CIS classes have you enrolled in?

4. Do you currently have a study hall? Which hour?

APPENDIX C

STUDENT CONSENT FORMS

Student Interviews

Letter of Consent

To Parents/Guardians Requesting Permission for Minors to Take Part in Research

May 8th, 2016

Dear Parent or guardian,

I am a social studies teacher at Blaine High School and a graduate student working on an advanced degree from Hamline University. As part of my graduate work, I plan to conduct research in April and May, 2016. The purpose of this letter is to ask your permission for your son or daughter to take part in my research. This research is public scholarship. The abstract and final product will be catalogued in Hamline's **Bush Library Digital Commons,** a searchable electronic repository, and it may be published or used in other ways.

I am studying ways to reduce or eliminate barriers to enrollment in college preparatory courses for students of color, specifically students who are black, Hispanic, and American Indian. Student voices are an essential piece of this research. I will be interviewing students who have chosen to take one or more college preparatory courses. Your child has taken one or more college preparatory courses, and I would like to learn more about the experience from your child's perspective. The interviews will be conducted in small groups, and they will take place during PAWS, a non-instructional part of the school day. Your child's specific interview date will be one of the following, determined by your child's availability: May 11th, 18th, 25th, June 1st, or 8th. The interviews be recorded and will last 30 minutes. A copy of the interview questions are included with this letter. Student interviews are one component of the data collection. Teacher surveys and teacher interviews will also be used to investigate the research question. After completing the capstone, I will summarize and analyze the findings in a report to be distributed to the research participants, administrators, and the district's research, evaluation, and testing department.

I have received approval from the School of Education at Hamline University, from our district office, and from John Phelps, principal of Blaine High School, to conduct this study. There is little to no risk if you choose to participate in the interview. All results will remain confidential and anonymous. Your child will choose a pseudonym to protect his or her identity. Your child's identity and participation in this study will be confidential. The recordings will be destroyed after completion of my study.

Participation in the interview is voluntary. At any time, you may decline to be interviewed, or you may have your interview content deleted from the capstone without negative consequences.

If you agree to participate, keep this page. Fill out the duplicate agreement on page two and return it to me no later than____. If you have any questions, please contact me.

Alicia Moore

Social Studies Teacher
Blaine High School
763-506-6539 alicia.moore@anoka.k12.mn.us

<p style="text-align:center">Informed Consent to Participate in Qualitative Interview
Keep this full page for your records.</p>

I received the letter about your research study for which you will be studying ways to reduce or eliminate barriers to enrollment in college preparatory courses for students of color. I understand that being interviewed poses little to no risk to my child, that his/her confidentiality will be protected, and that I may withdraw my child from this study at any time without negative consequences.

_____

_____

Parent/Guardian Signature   Date

<p style="text-align:center">Participant Copy</p>

Informed Consent to Participate in Qualitative Interview
Return this portion to Alicia Moore.

I received the letter about your research study for which you will be studying ways to reduce or eliminate barriers to enrollment in college preparatory courses for students of color. I understand that being interviewed poses little to no risk to my child, that his/her confidentiality will be protected, and that I may withdraw my child from this study at any time without negative consequences.

_____

_____

Parent/Guardian Signature   Date

Researcher Copy

APPENDIX D

Phase one research data

Current Enrollment data

This appendix includes specific data sets per AP/honors course at the selected high school. This school's demographics in the 2014-15 school year are as follows:
78% white (n=2236)
8.4% Asian/pacific islander (n=240)
8.3% black, non-Hispanic (n=239)
3.7% Hispanic (n=105)
1.6% American Indian (n=45)

Social Studies
AP Geography 2-14-15
Total enrollment: 85
white: 59; 69.4%
Asian/pacific islander:11; 13%
black: 9; 10.6%
Hispanic: 4; 4.7%
American Indian: 0
multiracial: 2; 2.4%

H Civics 2014-15
Total enrollment: 201
white: 160; 79.6%
Asian: 19; 9.5%
black: 15; 7.5%
Hispanic: 6; 3%
American Indian: 1; 0.5%
multiracial: 0

AP US History 2014-15
Total enrollment: 346
white: 240; 69%
Asian: 54; 15.6%
black: 37; 10.7%
Hispanic: 8; 2.3%

American Indian: 4; 1.2%

multiracial: 3; 0.9%

AP World History 2014-15

Total enrollment: 332

white: 256; 77%

Asian: 41; 12.3%

black: 24; 7.2%

Hispanic: 8; 2.4%

American Indian: 2; 0.6%

multiracial: 1

AP Government 12

Total enrollment: 99

white: 78; 78.8%

Asian: 6; 6%

black: 8; 8.1

Hispanic: 2; 2%

American Indian: 3; 3%

multiracial:2; 2%

AP Psychology 2014-15

Total enrollment: 179

white: 139; 77.7%

Asian: 15; 8.4%

black: 17; 9.5%

Hispanic: 6; 3.4%

American Indian: 2; 1.1%

multiracial: 0

CIS Econ 2014-15

Total enrollment: 88

white: 72; 81%

Asian: 7; 8%

black: 5; 5.7%

Hispanic: 3; 3.4%

American Indian: 0

multiracial:1; 1.1%

Math

AP Stats 2014-15

Total enrollment: 140

white: 119; 85%

Asian: 10; 7.1%

black: 1; 0.7%

Hispanic: 2; 1.4%

American Indian: 2; 1.4%

multiracial: 4; 2.9%

CEMS AP Stats 2014-15

Total enrollment: 192

white: 158; 82.3

Asian: 19; 9.9%

black: 13; 6.8%

Hispanic: 2; 1%

American Indian: 0

multiracial:0

AP Calc AB/BC-A 2014-15

Total enrollment: 226

white: 186; 82.3%

Asian: 22; 9.7%

black: 9; 4%

Hispanic: 7; 3.1%

American Indian: 1; 0.4%

multiracial: 0

AP Calc AB-A 2014-15

Total enrollment: 207

white: 167; 80.7%

Asian:23; 11.1%

black:12; 2.9%

Hispanic: 4; 1.9%

American Indian: 1; 0.5%

multiracial:0

College Algebra w/modeling 2014-15

Total enrollment: 145
white: 112; 77.2%
Asian: 10; 6.9%
black: 10; 6.9%
Hispanic: 10; 6.9%
American Indian: 1; 0.7%
multiracial: 2; 1.4%

Science
Physical Science 9 honors 2014-15
Total enrollment: 239
white: 203; 84.9%
Asian:16; 6.7%
black:10; 4.2%
Hispanic: 4; 1.7%
American Indian: 0
multiracial: 4; 1.7%

Honors Physics 9 2014-15
Total enrollment: 395
white: 288; 72.9%
Asian: 44; 11.1%
black: 42; 10.6%
Hispanic: 14; 3.5%
American Indian: 5; 1.3%
multiracial:2; 0.5%

H Chemistry 1 2014-15
Total enrollment: 532
white: 432; 81.2%
Asian: 57; 10.7%
black: 31; 5.8%
Hispanic: 6; 1.1%
American Indian: 4; 0.8%
multiracial: 2; 0.4%

H College Bio 2014-15
Total enrollment: 318
white: 273; 85.8%

Asian: 27; 8.5%

black: 10; 3.1%

Hispanic: 6; 1.9%

American Indian: 0

multiracial: 0

AP Physics 2014-15

Total enrollment: 112

white: 98; 87.5%

Asian: 5; 4.5%

black: 6; 5.4%

Hispanic: 3; 2.7%

American Indian: 0

multiracial: 0

English

Honors English 9 2014-15

Total enrollment: 202

white: 159; 78.7%

Asian: 23; 11.4%

black: 15; 7.4%

Hispanic: 5; 2.5%

American Indian: 0

multiracial: 0

Honors English 10 2014-15

Total enrollment: 272

white: 224; 82.4%

Asian: 20; 7.4%

black: 18; 6.6%

Hispanic: 4;1.5%

American Indian: 4; 1.5%

multiracial: 2; 0.7%

CIS Literature English 12

Total enrollment: 71

white: 58; 81.7 %

Asian:4; 5.6%

black: 5; 7%
Hispanic: 1; 1.4%
American Indian: 2; 2.8%
multiracial:1; 1.4%

AP Lang/comp English 11 2014-15
Total enrollment: 244
white: 185; 75.8%
Asian: 34; 13.9%
black: 10; 4%
Hispanic: 13; 5.3%
American Indian: 0
multiracial: 2; 0.8%