

College Readiness and Black Student Performance: Disaffirmed Equity

Carolyn M. Davis[1], John R. Slate [2], George W. Moore [3], Wally Barnes[4]

[1] Houston Community College
[2], [3], [4] Sam Houston State University

ABSTRACT

Through a myriad of legislative mandates, College Board endeavors, as well as state and federal incentive programs, efforts to close the achievement gap are visible. As the result of these initiatives, Black students' involvement in Advanced Placement has increased. However, Black students do not show as much improvement in their Advanced Placement program access and equity as do Hispanic and other student groups. Amid the lens of critical race theory and human capital theory, interest convergence emerges to suggest why a society should educate all of its citizens equally.

Keywords: *readiness, black student, performance*

INTRODUCTION

According to the literature, negating the ability to transition from high school to college and careers is the presence of serious issues such as (a) inequalities in level of education among some ethnic groups, (b) high school dropout rates, and (c) the persistent achievement gap in postsecondary attainment. Several researchers (Dewey, 1966; Klarman, 2007; Ladson-Billings, 1998) suggested that perhaps the democratic privileges and the civil rights of Black citizens in the United States may be violated. Dewey (1966) proclaimed that a democratic education is a process of transforming individuals from powerless to powerful—from uninformed to informed. In addition, Dewey asserted that a democratic society promotes equality among its members through education for all. Furthermore, Neubert (2010) determined that a democratic education cannot ignore systemic conditions of inequalities and exclusion of individuals and groups. Specific to Black citizens, Klarman (2007) and Ladson-Billings (1998) pointed out the legality of equality in education and how the civil rights of Black people have been denied or hindered by the ruling class in the United States.

Consequently, as one of the most widely recognized pathways to academic equality and college readiness, the Advanced Placement (AP) curriculum is used throughout the United States. Researchers (e.g., Davis, Joyner, & Slate, 2011; Dillon, 2007) implied that participating in AP programs is an indication of students' ability to transition to postsecondary education. In addition, Davis et al. (2011) asserted that AP has grown in much greater proportions than other college preparatory programs. Specifically, Dillon (2007) declared that in 2006, approximately 62%, 15,000 of the 24,000 high schools in the United States offered one or more AP programs. The 2006 percentage represented a 5% increase from the 2000. Nonetheless, students who need the experience of rigorous coursework, particularly minority students, are less likely to have access to this type of curriculum (Alliance for Excellent Education, n.d.; Dillon, 2007). Accordingly, this article contains an introduction, and a review of literature on (a) condition of college and career readiness in the United States, (b) Advanced Placement, (c) Advanced Placement initiatives by state, and (e) theoretical framework.

College and Career Readiness

The consensus among researchers (e.g., Barnes & Slate, 2011; College Board, 2012b; Lavin-Loucks, 2006; Trimis, 2009) is that a large number of high school graduates are not college ready. Precisely, the absence of college preparedness suggests a gap exists in what students learn in high school and what is expected when they reach college (College Board, 2012d; Education Week, 2011; THECB, 2006; Trimis, 2009). Hence, the Council of the Great City Schools and ACT, Inc. (2007) asserted that students who are prepared at a level equipping them to “enroll and succeed, without remediation, in a credit-bearing first-year course, at a two-year or four-year institution, trade school, or technical school are said to be college ready” (p. 7). As defined by Menson, Patelis, and Doyle (2009), college-ready students are those students who have participated in college level courses in high school and exemplify (a) detailed knowledge about the subject, (b) good study habits, (c) research skills, and (d) a higher level of thinking. Conley (2008a) classified college readiness as being academically and socially prepared by exhibiting behaviors that promote successful achievement on a post-secondary level. Conley (2008a) defined academic preparedness as having the cognitive and meta-cognitive abilities, which includes “analysis, interpretation, precision and accuracy, problem solving, and reasoning” (p. 24). Additionally, Conley (2008b) determined that behaviors such as self-control, persistence, time management, and study habits also contribute to college readiness.

Moreover, to become college ready, all high school students should be involved in at least four processes: (a) strenuous core coursework; (b) a positive student-centered learning environment; (c) group learning and social interaction; and (4) college preparatory curriculum (Martinez & Klopott, 2005). As such, the level of high school training impacts students’ achievement on standardized tests, high school assessments, and overall success in college and career training (ACT, Inc., 2005; College Board, 2010b). Appropriately, Barnes and Slate (2011) investigated over a 3-year period (i.e., 2006-2007, 2007-2008, and 2008-2009 academic years) college readiness rates and academic achievement gap in reading, math, and both subjects for Black, Hispanic, and White students in Texas. Using the TEA’s Academic Excellence Indicator System, Barnes and Slate (2011) established that Black and Hispanic students’ college readiness increased over the three academic years. However, Black and Hispanic students continued to lag behind White students on all measurements.

Although Black and Hispanic students in Texas experienced a steady increase in their college readiness over a 3-year period, the differences in this achievement when compared to White students continue to widen for Black students. Therefore, Barnes and Slate (2011) corroborated previous research illustrating the college readiness gap between Black, Hispanic, and White student groups. Subsequently, Barnes and Slate (2011) uncovered statistically significant differences in all of their 27 college readiness analyses, with effect sizes ranging from small to large.

In a similar study, Moore et al. (2010) explored college ready graduate rates of all Texas students for the 2006-2007 school year. The researchers included 1, 099 high schools in their analysis of students’ scores in math, reading, and in both courses. Overall, 33% of all students were considered ready for college (Moore et al., 2010). A small to large effect size was revealed among Black, Hispanic, and White students in math, reading, and both courses (Moore et al., 2010). However, a large effect size (1.11) was indicated in the pairwise comparison White students to Black students in reading (Moore et al., 2010). Similar effect sizes (0.93) were revealed in comparing White students to Hispanic students. For math the pairwise comparison exposed a wider gap between White and Hispanic students with a large effect size of 1.22, and when White students were compared to Black students, an even larger effect size of 1.88 was noted (Moore et al., 2010).

Engaging a sample of 1,099 high schools, Combs et al. (2010) examined gender differences in college readiness as measured by students’ achievement on math, reading, and both courses for Texas students during the 2006-2007 school year. Also, gender differences were investigated based on students’ outcome on SAT and ACT exams for both the 2005-2006 and 2006-2007 school years. In addition to reviewing differences in criterion scores, Combs et al. (2010) investigated the number of girls and boys who took the exams. Statistically significant differences were present in college ready scores for boys and girls in math, reading, and both subjects (Combs et al., 2010). For both subjects, less than 33% of girls and boys were deemed college ready for 2006-2007 school year.

In the comparison of boys’ and girls’ in reading, girls were statistically significantly more college ready than boys with a Cohen’s *d* of 0.68 or moderate effect size (Cohen, 1988; Combs et al., 2010). A different finding was noted for math whereas boys held a higher college readiness rate than girls with a Cohen’s *d* of 0.50 or moderate effect size (Cohen, 1988; Combs et al., 2010). For boys and girls college readiness on the ACT and SAT during the 2005-2006 and 2006-2007 school years, Combs et al. (2010) evaluated (a) ACT and SAT exam participation, (b) exam outcome for boys and girls, and (c) how girls and boys differed on their exam achievement. Statistically significant differences, for both school years, were revealed on ACT or SAT exam participation with moderate effect sizes, Cohen’s *d* of 0.35 and 0.38, respectively (Combs et al., 2010).

In determining the differences in which of the two groups excelled in reaching or exceeding benchmark, Combs et al. (2010) discovered statistically significant differences for both school years. Boys had the highest percentage of ACT or SAT exam scores at or above benchmark. Effect sizes were small for the 2005-2006 and 2006-2007 school

years with a Cohen's d of 0.26 and 0.23, respectively.

Regarding the last research question, Combs et al. (2010) determined that boys' and girls' ACT averages for the 2005-2006 and 2006-2007 school years were not statistically significantly different. However, on their SAT averages, boys' and girls' scores were statistically significantly different (Combs et al., 2010). Boys' SAT average exam totals were 25 points greater than girls' SAT average totals. Effect sizes were small for both school years, Cohen's d of 0.32 and 0.29, respectively (Combs et al., 2010).

Conley (2011) viewed college readiness from a different perspective. In a contextual framework, Conley (2011) proposed that states adopt "Common Core Standards" (p. 17) to replace *teaching to the test* mentality and traditional classroom management. The purpose of the standards is twofold: (a) to define and organize the knowledge and skills teachers and assessments should focus on and (b) to increase achievement among U.S. students to a level that is globally competitive (Conley, 2011). From this viewpoint, the standards focused on content but did not provide learning strategies needed "to acquire and retain curriculum content" (p. 18). The overarching purpose of the standards is to increase students' ability to transfer knowledge and become college ready. Therefore, to implement effective criteria, Conley (2011) suggested a change in the process from emphasis on learning by memory, teaching-to-the test, and repetitive teaching methods to a curriculum that is challenging and participatory. Moreover, Conley (2011) suggested that students be allowed freedom of expression in an environment conducive to sharing thoughts and ideas.

As the result, Conley (2011) proposed the following Common Core Standards for math and English: (a) mathematical practice should foster an understanding of problems and persistence in finding solutions and (b) English/language arts standards that promotes acquiring critical thinking and analytical skills. Both Common Core Standards advocated incorporating different strategies using technology and students' involvement in the learning process. Conley (2011) noted that 47 states have adopted these standards. In addition, 45 states have developed two consortiums to review and revise their assessment strategies to align with these standards.

Similarly, Cates and Schaeffle (2011) investigated the relationship between college preparatory program participation and the college readiness rates for low-income and Hispanic students. The authors were specifically interested in the hours students spent in mentoring, advising, and tutoring, college visits, field trips, and summer programs, as they related to participants' involvement in the program over a 6-year period. These activities were reviewed in relationship to students' completion of college preparatory curriculum and participation in the Preliminary SAT (PSAT). Finally, students were allowed to rank program activities, and the results were then compared to students' college expectations to ascertain if a relationship existed. Advising, access to college information, and exposure to the college environment during high school were positively related to college readiness (Cates & Schaeffle, 2011).

College Readiness Programs and Indicators

Over the past decade, Haycock (2010) proclaimed that AP, IB, and dual-credit courses, Middle College and Early College High School programs have experienced rapid growth and are considered the most popular college readiness curriculums. More important, these programs are considered as rigorous pedagogy that prepare students for college and beyond (ACT, Inc., 2006; College Board, 2010a; Haycock, 2010; Texas Association of Community Colleges [TACC], 2012). Moreover, the majority of high schools in the United States offer at least one of these courses (Bragg, Kim, & Barnett, 2006). Consequently, advanced courses allow students to gain an academic advantage over their peers who do not take such classes (Haycock, 2010). Therefore, students who participate in rigorous class work have been known to accomplish higher scores on formal exams, including state assessments, SAT, and ACT exams (ACT, Inc., 2009a; College Board, 2010a). However, whereas access to some advanced programs is more open, other advanced curriculums are restricted to certain groups (Davis, 2011).

Recently, some high school counselors have aggressively sought to include college level courses as a part of the mainstream curriculum agenda and to affect policy changes from the district level (Haycock, 2010). Furthermore, each state under investigation mentioned several, if not all, of these programs as essential components of their accountability and college readiness initiatives. For this reason, the following sections highlight each of these programs. Because the AP program is the focus of this research, it will be explored in detail in a subsequent section.

International Baccalaureate Programs

The IB program was developed in 1968 as a non-profit organization and is currently offered at 3,480 schools located in 143 countries (International Baccalaureate, 2012). One of the major emphases of the IB program is to improve instruction and learning among students and expanding global thinking and education. A collaborative relationship is maintained between IB officials, educators, and school administrators to provide rigorous curriculums to over 1 million students. The IB curriculum is offered at three levels (a) primary years include ages 3-12, (b) middle years involve those ages 11-16, and diploma comprise of ages 16 to 19. The Diploma program is a 2-year curriculum leading to qualifications recognized by prominent universities throughout the world. Although the program started as part of the international private schools, today 50% of IB courses are in state schools.

Similar to the AP program, the IB program is also described as a rigorous program that is widely recognized by college admissions staff. Another similarity to the AP program is that the IB program has not been available to all students. For instance, IB programs are recognized in 49 states; however, less than 50% of IB programs make any special efforts to target underserved students (Bragg et al., 2006). Nevertheless, states such as Kansas, Kentucky, and South Dakota have formal policies that require all high schools to provide access to IB and AP courses (Bragg et al., 2006).

Dual Credit/Dual Enrollment Programs

According to the TACC (2012), Dual Credit is a multi-dimensional curriculum infusing high school curriculum with college level content. Similar to AP and IB programs, Dual Credit programs are collaborative efforts between high schools, community colleges, and universities. The difference between AP, IB, and Dual Credit programs is that students who participate in Dual Credit programs earn college credit while in high school whereas students taking AP and IB courses must take an exam and achieve the benchmark score to receive college credit (College Board, 2008; THECB, 2008).

Under the dual credit program, colleges are accredited, and instructors are credentialed by the Southern Association of Colleges and Schools (James, Lefkowitz, & Hoffman, 2012; TACC, 2012). Participation is limited to high school juniors and seniors who meet criteria set by the affiliate college, usually a community college (TACC, 2012). Therefore, students can choose from both academic and workforce classes. In addition, dual credit students must meet Texas Success Initiative (TSI) requirements either by achieving exemption status on the SAT, ACT, or STAAR or successful results on one of the college entrance exams (TACC, 2012).

Moreover, Smith (2007) indicated that participation in Dual Credit programs positively affects high school completion and persistence in college. Smith (2007) administered a 12-item survey to 304 high school seniors enrolled in a dual credit program at a community college in the mid-west. The purpose of Smith's (2007) study was to investigate "the relationship between participation and location of dual-credit enrollment and the educational aspirations of high school students" (p. 371). Smith (2007) discovered (a) a statistically significant relationship exists between dual-credit participation and level of academic motivation; (b) participating in dual credit programs on a college campus yield greater educational ambitions among students than taking courses at their high school; and (c)

dual credit participation was a better predictor of college success than grade point average or parents educational achievement.

Scholastic Assessment Test

According to the College Board website, the SAT is considered as a widely accepted measurement of college readiness. Administered annually by the College Board, the SAT exam is used to quantify students' knowledge in reading, math, and writing. Hence, the reading section evaluates students' ability to think critically (College Board, 2012c). Students' competencies in math are appraised by their skills in applying mathematical concepts, data interpretation, and problem-solving. On the writing section of the exam, students are rated on their ability to illustrate effective written communication skills that involve sentence structure, editing, and proper use of writing conventions (e.g., grammar, punctuation).

Consequently, the College Board (2010b) asserted that the SAT is a compelling predictor of college success. Hechinger (2009) conveyed that over two million high school students (compared to the 1.5 million ACT test-takers) complete the SAT exam each year. Hechinger (2009) also acknowledged that a record number of minorities took the SAT in 2009, setting the record for the most diverse population ever to take this exam. The College Board (2010b) confirmed that test-takers, who were considered as minorities, totaled 612, 666—however, test scores for the underserved, especially Black and Hispanic students, remained lower than other ethnic groups.

The College Board (2012c) disclosed that the 2012 class (over 1.66 million) was the largest group to take the SAT in its history. Subsequently, the discrepancy in Hechinger's (2009) claims and the current College Board (2012c) report suggested further investigation. Upon review of the College Board (2010b) data, the number of students who took the SAT in 2009 was 1.5 million. Nevertheless, the College Board (2012c) revealed that an increase in SAT participation occurred between 2008 and 2012; however, students' critical reading and writing scores declined by four and five points respectively, with no change in math scores.

Gehring (2001) examined over 1,700 studies in which SAT exam scores were used over a 50 year period. Gehring (2001) established that the SAT exam was both an arduous measure of academic success in students' first year of college as well as a predictor of accomplishment throughout their college involvement. The meta-analysis included 1.3 million students who took the exam in 2000, along with research from the 1940s through the late 1990s. Gehring (2001) asserted that the SAT test predicted early and late college success.

Kobrin, Patterson, Shaw, Mattern, and Barbuti (2008) investigated whether the changes made to the SAT exam affected the predictive ability of the exam. Two specific changes were made to the SAT test: (a) renaming the verbal section to critical reading, adding more advanced math, and including a writing section and (b) increasing the testing time from 3-hours to 3 hours and 45 minutes. Thus, Kobrin et al. (2008) conducted a study involving a sample of 151,316 college students who completed their first-year of college in May or June of 2007. Participants were first-year college students attending 110 four-year colleges and universities from across the United States. Therefore, SAT test scores (coupled with high school GPA) were examined to ascertain whether the changes improved or weakened the SAT score value on determining students' first-year grade point average (FYGPA). Females comprised over half (54%) of the student participants. By ethnic affiliation, the sample consisted of 69% White, 9% Asian American, 7% Black, 7% Hispanic, and 3% Other ethnic groups. Kobrin et al. (2008) documented the presence of a statistically significant relationship ($r = .28$) of HSGPA and the three sections on the SAT. However, Kobrin et al. (2008) cautioned that these statistics may not be measuring the same characteristics of educational attainment.

From the high school graduating class of 2012, students who participated in AP curriculum were more successful on the SAT than students who did not take an AP course (College Board, 2012c). For instance, on the SAT mathematics exam, 83% of students who participated in AP math achieved the college readiness benchmark compared to students who did not take AP math. Similar findings were noted for the SAT Critical Reading and Writing exams (College Board, 2012c).

ACT Program and Exam

Organized in 1959, the American College Testing (ACT) Program purposes were to (a) assist students with selecting a college and major and (b) provide information to colleges to support admissions decisions and predicting students' success following enrollment (ACT, Inc., 2012). In 1966, the elongated name was dropped to embrace the most widely used abbreviation, ACT. During 2002, the ACT expanded their involvement to include both education and the workforce. Hence, an evolved corporate structure was created to provide an Education and Workforce Division. Additionally, in 2005 ACT, Inc. developed ACT International; from which, ACT, Inc. became an internationally recognized provider of 100 programs and services to individuals, institutions, and organizations.

In 2007, and for the first time in history of ACT, the exam was accepted by all 4-year colleges in the United States (Marklein, 2007). This exam is intended to measure students' achievement in English, science, math, and reading—with a writing exam that is optional. Subsequently, Wimberly and Noeth (2005) unveiled a college readiness "Action Plan" that included benchmarks for English, math, reading and science. The highest possible score on the ACT is 36 with benchmarks for English set at 18, math at 22, science at 24, and reading at 21 (ACT, Inc., 2009b; Wimberly & Noeth, 2005). Benchmarks are defined as the minimum score one can attain on an ACT test area that can indicate whether an individual has a 50% probability of obtaining a B or higher; or a 75% probability of obtaining a C or higher in an equivalent college course (ACT, Inc., 2009a). According to the 2009 ACT, Inc. Report, over 1.5 million high school students completed the ACT exam—this number represented a 24% increase over the number of examinees in 2005. Furthermore, between 2005 and 2009, the average composite scores by race and ethnic groups revealed that Asian American students' ACT score increased 1.1 points, White students' score increased 0.3 points, Hispanic students' score increased 0.1 points, and Black students' score decreased 0.1 point (ACT, Inc., 2005; 2009a; 2009b).

Respectively, ACT exam scores are used to predict students' college readiness based on the FYGPA (ACT, Inc., 2005). For instance, ACT, Inc. (2009a) investigated over 300,000 students who took the ACT exam between 1999 and 2003. To measure the relationship between students' GPA and achievement on the ACT exam, ACT benchmarks were used to compare students who reached an ACT benchmark to those students who did not reach this goal. Of the students who achieved benchmarks in English and math, 80% were retained with a 2.98 FYGPA (ACT, Inc., 2009a). Students who met all three benchmarks had an 83% retention rate and a 3.16 mean FYGPA. In comparison, 65% of the students who did not meet any of benchmarks were retained with a mean GPA of 2.37. Thus, the ACT, Inc. (2009a) concluded that a correlation existed between the FYGPA and the number of ACT benchmarks achieved.

Zagier (2011) documented that the percentage of Black and Hispanic students' taking an ACT exam increased from 19% in 2007 to 26% in 2011. However, from the high school class of 2011, 28% of graduates did not meet any ACT college readiness benchmarks (Zagier, 2011). By ethnic affiliation, 4% of Black students met ACT benchmark standards, compared to 11% Hispanic, and 31% Whites. Asian students (70%) were the only ethnic group that exceeded benchmarks in English and math with 41% reaching college readiness standards in all four content areas. None of the groups accomplished 50% of the ACT benchmarks on all exams (Zagier, 2011).

Middle College and Early Challenge High Schools

The Middle College National Consortium (n.d.) indicated that Middle College-Early College (MC-EC) schools are in partnership with local school districts, community colleges, corporations, and parents. Through collaborations with local colleges, MC-ECs provide a supportive pathway to college for underserved students. Thus, the most prevalent characteristics of MC-ECs include (a) being located on or near college campuses; (b) starting with Grade 9 with enrollments of 100 or less per grade; (c) developing a five year academic plan that offers up to 60 transferable college credits or yields an Associate degree by graduation; and (d) engaging students in condensed college level curriculum that eliminates the need for remediation (Middle College National Consortium, n.d.).

In the early 1970s, the first middle college was developed on the campus of LaGuardia Community College, located in Long Island City, New York (Phillip, 2011). According to the Middle College National Consortium (n.d.), most middle colleges focused on recruiting at least 50% of their enrollment from among disadvantaged minority and low-income students. Nevertheless, the program targeted high school drop-outs and those who were at-risk of dropping out of high school (Phillip, 2011). By gender and ethnic affiliation, 53% of the student population were females; 78% included Black, Hispanic and other groups of color; and 67% were eligible for Title I resources.

During the fall of 2011, Prince Georges Community College (PGCC) in Maryland opened the Academy of Health Sciences, accepting 100 freshmen students. As noted by PGCC President, the purpose of the college's involvement was to provide students with the culture and academic challenges that will continue to stimulate learning. As such, students participated in their regular coursework while simultaneously taking two college courses. Those students who continued as scheduled, accumulated 43 or more college credits by high school graduation (Phillip, 2011).

Similarly, Early College High Schools implement a rigorous curriculum providing students the opportunity to receive college credits. Acknowledged as motivation for low-income and first generation students to experience college success, the major components of this program were similar to the components of the middle college (Early College High Schools, 2011). For example, the completion time to being awarded a high school diploma and two year college degree was reduced in both programs. In addition, many of the barriers of transitioning from high school to college were removed. However, the Early College High School did not target at-risk students (Early College High Schools, 2011). Hence, students, who were considered underrepresented, underserved, or otherwise omitted from AP curriculums in regular school, were given the opportunity to participate in a program that would allow them to complete an Associate's Degree or receive two years of college credit towards a higher degree at no cost to them

(Early College High Schools, 2011).

Access, Equity, and the Achievement Gap

Kanter, Ochoa, Nassif, and Chong (2011) and the THECB (2006) asserted that one of the principal barriers to academic success in the United States has been attributed to the persistent achievement gap among all ethnic groups. Education Week (2011) described the achievement gap as the variation in grades, participation in certain curriculum, degree completion rates, assessment exams, and other measures that suggest academic success. The term is used to identify disturbing trends in accomplishments of Black, Hispanic, and low-income student groups when compared to the White student group and students from economically advantaged families (Education Week, 2011).

Similarly, researchers (e.g., Lavin-Loucks, 2006; Maxwell, 2012; Trimis, 2009) suggested the phrase achievement gap describes the inconsistencies and differences in academic success that persists among ethnic groups, low-income, and non-English speaking students. In contrast, other authors (Ladson-Billings, 2006, 2007; Thomas, 2009) attributed the achievement gap to (a) parental involvement with their children's educational process and (b) the level of experience and qualification of teachers responsible for educating students with academic deficiencies. As the result, many students are not experiencing successful transitioning to college and beyond with most students (especially Black and Hispanic students) being placed in college remediation courses.

High School Achievement

Corra, Carter, and Carter (2011) proclaimed that the existence of extreme high school dropout rates and evidence of low college enrollment among Black students compared to their White peers is proof of the racial inequities in the U.S. education system. Achieve, Inc. (2004) acknowledged that high school completion rates are a major concern when discussing the achievement gap and college readiness. However, Orfield, Losen, Wald, and Swanson (2004) contended because states do not report graduation rates separately by ethnic group or income level, the severity of the low graduation rate among these groups of students (e.g., Black, Hispanic, and students with disabilities) are seldom included in education reform discussions. Thus, Orfield et al. (2004) collaborated with several organizations (i.e., Advocates for Children of New York, The Urban Institute, and The Civil Society Institute) to investigate the following questions:

First, how deep and widespread are the racial disparities that exist at the state and district levels? Second, how has the misleading and incomplete reporting of this issue obscured both the magnitude of the crisis and its racial dimensions? Finally, focusing primarily on the No Child Left Behind (NCLB) legislation, we ask whether state and federal accountability systems, as implemented, are appropriately structured to improve high school graduation rates, especially among children of color. (p. 3)

For question one, Orfield et al. (2004) revealed that students of color left high school prematurely because of (a) high school assessment policies that did not permit students to graduate that did not pass the exam and (b) external problems so severe they interfered with school participation and success. Many of these students were dedicated to their studies, had achieved successful outcomes in the classroom, and expressed hopes of pursuing a higher education. Thus, Orfield et al. (2004) concluded that "collectively, these stories suggest that there may be 'perverse incentives' in many states to push low-performing students out the back door" (p. 3).

In answering question two, Orfield et al. (2004) indicated that dropout rates provided by federal agencies were much lower than what they discovered. For example, government agencies announced a 3.9% dropout rate for Black students' in Florida during 2004, and a 2.6% dropout rate for Black students in Texas during the same year; New York's 2004 dropout rate was not included. Conversely, based on graduation rates presented by Orfield et al. for 2004, a higher percentage of dropouts occurred than reported by governmental agencies.

Similar results were provided by the Alliance for Excellent Education (2012a, 2012b, 2012c) in their examination of data from the class of 2008. For Black students in Texas, the Alliance for Excellent Education (2012c) showed that high school completion rates had improved from 55.3% in 2004 (Orfield et al., 2004) to 59% in 2008 (Alliance for Excellent Education, 2012c). The greatest improvement in graduation rates for Black students occurred in New York, 19.9% (Alliance for Excellent Education, 2012b).

Regarding the third research question, Orfield et al. (2004) revealed that accountability for graduation rates

were not being enforced, whereas incentives for eliminating low-performing students were strictly imposed. Subsequently, in their attempt to avoid repercussions from provisions of the NCLB Act, many states and school districts began to push out low-achieving students to raise their overall test scores (Orfield et al., 2004; Sanchez & Wertheimer, 2011).

A case in point was discovered in Texas, where a principal and several other administrators encouraged low-performing 10th grade students to drop out of school (Llorca, 2012). Prior to hiring the principal, the school was experiencing low performance and threats of being closed. Therefore, to increase school testing results, the principal implemented the plan that resulted in over 40% of the sophomore class not progressing to high school graduation. In one instance, three of the students were members of the same family. According to Llorca (2012), the push-out was school officials' method of meeting accountability standards required by NCLB (2002). Although this plan produced favorable assessment outcomes, the method used was considered fraudulent (Llorca, 2012).

Researchers (e.g., Balfanz & Legters, 2004; Orfield et al., 2004; Zhao, 2011) indicated that high dropout rates were clearly associated with students' socioeconomic level and the economic level of the school district. Zhao (2011) documented that in 2009, the dropout rate for low-income students was five times greater than their high-income counterparts (i.e., 7.4 % compared to 1.4% respectively). In addition, between 1993 and 2002 the number of schools with low promotion rates increased by 75% (Balfanz & Legters, 2004). However, promoting power was not an issue in minority high schools with resources (e.g., selective programs, higher per pupil expenditures, suburban location). Balfanz and Legters (2004) declared that minority schools in affluent communities "successfully promoted students to senior status at the same rate as majority White schools" (p. 49).

Moreover, Balfanz and Legters (2004) revealed that Florida, Texas, Georgia, North Carolina, and South Carolina had the highest number of schools with debilitated or minimal promoting power. Correspondingly, Balfanz and Legters (2004) concluded that students' timely promotion from freshman to senior status has a strong correlation to high school dropout and deficits in graduation rates. Balfanz and Legters (2004) proclaimed that almost 50% of Black students, compared to 40% of Hispanic students and 11 % of White students, attended high schools where completion is not the norm.

In addition, the economic impact of low graduation rates also warrants mentioning. For instance, the Alliance for Excellent Education (2011a, 2011b, 2011c) declared that dropouts from the Class of 2008 (alone) will encumber lifetime lost wages for Texas, \$30 billion; New York, \$22 billion; and Florida, \$24 billion. From this perspective, the economic burden of high school dropout affects both the individual and the society (Alliance for Excellent Education, 2009). Subsequently, the Alliance for Excellent Education (2009) advocated that the federal government include high school graduation rates as a measure in reporting accountability.

Access to Advanced High School Curriculum

Researchers (Bragg et al., 2006; Lewin, 2011; VanSciver, 2006; Walker & Pearsall, 2012) confirmed that while low-income and minority enrollment in higher education institutions continue to increase, participation in college readiness programs for these students remains disproportionate compared to White students. VanSciver (2006) interviewed 77 low-income and minority students in grades 6 through 10 who were enrolled in the school district's AP Incentive Program during the 2002-2003 year. Parents were also interviewed to investigate the absence of diversity among the population of students taking AP courses. Specifically, the purpose was to determine (a) factors impacting why and how students make decisions and (b) how decisions are made for them. VanSciver (2006) concluded that some students' primary goal is to satisfy their parents with good grades. Therefore, these students deliberately enrolled in courses that yielded the easiest way to a good grade. However, VanSciver (2006) described this type of behavior as destructive. Hence, VanSciver declared,

Although the myth of public education as the 'great equalizer' is alive and well in the minds of many, the reality is that the notion of public schools as the savior of the less fortunate is fundamentally compromised when institutional decision making does more to suppress low-income and minority students through low expectations demonstrated by the scheduling process than to advance their academic opportunities. (p. 56)

Moreover, VanSciver (2006) maintained that parents of minority and low-income students trust that teachers and school administrators will guide the educational attainment of their children. More important, these parents are not confident in advocating for their children in the school environment, specifically as it relates to requesting challenging curriculum involvement (VanSciver, 2006).

Walker and Pearsall (2012) investigated minority student groups to understand the issues prohibiting minority students' access to AP coursework. Precisely, Walker and Pearsall (2012) examined both barriers to and influences of Hispanic students' participation in AP curriculum at a suburban public high school. These researchers conducted focus groups with Hispanic students and their parents. Interview transcripts suggested that Hispanic students' low participation in AP courses was directly affected by peer interactions and parental endorsement. As the result, Walker and Pearsall (2012) recommended that school officials implement strategies to improve student motivation towards success, develop progressive communication with the community, and improve peer interaction.

Zhao (2011) revealed that legislators continue to argue over changes to the NCLB Act and the accountability measures it imposes on educators. The major concern among these lawmakers is how to identify strategies to revise the NCLB Act to support the students and teachers as well as improve the U.S. education system (Zhao, 2011). As noted earlier, the Obama Administration developed a plan to address the needs of both students and teachers (Kanter et al., 2011). Specifically, the Obama Administration's plan offered each state the latitude to create their own strategic plan to include direct accountability measures (Obama, 2011). According to the Alliance for Excellent Education (2011a, 2011b, 2011c) and Achieve, Inc. (2004), many states, including Texas, New York, and Florida, are joining coalitions improve college and career readiness while concentrating on closing the achievement gap for low performing students (e.g., Black and Hispanic).

Repercussions of College Readiness Deficiencies

Lewin (2011) asserted that although the United States is experiencing a steady increase in college enrollment, college completion rates does not reflect enrollment numbers. One of the problems affecting this outcome is the increasing number of students requiring remediation. Thus, a major component of college readiness is being able to enroll and succeed in credit-bearing college courses (Conley, 2008a; Council of the Great City Schools & ACT, Inc., 2007).

College Remediation

Complete College America (2012) asserted that college remediation is a classic example of systemic academic failure. This contention was made because the original purpose of remediation was to assist low-achieving students with becoming college ready. However, Complete College America (2012) declared that more than 50% of students enrolling in 2-year colleges, and 20% of students at 4-year institutions are placed in remedial classes. Moreover, approximately 4 out of 10 students taking remedial courses fail to complete the class (Complete College America, 2012). For the 2007-2008 school year, Black students represented 45.1% of first-year graduates who required college remediation compared to 31.3% of White students from this class (U.S. Department of Education, National Center for Education Statistics, 2011a, 2011b).

Additionally, taking remedial courses delays and threatens students' ability to complete college within a reasonable amount of time (ACT, Inc., 2010; Education Commission of the States, 2011). A reasonable amount of time to complete a 2-year degree is from two to four years; to complete a 4-year degree is from four to six years (Education Commission of the States, 2011; Lewin, 2011). Therefore, participating in remedial courses adds another layer of barriers to the achievement of Black students at the postsecondary level (ACT, Inc., 2010). Equally important is the cost of remediation. For instance, the Alliance for Excellent Education (2006) declared that low college readiness resulted in cost over \$3.7 billion a year. Of this total, \$1.4 billion dollars were used for developmental education for recent high school graduates, and \$2.3 billion is projected as lost earning potential as the result of students not completing their college education. Notably, the Chronicle of Higher Education (2006) stated the \$1.4 billion reported by the Alliance for Excellent Education (2006) was an estimate of remediation costs. The Chronicle of Higher Education (2006) indicated that the Alliance for Excellent Education calculations were the result of using a College Board formula that estimated the average cost of college courses. Conversely, the Chronicle of Higher Education (2006) reported that because remedial courses are taught mostly by adjunct faculty, in some instances, they are not as costly as credit bearing courses.

Researchers (College Board, 2012a; Council of the Great City Schools & ACT, 2007; Lavin-Loucks, 2006; Menson et al., 2009) implied that taking remediation or developmental courses in college is also a clear indication of students' lack of readiness for college. However, other researchers (e.g., Bettinger & Long, 2009) asserted that taking remedial courses contributes to students' college success. Thus, Bettinger and Long (2009) investigated the question, "Who should be placed in remediation, and how does it affect their educational progress?" (p. 4).

Using data from the Ohio Board of Regents (OBR), Bettinger and Long (2009) tracked approximately 28,000 full-time, first-year freshmen students who attended an Ohio public college over a 5-year period. Bettinger and Long (2009) used ACT mean scores and HSGPAS to explain the impact participating in developmental education has on students' college outcomes. For the first portion of the research question, Bettinger and Long (2009) pointed out that students with lower ACT scores and high school grade point averages were more likely to be placed in developmental

courses. Specifically, students who had a 17.4 mean ACT score on math required remediation whereas students with an ACT mean score of 23.3 avoided remediation. For the ACT English exam, students with an ACT score of 22.8 avoided remediation whereas students with an ACT score of 15.8 were placed in remediation (Bettinger & Long, 2009). However, in regard to the effect of developmental participation on college success, Bettinger and Long (2009) determined that students who took developmental courses had a higher college persistence rate than students who had comparable state exam scores but did not take remedial courses.

College Completion

Dougherty (2010) asserted that students who enter high school with academic challenges are most likely not ready for college-level coursework. Nonetheless, Dougherty (2010) mentioned that because the ACT Reading, Science, and Math exam benchmarks are above the national grade level norms, states that based their college readiness levels on ACT benchmarks are placing this achievement above grade level. For this reason, most low-income and low-performing minority students are categorized as not college ready.

Other researchers (e.g., ACT, Inc., 2010; Bragg, Kim, & Rubin, 2005; Education Commission of the States, 2011; Menson et al., 2009) discovered that being college ready affect students' successful completion of their postsecondary education. For instance, College Board (2010) and Lewin (2011) confirmed that approximately 68% of high school graduates in the United States enroll in a higher education institution. Of this number, Lewin (2011) noted that 21.8% of students graduate in 4 years, 40% graduate in 5 years, and 45% in 6 years at 4-year universities. Furthermore, Lewin (2011) pointed out that of 100 students in Texas who enrolled in a public institution, 79 attended community college, but only two of the 79 completed their degree within 2 years. Meanwhile, only seven students graduated after 7 years. The remaining 21 students out of the 100 students enrolled at a 4-year institution with 5 students completing within 4 years and 13 students graduating after 8 years (Lewin, 2011).

With respect to ethnic differences, the U.S. Department of Education, National Center for Education Statistics (2009) revealed that at 4-year colleges, White students' degree attainment rate was 71% compared to Black students' degree attainment rate of 51% and Hispanic students' degree attainment rate of 54%. Astin and Oseguera (2002) reported that considerable differences in college completion rates by type of institution, ethnic group affiliation, and gender have been present. According to Astin and Oseguera (2002), 4-year private institutions are known to have the highest graduation rate (67%) compared to 4-year public universities (24%).

For the 2008 graduating class, the Alliance for Excellent Education's (2011a, 2011b, 2011c) indicated that a decrease occurred in the college graduation rates among all ethnic groups when compared to Astin and Oseguera's (2002) report. As reported by the Alliance for Excellent Education (2011a, 2011b, 2011c), Black students represented 39% of the 2008 graduating class to earn a 4-year college degree. Hispanic students represented 46%, and White students represented 59% of the 4-year college graduates for 2008. Compared to Texas and New York, Florida had the highest percentage (42%) of Black students to earn a 4-year degree for the 2008 school year (Alliance for Excellent Education, 2011a, 2011b, 2011c).

The completion rates for community colleges are even more daunting than rates for 4-year institutions (Alliance for Excellent Education, 2011a, 2011b, 2011c; Lewin, 2011). For instance, the Alliance for Excellent Education revealed that New York had 17% of Black students to complete 2-year college. Not far behind New York, Texas experienced a 22% 2-year college completion rate for Black students. Florida's 2-year college completion rate of 43% was the highest among the three states examined in this research. On the national level, 26% Black, 29% Hispanic, and 32% of White students completed community college from the class of 2008 (Alliance for Excellent Education, 2011a, 2011b, 2011c).

In retrospect and compared to current trends, little or no improvement in college completion rates has occurred between 2002 (Astin & Oseguera, 2002) and 2011 (Alliance for Excellent Education, 2011a, 2011b, 2011c). Consequently, because of low graduation rates, the United States is falling behind other countries in the postsecondary achievement. In addition, legislators and the THECB indicated that if this trend continues, the United States, in general, and Texas, specifically, will not have the workforce skilled enough to fill emerging jobs and affect global competitiveness (THECB, 2010).

Theories Related to Black Student Performance

Bell (1980) attributed W. E. B. Du Bois (1868-1963) as the pioneer in the study of sociology and a leader in American theory on race. However, several post-modern theorist and researchers on race and education in the United States used *Brown v. Board of Education* to determine the extent that inequality had been addressed in this country (Bell, 1980; Kozol, 2005; Ladson-Billings, 2006). Consequently, theories on race surfaced as the result of legal cases and legislative mandates in support of or against equal rights for Black Americans (Bell, 1980; Delgado, 1990; Ladson-Billings, 2006). Thus, the entire civil rights movements of the 1950s, 1960s, and beyond were the result of cultural ideologies that affected the academic system and proliferated inferior education upon its Black citizens (Bell, 1980; Kozol, 2005; Lawrence, 1987; Ladson-Billings, 2006; Tate, 1997a). Lawrence, (1987) proclaimed,

Americans share a common historical and cultural heritage in which racism has played and still plays a dominant role. Because of this shared experience, we also inevitably share many ideas, attitudes, and beliefs that attach significance to an individual's race and induce negative feelings and opinions of nonwhites. To the extent that this cultural belief system has influenced all of us, we are racists. At the same time, most of us are unaware of our racism. We do not recognize the ways in which our cultural experience has influenced our beliefs about race or the occasions on which those beliefs affect our actions. In other words, a large part of the behavior that produces racial discrimination is influenced by unconscious racial motivation. (p. 322)

First, Lawrence (1987) explained the unconscious state of racism through the lens of Freudian theory which states: "the human mind defends itself against the discomfort of guilt by denying or refusing to recognize those ideas, wishes, and beliefs that conflict with what the individual has learned is good or right" (p. 323). Therefore, in the event of conflicting ideas and values between racism and culture norms that criticize those thoughts, the mind ignores feelings of racism (Lawrence, 1987). Second, Lawrence (1987) applied the theory of cognitive psychology to illustrate how culture (e.g., parents, peers, leaders, and media) influence individual's perceptions, thoughts, and beliefs. Specifically, Lawrence (1987) asserted that an individual's personal beliefs are connected with the larger society and such beliefs influence decisions, actions, and attitudes that affect systemic outcomes (e.g., on education and economy) in the larger community.

Historically, Black students have been known to endure unfair processes that may adversely affect their ability to participate in advanced curriculums in high school. Researchers (Astramovich & Harris, 2007; Green, 1999; Nieto, 2004; Sullivan, Larke, & Webb-Hasan, 2010) uncovered disparities in retention, school disciplinary actions, tracking, and standardized testing among Black, Hispanic, and low-income students. Potts (2003) further noted that these groups are more frequently placed in special education classes and labeled as students with learning deficiencies. Because of apparent differences in treatment and inclusion of Black and other students, Kozol (2005) declared that schools in the United States are less integrated today than before the decision in *Brown v. Board of Education* (1954; 1955). According to Kozol (2005), integrating students on racial lines is not the issue. What are fundamentally important are the conditions in segregated schools with majority Black, Hispanic, and low-income students are different from the education environment experienced in predominantly White schools (Kozol, 2005).

Specific to education, explored in the following subsections are the ideologies presented by critical race theorists and human capital theorists to understand the persistent access and equity gap experienced by Black students in the United States as well as the long term economic implications for the individual as well as the nation. The concepts of critical race theory were examined in more detail because it is considered the primary foundation on which this study rests. The concept of interest convergence was selected from among the themes of critical race theory to provide a framework relative to closing the achievement gap. Specifically, interest convergence may serve as a motivation towards an expedient closure of the academic achievement gap for Black students. Subsequently, through critical race theorist and human capital theorist the interest of the nation may be accelerated.

Critical Race Theory in Education

Critical race theory was introduced to academe by Ladson-Billings and Tate (1995). Thus, Ladson-Billings and Tate (1995) employed critical race theory to describe and uncover inequalities in educating Black, Hispanic, and low-income students. In addition, Ladson-Billings and Tate (1995) asserted that critical race theory provided another lens through which educational institutions and the struggles experienced by minority participants can be analyzed. Moreover, because critical race theory is an outgrowth of critical legal studies, several researchers (e.g., Bell, 1980, 1988; Ladson-Billings, 2006) employed critical race theory to examine the repercussions of decisions in both the 1954 and 1955 *Brown v. Board of Education* litigation. Through the lens of critical race theory and in the aftermath of *Brown*, Bell (1980) observed,

Most black children attend public schools that are both racially isolated and inferior. Demographic patterns, white flight, and the inability of the courts to effect the necessary degree of social reform render further progress in implementing *Brown* almost impossible. (p. 518)

Ladson-Billings (2006) utilized the components of critical race theory to ascertain the implication of *Brown* for education in the 21st Century. Ladson-Billings (2006) concluded that because *Brown v. Board of Education* was argued under the assumption of Black inferiority, it does not provide a substantial framework on which to build equality in education.

Brayboy (2005) declared that critical race theory in education revealed the widespread racism that was pervasive in U.S. culture and education. More important, critical race theory brings to the forefront issues of racism that have become obscured by society's chronic acceptance and denial of its existence (Brayboy, 2005). Furthermore, critical race theory excels a liberal view of education and opposes traditional philosophies vis-à-vis equality, meritocracy, and color blindness. Specifically, critical race theory in education advocates eradicating discrimination based on an individual's socioeconomic status, race, and gender from the educational system (Delgado Bernal & Villalpando, 2002).

Thus, Brayboy, Castagno, and Maughan (2007) proclaimed the future of race scholarship in education need to be centered on equity and justice and not on equality. Subsequently, Brayboy et al. (2007) disagreed with the most widespread debate asserting that the terms (i.e., equity and equality) are synonymous. Instead, the authors preferred to distinguish the expressions and then link them to perceptions of justice. To this end, Brayboy et al. (2007) defined equality as "sameness and, more specifically, sameness of resources and opportunities" (p. 159). Therefore, irrespective of race, income, gender, or class, children of an impartial culture should have access to equal resources and opportunities to experience favorable outcomes (Brayboy et al., 2007). Hence, to realize equality in U.S. schools, Brayboy et al. (2007) declared "every student must have access to the same quality of teachers, resources expenditures, and current infrastructure" (p. 159). Nevertheless, test scores, facilities, and lifetime achievement of students from marginalized groups indicate the existence of a void in parity of resources and positive student outcomes. Therefore, to accomplish a school system that practices the equality it espouses, procedures reflecting equity should be present (Brayboy et al., 2007).

Brayboy et al. (2007) posited equity to "mean a system where unequal goods are redistributed to create systems and schools that share a greater likelihood of becoming equal" (p. 161). Specifically, when resources are distributed equally, the equality may be based on the economics of tax levels placed on housing, business, and other factors within the neighborhood. To this end, equality means processes and practices that allow distribution of information to all student groups equally whereas equity assures that resources are equally distributed for equality to become a reality (Brayboy et al., 2007).

DeCuir and Dixon (2004) urged educational researchers to employ critical race theory to investigate the influence of race and racism in education relative to the experiences of African-American students. Subsequently, DeCuir and Dixon (2004) advocated incorporating themes of critical race theory as a means of analyzing these phenomena. Consequently, a qualitative research design was most frequently employed by educational researchers who used critical race theory to frame their studies (Alemán, 2006; Green, 1999; Housee, 2010; Hylton, 2010; Ladson-Billings, 1995, 1997; Parker & Lynn, 2002; Pizarro, 1999; Roberts, 2010; Sullivan et al., 2010; Yosso, 2005). Hence, Parker and Lynn (2002) believed that qualitative research and critical race theory work together to expose the hidden operation of race and racism in legal decisions and social order.

In this manner, DeCuir and Dixon (2004) incorporated the counter stories of African-American students at an elite, predominantly White, independent school, located in the southeastern section of the United States, in a

community with property valuing from \$450,000 to over \$3 million. Although the school espoused multiculturalism and diversity through counseling and curriculum offerings, DeCuir and Dixon (2004) discovered a different perspective in school administrators' behavior. For instance, through stories of African-American students and lens of critical race theory, DeCuir and Dixon (2004) exposed the persistence of racism in a school that overtly professed and acted outside of racial discrimination yet implemented decisions that spoke otherwise.

DeCuir and Dixon (2004) described an example of a conflicting behavior, involving a student who wore African inspired clothing on a no uniform school day. Confronted by administrators, the student was prohibited from wearing this type of clothing to school. Thus, DeCuir and Dixon (2004) associated the actions of school administrators to Harris' (1993) concept of property interest. Harris (1993) indicated that slavery laws regulating Black slaves as property perpetuated beliefs concerning property interest.

Moreover, several critical race theory theorists and educational researchers (e.g., Bell, 1980; Harris, 1993; Ladson-Billings, 2006) believed ideas of property rights were propagated through legal decisions and interpretations of *Plessy v. Ferguson* (1896) and *Brown v. Board of Education* (1954, 1955). Within this context, Harris (1993) asserted that property interest operates on three levels: (a) right of ownership and control; (b) right to exploit; and (c) right to establish the prevailing attitudes, criteria, outcomes, or expectations. In addition, Harris (1993) decided that attributed to property are the rights to transfer, use, enjoy, and exclude.

From the perspective of exclusion, Sullivan et al. (2010) used critical race theory to examine out-of-school suspension and expulsion rates for students of color in Texas during the 1999-2000 and 2002-2003 school years. The authors revealed statistically significant differences in both out-of-school suspensions and expulsions. Compared to other student groups (i.e., American Indian, Asians, Hispanic), Black students had the highest expulsion rate for both the 1999-2000 (64.3%) and 2002-2003 (65.1%) school years. For out-of-school suspensions during both school years, Sullivan et al. (2010) discovered over 53% of Black students' had experienced this fate.

Critical Race Theory and Advanced Placement

Ladson-Billings and Tate (1995) exploited Harris' (1993) concepts of White property interests as they applied to education. Ladson-Billings and Tate (1995) explained that examining property rights through the concept of exclusion will guide researchers in unmasking hidden racism in U.S. high schools. Specifically, Ladson-Billings and Tate (1995) employed tenets of critical race theory and incorporated concepts of property rights of exclusion to make the following statement:

Educational inequity, the curriculum, and, specifically, access to a high quality, rigorous curriculum, has been almost exclusively enjoyed by White students. Tracking, honors, and/or gifted programs and advanced placement courses are but the myriad ways that schools have essentially been re-segregated. The formal ways that selection and admission into these programs are conducted guarantee that students of color have virtually no access to a high-quality curriculum or certainly one that will prepare them for college attendance.

(p. 60)

Ladson-Billings and Tate (1995) declared that schools use regulations and practices that limit access and successful participation of minority students in college preparatory programs and access to good resources (e.g., experienced teachers and updated technology). As a result, most Black, Hispanic, and low-income students experience low accomplishment in school and ultimately the same fate in their careers (Kozol, 2005).

Tate (1997b) analyzed archival data on mathematic attainment based on ethnicity, gender, class, and language proficiency. Specifically, Tate (1997b) used data from national studies, AP exams, and college admissions tests to establish the changes that had occurred in math achievement over a 15-year period. Tate (1997b) discovered that student participation in AP, ACT, and SAT exams increased; however, Black students continue to lag behind their peers. For instance, between 1990 and 1994, Black students' participation in Calculus BC exam increased from 458 to 1,264 (Tate, 1997b). Yet, the percentage of Black students achieving a 3 or more on the Calculus BC decreased from 48.7% to 36% during this time period (Tate, 1997a). Nevertheless, Tate (1997b) concluded that the analysis revealed significant improvement in math among all groups. The results of the within group comparisons indicated that Hispanic and Black students showed the greatest improvement on math scores. By gender, Tate (1997b) discovered statistically significant difference for 17 year olds, revealing male scores in math were significantly higher than

females. Overall, Tate (1997b) reported that gender did not affect outcomes on mathematic scores.

Human Capital Theory in Education

Becker (2008) clarified the misconceptions of the term capital. Thus, Becker (2008) declared, for the majority of people, capital means finance, shares in company stocks, or other tangible entities that produce income. However, because education, values, habits of mind, and medical expenses support income earnings, Becker (2008) believed they should be considered as capital. Furthermore, money spent on gaining knowledge, maintaining a healthy lifestyle, and supporting society as a whole becomes an investment in human capital (Becker, 2008). Consequently, as human capital, these assets cannot be separated from the people who possess them. For this reason, Becker (2008) suggested that society view higher education as an investment in human capital.

Olaniyan and Okemakinde (2008) declared that scientific data affirmed that an “investment in education has a positive correlation with economic growth and development” (p. 157). However, for education to be considered valuable to the economy, education must first be perceived as an asset within the dominate culture (Lawrence, 1987; Olaniyan & Okemakinde, 2008). As such, Kozol (2005) posited that inadequate education ultimately precedes social and economic deficits that affect all levels of society. Subsequently, human capital theory supports research that explores education and its influence on the individual’s long-term social and economic status. For instance, Flowers (2008) investigated differences in AP program participation on students’ GPAs, graduation rates, and potential income earnings. Similarly, Olaniyan and Okemakinde (2008) examined research to validate the contribution that education makes on the economy.

From a different point of view, Loomis and Rodriguez (2009) determined that the issue is not whether society accepts education as a way of building human capital. Instead, the problems that should be addressed are the (a) intentions and the effect of the intentions on the structure of education; (b) inequality and limiting information to certain groups; and (c) lack of consistency in developing human capital across racial boundaries. Specifically, Loomis and Rodriguez (2009) and Gilead (2009) suggested that the focus of education and the development of educational processes should be framed by human capital theory. Other researchers (Sakura-Lemessy, Carter-Tellison, & Sakura-Lemessy, 2009) used both the neo-classical human capital and social reproduction theoretical frameworks to investigate the relationship of students’ race, class, and gender on high school curriculum participation. A neoclassical human capital theory includes ideologies that describe values placed on human employment or salary (Sakura-Lemessy et al., 2009). Laslett and Brenner (1989) and Macris (2011) provided distinct definitions of social reproduction theory. Thus, Laslett and Brenner (1989) described social reproduction as the “activities and attitudes, behaviors and emotions, responsibilities and relationships directly involved in the maintenance of life on a daily basis, and inter-generationally” (p. 382). Macris (2011) asserted that social reproduction theories on education provide insight into why and how inequalities are recreated, but they do not assist in identifying solutions to the problem. For this reason, schools continue to reproduce systems of prolonged social inequalities (Macris, 2011).

Consequently, from the neoclassical human capital and social reproduction theoretical frameworks, Sakura-Lemessy et al.’s (2009) reported statistically significant differences existed in class, race, and gender when compared to students’ educational and post-graduate incomes. Specifically, disparities in education and employment outcomes were noted. As such, Sakura-Lemessy et al.’s (2009) findings supports literature that specifically addressed the equity and access gap prevalent in AP program participation, AP exam attainment, college success, and economic achievement among Black citizens in the United States.

In contrast, Rubb (2006) explored the differences in earnings for overeducated individuals. Rubb (2006) used human capital theory to explain wage differences between the overeducated, undereducated, and properly educated worker. An overeducated person is described as a worker or employee with more education than required to perform the job (Rubb, 2006). Conversely, an undereducated individual has less education than required for the position and the appropriately educated person’s education correspond to job requirements. Rubb (2006) discovered that the overeducated person, in the same job, earned less than the properly educated worker. However, Rubb (2006) asserted that the overeducated worker’s chances for promotion and salary increases are greater than the properly educated employee.

Human Capital Theory and Advanced Placement

Through the lens of human capital theory, Flowers (2008) explored data from the National Education Longitudinal Study (NELS), which covered a period from 1988 through 2000. Initially, Flowers (2008) included a stratified sample of 25,000 eighth grade students and additional data from at least one parent, two instructors, and a school administrator. From the NELS sample, approximately 28% of the participants had participated in at least one AP course, and 50% had not been involved in the AP program (Flowers, 2008). Among the participants in AP courses,

72% were White students, 13% were Blacks, 10% were Hispanics, and 5% Asian or Pacific Islanders.

Flowers' (2008) purpose was to ascertain whether participating in AP courses affected students' (a) college entrance exam scores (i.e., SAT, ACT, and PSAT); (b) undergraduate GPA; (c) level of postsecondary attainment; and (d) income from employment in 1999. Statistically significant differences were prevalent for all variables used in this study with some variations by ethnic affiliations. For instance, the analysis showing income differences of Black and Hispanic students who participate in AP courses compared to students within their ethnic group who did not participate in AP courses, revealed no statistically significant difference in the income of these two groups (Flowers, 2008). In contrast, Flowers (2008) discovered that White and Asian or Pacific Islander participants' income were \$3,000 and \$10,000 higher (respectively) than participants in their ethnic group who did not take an AP course in high school.

Thus, Flowers (2008) supported previous literature on AP program involvement. First, regarding college entrance exam outcomes, Flowers (2008) determined that students who participated in AP curriculum more frequently scored higher on college entrance exams than students who did not participate in AP courses. By ethnic affiliation, Black and Hispanic students involved in AP courses scored 100 points more on their college entrance exams than other students in their same ethnic group. Asian or Pacific Islander and White students who participated in AP courses experienced an even greater margin of success on their college entrance exams (i.e., Asian or Pacific Islander 263 points more, and White students 174 points more than other students in their ethnic groups).

Second, Flowers (2008) affirmed that students who participated in AP courses achieved significantly higher undergraduate GPAs than students who did not participate in AP courses. Again, Asian or Pacific Islander and White students showed larger differences in GPAs of 0.28 and 0.26 respectively above non-AP program participants. For Black and Hispanic AP students' GPAs, a smaller difference was present (0.11 and 0.17, respectively) with no statistically significant differences.

Third, all student groups who took AP courses were most likely to earn a graduate degree than their peers who did not take AP courses (Flowers, 2008). Fourth, with regard to income, Black and Hispanic students taking AP courses earned approximately \$2,000 and \$1,700 respectively more than Black and Hispanic students who did not participate in AP courses (Flowers, 2008). In contrast, White and Asian or Pacific Islander students who took AP courses earned \$10,000 and \$3,000 more a year respectively than peers in the same ethnic group who did not take an AP course (Flowers, 2008).

Summary

Examined in this article was literature on the historical perspectives of education for Black citizens in general and Black students specifically in the United States. As such, a greater understanding of the depth and breadth of academic problems in this country can be achieved. Based on views from a diverse group of researchers and several legal cases, education was and continues to be at the core of civil rights struggles in the United States.

Nevertheless, each state has developed programs that promise to close the achievement gap and provide Black and other ethnic groups more access to advanced coursework. In addition, most states, along with the College Board and federal government provide financial incentives for AP and IB exam accomplishments, including grants to assist low-income students with the cost of AP exams. Thus, more students are experiencing rigorous coursework, and the financial barrier to AP exam participation has been minimized or eliminated. Just this year, the Secretary of Defense announced a multi-million dollar grant to support APIP and exam fees (U.S. Department of Education, National Center for Education Statistics, 2012). Black students' involvement in AP courses and exams has increased over the years (College Board, 2012d). However, Black students' level of access to AP courses and achievement on AP exams remains low. Even in the presence of federal, College Board, and school districts assistance, Black students do not show as much improvement in their AP program access and equity as do Hispanic and other student groups (College Board, 2012d; Klopfenstein, 2004; Lavin-Loucks, 2006; Moore & Slate, 2008).

Furthermore, the Alliance for Excellent Education (2008) indicated that the U.S. Census Bureau predicted that by 2050, approximately 50% of the U.S. population will consist of Black, Hispanic, or Asian ethnic groups. Because of these statistics, students of color and the schools they attend should be the concern of all citizens (Alliance for Excellent Education, 2008). Although the achievement gap appears to be closing for Hispanic students, this situation is not the case for Black students. Thus, the theoretical lenses (critical race theory and human capital theory) appear to offer strong foundations on which to frame this literature. For instance, addressed in the literature on critical race theory and human capital theory are the problems identified in this study. Similarly, presented in the literature on human capital is a basis for which a society can perceive the value of educating all of its citizens equally.

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