

**Postsecondary Enrollment and Completion of
MCPS African American and Latino Graduates**

Office of Shared Accountability

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Executive Summary

The purpose of this study was to understand the postsecondary institution enrollment, degree-seeking, and degree completion patterns of African American and Hispanic graduates of Montgomery County Public Schools (MCPS) from 2001 to 2010. The racial and ethnic composition of MCPS graduates has shifted over the last ten years—showing a substantial rise in the proportions of these two groups. This trend is projected to continue in MCPS and nationally. The increase in historical minority K–12 student populations nationally, combined with their stagnation or decrease in enrollment in postsecondary institutions, creates a growing interest in understanding trends and factors associated with the postsecondary success of these student groups. The study used a large data set and accounts for nine cohorts of recent graduates of MCPS, providing a fairly comprehensive insight into the situation. The study was influenced by perspectives from Hoover’s *Vindicationist Philosophy* (1990) and Harper’s *Anti-Deficit Achievement Framework* (2010), which focus on the achievement of minority students.

Using data from the National Student Clearinghouse (NSC), the study addressed four questions:

1. What proportion of African American and Hispanic MCPS graduates enroll in college?
2. Of those students who graduate from college, how many earn a degree within six years?
3. Of those who did not attain a bachelor’s degree or higher in six years (2001 to 2006 cohorts), what is their status?
4. Of those who are not yet eligible for graduation (2007 to 2010 cohorts), what is their enrollment status?

The study used information on 2001–2010 MCPS African American and Hispanic graduates obtained from the NSC *StudentTracker* database as of May 2011. The *StudentTracker* tracks information about college enrollment, time to completion of bachelor’s degree, degree earned, and major area of study across postsecondary institutions nationwide. Additionally, MCPS records on student demographic information, high school attended, weighted Grade Point Average (WGPA), and Scholastic Aptitude Test (SAT) scores were used. Descriptive statistics were applied to examine and describe the trends in characteristics of MCPS African American and Hispanic high school graduates, college enrollment rates, types of colleges attended, performance in high school and college, and rates of attaining a bachelor’s degree or higher within six years. Further, any relationships between student characteristics and attainment of a bachelor’s degree or higher within six years after high school were examined using two-way contingency table analyses or analyses of variance.

Summary of Findings

What proportion of African American and Hispanic MCPS graduates enroll in college?

Altogether, African American and Hispanic students made up 33,513 (36%) of MCPS graduates from 2001 to 2010. Postsecondary enrollment information from *StudentTracker* records were available for 23,964 (72%) of these students. The demographic characteristics of students with or without *StudentTracker* records were similar.

Trends in Enrollment Rates

- Overall 76% of the African American and 65% of the Hispanic 2001–2010 MCPS graduates enrolled in a postsecondary institution at some time after high school graduation. Comparing across time, the proportion of African Americans (80% to 67%) or Hispanics (76% to 56%) enrolled in postsecondary institutions decreased slightly from 2001 to 2010. Among high school graduates, about one half of African Americans (58%) and Hispanics (50%) enrolled immediately in fall after high school; whereas two thirds of African American (64%) and slightly over one half of Hispanic (55%) high school graduates were enrolled within one year after high school graduation.
- Compared with national trends, MCPS enrollment rates are higher. Data from the U.S. Census Bureau revealed that 42% of African Americans aged 18–19 (the typical age for those leaving high school) were enrolled in college in 2010, and 44% of the same age group for Hispanics were enrolled.
- Notably, among students enrolled in college, the findings revealed that nearly all African American or Hispanic students who graduated in 2008 or later enrolled in college within one year after high school graduation.
- Hispanic graduates who had Head Start experience, or were not recipients of Free and Reduced-price Meals System (FARMS) or English for Speakers of Other Languages (ESOL) services, were more likely to enroll in postsecondary institutions. For African American MCPS graduates, students who enrolled were likely to have had no Head Start or never received special education services.

Enrollment Trends by Location, Type, and Level of Postsecondary Institution

- Irrespective of timing of enrollment in postsecondary institutions, the choices of location (in-state vs. out-of-state) and type of institution (public or private institution) were similar for African American and Hispanic MCPS graduates. The majority of students who began postsecondary education immediately in the fall after high school or within one year after high school graduation enrolled primarily in in-state and public institutions. Notably, at least one fifth of the African American college students were enrolled in private institutions compared to 15% or less for Hispanic students.
- Differences in the choice of level of postsecondary institutions were observed between MCPS African American and Hispanic graduates. About 60% of MCPS African American graduates enrolled in four-year institutions immediately in fall ($n = 11,267$), and the remaining 40% enrolled at two-year institutions. Similar proportions were observed among students who enrolled within one year of high school graduation. This

pattern was reversed for Hispanic students. Two thirds or more of the Hispanic MCPS graduates enrolled in a two-year institution (62%) immediately in the fall after graduation or within one year after high school (65%). The remaining one third enrolled at four-year institutions.

- Among those enrolled in a postsecondary institution, one half or more of 2001–2010 MCPS African American and Hispanic graduates were primarily in four Maryland state, public, four-year institutions and one two-year institution namely, University of Maryland—College Park, University of Maryland—Baltimore County, Towson University, or Bowie State University, and Montgomery College.

Enrollment Trends by Gender

- The findings showed that a significantly higher proportion of MCPS African American (78% vs. 72%) and Hispanic (68% vs. 62%) females than males were enrolled in postsecondary institutions from 2001 to 2010. Data on national trends confirmed that nationally for both Hispanics and African Americans, females were enrolled at higher rates compared to males.

Enrollment Trends by High School of Attendance

- The highest college enrollment rates for African Americans students were observed for students who graduated from Bethesda-Chevy Chase, Springbrook, Northwest, James Hubert Blake (Blake), Paint Branch, and Montgomery Blair high schools.
- The highest college enrollment rates for MCPS Hispanic graduates were recorded for students who graduated from Poolesville, Churchill, Blake, Wootton, and Northwest high schools.

College Readiness/High School Academic Performance

- The overall high school mean WGPA for 2001 to 2010 for both African American and Hispanic MCPS graduates was $M = 2.6$, $SD = 0.80$ with a maximum of 4.8.
- Additional analyses revealed that the average WGPA for African American MCPS graduates who enrolled in any postsecondary institution after high school was statistically higher than for students who did not enroll ($M = 2.74$, $SD = 0.77$, vs. $M = 2.16$, $SD = 0.74$). Similarly, the average WGPA for Hispanic MCPS graduates who enrolled in college was significantly higher than for peers not enrolled in college ($M = 2.79$, $SD = 0.82$ vs. $M = 2.34$, $SD = 0.75$). Regardless of race/ethnicity, the WGPA for students who began their postsecondary experience at four-year institutions was significantly higher than for peers who enrolled in a two-year institution.
- The average total SAT scores for African American ($M = 936.3$, $SD = 195.8$ vs. $M = 847.4$, $SD = 191.9$) or Hispanic ($M = 970.6$, $SD = 206.1$ vs. $M = 889.4$, $SD = 212.0$) graduates who enrolled in postsecondary institutions was statistically higher than those for peers who did not enroll. Regardless of race/ethnicity, findings revealed that the average total SAT scores for students who began their postsecondary experience at a four-year institution were significantly higher than for peers who enrolled in a two-year institution.

Second Year Retention Rates

Tracking the subsequent enrollments of African American and Hispanic first-year enrollees into the second year showed that:

- An overwhelming majority of African American (81%) and Hispanic (79%) students returned to college for their second year (Table 11).
- The second year retention rates did not vary by type, location, or level of postsecondary institution and ranged from 80 to 90% for African American or Hispanic groups.

Of those who graduate from college, what proportion earns a degree within six years?

- Altogether, 17,484 African American and Hispanic students graduated from MCPS from 2001 to 2006. Among these students, 13,006 (74%) enrolled in a postsecondary institution at some time after high school graduation. Subsequently, a total of 30% or 3,837 of these students earned a bachelor's degree or higher within six years after high school graduation.
- Within race/ethnicity, findings revealed that about one fourth of African American (25%) and one fifth of Hispanic (18%) 2001 to 2006 MCPS graduates who enrolled in a postsecondary institution any time after high school graduation earned a bachelor's degree within six years.
- Within race/ethnicity, females attained a bachelor's degree or higher within six years at significantly higher rates than the males for African American (30% vs. 18%) and Hispanic (21% vs. 15%) MCPS graduates alike.
- When examining degrees earned within race/ethnicity by gender, findings showed that among the 25% of African Americans who earned a bachelor's degree within six-years after high school graduation, 66% were female; the remaining were males. Similarly, among the 18% of Hispanic students who earned a bachelor's degree or higher within six years after high school graduation, 61% were female and the remaining were male.
- The 2001 to 2006 MCPS African American and Hispanic MCPS graduates who completed a bachelor's degree or higher within six years took an average of 48 months to complete the bachelor's degree.
- African American females who completed a bachelor's degree within six years took a significantly lower number of months to complete a bachelors' degree than the African American males, $F(1, 2679) = 32.9, p = 0.00$. No gender differences in months to complete a bachelor's degree were observed for Hispanic graduates.
- The high school WGPA was found to be significantly associated with rate of completing a bachelor's degree within six years for both subgroups. The WGPA for African American ($M = 3.31, SD = 0.64$ vs. $M = 2.35, SD = 0.67$) and Hispanic ($M = 3.51, SD = 0.65$ vs. $M = 2.44, SD = 0.78$) graduates who completed their bachelor's degree within six years after high school graduation was statistically higher than for peers who did not earn their bachelor's degree within six years after higher school graduation.

Trends in Degrees Earned

- For African American students, the most common major field areas were social sciences (21%), business (12%), science and math (10%), and communications (9%). Social sciences was also the most common area for Hispanic students (27%) followed by business (13%), arts (11%), and science and math (8%). This pattern was consistent when examining major fields of study by each graduating cohort.
- The percentage of students receiving degrees in science and math ranged from 9% to 11% across the various cohorts, rising and falling over the years. Overall, 16% of African American and 14% of Hispanic students earned a bachelor's degree in the Science, Technology, Engineering, and Math (STEM) field.
- Gender within race/ethnicity was found to be significantly related to earning a bachelor's degree within six years in a STEM-related field, with a smaller proportion of degrees earned by females for both African American, $\chi^2(1) = 33.76, p = .000$ as well as Hispanic students, $\chi^2(2) = 18.49, p = .000$. This finding suggests there were fewer African American and Hispanic females earning degrees in STEM-related fields than would be expected.

Of those who did not attain a bachelor's degree or higher in six years (2001 to 2006 cohorts), what is their status?

Close to one half of the 2001 to 2006 African American (48%) and Hispanic (45%) graduates who had not earned their bachelor's degree within six years were reported to have graduated, whereas slightly over one third of African American (40%) and Latino (39%) graduates were still enrolled as full-time students as of May 2011. Regardless of time elapsed since high school graduation, the proportion of students that had withdrawn from post-graduate institutions was negligible.

Of those who are not yet eligible for graduation (2007 to 2010 cohorts), what is their enrollment status?

Reflecting the length of time elapsed since graduating from high school, the majority of 2007 to 2010 African American (86%) and Hispanic (80%) students were enrolled as full-time students as of May 2011. The remaining students were enrolled on a half-time or less-than-half-time basis.

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Postsecondary Enrollment and Completion of MCPS African American and Latino Graduates

Kecia L. Addison-Scott, Ph.D. & Nyambura S. Maina, Ph.D.

Introduction

The equality of access to college for all students is still an issue that impacts society. Research reveals that African Americans, Latinos,¹ and Native Americans in the United States are less likely to attend postsecondary schools (National Center for Education Statistics [NCES], 2008). Indeed, the gaps that exist in achievement among racial/ethnic groups within K–12 levels also are evident in college enrollment. Fewer minority students are successfully accessing and completing college on time due to several factors. White students are more likely than African American students to be enrolled in college in the traditional 18–22 age group (“Racial Differences,” 2011). For decades, African American, Hispanic, Native American, and low-income students have completed high school and attended college at lower rates than their White and higher income counterparts (NCES, 2008). Minority students often have to contend with multiple barriers to college access (e.g., inadequate school-based support, negative perceptions of intellectual ability, lack of resources at their school, inadequate preparation for higher education). In addition, low-income students are less likely than middle- and high-income students to pursue postsecondary education (NCES, 2008). The intent of this study is to explore degree-seeking and completion patterns of African American and Hispanic graduates of MCPS between 2001–2010 using information in National Student Clearinghouse (NSC) *StudentTracker* database.

Rationale for the Study

With the recent report by Harper (2012) highlighting success stories of African American males in higher education, there is growing interest in the postsecondary success of African American and Hispanic students, nationally. While there are racial/ethnic and gender gaps in the percentage of students who graduate from high school and attend college, there are also students from those two subgroups who successfully navigate the system. There is a need to refocus the attention to success rates of these underrepresented groups, while not forgetting the gaps in education that exist. Following the vindicationist philosophy of Hoover (1990) and the antideficit model proposed by Harper (2012), this study seeks to highlight levels of college achievement by African American and Hispanic graduates from Montgomery County Public Schools (MCPS).

¹ The terms Hispanic and Latino are used interchangeably in this report.

Review of Literature

Academic achievement is a topic of great concern to many researchers. In fact, it is often the source of great debate when discussing children and factors that affect their achievement. Many believe that the best way to assess a child's achievement is to test them. Others believe that testing children does not accurately reflect a child's achievement. When it comes to the achievement of minority children there is also great debate as to the factors that contribute to their achievement. The most common factor that most researchers associate with the academic achievement of minority children is their socioeconomic status. Not only do they look at the status of the child, but also the status of the parents and any generational relationships. Some researchers compare and contrast the achievement of minority children with nonminority (White) children in an attempt to show differences. With this method, they are trying to demonstrate a deficiency theory for minorities, meaning they are trying to show that minorities fail at academic achievement because they lack something that their White counterparts possess.

Ogbu (1986) acknowledges that minority students often are placed in a position of subordination in the educational system. Some African Americans and Latinos are exposed to teachers and schools that have lowered expectations for them, encounter negative stereotypes about their ethnic group as it relates to education, and typically have inferior educational opportunities (Ogbu, 1986). Woodson (1977) presumes that education must inspire and reflect the life of the people it is supposed to educate. In addition to looking at culture, Ogbu (1986) investigates how the environment reacts with minorities' culture and vice versa. He believes that because of the oppression and discrimination experienced by many minorities, especially African Americans, a lack of trust develops. Ogbu (1986) is convinced that a lack of need to excel academically for some minority youth stems from the perception that occupational opportunities are often limited.

Academic Resilience

Much of the literature on African American and Latino students focuses on their poor school achievement. However, many of these students enroll at and graduate from secondary and postsecondary institutions, demonstrating their academic resilience. Protective factors, such as self-esteem, motivation, supportive family members, and mentors, are some of the resources that contribute to their resilience (Cabrera & Padilla, 2004; Gonzalez & Padilla, 1997). The ability to achieve educationally after being exposed to statistical risk factors is how academic resilience is typically defined (Morales, 2008). Researchers in this area "focused on high educational achievement despite risk factors that were statistically linked to poor academic performance" (Morales, 2008, p. 229). The main goal of understanding academic resilience is to become versed in the aspects that lead to it and encourage resilience among underachieving groups through the increased knowledge (Gardynik & McDonald, 2005; Milstein & Henry, 2000; Morales, 2008). "Because resilience is measured over time, longitudinal studies are effective" (Morales, 2008, p. 229).

Postsecondary Enrollment and Completion

Minority students, specifically, African Americans, Hispanics, and Native Americans, continue to be underrepresented in postsecondary institutions (Parker, 1997). According to the NCES (2008), high school completion and college attendance of African American, Hispanic, Native American, and low-income students are at consistently lower rates than their White and higher income student counterparts. Of the close to 18 million students, nationally, who enrolled in undergraduate postsecondary institutions in 2010, 62% were White, 15% Black, 14% Hispanic, and 6% Asian/Pacific Islander (Aud, et al., 2012). While the percentage of Black and Hispanic students enrolled in college nationally has increased over the past 10 years, it still is disproportionately lower than that for White students.

There is also an undergraduate enrollment gender gap. During 2010, 10.2 million females were enrolled in college nationally compared to 7.8 million males (Aud, et. al., 2012). This enrollment gender gap is more extreme for African Americans (King, 2000). While slightly more than 3 million Black students enrolled in college in 2010, close to 2 million of those students were Black females (Snyder & Dillow, 2012).

National college completion rates follow a similar pattern to that of enrollment for African American and Latino youth. Nationally, 40% of African American full-time students and 50% of Hispanic students who sought a bachelor’s degree in fall 2004 completed the degree within six years (Aud, et al, 2012) compared to 69% of Asian and 62% of White students. In examining the data in both public and private institutions, African American students had the lowest or second lowest graduation rate, nationally (See Figure 1).

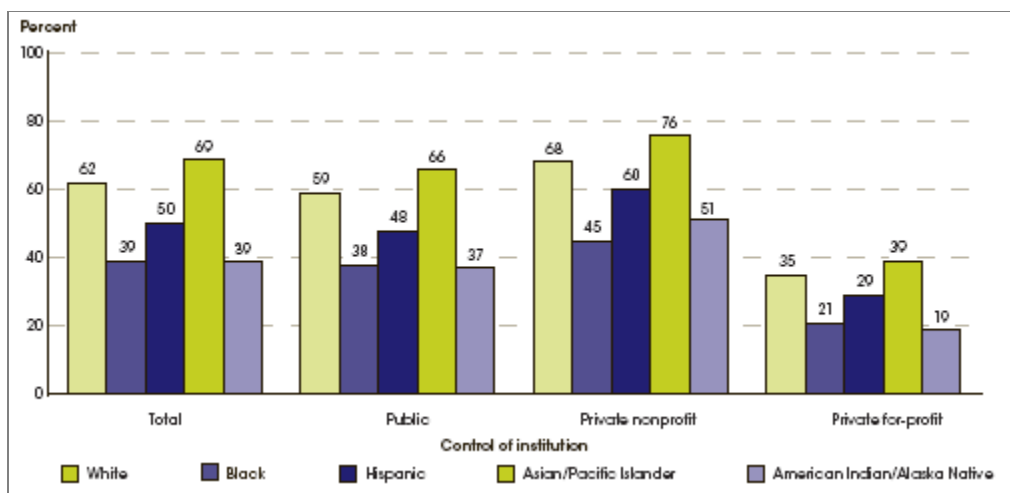


Figure 1. Six-year graduation rates for bachelor’s degree by institution type and race/ethnicity from The Condition of Education 2012 by Aud, et al.

Postsecondary Enrollment and Completion of MCPS Students

Two studies of the postsecondary success of MCPS high school graduates have been conducted recently. Using data from the National Student Clearinghouse (NSC) *StudentTracker* database, Zhao, Liu, and Wolanin (2012) examined college enrollment, persistence, and degree attainment

for MCPS graduating classes from 2001 to 2010. The authors found that 70% of MCPS graduates enrolled in college the fall immediately after high school. Two recommendations from the study were to examine 1) college readiness of MCPS Hispanic students to improve their college enrollment, persistence, and degree attainment; and 2) factors that may have led to an increase in the fall college enrollment after high school for MCPS African American graduates.

The second study on MCPS high school graduates, conducted by Wolanin and Wade (2012), focused on 2001 through 2006 graduates earning college degrees in Science, Technology, Engineering, and Mathematics (STEM), as well as their high school achievement and course taking patterns. Across all cohorts examined for the study, 19% earned a degree in a STEM field of study. Given the gaps found between Asian students compared to White, African American, and Hispanic students, a recommendation was made to explore ways to engage all student subgroups to reduce disparities.

Theoretical Framework

The impetus of this study is derived from the perspectives shared in Hoover's Vindicationist philosophy (1990) and Harper's Anti-Deficit Achievement Framework (2012).

Hoover's Vindicationist Philosophy

Typically in educational research, the student who is not excelling is looked at as the cause for the lack of achievement. Hoover (1990) discussed the deficiency philosophy, which blames the victim. This philosophy supports views that Blacks and most other people of color are "deficient in some way due to cognitive deficit...low self-concepts and attitudes..." (p. 251). Using a deficiency philosophy does not provide adequate information about the minority culture under investigation and "can lead to unfortunate decisions on education policy and curriculum planning and can adversely affect the behavior of teachers and administrators" (Hoover, 1990, p. 254). As a counter to the deficiency philosophy, Hoover developed the vindicationist philosophy based on the vindicationist perspective espoused by Drake (as cited in Hoover, 1990). A research-based model, the vindicationist philosophy contends that:

1. Students of color have the ability to acquire lower-to-upper-levels of literacy as well as or better than any other students—from preschool to the college level—if taught.
2. Students of color come from cultures that have made vast contributions to world civilization.
3. There are strengths in the current cultures of people of color.
4. There are strong values in the cultures that endorse education, self-esteem, and fearlessness (Hoover, 1990, p. 256).

In an explanation of the vindicationist philosophy, Hoover (1990) considers Black students "to be as capable of academic achievement as any other student" (p. 256). Broadening the focus from African American students to include Latino students is relevant as Latino achievements

also typically are presented from a deficit perspective. Both African American and Latino students have proven to be resilient in many aspects of their educational endeavors.

Harper’s Anti-Deficit Achievement Framework

Harper’s Anti-Deficit Achievement Framework builds upon Hoover’s philosophy in that it provides a guide for researchers and educators. The framework developed from his work on the National Black Male College Achievement Study presents “a series of possible questions that researchers could explore to better understand how students of color persist and successfully navigate” postsecondary institutions (Harper, 2010, p. 67). Using three decades of “literature on Black men in education and society, as well as theories from sociology, psychology, gender studies, and education” Harper (2012) developed a framework that “inverts questions that are commonly asked about educational disadvantage, underrepresentation, insufficient preparation, academic underperformance, disengagement, and Black male student attrition” (p. 5). While this framework was applied to the college successes of Black males, it is applicable to all minorities whose educational achievements are typically examined from a deficit perspective. Instead of asking deficit-oriented questions (i.e., Why do so few African American and Latino students enroll in college?), this study utilized the anti-deficit reframing approach espoused by Harper to develop the research questions (i.e., How many African American and Latino students enroll in college?).

Statement of the Problem

A growing number of African American and Latino high school students are enrolling in college, but their successes are not being recognized. Highlighting the success stories of these individuals will address the growing interest in the postsecondary success of these student groups and contribute to the literature on college enrollment and graduation. Although racial/ethnic and gender gaps in the percentage of students who graduate from high school and attend college exist, there are also students from those two subgroups who successfully navigate the system. There is a need to refocus the attention to success rates of these underrepresented groups, yet not forget the gaps in education that exist.

Purpose of Study

The transition from high school to college can be difficult for minority students especially since they will have to make some decisions for themselves for the first time. The ability to overcome environmental and financial obstacles is essential for minority students to enroll and stay enrolled in college to graduate. There are many variables that may affect African American and Hispanic students’ ability to succeed. By minimizing the attention on negative factors (i.e., dropouts and suspensions) and following the anti-deficit model proposed by Harper (2012) and Hoover’s vindicationist perspective, this study seeks to highlight levels of college achievement of African American and Hispanic graduates from MCPS.

Data Availability

The intent of this study is to explore degree-seeking and completion patterns of African American and Hispanic graduates of MCPS between 2001 and 2010. This study used information in the NSC *StudentTracker*. The *StudentTracker* database tracks college enrollments across postsecondary institutions nationwide. More than 3,300 colleges and universities, enrolling over 96% of all students in public and private U.S. institutions, participate in the Clearinghouse (NSC, 2012). MCPS subscribes to the NSC “*StudentTracker*” service, which enables MCPS to track the educational progress of its students after graduation. Data from the NSC provide information about college enrollment, transfers between institutions, degree earned and major area of study.

Research Questions

Using data from the NSC, the following main questions were addressed:

1. What proportion of African American and Hispanic MCPS graduates enroll in college?
2. Of those who graduate from college, how many earn a degree within six years?
3. Of those who did not attain a bachelor’s degree or higher in six years (2001 to 2006 cohorts), what is their status?
4. Of those who are not yet eligible for graduation (2007 to 2010 cohorts), what is their enrollment status?

Limitations

Limitations are circumstances beyond the control of the researchers. The following limitations should be considered for this study:

1. Level of completion of data from the NSC—Data used to complete this report was as of May 2011, which impacts the extent to which degree completion and status of enrollment fields were completed in the data file; rates of completion may be underreported. Additionally, it should be noted that not all colleges and universities submit data to NSC; thus, degree completion rates reported could be underestimated.
2. Classification of school types from the NSC—Data to determine the type of college or university attended (2-year vs. 4-year and private vs. public) is solely based on information provided in the data file.
3. Generalizability—The information presented in this report may not be generalizable, as it is reflective of the performance of students between 2001 and 2010 whose information was available at the time of this report.

Despite these limitations, the findings from this study should provide reliable insight and concrete information related to the enrollment and degree completion of the populations examined.

Delimitations

Delimitations are those elements of the study controlled by the researcher. This study only focused on African American and Hispanic students who graduated from MCPS between 2001 and 2010.

Methodology

This study focused on examining college enrollment patterns of African American and Hispanic students who graduated from MCPS from 2001 to 2010. Descriptive and inferential statistics were used to analyze data retrieved from the NSC. The following information describes the variables, measures, and processes used to analyze data.

Study Measures

The variables used in this study included:

- I. *Demographic information*
 - a. High school attended
 - b. Race/ethnicity: African American or Hispanic
 - c. Gender: male or female
 - d. Receipt of special services: students who had previously received or were currently receiving special services (EVER Free and Reduced-price Meals System (FARMS), EVER special education, or EVER English for Speakers of Other Languages (ESOL)
 - e. Preschool attendance in MCPS: Attendance in Head Start or MCPS prekindergarten program was included as a demographic descriptor of the students.

- II. *Academic achievement*
 - a. Weighted high school grade point average. The grade point average (GPA) is the average number of grade points earned per course in Grades 9 through 12, including grade points earned for successful completion of certain high school level courses taken while in middle school (MCPS, 2011). The weighted grade point average (WGPA) is a recalculation of the GPA substituting weighted grade points for regular grade points earned in courses designated as honors or advanced level. The WGPA is computed by dividing the total number of grade points earned by the total number of course credits included in the computation (MCPS, 2011).
 - b. SAT scores. The SAT reflects subject matter learned by students in high school. However SAT scores only are available for those students who take the SAT; it is not administered by the district. Thus, not all students in the study will have an SAT score.

- III. *Postsecondary Attendance and Completion Measures*

The following measures of post-secondary attendance and completion were obtained from the NSC *StudentTracker* database:

 - a. Enrollment status. Indicates a high school graduate who enrolled in a two-year or four-year postsecondary institution with an enrollment status of full-time, part-time, or less than half-time either: 1) immediately in the fall after graduation, 2) anytime within a year after high school graduation, or 3) enrolled at any time as indicated in the NSC database. According to the NSC, the first year after high school graduation is defined as any term that ends after August 15th of the high school graduating year and before August 14th of the following year.

- b. Characteristics of postsecondary institutions
 1. Institutional level. Indicates the level of degree predominantly offered by the institution (i.e., two-year or four-year).
 2. Institution type. Indicates whether the institution is public or private.
 3. Institution location indicates if the institution is in-state (in this case, Maryland) or outside the state.
- c. Class cohort postsecondary enrollment and progress. Measured by college enrollment status, bachelor's degree attainment within six years after high school graduation, and time spent on the first bachelor's degree.
 1. Six-year bachelor's degree completion rate. The third measure of college success is whether 2001 to 2006 graduates completed a bachelor's degree within six years after their high school graduation as of May 2011.
 2. Months to first bachelor's degree. Indicates how many months a high school graduate took to attain his/her first bachelor's degree. The variable is calculated by the following formula: (months to first bachelor's degree = graduation date of the first bachelor's degree – the first enrollment date in college).
 3. Completion rate for some type of college degree refers to the percentage of college enrollees who earned some type of college degree including certificate, associate, bachelor's, or graduate degree by May 2011. This measure provides a more detailed picture of progress and success made after high school graduation.
 4. Type of degree earned (areas of major).

Study Sample and Cohort Definition

The sample used in this study includes African American and Hispanic students who: 1) graduated from MCPS from 2001 to 2010 and 2) have records in the NSC *StudentTracker* database. The sample is divided into yearly cohorts of MCPS graduates from 2001 to 2010. For this study, a graduating class or cohort was defined according to the state of Maryland definition. A graduating class is defined as high school students who graduate from July 1 to June 30 each school year (MSDE, 2010). The NSC defines a high school graduating class as students who graduate from September 1 to August 31 each year, which includes students who graduate from high school in the summer. That is, any student who graduates from high school prior to the fall semester is considered a graduate of the current year.

Analytical Samples

Since data in *StudentTracker* is dependent upon the frequency with which colleges and universities update student records, some information for students may not be complete. Given this fluidity of data, and to ensure the most accurate reflection of data to date, different cohorts were used to answer the research questions. Analytical samples varied by research question as follows:

- For research question 1, analyses included MCPS 2001–2010 graduating classes.

- For research questions 2 and 3, MCPS 2001–2006 graduating classes/cohorts were included in the analyses.
- Data on cohorts graduating 2007 to 2010 or later were used only in the analyses for research question 4.

The average time to degree for a bachelor’s degree is six years (Kim, 2011). Overall, the *StudentTracker* benchmark is that students complete a bachelor’s degree within six years of entry into postsecondary institutions. Table 1 presents the summary of data available by cohort year and cut-off year for each six-year graduation period:

Table 1
Summary of Data Used for Study

Graduating class/cohort	Date six years after HS	College enrollment and persistence information	College graduation information
2001	2007	Yes	Yes
2002	2008	Yes	Yes
2003	2009	Yes	Yes
2004	2010	Yes	Yes
2005	2011	Yes	Yes
2006	2012	Yes	Yes
2007	2013	Yes	No
2008	2014	Yes	No
2009	2015	Yes	No
2010	2015	Yes	No

Procedures for Analyses

Descriptive statistics were applied to examine and describe the trends in characteristics of MCPS African American and Hispanic high school graduates, college enrollment rates, types of colleges attended, performance in high school and college, and rates of attaining a bachelor’s degree or higher within six years. The analytical sample varied by research question and student cohorts. To answer research question 1, data for all the 33,513 African American and Hispanic MCPS graduates were used in analyses. Further, data on 3,837 students (30%) who had completed a bachelor’s degree or higher within six years were used to answer questions 2 and 3, which were related specifically to college graduates. Information on 2001–2006 MCPS graduates who had not attained a bachelor’s degree or higher within six years of leaving high school were used to answer research question 3. Data on students who graduated after 2007 and beyond and had not reached their six-year mark were used to address question 4. Further, any relationships between student characteristics and attainment of a bachelor’s degree or higher within six years after high school was examined using two-way contingency table analyses² (Pearson’s chi-square) or analyses of variance.

² Evaluates whether a statistical relationship exists between two variables.

Results

This section presents the analyses in response to the key research questions of the study. Prior to presenting the results for each research question, descriptive information related to the study sample and analytical sample are reported. Following the description of the sample, findings related to each question are presented. Next, information related to academic outcomes for African American and Hispanic students who enrolled in college at any time after high school graduation is presented.

Study Participants

The population for this study was African American and Hispanic students who graduated from MCPS high schools from 2001 to 2010. First, information on MCPS high school graduates was obtained from MCPS database records. Students who dropped out and/or high school Gateway students were excluded from the master file resulting in a total of 94,238 students (Table 2). When combined, the proportion of African American (21%) and Hispanic (15%) students made up a total of 33,513 (36%) MCPS high school graduates from 2001 to 2010.

Table 2
Number and Percentage of MCPS High School Graduates
From 2001 to 2010 by Race/Ethnicity

Race/Ethnicity	<i>n</i>	%
American Indian	236	0.3
Asian American	14,799	15.7
African American	19,578	20.8
White	45,690	48.5
Hispanic	13,935	14.8
Total	94,238	100.0

Next, data from MCPS records were merged with *StudentTracker* data using unique MCPS student identification numbers. The enrollment patterns captured in the *StudentTracker* data are based on student-level data and represent an unduplicated head count of students across all institutions that report data to NSC (National Clearinghouse Research Center, 2012). In total, student-level college enrollment and completion records were available for 82% of MCPS high schools graduates from 2001 to 2010 and for 23,964 (72%) of the combined sample of African American and Hispanic MCPS graduates. When data were examined closely, 76% of the African American and 65% of Hispanic MCPS graduates had records in the *StudentTracker* database as of May 2011 (Table 3).

Table 3
Number and Percentage MCPS Graduates Records Found in *StudentTracker*
Database by Race/ethnicity as of May 2011

Race/Ethnicity	% Record found in <i>StudentTracker</i> File	
	<i>n</i>	%
American Indian (<i>N</i> = 236)	193	81.8
Asian American (<i>N</i> = 14799)	12,923	87.3
African American (<i>N</i> = 19578)	14,853	75.9
White (<i>N</i> = 45690)	40,290	88.2
Hispanic (<i>N</i> = 13935)	9,111	65.4

The 23,964 African American and Latino MCPS graduates with NSC records were made up of 62% African American and 38% Latino students. Table 4 presents information on numbers and proportion of students with records found in the *StudentTracker* database by graduation year (Table 4). Also, the profile of students without NSC records and by implication not enrolled in any postsecondary institutions was similar to students with NCS records for both African American and Latino groups.

Table 4
Number and Percentage of African American and Hispanic MCPS Graduates and Graduates with
Records in the *StudentTracker* Database as of May 2011 by High School Graduation Year

Year	African American			Latino		
	MCPS Graduates (<i>N</i> = 19,578)	<i>StudentTracker</i> (<i>N</i> = 14,853)		MCPS Graduates (<i>N</i> = 13,935)	<i>StudentTracker</i> (<i>N</i> = 9,111)	
	<i>N</i>	<i>n</i>	%	<i>N</i>	<i>n</i>	%
2001	1,541	1,230	79.8	933	713	76.4
2002	1,648	1,278	77.5	1,015	723	71.2
2003	1,622	1,266	78.1	1,110	772	69.5
2004	1,782	1,390	78.0	1,189	825	69.4
2005	1,991	1,525	76.6	1,262	849	67.3
2006	1,987	1,546	77.8	1,404	934	66.5
2007	2,190	1,694	77.4	1,577	1,080	68.5
2008	2,219	1,676	75.5	1,709	1,068	62.5
2009	2,226	1,649	74.1	1,885	1,118	59.3
2010	2,372	1,599	67.4	1,851	1,029	55.6

Demographic Characteristics of the Study Sample

At the time of MCPS graduation, more than half of the African American and Hispanic high school students were participating or had previously participated in FARMS (73% for Hispanic vs. 59% for African American). The majority of the Hispanic MCPS high school graduates (54%) had previously received or were receiving ESOL instruction at the time of graduation. Among the African American subgroup, only 15% had previously received or were receiving ESOL instruction at the time of graduation. The proportion of MCPS graduates in the sample

who had attended MCPS Head Start or MCPS prekindergarten (pre-K) was low and similar between the two subgroups. When examined closely, the data showed that the demographic profile of African American and Hispanic MCPS graduates was very similar to those with NCS data in their respective racial/ethnic subgroups (Table 5).

Table 5
Demographic Characteristics of 2001–2010 African American and Hispanic MCPS High School Graduates and Study Sample With NSC Records on Postsecondary Information

Characteristic		MCPS Graduates (N = 33,513)				Students with NSC Records (N = 23,964)			
		African American (N = 19,578)		Hispanic (N = 13,935)		African American		Hispanic	
		n	%	n	%	n	%	n	%
Gender	Female	10,302	52.6	7,126	51.1	8,127	54.7	4,845	53.2
	Male	9,276	47.4	6,809	48.9	6,726	45.3	4,266	46.8
EVER FARMS	Yes	11,550	59.0	10,219	73.3	8,287	55.8	6,325	69.4
EVER ESOL	Yes	2,957	15.1	7,563	54.3	2,156	14.5	4,187	46.0
EVER Special Education	Yes	3,656	18.7	2,331	16.7	2,027	13.6	1,338	14.7
EVER Head Start	Yes	1,934	12.9	1,519	14.9	1,305	11.2	1,162	16.7
EVER MCPS pre-K	Yes	225	1.5	172	1.7	196	1.7	146	2.1

Note. Not all students had records in the file.

Research Question 1. What proportion of African American and Hispanic MCPS graduates enroll in college?

This section presents information on overall enrollment rates, as well as the timing of enrollment for African American and Hispanic students immediately after graduation, within the first year, and any time after high school graduation.

As noted earlier, African American and Hispanic students made up 33,513 (36%) of MCPS high school graduates from 2001 to 2010. As shown in Table 6, the analyses revealed that overall 76% of the African American and 65% of the Hispanic 2001–2010 MCPS graduates enrolled in a postsecondary institution at some time after high school graduation. The timing of enrollment into a postsecondary institution varied. Closer examination of the data indicated that 58% of the African American graduates and 50% of the Hispanic MCPS graduates enrolled in postsecondary institutions immediately in the fall after high school graduation. Eventually, 64% of African American and 55% of Hispanic graduates had enrolled in a postsecondary institution within the first year after high school graduation year (Table 6).

Table 6
Number and Percentage of 2001 to 2010 African American and Hispanic MCPS Graduates Enrolled in Postsecondary Institution at any Time, Immediately in the Fall or Within the First Year

Timing of college enrollment	African American (N = 19,578)		Hispanic (N = 13,935)	
	n	%	n	%
Enrolled in college at any time	14,798	75.6	9,089	65.2
Enrolled in college immediately in the fall after high school graduation	11,267	57.5	6,892	49.5
Enrolled within one year of graduation ^a	12,424	63.5	7,697	55.2

^a Includes students enrolled immediately in the fall.

Comparing across years, the number of African American and Latino students graduating from MCPS increased steadily from 2001 to 2010. At the same time, Figure 2 illustrates that the proportion of African Americans (80% to 67%) or Hispanics (76% to 56%) enrolled in college decreased from 2001 to 2010. Notably, students who graduated several years ago have had more opportunities to enroll in postsecondary institutions than recent graduates. This may present the perception that college enrollment is decreasing for recent cohorts.

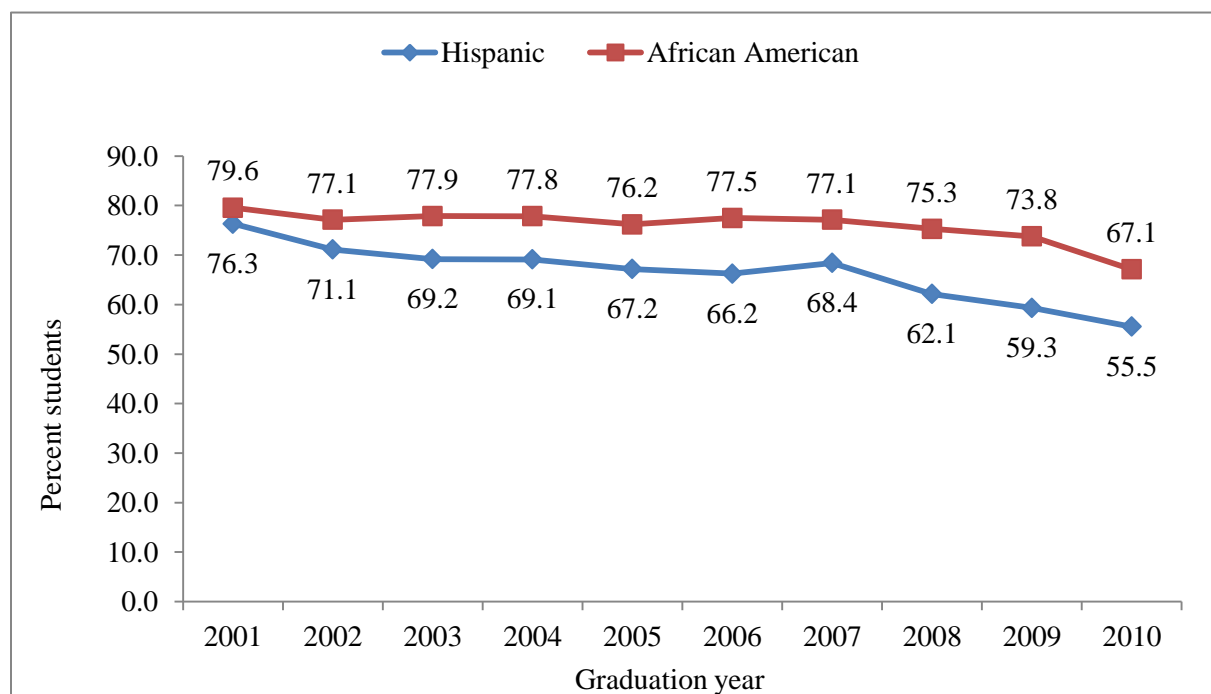


Figure 2. Enrollment at a postsecondary institution at any time after high school graduation.

Characteristics of College Enrollees (i.e., gender, age, socioeconomic, service receipt)

Information in Table 7 presents the demographic characteristics of African American and Latino MCPS graduates who enrolled in postsecondary institutions after high school graduation.

Overall, two thirds or more of the African American or Latino MCPS high school graduates from most service groups enrolled in postsecondary institutions at some time after high school graduation (Table 7). Nearly three quarters of African American students (73%) who had ESOL services enrolled in college compared with 55% of EVER ESOL Latino MCPS graduates. Similarly, the majority of African American (71%) or Latino students (62%) who had ever participated in FARMS enrolled in college. Slightly over one half of African American (55%) and Hispanic (57%) MCPS graduates who had ever had special education services enrolled in college. Over two thirds (67%) of African Americans who attended Head Start enrolled in postsecondary institutions compared with 79% of their counterparts who did not attend Head Start. Notably, the proportion of MCPS Hispanic graduates who attended Head Start (76%) and enrolled in college is higher than the proportion of Hispanic graduates without Head Start (67%) who enrolled in college. While the total number of the sample is low, very high proportions of MCPS African American (87%) or Hispanic graduates (85%) with MCPS pre-K experience enrolled in college. The highest proportions of Latino graduates enrolled in college were those with MCPS pre-K experience (85%), or Head Start experience (76%), or nonrecipients of FARMS (75%) or ESOL (77%) services. For African American MCPS graduates, the highest proportion of students enrolling in college was among students without Head Start (79%) or had never received special education services (80%).

Table 7
Demographic Characteristics of 2001–2010 MCPS Graduates by
Postsecondary Institution Enrollment Status

Characteristics	African American (<i>N</i> = 19,578)				Hispanic (<i>N</i> = 13,935)				
	Not enrolled		Enrolled		Not enrolled		Enrolled		
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	
Overall	4,780	24.4	14,798	75.6	4,846	34.8	9,089	65.2	
Gender	Female	2,199	21.3	8,103	78.7	2,290	32.1	4,836	67.9
	Male	2,581	27.8	6,695	72.2	2,556	37.5	4,253	62.5
EVER FARMS	No	1,479	18.4	6,549	81.6	937	25.2	2,779	74.8
	Yes	3,301	28.6	8,249	71.4	3,909	38.3	6,310	61.7
EVER ESOL	No	3,975	23.9	12,646	76.1	1,456	22.9	4,916	77.2
	Yes	805	27.2	2,152	72.8	3,390	44.8	4,173	55.2
EVER Special Education	No	3,140	19.7	12,782	80.3	3,850	33.2	7,754	66.8
	Yes	1,640	44.9	2,016	55.1	996	42.7	1,335	57.3
EVER Head Start*	No	2,783	21.3	10,263	78.7	2,897	33.4	5,783	66.6
	Yes	633	32.7	1,301	67.3	359	23.6	1,160	76.4
EVER MCPS pre-K*	No	3,386	22.9	11,369	77.1	3,230	32.2	6,797	67.8
	Yes	30	13.3	195	86.7	26	15.1	146	84.9

* Not all students had records in the file. Totals may not add to all students enrolled.

Timing of Enrollment in Postsecondary Institutions for Students Enrolled in Postsecondary Institutions

Information on the timing of enrollment in postsecondary institutions among students who enrolled in postsecondary institutions is presented in Table 8. The majority of African American (76%) or Hispanic (76%) students enrolled in college in the fall immediately after high school graduation. Subsequently, more than four fifths of African American (84%) or Hispanic (85%) MCPS graduates enrolled in a postsecondary institution within the first year after high school graduation.

Table 8
Number and Percentage of Students in College who Enrolled Immediately in Fall After Graduation or Within One Year After High School Graduation by Race/Ethnicity (2001–2010)

	African American (<i>N</i> = 14,798)		Hispanic (<i>N</i> = 9,089)	
	<i>n</i>	%	<i>n</i>	%
Enrolled in college in the fall immediately after HS graduation	11,267	76.1	6,892	75.8
Calculated college first year enrollment ^a	12,424	84.0	7,697	84.7

^a Includes students enrolled immediately in the fall.

Yearly trends for timing of enrollment are presented in Figures 3 and 4. Notably, nearly all the African American or Latino students from the 2008 or later cohorts with data in *StudentTracker* enrolled in college within one year after high school graduation. Yearly trends for students who enrolled immediately in fall after high school, increased by 22 percentage points for African American (68% to 90%) and 23 percentage points for Latino (68% to 91%) students (Figure 3). Similarly, yearly trends for students who enrolled within one year after high school increased 23 percentage points for African American (76% to 99%) and 21 percentage points for Latino (78% to 99%) students from 2001 to 2010 (Figure 4).

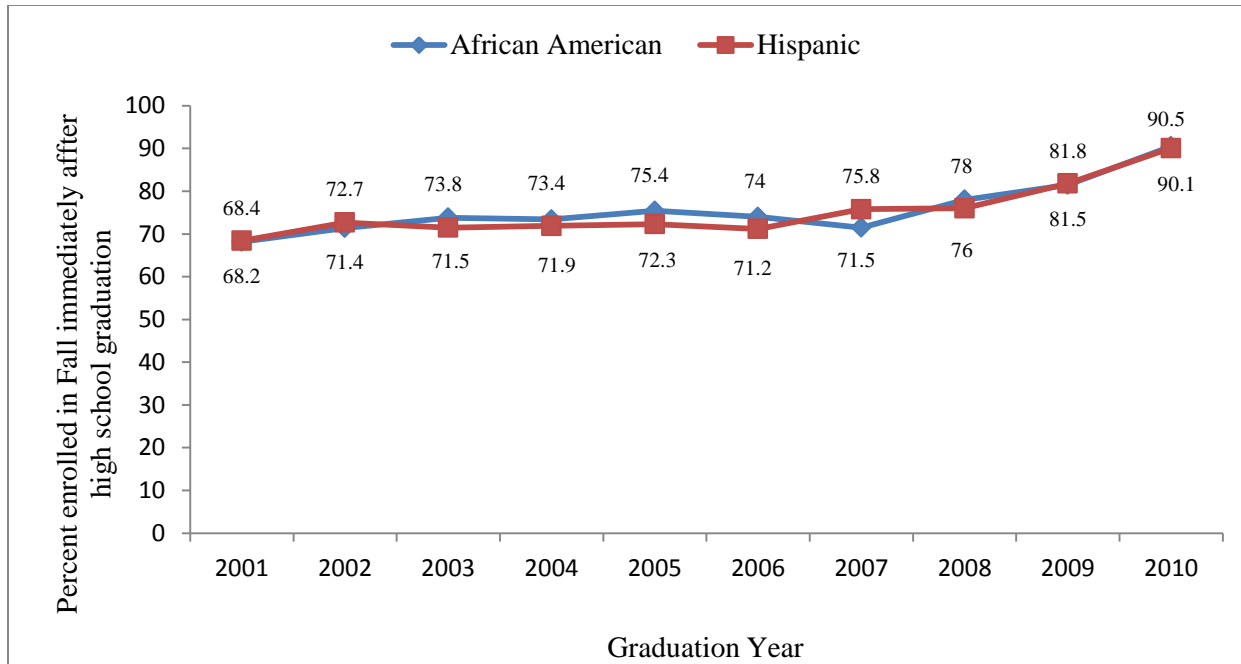


Figure 3. Yearly enrollment trend at postsecondary institution in fall immediately after high school graduation by race/ethnicity

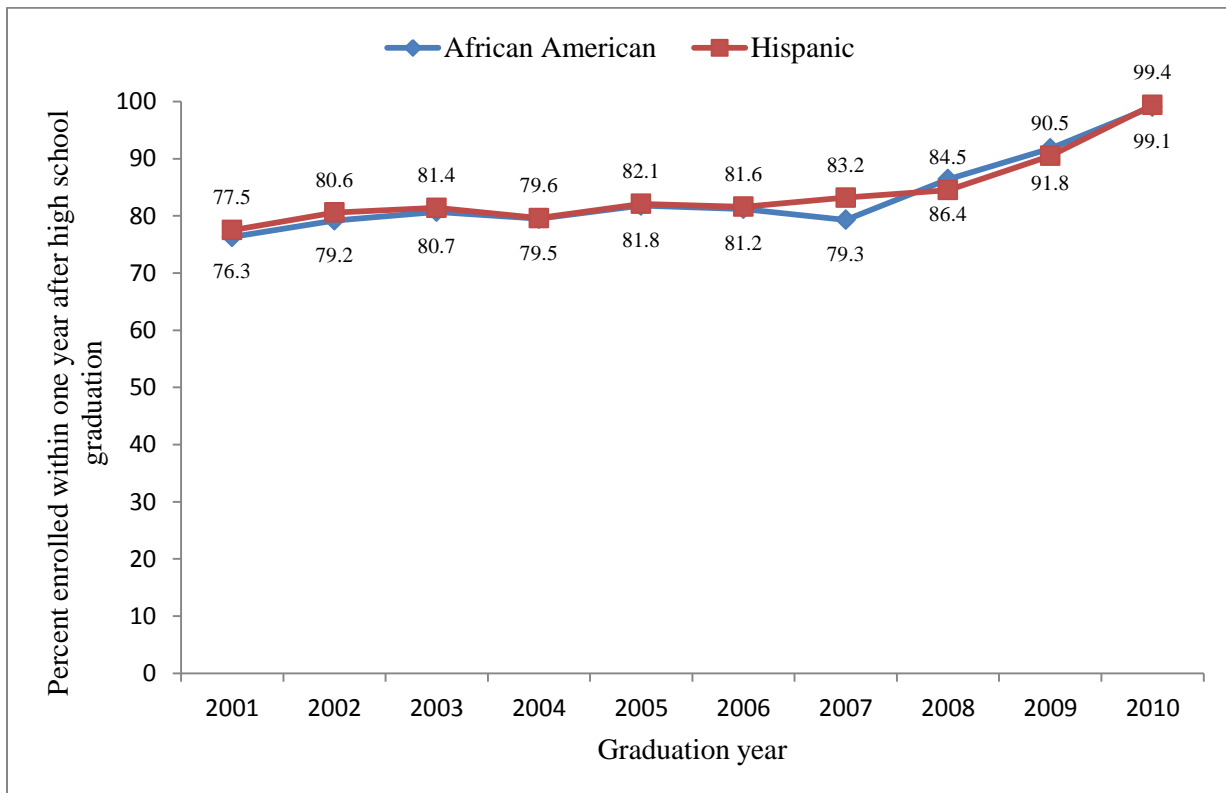


Figure 4. Yearly enrollment trend at postsecondary institution within a year after high school graduation by year

Enrollment Rates for African Americans and Hispanics, Nationally

Across all racial/ethnic groups nationally in 2010, 27% of high school completers enrolled at a two-year college and 41% at a four-year college immediately after high school (U.S. Department of Education, NCES, 2012). According to Fry (2011), the percentage of Hispanic high school graduates attending college in 2010 was 44%. In 2010, college-age Hispanics accounted for 15% of the overall enrollment (undergraduate and graduate) in two- or four-year colleges (Fry, 2011). In comparison, 38% of college-aged African Americans nationally were in college (undergraduate and graduate); an increase from 32% in 2008.

National data from the U.S. Census Bureau revealed that 42% of African Americans aged 18–19—the typical age for those leaving high school—were enrolled in college in 2010, and 44% of the same age group for Hispanics were enrolled. For both Hispanics and African Americans, females were enrolled at a larger rate compared to males. In examining the enrollment of individuals' aged 18–24 years in 2010 nationally, the percentage drops to 38% for African Americans and 32% for Hispanics (Fry, 2011).

Postsecondary Institutions Enrolled (two-year vs. four-year; public vs. private)

A substantial majority of African American or Hispanic 2001–2010 MCPS graduates who began their postsecondary education immediately in the fall after high school graduation or within one year after high school graduation enrolled at a four-year college, in-state institution, or public institutions.

Institution level—Two-year vs. Four-year institution. Based on findings from this study, 40% of the 11,267 MCPS African American graduates who enrolled in the fall immediately after high school enrolled in two-year institutions, and the remaining 60% enrolled at four-year institutions. Within one year of high school graduation, 43% of African Americans were enrolled in two-year institutions and 57% were at four-year-institutions (Table 9). This pattern was similar with different proportions for Hispanic students. Nearly two thirds of the Hispanic MCPS graduates enrolled in two-year institutions (62%) immediately in the fall after graduation, and the remaining 38% enrolled in four-year institutions. Within one year after high school, 65% of MCPS Hispanic graduates in postsecondary institutions were enrolled at two-year institutions with the remaining 35% enrolled at four-year institutions.

Table 9
Number and Percentage Enrolled Immediately in the Fall or Within a Year Graduation After High School by Type, Level, and Location of Postsecondary Institution

Type of institution	Immediately in the fall				Within one year of high school graduation			
	African American (N = 11,267)		Hispanic (N = 6,892)		African American (N = 12,424)		Hispanic (N = 7,697)	
	n	%	n	%	n	%	n	%
Two-year college	4,468	39.7	4,272	62.0	5,327	42.9	4,982	64.7
Four-year college	6,799	60.3	2,620	38.0	7,097	57.1	2,715	35.3
In-state college	7,209	64.0	5,587	81.1	8,155	65.6	6,303	81.9
Out-of-state college	4,058	36.0	1,305	18.9	4,269	34.4	1,394	18.1
Public college	8,602	76.3	5,896	85.5	9,633	77.5	6,645	86.3
Private college	2,665	23.7	996	14.5	2,791	22.5	1,052	13.7

Institution Location. Nearly two thirds of African American MCPS graduates who began college immediately in the fall after high school (64%) were enrolled at an in-state institution with the remaining one third enrolled at out-of-state institutions (36%). A similar proportion was enrolled at in-state institutions within one year after high school graduation (66%). Irrespective of timing of enrollment in the fall or within one year after graduating from high school, over 80% of the MCPS Latino graduates attending college were enrolled at in-state institutions with the remaining one fifth or less enrolled in out-of-state institutions (Table 9).

Enrollment in Public or Private Institution. Overall, three quarters or more of African American and four fifths or more of Latino MCPS graduates were enrolled at public institutions either immediately or within one year of high school graduation. Notably, at least one fifth of the African American college students were enrolled in private institutions compared to 15% or less for Hispanic students (Table 9), irrespective of timing of enrollment.

Second Year Persistence and Retention

Tracking the subsequent enrollments of African American and Hispanic first-year enrollees into the second year showed that an overwhelming majority of African American (81%) and Hispanic (79%) students returned to college for their second year (Table 10). Further, while analyzing within type, level, or location of institution, over 80% of the first years enrollees from both groups returned for the second year irrespective of type, location, and level of institutions. For both groups, the highest retention rates were observed for public or 2-year institutions.

Table 10
Second Year Retention of First Year Enrollees by Institutional Level, Location, and Type

Second year retention of...	African American		Hispanic	
	<i>n</i>	%	<i>n</i>	%
first year enrollees	10,020	80.7	6,106	79.3
2-year college of first year enrollees	2,491	89.2	2,323	91.2
4-year college of first year enrollees	3,332	88.5	1,181	89.3
in-state school of first year enrollees	3,782	88.8	2,899	90.5
out-of-state first year enrollees	1,939	84.4	550	83.0
public school first year enrollees	4,611	90.9	3,095	91.8
private school first year enrollees	1,220	82.1	400	80.8

Demographic Characteristics of Enrollees

Among the 14,798 African American MCPS graduates enrolled in college at any time, over one half (55%) were females (Table 11). With regard to receipt of special services, 56% of enrollees had previously or were participating in FARMS, whereas less than one fifth had previously or were receiving ESOL (15%) or special education services (14%) at the time of graduation. Also, very low proportions of the African American college enrollees had participated in Head Start (11%) or MCPS pre-K programs (2%).

Among the 9,089 Hispanic 2001 to 2010 MCPS graduates enrolled in college, over one half were female (53%). With regard to special services receipt, 69% of the Hispanic graduates had previously participated or were participating in FARMS, whereas 46% were receiving ESOL and 15% were receiving special education services at the time of graduation. Among both African American and Latino students, males overall, as well as students who were in the ever FARMS and ever ESOL subgroups, and those who had special education services were less likely to enroll in college than their female counterparts or students who were not recipients of special services.

Table 11
Demographic Characteristics of High School Graduates and Sample Enrolled in Postsecondary Institutions by Race/Ethnicity

Characteristics		MCPS Graduates				Enrollees			
		African American (N = 19,578)		Hispanic (N = 13,935)		African American (N = 14,798)		Hispanic (N = 9,089)	
		n	%	n	%	n	%	n	%
Gender	Female	10,302	52.6	7,126	51.1	8,103	54.8	4,836	53.2
	Male	9,276	47.4	6,809	48.9	6,695	45.2	4,253	46.8
EVER FARMS	No	8,028	41.0	3,716	26.7	6,549	44.3	2,779	30.6
	Yes	11,550	59.0	10,219	73.3	8,249	55.7	6,310	69.4
EVER ESOL	No	16,621	84.9	6,372	45.7	12,646	85.5	4,916	54.1
	Yes	2,957	15.1	7,563	54.3	2,152	14.5	4,173	45.9
EVER Special Education	No	15,922	81.3	11,604	83.3	12,782	86.4	7,754	85.3
	Yes	3,656	18.7	2,331	16.7	2,016	13.6	1,335	14.7
EVER Head Start*	No	13,046	87.1	8,680	85.1	10,263	88.7	5,783	83.3
	Yes	1,934	12.9	1,519	14.9	1,301	11.3	1,160	16.7
EVER MCPS pre-K*	No	14,755	98.5	10,027	98.3	11,369	98.3	6,797	97.9
	Yes	225	1.5	172	1.7	195	1.7	146	2.1

* Not all students had records in the file. Totals may not add to all students enrolled.

Demographic Characteristics of Enrollees at Two-year Institutions

Of the 5,327 African American MCPS graduates who enrolled in a two-year institution within one year of graduating more than one half (51%) were males (Table 12). With regard to special services, 64% had previously or were participating in FARMS, while about one fifth had previously or were receiving ESOL (20%) or special education services (18%) at the time of high school graduation. Similar to the pattern for all enrollees, low proportions of the African American two-year college enrollees had participated in Head Start (13%) or MCPS pre-K programs (2%).

Among the 4,982 Hispanic students who enrolled in a two-year college, more than one half were female (52%). Close to 80% had previously or were participating in FARMS, and 53% had previously or were receiving ESOL services at the time of graduation. About one fifth of Hispanic students enrolled in 2-year colleges had previously participated in Head Start (20%).

Table 12
Demographic Characteristics of High School Graduates Enrolled in Two-year Postsecondary Institutions by Race/Ethnicity

Characteristics	African American (N = 5,327)		Hispanic (N = 4,982)		
	n	%	n	%	
Gender	Female	2,607	48.9	2,602	52.2
	Male	2,720	51.1	2,380	47.8
EVER FARMS	No	1,931	36.2	1,050	21.1
	Yes	3,396	63.8	3,932	78.9
EVER ESOL	No	4,248	79.7	2,333	46.8
	Yes	1,079	20.3	2,649	53.2
EVER Special Education	No	4,357	81.8	4,138	83.1
	Yes	970	18.2	844	16.9
EVER Head Start*	No	3,509	87.5	2,968	80.5
	Yes	499	12.5	720	19.5
EVER MCPS pre-K*	No	3,945	98.4	3,605	97.7
	Yes	63	1.6	83	2.3

* Not all students had records in the file. Totals may not add to all students enrolled.

Demographic Characteristics of Enrollees at Four-year Institutions

Of the 7,097 African American MCPS graduates who enrolled in a four-year institution within one year of graduating, about 60% were females. With regard to special services, 47% had previously or were participating in FARMS, while about one tenth had previously or were receiving ESOL (11%) or special education (8%) services at the time of high school graduation. Similar to the pattern for all enrollees, low proportions of the African American two-year college enrollees had participated in Head Start (9%) or MCPS pre-K programs (2%) (Table 13).

Among the 2,715 Hispanic students who enrolled in a four-year college, more than one half were female (57%). Close to one half had previously or were participating in FARMS (48%), and 27% had previously or were receiving ESOL services at the time of graduation. Low percentages of Hispanic students had previously participated in Head Start (12%) and MCPS pre-K programs (3%) (Table 13).

Table 13
Demographic Characteristics of High School Graduates Enrolled in
Four-year Postsecondary Institutions by Race/Ethnicity

Characteristics	African American (N = 7,097)		Hispanic (N = 2,715)		
	n	%	n	%	
Gender	Female	4,224	59.5	1,553	57.2
	Male	2,873	40.5	1,162	42.8
EVER FARMS	No	3,740	52.7	1,421	52.3
	Yes	3,357	47.3	1,294	47.7
EVER ESOL	No	6,353	89.5	1,973	72.7
	Yes	744	10.5	742	27.3
EVER Special Education	No	6,514	91.8	2,439	89.8
	Yes	583	8.2	276	10.2
EVER Head Start*	No	4,844	90.9	1,735	87.8
	Yes	487	9.1	240	12.2
EVER MCPS pre-K*	No	5,229	98.1	1,925	97.5
	Yes	102	1.9	50	2.5

* Not all students had records in the file. Totals may not add to all students enrolled.

Enrollment Gender Gap

Earlier data presented in Table 7 indicated gender differences in college enrollment. Looking at gender within race/ethnicity, the findings showed a significantly higher proportion of African American (78% vs. 72%) and Hispanic (68% vs. 62%) females than males who enrolled in postsecondary institutions from 2001 to 2010 ($p < .00$). These findings supported findings and national trends of females enrolling in postsecondary institutions at statistically higher rates than males. Further analyses showed that this trend was consistent for each cohort in the study (Table 14).

Table 14
Proportion of Enrollees by Gender and High School Graduation Year

Year	African American (N = 14,798)				Hispanic (N = 9,089)			
	Male		Female		Male		Female	
	n	%	n	%	n	%	n	%
2001	518	75.0	708	83.3	329	74.3	383	78.2
2002	596	73.0	675	81.2	361	70.1	361	72.2
2003	561	73.9	702	81.3	345	65.6	423	72.4
2004	598	74.8	789	80.4	381	67.6	441	70.6
2005	631	71.3	886	80.1	409	65.5	439	68.8
2006	691	75.3	849	79.4	434	64.5	496	67.9
2007	800	75.1	889	79.1	507	65.8	572	71.0
2008	773	73.6	898	76.8	511	61.6	551	62.6
2009	779	71.3	863	76.2	517	54.7	601	64.0
2010	748	62.5	844	71.8	459	50.0	569	61.0

Postsecondary Enrollees MCPS High School Attended

The MCPS graduates were from three types of institutions; regular high schools, alternative programs, and special education institutions. The results presented below reflect the information on students who graduated from 25 regular MCPS high schools.

Table 16 shows that the number and proportions of African American graduates for the 2001 to 2010 cohorts varied by school, ranging from 3% (Whitman) to 42% (Kennedy). In general, the results indicated that 70% or more of African Americans graduating from each of the MCPS high schools enrolled in a postsecondary institution at any time after high school. The highest college enrollment rates for African American students were observed for students who graduated from Bethesda-Chevy Chase, Blake, Blair, Northwest, Paint Branch, and Springbrook high schools. Similarly, the proportion of Latino students graduating from MCPS varied by school and ranged from 3% to 43%. The proportion of Latino graduates who enrolled in college at any time after high school graduation varied by high school attended and ranged from 59% to 86%. The highest college enrollment rates for MCPS Latino graduates were recorded for students who graduated from Blake, Churchill, Northwest, Poolesville and Wootton high schools (Table 15).

Table 15
Number and Proportion of 2001–2010 African American and Latino High School Graduates and College Enrollees by MCPS High School

High School	African American				Hispanic			
	Graduates From High School		Graduates Enrolled in Postsecondary Institution		Graduates From High School		Graduates Enrolled in Postsecondary Institution	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Bethesda-Chevy Chase	586	16.1	471	80.4	480	13.2	335	69.8
Blair	1,996	31.1	1,555	77.9	1,385	21.5	849	61.3
Blake	1,344	34.5	1,074	79.9	392	10.1	297	75.8
Churchill	289	6.0	221	76.5	254	5.2	203	79.9
Clarksburg	310	31.4	218	70.3	191	19.4	112	58.6
Damascus	270	6.8	202	74.8	262	6.6	193	73.7
Einstein	864	24.8	647	74.9	1,135	32.6	703	61.9
Gaithersburg	1,028	23.9	758	73.7	969	22.5	589	60.8
Walter Johnson	336	7.9	246	73.2	505	11.8	365	72.3
Kennedy	1,339	42.2	995	74.3	806	25.4	473	58.7
Magruder	767	16.7	579	75.5	687	14.9	428	62.3
Richard Montgomery	542	12.9	398	73.4	582	13.9	399	68.6
Northwest	1,113	28.3	880	79.1	473	12.1	358	75.7
Northwood	294	34.8	219	74.5	261	30.9	161	61.7
Paint Branch	1,515	39.1	1,200	79.2	322	8.3	240	74.5
Poolesville	89	4.7	66	74.2	66	3.5	57	86.4
Quince Orchard	622	15.3	454	73.0	494	12.1	323	65.4
Rockville	398	15.8	297	74.6	513	20.4	348	67.8
Seneca Valley	890	27.7	663	74.5	498	15.5	296	59.4
Sherwood	690	14.7	513	74.3	397	8.5	264	66.5
Springbrook	1,753	40.8	1,411	80.5	700	16.3	448	64.0
Watkins Mill	1,225	30.9	891	72.7	761	19.2	482	63.3
Wheaton	693	25.1	503	72.6	1,193	43.3	757	63.5
Whitman	148	3.3	112	75.7	288	6.5	207	71.9
Wootton	244	4.6	186	76.2	242	4.6	189	78.1

Top 15 Four-year Institutions Attended by African American and Latino MCPS Graduates

Of those 7,097 African American and 2,715 Latino students who enrolled in a four-year institution within one year of graduating ($N = 9,812$), most attended three in-state institutions: University of Maryland—College Park (14%), University of Maryland—Eastern Shore (6%), and University of Maryland—Baltimore County (4%). More Latinos (26%) attended the University of Maryland—College Park than African Americans (10%). Conversely, a higher proportion of African American graduates attended the University of Maryland—Eastern Shore and Bowie State University than their Latino peers. The top seven four-year institutions with the

highest enrollment by African American and Latino students were located in the state of Maryland (Table 16).

Table 16
African American and Hispanic Four-year Postsecondary Institutions by Enrollment Rate

Institution	African American		Hispanic	
	<i>n</i>	%	<i>n</i>	%
University of Maryland—College Park	714	10.1	692	25.5
University of Maryland—Eastern Shore	519	7.3	22	0.8
Bowie State University	403	5.7	28	1.0
University of Maryland—Baltimore County	254	3.6	128	4.7
Howard University	250	3.5	8	0.3
Frostburg State University	233	3.3	86	3.2
Hampton University	209	2.9	2	0.1
Towson University	190	2.7	90	3.3
Pennsylvania State University	134	1.9	48	1.8
Morehouse College	133	1.9	2	0.1
Salisbury University	123	1.7	72	2.7
Temple University	122	1.7	14	0.5
Coppin State University	94	1.3	4	0.1
Morgan State University	92	1.3	4	0.1
Washington Adventist University	66	0.9	34	1.3

Top 10 Two-year Institutions Attended by African American and Latino MCPS Graduates

For MCPS African American and Latino high school graduates who attended two-year institutions within one year of graduation ($N = 10,309$), the majority attended one of the three Montgomery College campuses (92%). More Latino students (96%) attended Montgomery College (across all campuses) than African American students (89%). With the exception of Northern Virginia Community College, students in the study sample who began their postsecondary education at two-year institutions attended schools in the state of Maryland (Table 17).

Table 17
African American and Hispanic Two-year Postsecondary Institutions by Enrollment Rate

Institution	African American (<i>N</i> = 5,327)		Hispanic (<i>N</i> = 4,982)	
	<i>n</i>	%	<i>n</i>	%
Montgomery College	4,185	78.6	4,388	88.1
Montgomery College—Takoma Park	314	5.9	200	4.0
Montgomery College—Germantown	244	4.6	185	3.7
Prince Georges Community College	81	1.5	17	0.3
Allegany College of Maryland	83	1.6	5	0.1
Howard Community College	60	1.1	24	0.5
Community College of Baltimore County	23	0.4	14	0.3
Frederick Community College	20	0.4	10	0.2
Northern Virginia Community College	11	0.2	9	0.2
Anne Arundel Community College	13	0.2	7	0.1

High School Weighted Grade Point Average for African American and Latino MCPS Graduates

The overall mean weighted grade point average (WGPA) for both African American and Latino MCPS 2001 to 2010 graduates was $M = 2.6$, $SD = 0.80$ with a maximum of 4.8 (Table 18). The median score WGPA of 2.6 for both groups indicates that over one half of the African American and Latino graduates scored a WGPA of 2.6 or higher.

Table 18
Summary Statistics for High School Weighted GPA for MCPS African American and Latino 2001–2010 Graduates

Race/Ethnicity	<i>n</i>	Weighted GPA				Percentile 75
		Mean	SD	Max	Median	
African American	19,578	2.60	0.80	4.78	2.550	3.16
Latino	13,935	2.63	0.83	4.84	2.570	3.20

Further, the findings indicated that the average high school WGPA for MCPS African American and Latino graduates were not only comparable overall, but also from year to year for the study period (Table 19).

Table 19
Summary Statistics for High School Weighted GPA all MCPS African American and Latino Graduates by Graduation Year.

Year	African American						Hispanic					
	<i>n</i>	Mean	SD	Median	75 PER	Max	<i>n</i>	Mean	SD	Median	75 PER	Max
2002	1,648	2.5	0.7	2.5	3.02	4.7	1,015	2.7	0.8	2.6	3.2	4.8
2003	1,622	2.6	0.8	2.6	3.13	4.8	1,110	2.6	0.8	2.6	3.1	4.7
2004	1,782	2.6	0.8	2.5	3.15	4.8	1,189	2.6	0.7	2.6	3.2	4.8
2005	1,991	2.6	0.8	2.6	3.18	4.8	1,262	2.6	0.8	2.6	3.2	4.7
2006	1,987	2.6	0.8	2.5	3.15	4.8	1,404	2.6	0.8	2.6	3.2	4.7
2007	2,190	2.6	0.8	2.5	3.13	4.7	1,577	2.6	0.9	2.5	3.2	4.8
2008	2,219	2.6	0.8	2.5	3.15	4.7	1,709	2.6	0.8	2.6	3.2	4.8
2009	2,226	2.6	0.8	2.6	3.21	4.8	1,885	2.6	0.8	2.6	3.2	4.8
2010	2,372	2.6	0.8	2.6	3.25	4.8	1,851	2.7	0.9	2.6	3.3	4.8

On average, students who enrolled in postsecondary institutions after high school had higher high school WGPAs than those who did not enroll ($p < .00$) irrespective of race/ethnicity (Table 20). The WGPA for African American MCPS graduates who enrolled in a postsecondary institution after high school was statistically higher than for students not enrolled ($M = 2.74$, $SD = 0.77$, vs. $M = 2.16$, $SD = 0.74$). The same observation was made among Latino graduates. The average WGPA for Latino MCPS graduates who enrolled in college was higher than for peers not enrolled ($M = 2.79$, $SD = 0.82$ vs. $M = 2.34$, $SD = 0.75$). These findings suggest that non-enrollees did not proceed to postsecondary institutions because they did not meet required college admission criteria.

Table 20
Summary Statistics for High School Weighted GPA for MCPS African American and Latino Graduates by Postsecondary Institution Enrollment Status

Race/Ethnicity	Enrolled in College					Not Enrolled in College				
	Weighted GPA					Weighted GPA				
	<i>n</i>	<i>M</i>	SD	Max	Median	<i>n</i>	Mean	SD	Max	Median
African American	14798	2.74	0.77	4.78	2.70	4780	2.16	0.74	4.73	2.06
Latino	9089	2.79	0.82	4.84	2.75	4846	2.34	0.75	4.72	2.26

Additionally, significant differences were found between WGPA for African American and Latino students who began their postsecondary education at two-year institutions compared with peers who enrolled in four-year institutions immediately in the fall after high school (Table 21). The average WGPA for African American ($M = 3.18$, $SD = 0.67$ vs. $M = 2.38$, $SD = 0.62$) or Latino MCPS graduates who enrolled in 4-year college was higher than for peers enrolled in 2-year college ($M = 3.53$, $SD = 0.65$ vs. $M = 2.55$, $SD = 0.65$).

Table 21
Summary Statistics for High School Weighted GPA for MCPS African American and Latino Graduates by Level of Postsecondary Institution Enrollment

Race/Ethnicity	Enrolled in Two-year College					Enrolled in Four-year College				
	<i>n</i>	Mean	<i>SD</i>	Max	Median	<i>n</i>	Mean	<i>SD</i>	Max	Median
African American	4,128	2.38	0.62	4.59	2.34	6,303	3.18	0.67	4.78	3.16
Latino	3,978	2.55	0.65	4.54	2.54	2,427	3.53	0.65	4.83	3.58

SAT Performance for African American and Hispanic Students

Table 22 presents the summary statistics for performance of MCPS African American and Latino graduates on the SAT verbal, math, and combined verbal and math subtest total. Similar to the findings for WGPA, MCPS African American ($M = 936.3$, $SD = 195.8$) or Latino ($M = 970.6$, $SD = 206.1$) graduates who enrolled in postsecondary institutions after high school scored higher on the SAT total highest math and verbal scores than African American ($M = 847.4$, $SD = 191.9$) or Latino ($M = 889.4$, $SD = 212.0$) graduates who did not enroll in postsecondary institutions any time after high school ($p < .05$).

Table 22
Summary Statistics for Highest Scholastic Aptitude Test (SAT) for African American and Latino MCPS Graduates

Race/Subtest	Enrolled				Not Enrolled			
	<i>n</i>	Mean	<i>SD</i>	Max	<i>n</i>	Mean	<i>SD</i>	Max
African American								
SAT Verbal	14,798	467.57	106.68	800	4,780	421.18	108.48	760
SAT Math	14,798	468.73	103.69	800	4,780	426.22	101.23	720
SAT Writing (after 2005)	14,798	466.11	103.90	800	4,780	426.80	106.34	690
Total: Highest Math + Verbal (no writing)	14,798	936.29	195.79	1600	4,780	847.40	191.93	1410
Hispanic								
SAT Verbal	9,089	480.53	109.19	800	4,846	438.11	113.19	770
SAT Math	9,089	490.03	110.41	800	4,846	451.31	112.01	780
SAT Writing (after 2005)	9,089	480.07	109.26	800	4,846	433.43	110.32	730
Total: Highest Math + Verbal (no writing)	9,089	970.57	206.08	1600	4,846	889.42	211.98	1490

A closer look at the data also revealed that African American ($M = 1005.5$, $SD = 183.7$) or Latino ($M = 1101.9$, $SD = 178.9$) MCPS graduates who enrolled into four-year postsecondary institutions after high school scored higher on the SAT total highest math and verbal scores than African American ($M = 831.5$, $SD = 160.4$) or Latino ($M = 870.4$, $SD = 162.4$) graduates who enrolled in two-year postsecondary institutions after high school ($p < .05$).

Table 23
Summary Statistics for Highest Scholastic Aptitude Test (SAT) for African American and Latino MCPS Graduates by Level of Postsecondary Institution

Race/Subtest	Enrolled in two-year College				Enrolled in four-year College			
	<i>n</i>	Mean	<i>SD</i>	Max	<i>n</i>	Mean	<i>SD</i>	Max
African American								
SAT Verbal	5,327	415.12	91.70	760	7,097	501.80	100.60	800
SAT Math	5,327	416.34	87.85	720	7,097	503.73	97.66	800
SAT Writing (after 2005)	5,327	414.09	83.09	690	7,097	500.87	100.10	800
Total: Highest Math + Verbal (no writing)	5,327	831.46	160.35	1,390	7,097	1,005.52	183.68	1,600
Hispanic								
SAT Verbal	4,982	431.77	89.71	800	2,715	544.80	96.32	800
SAT Math	4,982	438.59	89.03	790	2,715	557.09	97.73	800
SAT Writing (after 2005)	4,982	428.11	83.87	720	2,715	547.61	96.60	800
Total: Highest Math + Verbal (no writing)	4,982	870.36	162.42	1,590	2,715	1,101.88	178.18	1,600

Note. Since the SAT is a voluntary test not all students will have a scores. Totals may not add to all students enrolled.

Research Question 2. Of those enrolled in college, what proportion earned a degree within six years?

To address this question, information on 2001 to 2006 MCPS African American and Latino graduates was used to determine rates of attaining a bachelor's degree or higher within six years after high school graduation for these subgroups.

Altogether, 17,484 African American and Latino students graduated from MCPS from 2001 to 2006. Among these students, 13,006 (74%) enrolled in a postsecondary institution at some time after high school graduation. Subsequently, a total of 3,837 (30%) students earned a bachelor's degree within six years or higher after enrolling in college (Table 24). The top three schools from where African American and Latino students earned their degrees were University of Maryland—College Park (18%), University of Maryland—Eastern Shore (4%), and University of Maryland—Baltimore County (4%). It should be noted that the college or university for 23% of students who graduated with a bachelor's degree was not listed in *StudentTracker*.

Table 24
Percentage of MCPS African American and
Latino Graduates Enrolled in Postsecondary Institutions who
Earned a Bachelor's Degree or Higher Within Six Years

Enrolled/Earned Degree	<i>n</i>	<i>%</i>
Enrolled in postsecondary institutions		
No	4,478	25.6
yes	13,006	74.4
Total	17,484	100.0
Earned bachelor's degree within six years		
No	9,169	70.5
Yes	3,837	29.5
Total	13,006	100.0

Degree Attainment by Race/Ethnicity

Table 25 shows the distribution of 2001 to 2006 MCPS African American and Latino graduates who earned a bachelor's degree or higher within six years. Looking at bachelor's degree completion within race/ethnicity, one fourth of African American (25%) and about one fifth of Latino (18%) MCPS graduates who enrolled in a postsecondary institution at any time after high school graduation earned a bachelor's degree within six years.

Table 25
Percentage Earned BA in Within Six Years Within Race/Ethnicity

Degree completion status	African American		Latino	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>
No BA	7,969	75.4	5,680	82.2
Earned BA	2,604	24.6	1,233	17.8
Total	10,573	100.0	6,913	100.0

Degree Attainment by Gender Within Race/Ethnicity

Results presented in Table 26 show that higher percentages of female than male African American (30% vs. 18%) and Latino (21% vs. 15%) college enrollees earned a bachelor's degree within six years (Table 26). When examining for degrees earned within race/ethnicity by gender, the findings showed that among African Americans who earned a bachelor's degree within six years after high school graduation, 66% were female, and the remaining were male (Table 27). Among Latino students who earned a bachelor's degree or higher within six years after high school graduation, 61% were female, and the remaining were male.

Table 26
Percent Earned Degree Within Six Years by Gender Within Race/Ethnicity

College completion status	African American				Latino			
	Female		Male		Female		Male	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Earned bachelor's or higher in 6 years	1,730	30.3	874	17.9	748	21.0	485	14.5
No bachelor's in 6 years	3,971	69.7	3,996	82.1	2,820	79.0	2,860	85.5

A two-way contingency table was conducted to evaluate whether gender was associated with the likelihood of earning a bachelor's degree within six years, if at all. Gender within race/ethnicity was found to be significantly related to completing a bachelor's degree within six years after high school graduation for African American, $\chi^2(1) = 217$, $p = .00$ as well as Latino students, $\chi^2(1) = 49.24$, $p = .00$. That is, the findings revealed that for African American and Latino MCPS graduates alike, female students attained a bachelor's degree within six years at significantly higher rates than male students.

Table 27
Percentage Earned Degree Within Six Years by Race Within Gender

Gender	African American				Hispanic			
	% earned BA in years?				% earned BA in years?			
	No		Yes		No		Yes	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Female	3,971	49.8	1730	66.4	2,820	49.6	748	60.7
Male	3,996	50.2	874	33.6	2,860	50.4	485	39.3

Detailed information on demographic characteristics of MCPS African American and Latino graduates who earned a bachelor's degree or higher within six years after high school graduation is presented in Table 28.

Table 28
Demographic Characteristics of 2001 to 2006 Cohorts who Earned Bachelor's Degree
Within Six Years by Race/Ethnicity

Characteristics	African American		Hispanic		
		<i>n</i>	%	<i>n</i>	%
Gender	Female	1,730	66.4	748	60.7
	Male	874	33.6	485	39.3
EVER FARMS	No	1,519	58.3	651	52.8
	Yes	1,085	41.7	582	47.2
EVER ESOL	No	2,337	89.7	832	67.5
	Yes	267	10.3	401	32.5
EVER Special Education	No	2,435	93.5	1,130	91.6
	Yes	169	6.5	103	8.4
EVER Head Start	No	2,430	93.3	1,102	89.4
	Yes	174	6.7	131	10.6
EVER MCPS pre-K	No	2,568	98.6	1,217	98.7
	Yes	36	1.4	16	1.3

Months to Complete Bachelor's Degree

The 2001 to 2006 MCPS African American and Latino MCPS graduates who completed a bachelor's degree or higher within six years took an average of 48 months to complete the bachelor's degree (Table 29). The median number of months to complete a bachelor's degree was 44 months indicating that one half or more of these students took about 44 months or less to complete a bachelor's degree.

Table 29
Summary Statistics on Months to Complete a Bachelor's Degree for
MCPS African American and Latino Graduates

Race/ethnicity	Months to Bachelor's Degree				
	<i>n</i>	Mean	<i>SD</i>	Max	Median
African American	2,604	48.4	9.4	75.0	44
Hispanic	1,233	48.5	9.4	71.0	44

When data were disaggregated by gender, a statistically significant relationship was observed between months to complete a bachelor's degree and gender (Table 30). Follow-up tests indicated there was a statistically significant difference in the months needed to complete a bachelor's degree or higher for African American but not for Latino students. African American females took a significantly lower number of months to complete a bachelor's degree than the African American males, $F(1, 2679) = 32.9, p = .00$.

Table 30
Summary Statistics on Months to Complete a Bachelor's Degree for
MCPS African by Gender Within Race/Ethnicity

Characteristics		<i>n</i>	Mean	<i>SD</i>	Max	Median
African American	Female Months to BA	1,730	47.6	9.2	75.0	44
	Male Months to BA	874	50.0	9.7	75.0	51
Hispanic	Female Months to BA	748	48.3	8.9	71.0	44
	Male Months to BA	485	48.9	10.2	71.0	45

Relationship Between High School WGPA and Attainment of Bachelor's Degree or Higher within Six Years

The students with a higher WGPA earned a bachelor's degree within six years at higher rates than those with a WGPA of 2.5 or lower (Table 31). The mean WGPA was statistically higher for students who completed their bachelor's degree within six years than those who did not among both African American ($M = 3.31$, $SD = 0.64$ vs. $M = 2.35$, $SD = 0.67$) and Latino ($M = 3.51$, $SD = 0.65$ vs. $M = 2.44$, $SD = 0.78$). The strong association between high school WGPA and rate of attainment of a bachelor's degree among African American ($F(1, 8,998) = 3,537.6$, $p = .00$) and Latino ($F(1, 5,970) = 2,079.6$, $p = 0.00$) MCPS graduates explained about 25% of the variance in graduation rates.

Table 31
High School Weighted GPA for 2001 to 2006 African American and Latino Graduates who
Earned a Bachelors Within Six Years

Student group	Status	Mean	<i>N</i>	<i>SD</i>	F	Sig.	η^2
African American	No bachelor's	2.35	6,802	0.67	3,537.6	.000	.28 ^b
	Earned bachelor's	3.32	2,196 ^a	0.64			
Latino	No bachelor's	2.44	4,848	0.78	2,079.6	.000	.25 ^b
	Earned bachelor's	3.51	1,024 ^a	0.65			

^a Inferential analyses include only cases that have all of the variables used in the analyses (race/ethnicity, WGPA, and earned bachelor's degree within six years). This decreased the number of valid cases slightly.

^b Eta square is a type of effect size index. The η^2 ranges from 0 to 1 (Green, Salkind, & Akey, 2000).

Major Fields of Study

An examination of major fields of study for degrees earned was conducted. The majors were categorized into 12 groups based on groups presented by ACT.org. The major field categories used were: arts, business, communications, community services, computer and information sciences, education, engineering and technology, humanities, medicine and allied health, science and math, social sciences, and other (e.g., multidisciplinary studies, aviation). Detailed descriptions of the majors under each field grouping are presented in Table 32.

Table 32
Major Field Category Groupings

Major Field Category	Majors
Arts	Design and applied arts; drama/theatre arts; English language and literature; fine and studio arts; foreign languages & literatures; language arts education; music; music education.
Business	Accounting; agricultural business; business administration & management; business/commerce general; finance and financial management; hospitality administration/management marketing; sales & marketing operations; business operations support & services.
Communications	Communications and media studies; journalism; public relations and advertising; radio; television and digital communication.
Community Services	Criminal justice & corrections; family & consumer science; human development and family studies; parks, recreation, & leisure studies; social work; textiles and clothing.
Computer Information Sciences	Computer & information sciences; management information systems; computer programming.
Education	Elementary education; health education; health & physical education/fitness; kindergarten/preschool education; math education; physical education; secondary education; special education; teacher education.
Engineer Technology	Chemical engineering; civil engineering; electrical/communication engineering; industrial engineering; mechanical engineering; agricultural operations & agriculture; automotive technology; drafting/design technologies; electrical engineering technology; mechanical engineering technology.
Humanities	Women studies; philosophy; African American studies; American studies; religion; theology.
Medicine & Allied Health	Communication disorders sciences & services; medicine; nursing; nutritional sciences; occupational therapy; allied Health Services and Sciences; medical assisting; medical laboratory/ technology; nursing.
Science and Math	Animal sciences; biology; plant sciences; chemistry; geography & cartography; mathematics and Statistics; science education; environmental Science; biological sciences.
Social Sciences	Criminology; economics; history; political science/government; psychology; sociology; philosophy; sciences-general.
Others/Uncategorized	Multidisciplinary studies; interdisciplinary studies; integrative studies; general studies; aviation science

The most common major category of bachelor's degree received by African American and Latino students was in social sciences (23%). The next most common focus area was business (13%), followed by science and math (10%), arts (8%) and communications (8%) (Table 33). It should be noted that for 15% of students who graduated, no major was recorded in NSC.

Further examination of major field grouping by racial/ethnic group revealed similar patterns in the most common areas of degree receipt. For African American students the most common major field areas were social sciences (21%), business (12%), science and math (10%), and communications (9%). Social sciences was also the most common area for Latinos (27%) followed by business (13%), arts (11%), and science and math (8%) (Table 34).

In examining major fields of study by each graduating cohort, the pattern remained the same. Most African American and Latino students majored in social sciences, increasing each year from 20% in 2001 to 27% in 2006.

Table 33
Number and Percentage for Major Field Categories

Major Category	<i>n</i>	%
Arts	303	7.9
Business	483	12.6
Communications	302	7.9
Community Services	216	5.6
Computer & Information Sciences	72	1.9
Education	101	2.6
Engineering & Technology	155	4.0
Medicine & Allied Health	179	4.7
Science & Math	370	9.6
Social Sciences	896	23.4
Humanities	132	3.4
Other	44	1.1
Missing major information	584	15.2
Total	3,837	100.0

Table 34
Number and Percentage for Major Field Categories by Race/Ethnicity

Major Category	African American (<i>N</i> = 2,604)		Hispanic (<i>N</i> = 1,233)	
	<i>n</i>	%	<i>n</i>	%
Arts	172	6.6	131	10.6
Business	323	12.4	160	13.0
Communications	221	8.5	81	6.6
Community Services	150	5.8	66	5.4
Computer & Information Sciences	54	2.1	18	1.5
Education	68	2.6	33	2.7
Engineering & Technology	97	3.7	58	4.7
Medicine & Allied Health	135	5.2	44	3.6
Science & Math	272	10.4	98	7.9
Social Sciences	558	21.4	338	27.4
Humanities	92	3.5	40	3.2
Other	34	1.3	10	0.8
Missing major information	428	16.4	156	12.7

STEM Focus

Previous research conducted by researchers in OSA recommended further examination into African American and Latino students majoring in STEM fields. Among students in the study, 16% received a degree in a STEM-related field (Table 35). Across all years examined, 16% of African American and 14% of Latino graduates earned degrees in STEM-related fields (Table 37). Close to 10% of students in this study received degrees in science and math (10% for African Americans and 8% for Latinos) and 4% of students (4% for African Americans and 5% for Latinos) received degrees in engineering and technology.

An examination of degrees earned in STEM fields by cohort revealed a decline between three and five percentage points over the years (See Appendix). In 2001, about 5% of African American and Latino students in the study earned degrees in engineering and technology. This percentage declined for the next four years (with a low of 3% in 2005) and increased again in 2006 to about 4%. The percentage of students receiving degrees in science and math ranged from 9% to 11% across the various cohorts, rising and falling over the years.

Table 35
Number and Percentage for STEM Related Degree Earned

Degree	<i>n</i>	%
Missing degree data	585	15.2
STEM	593	15.5
Non-STEM	2,659	69.3
Total	3,837	100.0

Table 36
Number and Percentage for STEM Related Degree Earned by Race/Ethnicity

Race/Ethnicity	Missing degree data		STEM		Non-STEM	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
African American	429	16.5	419	16.1	1,756	67.4
Hispanic	156	12.7	174	14.1	903	73.2

Trends in Degrees Conferred

A two-way contingency table was conducted to evaluate whether gender was associated with the likelihood of earning a bachelor's degree in a STEM-related field. Gender within race/ethnicity was found to be significantly related to earning a bachelor's degree within six years in a STEM-related field for both African American, $\chi^2(1) = 33.76, p = .00$ as well as Latino students, $\chi^2(2) = 18.49, p = .00$. Follow-up analyses revealed that for African American and Latino MCPS graduates alike, female students attained a bachelor's degree in a STEM-related field at significantly lower rates than male students. In other words, there were fewer African American and Latino female students earning degrees in STEM-related fields than would be expected.

Table 37
Number and Percentage of STEM Related Degrees by Race/Ethnicity and Gender

Degree	African American				Hispanic			
	Female		Male		Female		Male	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Missing	268	15.5	161	18.4	96	12.8	60	12.4
STEM	234	13.5	185	21.2	80	10.7	94	19.4
Non-STEM	1,228	71.0	528	60.4	572	76.5	331	68.2

Research Question 3. Of those who did not attain a bachelor's degree or higher in six years (2001 to 2006 cohorts), what is their status?

Of the 13,006 African American and Latino MCPS graduates from 2001 to 2006 enrolled in postsecondary institutions, 3,837 (30%) earned a bachelor's degree or higher within six years. Of those 9,169 students who did not earn a bachelor's degree within six years, slightly over one third had graduated and close to one half (47%) of African American and 45% of Latino were

enrolled in college full time. Table 38 details the status of students who had not graduated by spring 2011 by race/ethnicity.

Table 38
Enrollment Status of Graduates From 2001 to 2006 Cohorts who had Not Completed a Bachelor's Within Six Years

Status	African American		Hispanic		
	<i>n</i>	%	<i>n</i>	%	
% earned one or more college degrees	No	7,326	69.3	5,068	73.3
	Yes	3,245	30.7	1,845	26.7
% earned BA in six years?	No	7,967	75.4	5,680	82.2
	Yes	2,604	24.6	1,233	17.8
College enrollment status	Leave of Absence	0	.0	0	.0
	Withdrawn	35	.4	17	.4
	Less than half-time	155	1.9	103	2.2
	Half-time	756	9.4	647	13.7
	Full-time	3830	47.7	2106	44.6
	Graduated	3244	40.4	1845	39.1
	Deceased	3	.0	2	.0

Figure 5 illustrates the trends in enrollment and progress for the students who did not attain a bachelor's degree within six years by graduation year. Depending on their graduation year and race/ethnicity, 27–48% had graduated, and 38–59% were reported as enrolled full-time in college as of May 2011. The remaining 15% were reported to be enrolled less than full-time. Only a very small proportion withdrew from postsecondary institutions. These results suggest that African American or Latino students who enroll in college may take longer than six years to earn a bachelor's degree but persist in college.

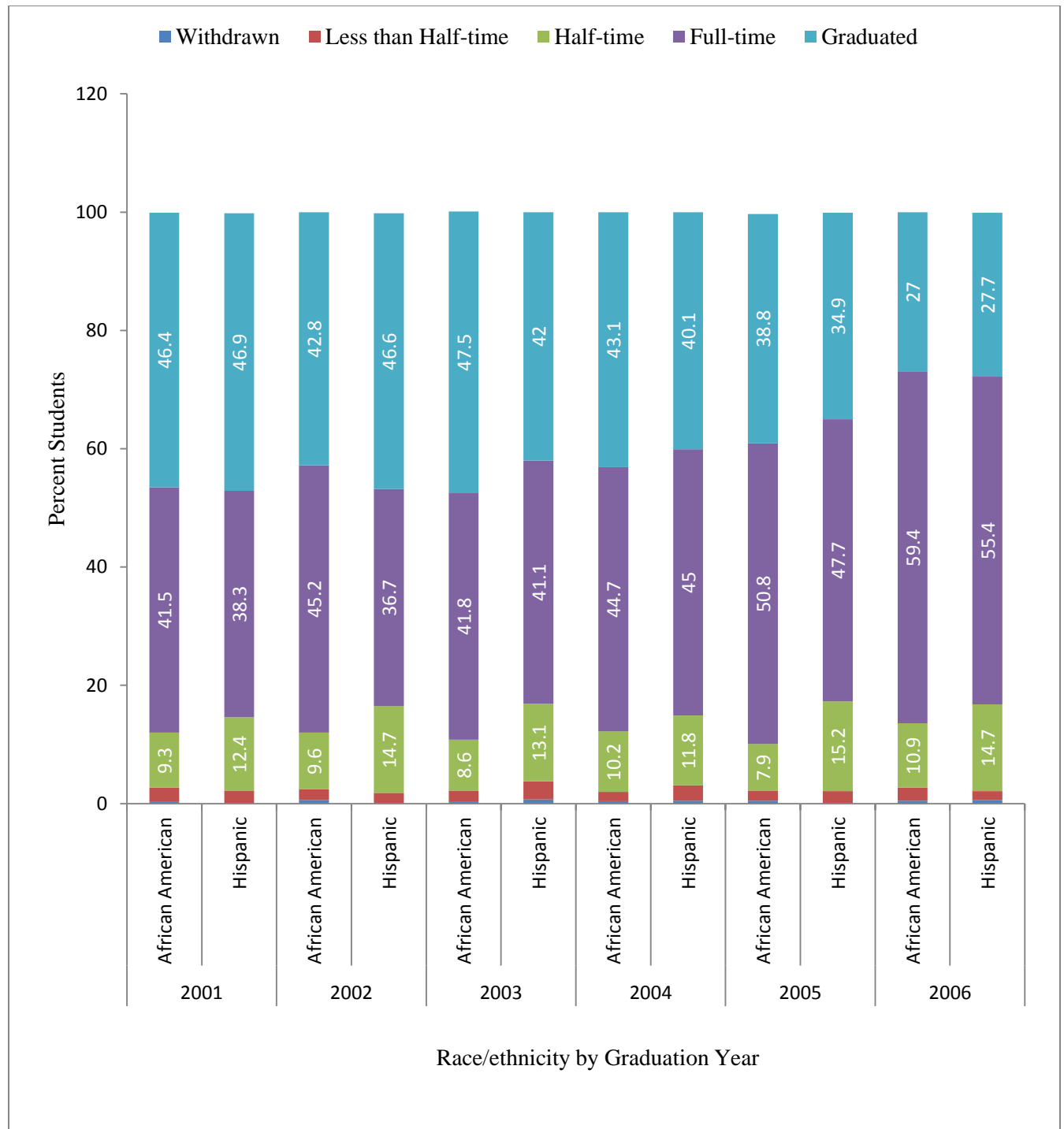


Figure 5. Status of students from 2001 to 2006 cohorts who had not earned a bachelor’s degree or higher within six years.

Research Question 4. Of those who are not yet eligible for graduation (2007 to 2010 cohorts), what is their enrollment status?

Reflecting the time elapsed since graduating from high school, less than one percent (0.7%) of the students from the 2007 to 2010 cohorts had earned a bachelor's degree or higher within the three years of NSC data available (Table 39). The majority of 2007 to 2010 African American (86%) and Latino (79%) graduates were enrolled as full-time students as of May 2011. The remaining students were enrolled on a half-time or less than half-time basis. The proportion of students that had withdrawn from college was negligible.

Table 39
Enrollment Status of Graduates from 2007 to 2010 Cohorts

Graduate enrollment		African American		Hispanic	
		<i>n</i>	%	<i>n</i>	%
% earned BA in six years?	No	8,929	99.1	6,990	99.5
	Yes	78	0.9	32	0.5
College enrollment status	Leave of Absence	0	0.0	0	0.0
	Withdrawn	29	0.5	9	0.2
	Less than half-time	109	1.8	91	2.2
	Half-time	635	10.2	595	14.4
	Full-time	5,352	86.1	3,273	79.3
	Graduated	92	1.5	156	3.8
	Deceased	1	0.0	1	0.0

Figure 6 illustrates the trends in enrollment and progress for students in the 2007 to 2010 cohorts. The status of students from each cohort varied reflecting the time that had elapsed since graduating from high school. Four fifths or more of the African American or Latino graduates were enrolled on a full-time basis as of May 2011. Depending on the year and student subgroup, the proportion of students enrolled on a half-time basis varied from 10–16%. Negligible numbers of students from either subgroup had withdrawn.

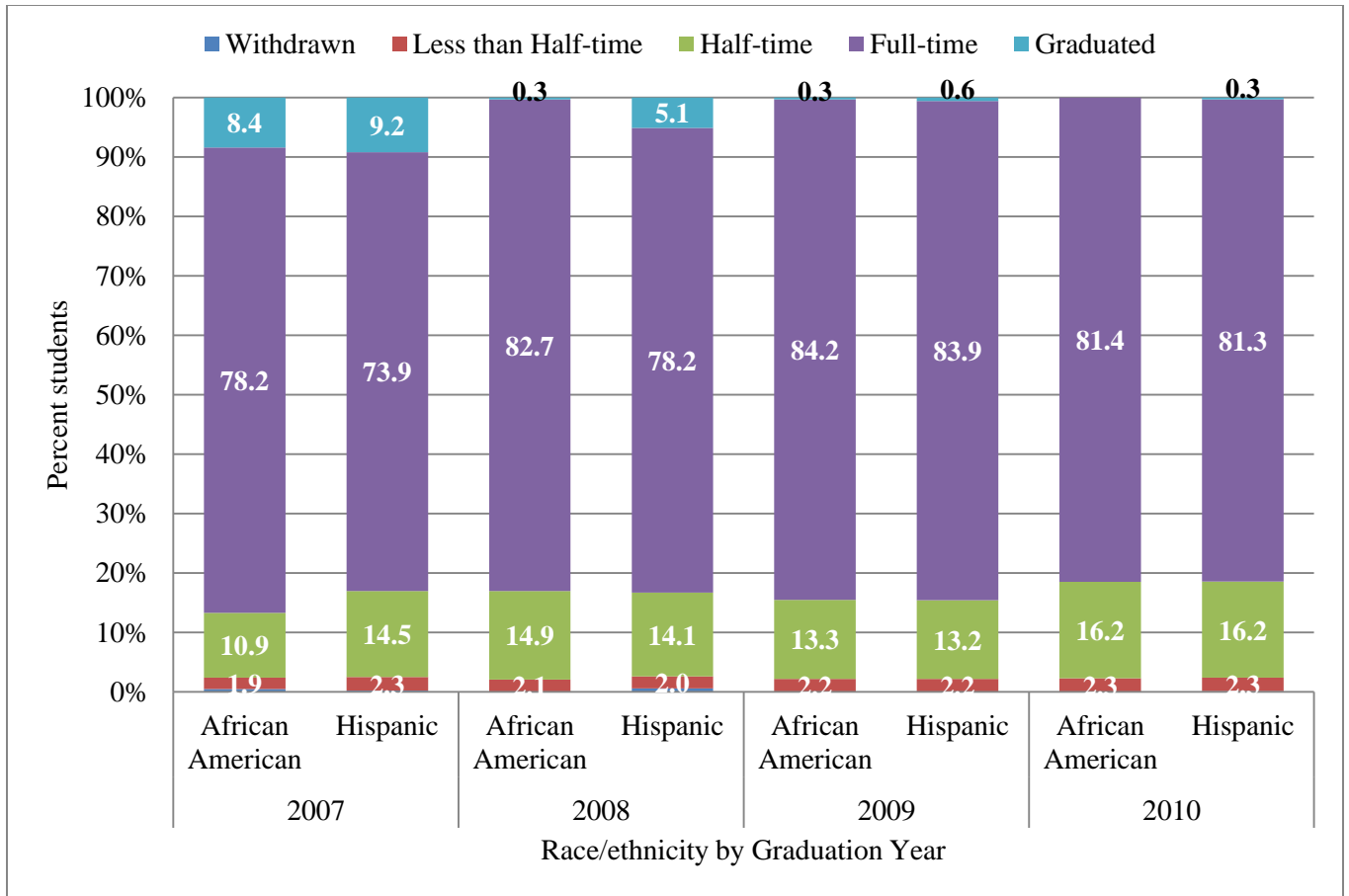


Figure 6. Status of students from the 2007 to 2010 cohorts who had not earned a bachelor’s degree or higher within six years.

Summary, Conclusions, and Recommendations

This section is divided into three sections that present a summary of the research and key findings from this study, conclusions and implications of these findings, and recommendations for future research. Within the first section, an overview of the study is briefly described followed by a summarization of the findings revealed from analyses conducted. The last section provides limitations of this study and recommendations for further study.

Overview of the Study

The equality of access to college for all students is still an issue that impacts society. The gaps that exist in achievement among racial/ethnic groups also are evident in college enrollment. Fewer minority students are successfully accessing and completing college on time due to financial needs. To date, most examinations of college enrollment of African American and Latino groups focused on the differences compared to Whites or Asians. However, examining college enrollment without a focus on differences between racial/ethnic groups also can provide insights into postsecondary education.

The objectives of the current study were: a) to present information on the college enrollment patterns of African American and Hispanic students who graduated from MCPS between 2001 and 2010; b) to identify whether differences in enrollment trends exist within the two groups; c) to determine the proportion of African American and Latino students who graduate from college with a bachelor's degree; and d) to determine the enrollment status of those students who had not yet graduated.

This study is significant because it provides findings of successful educational outcomes of two groups that typically are not presented in this manner. Not only does it provide parents and educators with information about college success, it also provides researchers and school administrators the opportunity to better understand the issues that impact college readiness. Most important is the knowledge that school districts will obtain regarding the importance of key factors associated with college readiness and success.

To examine postsecondary enrollment and success, a sample of 33,513 African American and Latino students who graduated from MCPS between 2001 and 2010 was examined. The research questions of this study addressed: a) the proportion of African American and Latino students who enroll in college; b) demographic and academic characteristics of those who enroll in college; c) the proportion of African American and Latino students that graduate from college within six years; and d) the enrollment status of those students who did not graduate and those not yet eligible for graduation. Data were analyzed using descriptive and inferential statistical methods that revealed significant relationships between the variables examined.

Postsecondary Enrollment of African Americans and Latinos

The persistent achievement gaps that exist between African American and White children have been well-documented in the literature (Fordham & Ogbu, 1986; Hilliard, 1992). Research reveals that African Americans, Hispanics, and Native Americans in the United States are less

likely to attend postsecondary schools (NCES, 2008). Moreover, White students are more likely than African American students to be enrolled in college in the traditional 18–22 age group (The Journal of Blacks in High Education, 2011). In fact, “less than 43% of Hispanic high school students are qualified to enroll in four-year institutions” (Saunders & Serna, 2004, p. 147). Few studies have focused solely on the successes of African American and Latino high school graduates.

Overall Findings

The current study examined the postsecondary enrollment of African American and Latino students who graduated from MCPS. Overall, 76% of the African American and 65% of the Hispanic MCPS graduates enrolled in a postsecondary institution at some time after high school. However, in examining trend data, college enrollment of African American and Latino students declined over the 10-year period—from 76% to 55% for Latinos and 80% to 67% for African Americans. It should be noted that these observed declines may be related to the amount of time students in earlier cohorts had to graduate. In addition to patterns in enrollment found, an enrollment gender gap was also uncovered, which supports previous literature on the topic. Overall, a significantly higher proportion of female than male students enrolled in postsecondary institutions for both groups examined.

In examining academic characteristics of African American and Latino MCPS graduates, findings revealed a statistically significant difference in the weighted grade point average of students who enrolled in postsecondary institutions compared to those who did not enroll, regardless of race/ethnicity. Moreover, significant differences in WGPA between students who enroll in two-year institutions and those who enroll in four-year institutions were found. In addition to examining GPA, SAT performance of students in the study was explored. Significant differences in SAT performance were not only found between those African American and Latinos who enrolled in college and those who did not enroll, but also between those students who enrolled in two-year institutions compared to those who enrolled in four-year institutions.

Findings from this study can be utilized by educators (e.g., district leaders and principals), researchers and theorists (e.g., educational psychologists), and practitioners (e.g., school psychologists and school counselors). For all groups, these research question findings reveal a need to continue to examine the trends in postsecondary enrollment of these groups as well as finding ways to increase the enrollment of African American and Latino males in college. For educators, these findings suggest the need to further examine ways to assist African American and Latino students in achieving and maintaining a GPA to increase college acceptance as well as preparing for college admission examinations. For researchers and theorists, these findings indicate a need to continue to examine college enrollment trends and identify factors that impact success. In the same vein, practitioners in schools should work with students, teachers, parents, and administrators to develop and implement mentoring programs that will benefit these two groups.

Degree Attainment Within Six Years

Although national postsecondary enrollment has increased, graduation rates have not followed the same pattern. The expectation of receiving a college degree in four years is no longer the standard. Now, college graduation is considered receiving a bachelor's degree within six years. National data reveal that 63% of first-time, full-time degree-seeking college freshmen at four-year institutions graduate within six years (Carey, 2004); the rate is lower for African American (47%) and Latino (47%) students.

Overall Findings

Among the African American and Latino students who graduated from MCPS between 2001 and 2006 and enrolled in postsecondary institutions (74%), only 30% of these students earned a bachelor's degree within six years. However, on average, students in the study who did earn a bachelor's degree did so in 48 months or four years. An examination of gender differences in degree attainment revealed that both African American and Latino female students who enrolled in college earned a bachelor's degree within six years at significantly higher rates than their male counterparts. Although gender differences were found overall, degree attainment for African American females was significantly higher than their male counterparts. Analysis of the relationship between GPA and degree attainment within six years revealed a strong association between WGPA and rate of degree attainment for both African American and Latino students in the study.

This finding reiterates the gender gap that exists not only in college enrollment, but reveals a gap in degree attainment as well. The current study's findings, coupled with findings in the literature reveal that practitioners in schools need to work with minority students to ensure that they are receiving adequate training on how to study and how to improve their grades in high school to ensure a smooth transition into postsecondary education. These data findings also suggest a need for researchers to conduct more studies to examine the differences and potential cause for these gender-based differences. For schools and districts, this finding suggests the need to be more aware of achievement goals for gender groups.

Future Research Considerations

This study presents data on the postsecondary enrollment and completion rate of African American and Latino graduates from MCPS. The research has contributed to the body of literature, as research on successes of these groups in this area is lacking. Not only has this research provided insight into successful enrollment of these groups, but it also sheds light on relationships between weighted GPA and SAT performance for college completion. This study deviates from other studies in that it focuses solely on success rates and does not compare the college completion and enrollment rates of African American and Latino students with White and Asian students. "If student success is to be equitable, the entire system must choose equity as a primary focus," suggest Barbara and Krovetz (2005). Barbara and Krovetz (2005) explain that "an equity agenda places at the forefront the goal of achieving equal outcomes among the various racial groups, and specifically improving the outcomes for African American and

Hispanic students” (p. 13). The goal of educational equity should not be an individual school mission, but it should be the mission of the entire district. Likewise, at the school level, Shattuck & Associates (2008) suggest there should be a clear vision geared at getting and sustaining students on the track for higher education.

Based on the findings from this study and an examination of the literature, the following directions for future study are recommended:

- Further examine why higher proportions of Hispanic students enroll in two-year programs following high school graduation. Are they directed to that path by counselors? Teachers? Parents?
- Explore additional data points to gain a better understanding of the successes of African American and Latino students who enroll in college. Data points such as college transcripts and perceptual data from the students can provide more insight into college and career paths.
- Investigate whether students who leave college during their second year transfer to another institution.
- Determine the role MCPS programs such as Achieving Collegiate Excellence and Success (ACES) and Guiding the Pathways of Success (GPS) to College can assist in increasing African American and Latino students’ enrollment and persistence in college.
- Examine the course taking patterns (e.g., Honors and AP course enrollment) of African American and Hispanic students who enroll in college and attain their degree.
- Examine the path of students who initially enroll in a two-year program and the percentage of students who continue in a four-year program.
- Examine the influence of reduced enrollment for subgroups across the years.

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Appendix

Number and Percentage of Degrees Earned by Year and Field					
		African American		Hispanic	
		<i>n</i>	%	<i>n</i>	%
2001	Arts	35	8.6	21	10.0
	Business	46	11.3	21	10.0
	Communications	36	8.9	15	7.2
	Community Services	23	5.7	12	5.7
	Computer & Information Sciences	15	3.7	1	.5
	Education	12	3.0	5	2.4
	Engineering & Technology	16	3.9	12	5.7
	Medicine & Allied Health	21	5.2	7	3.3
	Science & Math	41	10.1	17	8.1
	Social Sciences	67	16.5	55	26.3
	Humanities	14	3.4	10	4.8
	Other	4	1.0	3	1.4
	Missing degree	76	18.7	30	14.4
	2002	Arts	27	6.8	28
Business		52	13.2	33	14.9
Communications		35	8.9	16	7.2
Community Services		26	6.6	14	6.3
Computer & Information Sciences		8	2.0	4	1.8
Education		8	2.0	8	3.6
Engineering & Technology		20	5.1	9	4.1
Medicine & Allied Health		22	5.6	7	3.2
Science & Math		39	9.9	21	9.5
Social Sciences		87	22.0	51	23.1
Humanities		13	3.3	6	2.7
Other		6	1.5	1	.5
Missing degree		52	13.2	23	10.4

Continued

Number and Percentage of Degrees Earned by Year and Field					
	African American		Hispanic		
	<i>n</i>	%	<i>n</i>	%	
2003	Arts	32	6.8	20	9.9
	Business	53	11.2	25	12.3
	Communications	44	9.3	8	3.9
	Community Services	27	5.7	17	8.4
	Computer & Information Sciences	9	1.9	7	3.4
	Education	12	2.5	5	2.5
	Engineering & Technology	19	4.0	8	3.9
	Medicine & Allied Health	21	4.4	9	4.4
	Science & Math	47	10.0	13	6.4
	Social Sciences	114	24.2	54	26.6
	Humanities	15	3.2	8	3.9
	Other	7	1.5	2	1.0
	Missing degree	72	15.3	27	13.3
	2004	Arts	33	6.8	22
Business		72	14.8	36	16.1
Communications		42	8.6	20	8.9
Community Services		29	5.9	6	2.7
Computer & Information Sciences		8	1.6	1	.4
Education		12	2.5	0	.0
Engineering & Technology		18	3.7	11	4.9
Medicine & Allied Health		27	5.5	7	3.1
Science & Math		58	11.9	20	8.9
Social Sciences		93	19.1	59	26.3
Humanities		22	4.5	9	4.0
Other		4	.8	3	1.3
Missing degree		70	14.3	30	13.4

Continued

Number and Percentage of Degrees Earned by Year and Field					
	African American		Hispanic		
	<i>n</i>	%	<i>n</i>	%	
2005	Arts	31	6.1	25	11.7
	Business	63	12.3	27	12.7
	Communications	37	7.2	12	5.6
	Community Services	32	6.3	9	4.2
	Computer & Information Sciences	6	1.2	2	.9
	Education	15	2.9	9	4.2
	Engineering & Technology	16	3.1	7	3.3
	Medicine & Allied Health	31	6.1	6	2.8
	Science & Math	54	10.6	15	7.0
	Social Sciences	117	22.9	65	30.5
	Humanities	19	3.7	4	1.9
	Other	7	1.4	1	.5
	Missing degree	83	16.2	31	14.6
	2006	Arts	14	4.2	15
Business		37	11.1	18	11.0
Communications		27	8.1	10	6.1
Community Services		13	3.9	8	4.9
Computer & Information Sciences		8	2.4	3	1.8
Education		9	2.7	6	3.7
Engineering & Technology		8	2.4	11	6.7
Medicine & Allied Health		13	3.9	8	4.9
Science & Math		33	9.9	12	7.4
Social Sciences		80	24.1	54	33.1
Humanities		9	2.7	3	1.8
Other		6	1.8	0	.0
Missing degree		75	22.6	15	9.2