A Nation at Risk: Increasing College Participation and Persistence Among African American Males to Stimulate U.S. Global Competitiveness

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Today's knowledge-based, global commerce requires continuous investment in human capital through postsecondary education for countries to be fiercely competitive. Countries, such as China and India, are experiencing growth in the number of people participating in postsecondary education; the United States has fallen behind. While America needs to focus on increasing college access and degree completion among underrepresented ethnic minorities, particularly in Science, Technology, Engineering, and Mathematics (STEM), educators and policymakers assert that this is particularly important for African American males. Increasing matriculation and graduation rates for African Americans is not only a matter of equity, but in the context of STEM, it has major implications for the competitiveness of the United States in the global economy. This article identifies strategies that educators and policymakers can employ to promote the participation of African American males in college in general, particularly in STEM.

In terms of the number of students participating and attaining postsecondary educational training, the United States was once unparallel to other countries (Callan, 2006; Schleicher, 2008; Wagner, 2006). While the U. S. still maintains a strong rank among top nations in the educational attainment of older students, it has lost its competitive edge to other nations for educational attainment among younger adults (Callan, 2006). According to a recent assessment of international educational performance that the Organisation for

Economic Cooperation and Development (OECD) conducted, the U.S. holds the 15th spot in the number of students entering and completing higher education. This stands in stark contrast to the 2nd rank the U.S. once held (Callan, 2006).

Many nations have gained, and in some cases, outstripped the U. S. rate of college participation and degree attainment, because they realized the importance of a large college-educated workforce to their competitiveness in the global economy (Bush, 2006; Callan, 2006; Schleicher, 2008; Wagner, 2006). Nations that are successful in developing human talent and potential through higher education will position themselves to compete effectively in the highly competitive, knowledge-based, global economy (Callan, 2006; Henfield, Moore, & Wood, 2008; Henfield, Owens, & Moore, 2008; Reid & Moore, 2008). Given the lack of progress the U.S. has experienced in college participation and completion rates, it is not surprising that its rank has declined compared to other countries in the number of students majoring and graduating in the Science, Technology, Engineering, and Mathematic (STEM)—critical fields that drives economic growth and development.

China and India are two countries that have been successful in developing their populations' talent through its higher education system (Callan, 2006; Jackson, Moore, & Leon, in press). In China, educational opportunities and attainment for students continue to improve not only at the elementary and secondary levels, but also at the postsecondary level (Schleicher, 2008). With 16 million students enrolled in postsecondary education, China currently ranks among the world leaders in this area. To this end, China is the leading producer of the world's science and engineering graduates each year (Callan, 2006).

Similarly, in India, nine million students (between the age group of 25 to 34) are currently enrolled in various postsecondary educational institutions, with almost 20% majoring in engineering and medicine (Callan, 2006). More than 300,000 students graduate with higher educational training in science and engineering. Thus, India's premier science and technology institutions are considered among the world's best, producing graduates who attain prominent positions in national and multinational firms (Callan, 2006; Jackson et al., in press). China and India's investment in higher education has contributed to unprecedented growth in their economies. While there are still disparities in the number of disenfranchised groups lacking access to educational opportunities in these countries, China and India are positioning themselves to be powerful competitors in the global economy (Jackson et al., in press).

In *Measuring Up Internationally: Developing Skills and Knowledge for the Global Knowledge Economy*, Wagner (2006) noted that countries, such as Czech Republic, Korea, Norway, and the Slovak Republic, have overtaken the United States in the number of young adults with a high school diploma (Schleicher, 2008). More than 90% of the young adults in these countries have earned a high school education, compared with 86% of the young adults in America. Thus, while other countries are increasing the number of young adults with high school education, the number of students graduating from high school in the U.S. has not changed substantially for the past 25 years (Schleicher, 2008; Wagner, 2006). According to OCED (2007), the U.S. ranked 19th among the 30 OECD countries in graduating high school students. Similar to the U.S. high school graduation rates, other countries have outperformed America in math and science performance indicators, two pivotal subjects to the knowledge-based global economy (National Science Foundation [NSF], 2003). While the U. S. anticipates approximately three to five adults to participate in higher education at some point during their lives (Wagner, 2006), because other countries are experiencing increased enrollment among young adults that outweighs the U.S., America is one of nine countries with 60% or more of their young adults

likely to enter higher education (Wagner, 2006). Clearly, America is no longer the top performer in college participation and completion rates, as it has been joined by other countries that have increased access and completion of postsecondary education for their countries' populations (Jackson et al., in press; Wagner, 2006).

While many countries are still experiencing challenges in terms of increasing higher education participation and competition rates among certain groups—race, ethnicity, region, and social classes—the rates at which many students are attaining their high school credentials in countries, such as Korea and Finland, suggest that factors impeding educational attainment among these groups may be declining (Wagner, 2006). In America, however, widening gaps in postsecondary participation and attainment among age, income, racial, and ethnic groups, pose concerns about the stability of the country's competitiveness in the global marketplace (Bonous-Hammarth, 2000; Crow, 2006; Moore, 2006; Schleicher, 2008; Thomas, 1992; Wagner, 2006).

Now, more than ever, there is a need to reduce inequalities in the rate of college access and degree completion in the U.S. to ensure that there are sufficient numbers of college-educated individuals who can participate in the knowledge-based economy and help sustain America's ability to compete in the global marketplace (Wagner, 2006). Callan (2006) echoed Wagner's perspective by stating:

> what is needed is a sense of urgency among policy leaders, educators, and business leaders comparable to the policy emphasis that other countries are placing on higher education—as reflected in shifting international rankings . . . the current level of performance will fall short in a world being reshaped by the knowledge-based global economy. Our country . . . needs to educate more people with college-level knowledge and skills (p. 5)

African American Males and Global Competitiveness

According to recent U.S. Census Bureau (2004) projections, African American, Hispanic, and Asian populations are expected to increase rapidly by 2050, some doubling in percentages, and comprising 50% of the U.S. population while White percentages are projected to decrease. With such a significant shift in demographics among racial/ethnic minorities, it is important for American higher education to educate an increasingly diverse student population for America to compete in the world's global economy. Perhaps, the biggest challenge will be increasing college access rates for low-income and ethnic minority students. These individuals are often the first-generation to attend college (Reid & Moore, 2008).

Research has shown that the U. S. has historically been less responsive and supportive to the needs of African Americans in many social institutions, particularly education (Harvey & Harvey, 2005; Harvey, 2008; Levin, Belfield, Muenning, & Rouse, 2007; Moore & Owens, 2008). While we realize that the U.S. has been unsupportive of other underrepresented, ethnic minorities in the context of education, we focused our discussion on African American males. Our decision was prompted by researchers' (e.g., Levin et al. 2007; Tale, 2008; Jackson & Moore, 2006, 2008) assertions that African American males experience the poorest educational outcomes compared to other major demographic groups in the U.S.

This educational neglect has affected the participation and graduation rates of African American males in higher education, particularly in STEM fields (Guess, 2008; Moore, 2006; Taylor, 1996; Williams & Harold, 1997). Table 1 contains data from the National Science Foundation (1995-2004), which illustrates the low number of baccalaureate degrees awarded in Science and

Engineering to African American males compared to their male counterparts of other racial and ethnic groups.

Table 1. *Distribution of Bachelor's degrees awarded to U.S. males in science and engineering by race/ethnicity from 1995-2004*

(Percent Distribution)

Race/ethnicity	1995	1996	1997	1998	2000	2001	2002	2003	2004
Asian/Pacific Islander	7.8	8.2	8.7	9.1	9.4	9.6	9.5	9.5	9.4
Black, non-Hispanic	5.3	5.5	5.7	5.8	6.1	6.1	6.1	6.1	6.1
Hispanic	5.2	5.4	5.7	6.0	6.3	6.4	6.4	6.5	6.5
White, non-Hispanic	74.0	73	72	71.1	69.5	68.4	68.3	67.5	66.9

Notes: National data were not released by the National Center for Educational Statistics for the 1999 academic year.

Not only will improving educational outcomes and quality for African American males benefit the U.S. domestically (Levin et al., 2007), but it also has major implications for improving America's position in the global society (Öztürk, 2007). For example, by increasing college access and completion rates among African American males, particularly in the STEM majors, the U.S. will be better positioned to compete with other nations throughout the world (Jackson et al., in press). Further, given the educational neglect that African American males have experienced, improving their educational outcomes and increasing their access and success in higher education is a matter of equity.

Recent reports (e.g., *Rising Above the Gathering Storm*, 2005; *Trends in Higher Education,* 2006; and *A Test of Leadership: Charting the Future of U.S. Higher Education,* 2006), have focused on the trends and challenges that higher education in America must address to enhance the effectiveness of the nation to compete in the global economy. These reports, however, neglect to include analyses about the under representation and low achievement or underachievement of African Americans at higher education institutions. This, along with researchers' supposition about the dismal educational status of African American males compared to other groups in the U.S., provides a compelling need to identify strategies that encourages academic achievement and postsecondary participation and attainment for African American males (Öztürk, 2007). To provide some perspective about the condition of African American males, particular in the social domain of education, this article synthesizes popular and scientific literature on the experiences of African American males throughout the educational pipeline. Few social scientists (e.g., Jackson & Moore, 2006, 2008) have provided such a synthesis.

The Status of African American Males in Elementary and Secondary Education

The social science literature is replete with bleak conditions and experiences of African American males in education (Bailey & Moore, 2004; Davis, 2003; Moore, 2000; Jackson & Moore, 2006, 2008; Noguera, 2003; Strayhorn, 2008). Researchers note that terms—such as endangered, uneducable, dysfunctional, and dangerous are often used to describe African American males (Majors & Billson, 1992; Parham & McDavis, 1987; Jackson & Moore, 2006, 2008; Strayhorn, 2008). According to Jackson and Moore (2006), these characterizations are noticeable in various social domains in American society, such as education (Jackson & Moore, 2006).

Research has shown that academic problems hindering the educational progress of African American males begin early, impinging their ability to graduate from high school (Davis, 2003; Epps, 1995; Howard-Hamilton, 1997; Jackson & Moore, 2006; Moore et al., 2008). In elementary and secondary education, teachers and school counselors are far more likely to impose negative expectations upon African American males as it relate to attending college than their White counterparts (Davis & Jordan, 1994; Epps, 1995; Moore, 2006; Moore et al., 2008; Ogbu, 2003). African American males are also disproportionately disciplined, more apt to face expulsions, and suspended longer than White students (Hale, 2001; Major & Billson, 1992; Polite & Davis, 1999).

African American males are far more likely to be underrepresented in gifted education programs or advanced placement courses (Jackson & Moore, 2006; Moore, Ford, & Milner, 2005a, 2005b). In some educational settings, African American males are more likely than other racial and ethnic groups to be marginalized, stigmatized, and labeled with behavior problems (Moore & Jackson, 2006; Noguera, 2003). African American males are also overwhelmingly concentrated in special education and are more likely to be classified as mentally retarded and labeled as having a learning disability (Levin et al. 2007; Moore, et. al, 2008; Noguera, 2003).

Teachers and school counselors disproportionately track African American males into low academic ability classrooms, while many of their White counterparts are placed in advanced courses that prepare them for college placement in competitive institutions and critical STEM fields (Epps, 1995; Haycock, 2006; Murry & Mosidi, 1993). For example, Polite (1999) studied 115 African American males who enrolled at Metropolitan High School and found that many educators – teachers and school counselors often fail to encourage African American males to enroll and engage in college preparatory opportunities—such as advanced mathematics courses. As a result, he found that only one 1 out of 15 were actually prepared for college-level work (which is approximately 7 to 8 students out of 115). Other researchers have noted that competence in science and mathematics at the pre-college level is important if African Americans are to succeed in STEM (Brown, 2000; Hall & Post-Kammer, 1987; Hrabowski, 2003; Mercer, 2002; Russell & Atwater, 2004; Smith & Hausfaus, 1998). With these impediments to a quality education, it is little wonder why a paucity of African American males have the skills necessary to pursue STEM majors (Guess, 2008).

Explanations for the Educational Disengagement of African American Males

While the dismal academic performance of African American males has been linked to the lack of positive role models, low-esteem, and low expectations by the school, communities, and larger society (Bailey & Paisley, 2004; Lee & Bailey, 1997; Majors & Billson, 1992), many

education researchers have put forth several theories and philosophies to explain the educational disengagement of African American males. One such theory is "Acting White," a theoretical concept that Fordham and Ogbu (1986) proposed to explain the academic disengagement of African Americans. Although this concept has generated opposition (Ainsworth-Darnell & Downey, 1998; Kao & Tienda, 1998; Perry, 2003; Tyson, Darity, & Castellino, 2005), Fordham and Ogbu posited that African Americans have formed an oppositional culture, which stems from the oppression, enslavement, and discrimination they have experienced in America. Not only does this oppositional culture act as a bulwark between African Americans and White America, it also provokes African Americans to persuade their same-race peers to devalue academic success because of its association with "acting White." Specifically, Fordham and Ogbu noted:

> ...schooling is perceived by Blacks, especially by Black adolescents, as learning to act White. . . . In our view . . . the academic learning and performance problems of Black children arise not only from a limited opportunity structure and Black people's responses to it, but also from the way Black people attempt to cope with the burden of 'acting White' (p. 201)

Lundy (2003) stated that African Americans indoctrinated with this ideology of "acting White" view academically inclined African Americans as abandoning their Black cultural identity, and rejecting the norms of their peers as well as the peer group itself. Compounding this phenomenon of "acting White" is the job ceiling that precludes minorities from attaining employment and financial status compared to their White counterparts with comparable academic credentials. Fordham and Ogbu noted that the job ceiling cast(s) disillusionment about the real value of schooling, which discourages African Americans from working hard to excel in school.

While research from Lundy (2003) supported this theory of "acting White," he has also asserted that this supposition is more applicable to African American males than their female counterparts (Fordham & Ogbu, 1986; Lundy, 2003, 2005; hooks, 2004; Major & Billson, 1992; Noguera, 2003). With this in mind, Davis (2003) explained that African American males tend to perform poorly academically because they perceive schooling as contradictory to their masculinity. In 2001, McWhorter argued that African Americans are beset by a culture of anti-intellectualism, which prohibits them from investing in education as a tool of social advancement.

Other researchers explained that discrimination is another factor hindering Black males from advancing through the educational pipeline (Robinson, 2000; West, 2001). Specifically, Hale (2001) noted that by sending Blacks to inferior schools, resulting in inferior skills, White America maintains the oppression of Blacks. Hale believed that under the guise of freedom and opportunity, Blacks are blamed for their own plight. She noted, however, that racism is actually the culprit preventing Blacks from achieving educational parity with their White counterparts (Palmer, Davis, & Hilton, 2009).

Negative imagines that African American males are exposed to at an early age through the mass media have also been attributed to their academic disengagement (hooks, 2004; Jackson & Moore, 2006; Palmer & Hilton, 2008). Mass media rarely focuses on positive accomplishments of African American males. Instead, they commonly use their public platform to perpetuate and instigate negative stereotypical depictions of African Americans (Bailey & Moore 2004; Madison-Colmore & Moore, 2002; Moore, 2000). Consequently, African American

males are victimized by these images (Bailey & Moore, 2004; Jackson & Moore, 2006, 2008). The media, in this sense, widely contributes to the problems that African American males experience in education, contributing to their inability to receive a high school diploma. Further, the effects of African American males' reluctance to finish school can be seen in high rates of illiteracy and unemployment (Hale, 2001; Majors & Billson, 1992). In her book, *We Real Cool: Black Men and Masculinity*, hooks (2004) noted, "[Literacy] skills are not taught to [African American] males. Educational systems fail to impart or inspire learning in African American males of all ages . . . Many African American males graduate from high schools reading and writing on a third or fourth grade level" (pp. 40-41). It is estimated that approximately 44% of African American males are functionally illiterate (Blake & Darling, 1994). African American men are less inclined to invest in education because they are less likely to yield a favorable return on their investment when compared to White men (Blake & Darling, 1994; Epps, 1995; Pose, 1993)**.** African American males with lower educational attainment are predisposed to inferior employment prospects, low wages, poor health, and are more likely to be in the criminal justice system (Harvey, 2008; Levin, et al., 2007). This is certainly a loss of human capital that can be used to help America increase its competitiveness in the global, knowledge-based economy.

The Experiences and Outcomes of African American Males in Higher Education

The educational problems and issues that African American males experience in elementary and secondary schools are not endemic to those educational settings. Similar trends can be noted in postsecondary education. Although the number of African American males entering higher education (e.g., 2-year or 4-year institutions) increased substantially during the late 1960s and again during the 1980s and 1990s, African American males continue to lag behind their female and White male counterparts with respect to college participation, retention, and degree completion rates (Noguera, 2003; Polite & Davis, 1994). In 2000, Levin et al. (2007) noted that African American males between the ages of 26-30 on average had 0.72 fewer years of education than their White male counterparts.

African American men account for 4.3% of the total enrollment at four-year higher education institutions in the U.S., the same rate as it was in 1976 (Harper, 2006; Strayhorn, 2008). Of the African American men enrolling in college, many encounter significant challenges attaining their degrees (Harper, 2006). Research has shown that "more than two thirds (67.6%) of black men who start college do not graduate within six years . . ." (Harper, 2006, p. vii). The issues of college enrollment and completion for African Americans have caused major concern among stakeholders in higher education, particularly after the turn of the 21st century (Cross & Slater, 2000; Jackson & Moore, 2006; 2008; Moore & Herndon, 2003).

While research has shown a relationship between educational attainment and income (Bush & Bush, 2005; Cuyjet, 1997; Jackson & Moore, 2006), African American males enrollment and persistence rates in higher education are dismal compared to other groups, most notably their female counterparts (Cross & Slater, 2000; Ferguson, 2003; Jackson & Moore, 2006, 2008). Harvey (2008) noted that, out of the 73.7% of African American males who graduated from high school in 2000 compared to 79.7% for African American females, only 33.8% of African American males enrolled in college compared to 43.9% of their female counterparts. Data from the *Journal of Blacks in Higher Education* (2008), reiterated this gender disparity by noting that in 2006, African American females earned 94,341 bachelor's degrees

compared to 48,079 awarded to African American males. This gender disparity is not endemic to African Americans. Surprisingly, gender disparities are most pronounced among Blacks (Cuyjet, 2006; Jackson et al., in press; Strayhorn, 2008). Roach (2001) emphasized this by noting while Black women are scoring big gains in education, particularly at the college level, their male counterparts are being left behind.

In short, African American males are beset by problems in education, which emerge in elementary school and continue to deepen through higher education. Consequently, African American females outnumber their male counterparts in higher education with respect to college attendance and graduation. There have been various theories and philosophies attempting to provide an understanding regarding African American males' intellectual disengagement. High rates of unemployment, illiteracy, and lack of preparedness are some of the manifestations of the educational disengagement of African American males found within the research that indicate low participation within the global economy. This is human capital that the U.S. can no longer afford to disregard.

Strategies for Increasing College Participation and Completion among African American Males

In order to enhance and sustain its global competitiveness in the knowledge-based, global economy, the U.S. can no longer afford to leave certain ethnic and racial groups behind. In today's society, where other countries are outperforming the U. S. in critical areas: (a) high school completion; (b) educational preparedness for STEM; (c) the number of young people accessing and completing postsecondary education; and (d) producing scientists and engineers, the U.S. must ensure that every African American male, as well as other under-represented minorities, have opportunities to succeed in postsecondary education. Doing so has significant economic implications for the U.S. Howard (2007) noted that "until significant improvements are made in the area of teaching at the pre-K—12 level, the state of education for African American students and their dismal participation in higher education will continue" (p. 17-18; cited by Carey, 2005). Consistent with Howard's viewpoint, this article's recommendations focus on improving the educational quality and teacher interaction for African American males in elementary and secondary education before discussing recommendations applicable to higher education.

The first recommendation has to do with improving teacher quality for African American male students. According to researchers (e.g., Bell & Clark, 1998; Flowers, 2007; Paul, 2000), the type and quality of students' educational experiences is shaped by teacher quality. Despite overwhelming evidences that new teachers are not as effective as they will grow to become, novice teachers are more likely to be assigned to schools in high poverty and high ethnic minority areas than low poverty school settings (Peske & Haycock, 2006). Peske and Haycock further suggested that students attending schools concentrated in high poverty and high ethnic minority areas are increasingly likely to be taught by teachers lacking a strong background in the subject that they are teaching. To this end, they noted that "in high poverty and minority concentrated secondary schools, more than one in three core academic classes are taught by out-of field teachers, compared to about one in five classes in low poverty schools" (p. 2-3).

Interestingly, despite the fact that *No Child Left Behind Act (NCLB)* emphasized that states and school districts identified and addressed the lack of qualified teachers instructing students in high poverty and high ethnic minority serving schools, until recently, the U.S. Department of Education has "began to scrutinize compliance with teachers-quality provisions of

the law . . ." (Peske & Haycock, 2006, p. 11). With the lack of qualified teachers in poor, ethnic minority schools, it is not surprising that many African American males are under-prepared academically. Further, it is likely that such settings impinge upon these students' ability to access education-relevant capital important for college success. In fact, many African American males require remedial education to help strengthen their academic skills to success in elementary and secondary school settings and later in higher education (Kimbrough & Harper, 2006; Parker, 2007; Simmons & Walker, 1991). Improving teacher quality often have a strong impact on African American males' ability to access higher education, increase their preparedness for STEM, and greatly improve their postsecondary education completion rates.

Aside from enhancing teacher quality, it is critical that pre-K to 12 school settings focus more on encouraging African American males to enroll in college preparatory courses. Research has shown that college preparatory courses increase preparedness for college, particularly for the STEM fields (Brown, 2000; Hall & Post-Kammer, 1987; Hebel, 2004; Hrabowski, 2003; Mercer, 2002; Reid & Moore, 2008; Russell & Atwater, 2004; Smith & Hausfaus, 1998). According to a report by The Education Trust (2006), only 25% of African American high school graduates were enrolled in the college preparatory track at their high schools. The report further noted: "given the sort of educational malpractice that our students endure, is it any wonder that achievement gaps have persisted for generations in this country?" (p. 8).

Third, there needs to be a change in how school districts are financed. Currently, they are financed by local property taxes. It has been well-documented that school districts where there are a disproportionate number of minorities receive less in adjusted state and local revenue per pupil in districts with less minority students (Carey, 2004; Green, 2008; Levin et al. 2007). To this end, the disparity in how schools are funded greatly exacerbates the achievement gap between African Americans and their non-minority counterparts (Green, 2008).

In higher education, financing a college education remains a critical problem to accessing postsecondary education. Paying for a college education has worsened for students, particularly as educational institutions increase tuition while not increasing student need-based aid. Consequently, many students, particularly low-income, underrepresented ethnic minority students, are less likely to attain a degree (Callan, 2006; Haycock, 2006; Tinto, 2008). Ethnic minority college students are more likely to encounter problems completing their degree because of large share of unmet financial aid (Haycock, 2006). Further, a 2006 study conducted by the Maryland Higher Education Commission (MHEC) found that the majority of students receiving financial aid packages had a disparity between their aid and the cost of institutional attendance. Students at the low-income level had the greatest disparity between their aid packages and cost of attendance. Another report released by the U.S. Department of Education (2006) echoed this accruing barrier many students encounter as they grapple with furthering their education. The bottom line seems to be that cost and access work together in preventing African American males from persisting to graduation.

It seems logical that the U.S. would be proactive in implementing some sort of policy to address the cost of college tuition and the limitations of need-based aid. Clearly, a policy intervention is warranted to help students "priced out of higher education." Congress should incorporate regulations and guidelines addressing these issues into the reauthorization of the *Higher Education Act*. It seems that, if the U.S. is to maintain and enhance its global competitiveness, implementing ways to promote access and success for under-represented minority students, such as African American males, ought to be a top priority.

Aside from promulgating a policy that stabilizes tuition and addresses the lack of adjustments to need-based aid, there needs to be a reexamination of the relevancy of remedial education programs. Many states are reducing or eliminating these types of programs from public institutions of higher education because there is a dearth of sound data supporting the efficacy of remediation programs. Twenty-two states have reduced or eliminated remediate coursework from their four-year public institutions (Parker, 2007). Researchers believe that the dismantlement of remediation will greatly contribute to African American students inability to access higher education (Attewell, Lavin, Domina, & Levey, 2006; Davis & Palmer, in press; Kimbrough & Harper, 2006; Palmer & Davis, in press; Parker, 2007), posing a greater threat to America's ability to compete globally. As such, there should be an empirical assessment on the saliency of remedial education. If evidence supports the efficacy of these programs, then states should discontinue eliminating these programs from public, four-year postsecondary educational institutions.

If states continue reducing or eliminating remedial programs, which will negatively impact African American males' ability to access higher education, there needs to be collaboration between and among states, State University System higher education offices, State Departments of Education, and K-12 public and private schools to ensure that students are properly prepared for college before graduating from high school (Merisotis & Phipps, 2000). Harvey (2008) supports such collaboration, explaining "university-based intervention programs that work with pre-college populations to emphasize high academic achievement and positive goal orientation have the potential of increasing the number of African American males who graduate from high school [and attend college]" (p. 974). In 2004, Hebel noted that these collaborative efforts "help students in several ways—by offering academic help, financial aid information, counseling, standardized test preparation, one on one mentors, and weekend and summer courses" (p. 19). Carey (2008) asserts that institution of higher learning, such as Florida State University (FSU), has academic retention units, which embodies these tenets. Established in 2000, the CARE Program at FSU reaches out to low income and first-generation ethnic minority students, as early as sixth grade, and provide advice and support through their high schools and college careers. It operates a seven-week summer bridge program, which approximately 300 students participate. This program uses a comprehensive philosophy aimed to help students succeed at the institution.

During the first week of the program, students engage in a weeklong orientation where they meet the University's president and senior faculty. In the subsequent weeks, students take courses, are exposed to the campus as well as the surrounding community, and learn how to navigate an array of systems, from public transportation to student financial aid. Once students enter the university as freshmen, much like the summer, they participate intensively in tutoring sessions and have the option of enrolling in courses, such as math, which are capped at 40, and meet every day. Program students are also provided special academic advisors, which help students decide on the number of courses that they should pursue given their employment schedules, and other obligations. The students are also afforded the opportunity to participate in social events and bimonthly seminars on college success. While many universities may have programs similar to this or different tenets not attached to a specific program, according to Carey (2008), what makes FSU's program distinctive is that the academic and support services are provided until student graduate.

Carey further notes that CARE has been an astounding success for Florida State University. Specifically, he indicated ". . . [these] students are more likely than non-CARE

students at FSU to return for their sophomore year, and they ultimate graduate at almost the same rate" (p. 6). Six years after the program's implementation, the university achieved a graduation rate of 72% for African Americans—the highest ever for this sub-group. Programs of this caliber seem beneficial to not only increase college access and facilitate degree completion, but also strengthen preparedness in critical STEM courses.

Conclusion

In today's knowledge based, global economy, countries must use their human capital to invest in higher educational training. The number of people participating and completing higher education has implications for America's competitiveness in the global economy. Until recently, the U.S. dominated the number of people participating and completing higher education, now it is losing ground to other countries, posing a concern to America's ability to compete in the global economy. While ethnic minorities are projected to outnumber non-minorities, some scholars suggest that African American males are in worse shape than other demographic groups in terms of educational performance and outcomes. Increasing higher education participating and attainment among African American males is not only a matter of equity, but in the context of STEM, there is a sense of urgency. Increasing African American males in STEM fields has important implications for America's competitiveness in the global marketplace because these fields are critical drivers of economic growth and development. Educators and policymakers should consider doing the following to encourage college participation and success among African American males: (a) improve teacher quality for underrepresented minority students, (b) encourage more African American males to enroll in college prep courses, particularly in math and science prior to college, (c) advocate a change in the way schools are financed, (d) hold law makers and Congress accountable for ensuring that minority students have access to appropriate resources to finance their college education, (e) pressure states to reserve remedial educational programs, which some researchers suggest facilitate access to education for underrepresented minorities; and (f) encourage better collaboration between colleges and local schools to foster minority students' academic preparedness for college, which will reduce barriers to collegiate access and promote collegiate success.

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