CHALLENGES AND SUCCESSES OF AFRICAN AMERICAN

MALES IN THE HEALTH PROFESSIONS

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A Thesis

Presented to

The Faculty of the Graduate School

At the University of Missouri-Columbia

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In Partial Fulfillment

Of the Requirements for the Degree

Master of Arts

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by

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DECEMBER 2014

The undersigned, appointed by the dean of the Graduate School, have examined the thesis entitled

CHALLENGES AND SUCCESSES OF AFRICAN AMERICAN MALES IN THE
HEALTH PROFESSIONS

presented by Kathy Stavropoulos,

a candidate for the degree of Master Arts,

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ACKNOWLEDGEMENTS

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Abstract

The present literature review examines the factors that contribute to the underrepresentation of African American men in the field of medicine in an attempt to underscore the need to increase their numbers in the health professions workforce. The review explores literature pertaining to historical perspectives in medicine for African Americans at the turn of the 20th century and early in the 21st, touching on events such as the Flexner Report and its negative impact on medical education for African Americans. The review further investigates disparities between African Americans and Whites in healthcare service delivery as evidenced by disease prognoses and outcomes for African Americans, and the fact that African American physicians choose to practice in underserved areas where they are mostly trusted by patients of similar race and ethnicity. Moreover, the review examines the benefits associated with increasing the number of African American men in medical schools and the physician workforce, and the impact for society at large. Literature on efforts to increase participation of African American men in an increasing number of pipeline programs is also considered. Research on challenges and barriers to African American men succeeding in pre-higher education, college and graduate school is reviewed, followed by accounts of how those who are managing to matriculate to medical school had previously succeeded in high school and college despite educational disparities, financial obstacles, and racial microaggressions. Finally, the review emphasizes the importance of exposing Black boys to the medical

field early on, preferably during high school, the role of mentorship in the

education process, and the need to have medical student voices on strategies

they employed for success in matriculating to medical school represented in the

literature, to effect positive change for others to follow.

Challenges and Successes of African American Males in the Health

Professions

Introduction

African Americans are underrepresented in medicine among practicing

physicians, researchers and medical students in the United States (American

Association of Medical Colleges [AAMC], 2014). The AAMC defines

'Underrepresented in medicine' as racial and ethnic groups that are

underrepresented in the medical profession relative to their numbers in the

general population. In a recent article (Nivet, 2014), Marc Nivet, EdD, Chief

Diversity Officer at the AAMC, warned that there is a major problem in the United

States regarding insufficient, early intervention across the education pipeline to

increase the numbers of minority physicians. Dr. Nivet states that there is

indisputable empirical evidence in support of the crisis. Black men in particular

are the group most critically underrepresented, reflecting only 3% of all

applicants, and 2.5% of all matriculating students to medical schools in 2011

(Castillo-Page, 2012). Statistics from Castillo-Page's report show that Black male

applicants to medical schools continue to decline. The report indicates that there

were approximately 7% self-identified Black/African American male and female

students actually enrolled in our Nation's allopathic medical schools in 2011.

Enrollment for that year showed only 38% of those students to be Black men.

Castillo-Page's data on graduation rates from medical school for 2013 show even

more disturbing statistics; 6.3% of all graduates were self-identified Black/African

American versus 61.1% self-identified White students. Unfortunately, that small percentage of Black/African American graduates stalled at an average of 7% for a period of more than five decades, 1950 – 2004, and has not improved in the years since (Castillo-Page, 2006). To place these numbers in some perspective, today, African Americans constitute around 13% of the United States population, while representing only about 4% of all physicians and surgeons.

Black women are pursuing higher education at both undergraduate and graduate levels in increasing numbers. Women represented the majority (64%) of Black students enrolled in undergraduate programs while also comprising an even larger number (71%) of Black graduate students (Toldson and Lemmons, 2011). However, it is critical that the trend for Black men also reflect a positive trajectory.

Much has been written about the educational shortfall of Black male students, and stereotypes about their laziness, lack of interest and engagement in educational activities abound and continue to be propagated by the media (Livingston and Nahimana, 2006). The topic has been well researched and numerous studies report discouraging statistics. However, over the last 15 years, researchers have begun shifting the focus to those students who are successfully navigating the educational process despite the institutional and circumstantial barriers that most face. The fact that Black men continue to lag behind their female counterparts and other races educationally, indicates that much more research needs to focus on success strategies, and away from the deficit models that have dominated the literature. A deficit focus approach serves to keep the

status quo for those Black students who would otherwise attempt to succeed academically. To consistently hear negative statistics and stereotypes about one's racial group, gives the impression that success is not possible, hence one does not belong in this arena, so why try. Clearly, there is a need to increase the numbers of African American men practicing medicine.

Producing a physician work force that reflects this country's rich diversity is of vital importance not only for reasons of social equity, social justice and a more integrated society, but also to ensure the delivery of health care that is competent both technically and culturally. With the paucity of Black men represented in medicine and the lack of exposure to positive role models for Black youth, educators, including school psychologists, are obligated to support Black male students to become physicians who are culturally competent and will appreciate and manage the health care needs of our Nation's underserved populations. Black male physicians in turn have an obligation themselves to serve as role models for younger students by actively participating to strengthen the education pipeline.

The present literature review begins with a historical look at medical education and healthcare disparities for Black people in the U.S. It examines the major issues affecting medical education early in the 20th century and their lasting impact on the state of healthcare for minorities. In addition, this review addresses some of the educational challenges confronting African American men that they must navigate prior to matriculating to medical school. Moreover, the review concentrates on student successes rather than deficiencies: resilience,

perseverance, coping strategies, support from home and/or community, and mentorship. The review concludes with implications on how African American men can succeed by turning some of those same challenges into factors contributing to their success.

Review of the Literature

Historical Perspectives

Butler (2011) took a historical approach to illuminate events taking place in the 1800s and at the turn of the century that purportedly created the barriers that persist today for African American applicants to medical school. Butler reports on the underrepresentation of African Americans being accepted to, and currently enrolled in medical schools. Butler also addresses the current state and impact of an undergraduate degree on acceptance rates to medical school, as well as past efforts toward improving increasing numbers of Black males. The review looks closely, at which colleges by type are more successful in preparing African American students for the Medical College Admissions Test (MCAT) entrance exam when they did not receive a solid high school education. Finally, Butler offers suggestions for the preparation of African American students to compete for acceptance into medical school starting at the high school level. Butler asserts that the education gap for African American students going into the health professions today comes from an unequal education system in high-school science classes. The problem dates back to the time slavery was abolished, and continues today. Butler reviewed historical reports, factual

documents and conducted a literature review on the subject to produce this brief

report. Butler found that the achievement gaps in high school science, and

between Black and White undergraduates existed in most universities dating

back to 19th century and remain barriers to medical school for African American

students today.

In 1910, Abraham Flexner, a schoolmaster and educational theorist, was

commissioned by the Carnegie Foundation to assess and report on the state of

medical education in the Country. According to Butler, the American Medical

Association (AMA) responded to Flexner's Report and the economic competition

from Black doctors that White doctors reportedly experienced during the

depression, by closing all but two Black medical schools, instituting the Medical

College Admissions Test (MCAT) and by formulating stricter admissions criteria

for entry into medical school. At that time, Black physicians were educated and

trained in separate schools and 10 of the 12 Black medical schools closed as a

consequence of Flexner's recommendation. There were 4,400 Black doctors

practicing medicine in 1910. That number dipped as low as 100 in 1940. The

AMA's efforts to improve medical education, while noble, served as a barrier to

Black applicants to medical school. Butler proposes challenging high school

curriculum and science coursework such as Advanced Placement courses to

address this situation. In addition, such courses and educational experience

would lead to a higher GPA in the first two years of college and better

preparation for medical school. Butler further asserts that Historically Black

Colleges and Universities (HBCU) offer the best preparation for students taking

the MCAT who do not have the science background and preparation for success taking the MCAT. According to Butler, HBCUs accept students not fully educationally prepared, especially in the sciences, and from low socioeconomic backgrounds, with the viewpoint that given the training, African Americans have the capacity to succeed. Butler noted that, early on, not all Black medical schools were successful, and those that were not were primarily the result of teachers in the South who were not committed to educating Black medical students and exhibited, "non-Christian behavior, poor teaching habits, and provided poor quality medical care…" (pg. 544) to African American medical students. This theme of teachers' lack of commitment surfaces in some of the articles reviewed here in various forms and is highlighted as one of the barriers to African Americans achieving academic success.

One hundred years after the Flexner Report, the AAMC published a centennial issue where the medical community wrote articles looking back at Flexner's legacy on medical education overall. One of several articles focused on the Report's effect on African American medical education in particular. Steinecke and Terrell (2010) write in support of what they illustrate as the immediate and lasting negative effects the legacy of the Flexner Report of 1910 left by generating obstacles to a medical education that persists for African Americans. Steinecke and Terrell explained that the basis of the Flexner Report was to establish fewer numbers of better-trained physicians, but in doing so, resulted in the closure of eight out of ten existing medical schools that trained Black physicians and a lingering struggle for African Americans to become

physicians. The authors recognize Flexner's efforts as structural racism within academic medicine that continues today. They note that while segregation existed at the time, Flexner organized medical education in his report to suit the majority population. According to Butler, Flexner asserted that Black physicians were needed in order to treat Black patients who needed instruction on a very basic level of cleanliness (due to poverty) so they do not spread disease. In essence, while Flexner advocated for the two Black medical schools, Howard and Meharry, he also prescribed a professional role limited to hygiene rather than clinical medicine ("surgery") for the "Negro Physician". Steineke et al. assert that African American patients did not have access to up-to-date healthcare services, noting that disparities in access to healthcare existed and the quality of care African American received at the turn of the century was greatly limited and came primarily from charity hospitals. In summary, historical events had a lasting, negative impact on medical education for African Americans.

Disparities in healthcare services

   Disease outcomes and prognosis for African Americans. There have been myriad studies showing racial disparities in overall health care, with Blacks having less access to services, and the quality and outcomes of the care they do receive are inadequate and unequal. Disparities in healthcare outcomes by race and ethnicity persist, are well documented, and have existed throughout the history of the United States despite federal efforts to address the situation, which have been inconsistent at best (Thomas, Quinn, Butler, Fryer & Garza, 2011).

Thomas et al. purport that race and ethnicity are the bottom line reasons, but that they combine with the intersection of other social elements, such as socioeconomic status, to contribute to determining negative health care outcomes for African Americans.

Another report by Smedley, Stith and Nelson (2003) reviewing the extant literature and strengthening Thomas et al.'s assertion, revealed significant differences in the medical treatment of racial minority Americans even when controlling for factors such as income, health insurance status, age and the severity of the medical condition. The report found evidence of stereotyping and biases contributing to a lower quality of healthcare in even the basic clinical services. Treatable and preventable diseases such as diabetes, asthma, cardiovascular disease, and diagnostic cancer testing and treatment were highlighted as areas of particular disparities, where African Americans do not receive adequate care. The authors cited care for cardiovascular disease as providing the most convincing evidence of unequal treatment. The results of the rigorous studies examined revealed that differences were not due to clinical factors such as severity of the disease or even the overly frequent access to healthcare services by Whites, but differences based on differential treatment according to race and ethnicity. They cite a higher mortality rate for African Americans as a result of the disparities in certain other treatments such as revascularization. In areas of diagnostic testing for cancer, African Americans do not fare well. Other barriers to healthcare mentioned were language, culture and geographical location. The report states that the disparities are complex and its

sources date back to historic and present-day inequalities, existing in all structural aspects of our society, and that it included stereotyping and biases on the part of the health care provider, administrators and others. The report calls for the need to increase the diversity of the healthcare professions as one way to address these disparities.

A more recent study done by the University of Missouri School of Medicine researchers and presented at the 2014 American Society of Clinical Oncology annual conference poignantly illustrates the point. Raza et al. (2014) presented research showing that while advances in treatment options have progressed over the last 40 years, thereby improving disease outcomes for head and neck cancers, the same improvement is not seen for African Americans. Raza et al. (2014) reported that survival rates for African Americans were not at all impacted, remaining stagnant over the 40-year period.

Location of African American physicians practice. Yet another important reason to increase the number of African American male physicians has to do with where they may eventually practice medicine. Recent and past studies (Bollinger 2003; Cohen et al. 2002; Kamaromy et al. 1996; Thurmond et al. 1993; Whitla, et al. 2003; Winkleby 2007) document that Black physicians practice in areas with five times more Black people, on average, than other physicians. This research also highlights the fact that these areas suffer physician shortages, thereby reducing access to healthcare, and most of these areas are designated as underserved by the Federal Government due to the lack of access to physicians.

Bollinger (2003) and Whitla, et al. (2003) also agree with this assessment noting that racial and ethnic minority physicians are more likely to practice in areas of higher minority concentrations, the poor and populations on Medicaid, further noting the importance of expanding a diverse medical community doing research to advance treatment for and knowledge of minorities.

Thurmond and Cregler (1993) did a brief study to see whether a predominantly White institution had any effect on their Black graduates in terms of where they chose to practice or the choice of specialty they selected. The authors sought to determine, by examining previous research, whether the minority physician graduates elected to serve minority populations and chose primary care specialties at the same rate as minority physicians graduating from historically Black medical schools. They looked specifically at the Medical College of Georgia School of Medicine, which graduated 136 Black doctors over a 19-year period between 1971 and 1992, and compared the results with national graduate data on specialty choice and practice location. Thurmond et al. also compared these 95 Black participants, 50 of whom were men, with their White peers on the same two measures. Results showed that graduates of the Medical College of Georgia School of Medicine chose primary care specialties at similar rates to graduates of historically Black medical schools, and at a slightly higher rate than nationally; 46% reported serving low-income patients, while 77% were practicing in urban areas, 23% in rural environments, 11% medical school faculty and 17% held clinical appointments in medical schools. Eighty-three percent of the Black graduates remained in the States of Georgia and South Carolina.

This research provides additional empirical evidence to support the fact that African American physicians disproportionally serve minority and underserved populations, irrespective of whether they are trained at a predominantly Black or White institution. At the time of Thurmond et al.'s review in 1993, there was national concern for increasing the number of primary care physicians in the Country and not just in underserved areas, which had critical need.

    Minority patients' perspectives. Assessing how patients of color view the encounter with a non-minority physician is an important aspect to consider when evaluating the need to increase the number of African American physicians. Minority patients may approach the clinical encounter with a certain amount of mistrust toward a non-minority healthcare provider. The general feeling is that a majority healthcare provider would not understand them. Rao and Flores (2007) also observed these sentiments among the high school students they interviewed. The students expressed uncertainty of whether a provider of a different race could truly understand them, and were somewhat skeptical on the issue of trust.

    Certain historical events have been thought to lead to mistrust. One such event was the Tuskegee Syphilis experiments that were performed by the U.S. Public Health Service between 1932 and 1972 on African American men living in rural Alabama. The purpose of those experiments was to study how the syphilis disease would progress in the human body if untreated with medication that was available at the time; however, the experiments were performed on unsuspecting African American men who believed they were instead receiving health care from

the government at no cost in exchange for their participation in the study. Results of these experiments caused the men's wives to contract the disease and their children to be born with congenital syphilis. Scholars have debated the relevant impact of these experiments on the trust levels of minorities toward the medical establishment by people today who may not have heard of the experiments. Irrespective of which side of the debate one agrees, the fact remains that there is a reluctance of African American people to participate in clinical trials, and knowledge of experiments such as Tuskegee serves to fuel mistrust (White, 2005). Having more researchers of color might go a long way to ameliorate African American participation in clinical trial to the benefit of others.

More recently relevant possible contributors of mistrust are the disparities that currently exist as seen in the low quality of healthcare African Americans receive when it comes to more familiar diseases such as Human Immunodeficiency Virus (HIV), (Smedley, Stith & Nelson, 2003). The report notes disparities in treatments for HIV infections, which disproportionately affects the African American community, and where African Americans do not receive antiretroviral therapy at the same rate as non-minorities. HIV survival rates for African Americans are poor even with comparable access to healthcare services.

Whitla, Orfield, Silen, Teperow, Howard, and Reede, (2003) contend that minorities in North America tend to seek physicians of their same race due to the nature of the care they receive in addition to a shared understanding and ultimate trust. Patients are also more likely to be compliant with the physician's treatment recommendations thereby positively affecting treatment outcomes if they are

satisfied with the care they receive. We should not lose sight of the opportunity for these minority physicians to serve as a role model whether directly or through inspiration. Young patients being treated by a minority physician can be inspired to become a doctor.

Summary of Disparities in Healthcare. Disparities in healthcare services exist along racial lines and have a negative impact on healthcare outcomes for the African American population. African Americans suffer higher mortality rates for treatable and preventable diseases, even when controlling for access-related issues like health insurance, age and severity of the disease. Differential treatment of African Americans has been a long-standing issue dating back to the historical inequities of slavery. African American physicians tend to practice in areas of high concentrations of minorities, poor and underserved populations. There is a perception on the part of patients that having a physician of a similar race and ethnicity improves the trust and communication of the relationship.

Increasing diversity in the physician workforce and in the classroom

With regards to a diverse physician workforce, the numbers of minority physicians are miniscule, for a multitude of reasons. The editor of the journal Academic Medicine signaled his concern about the future leadership in the challenges facing medicine, focusing his article on two issues that he believed would become increasingly challenging in the not so distant future, chronic diseases and the increasing diversity of the population of United States (Whitcomb, 2007). He offers three proposals that need immediate attention: (i)

better educational preparation of students and residents to treat chronic diseases with high-quality care, (ii) a change in medical education to prepare students to treat an increasingly diverse population, and (iii) steps to allow low-income students to have access to careers in medicine. Unfortunately, Whitcomb writes that he is not convinced that current leaders are ready to move forward in increasing the diversity of the workforce, and, as a consequence, the American population will not be well served by the medical profession.

Hopefully, the leadership, in educational and clinical medicine as a whole, sees Whitcomb's sentiment as a challenge to make changes and not as an excuse to maintain the status quo. Additionally, Whitcomb does not outright mention the disparities that already exist in the profession based on race in addressing treatable diseases.

The case for diversity. Years before Whitcomb, during the time when affirmative action used in Admissions policies was first being challenged, Bollinger (2003) laid out a careful argument in regards to the necessity of diversity in higher education. The United States Supreme Court was hearing debates for and against affirmative action in Admissions policies and its affect on the overall enrollment of minority students in college as well as professional schools, health professions schools in particular. Bollinger argued in a letter to the Supreme Court that without affirmative action, universities would not have the ability to enroll diverse student bodies in incoming classes. He noted that Admissions officers are attuned to identifying applicants who have not had the opportunity to reveal their abilities, which would not be possible to do in a

colorblind, non-affirmative action admissions process. The result, he wrote, will negatively impact society as a whole, both majority and minority populations because race is still salient in this country. Bollinger further argues that students who are exposed to the different perspectives of those different from themselves will benefit in ways such as becoming more creative problem solvers, be able to integrate different perspectives, have better teamwork, and be better able to collaborate with other races and ethnicities. Having a diverse class allows for "measurable changes in active thinking and intellectual engagement…" (pg. 435). The author also notes that it allows challenges to assumptions students hold on both sides. Essentially, when encountering differences, it creates opportunities to learn of similarities.

Scholars such as Cohen, Gabriel, and Terrell (2002) have been making the case for a diverse health care workforce for many years. Simply, there is a need for culturally competent health care delivery, preferably by minority physicians to minorities, the poor and the underserved. These authors extolled the consequences of abandoning affirmative action without first making major changes in education policy to establish equitable education for all groups of citizens. Echoes of challenges to affirmative action has already had an impact of the enrollment of underrepresented minorities seeking health professions careers at the time of their writing as the numbers have decreased.

Cohen et al. argue that in order to produce culturally effective health care workers, healthcare providers need to understand different belief systems and how they can affect how people experience their illnesses, whether they comply with treatment advice, including medication compliance so they can ultimately respond to treatment.

The United States Department of Health and Human Services, Health Resources and Services Administration (HRSA) Bureau of Health Professions in 2006 delivered a rational for diversifying the health professions after reviewing the evidence from 55 research studies. HRSA concurred that a diverse physician workforce would bring about improved public health by increasing access to health care for underserved populations, as well as better interactions between patients and healthcare professionals. Their findings confirmed that underrepresented physicians serve minority and other medically underserved populations at disproportionate rates compared to other physicians, that relationships between same race or ethnic patients and physicians were better, and interpersonal care was also better for non-English speakers. HRSA did not have sufficient evidence to conclude that patient trust was also improved, but recommended further research in this area.

The benefits of diversity in the classroom and for society at large.

Whitla, Orfield, Silen, Teperow, Howard, and Reede (2003) agree with Bollinger's assertion in regards to the educational benefits of diverse schools of medicine. Specifically, Whitla et al. affirm that abandoning affirmative action by admissions committees reduces diversity, which they defined as racial and

ethnic, in the classroom. The authors surveyed medical students at Harvard University School of Medicine (HMS) and at University of California San Francisco School of Medicine (UCSF-SOM) to obtain student perspectives on the benefits of having a diverse learning environment. Higher education settings seem to be where students, majority as well as minority students, report they first encounter diversity, which is actually past their formative years of grade school and high school. Students felt that they were more exposed to diversity in medical school than college, and that interacting with diverse students greatly enhanced their educational experience. Students reported that it improved classroom discussion while they learned from each other, encountering different points of view. They gained cultural awareness and an ability to work more effectively with others from diverse backgrounds, both inside and outside the classroom -ultimately making them more prepared to respond with cultural sensitivity to a multicultural patient population. Students rated peer diversity as the most important element of their education. Having diverse basic science faculty and clinical faculty were rated second and third, respectively. How the results would apply to other schools of a different racial and ethnic makeup should be further researched. Both Harvard and UCSF medical schools have slightly more diverse student bodies than other medical schools.

Other researchers support the benefits of diversity in the classroom to increasing the physician workforce in underserved areas. Saha, Guiton, Wimmers, and Wilkerson (2008) purport that by having a racially and ethnically diverse student body during medical school, racially and ethnically, increases the

chances of the graduating physician practicing in an underserved area. Saha et al. looked to answer the question of whether a diverse student body is associated with educational benefits as promoted by medical schools. They specifically examined whether students perceived themselves as being prepared to work with a diverse patient population, in addition to student perceptions about access to healthcare and their plans to practice in underserved areas. The authors collected empirical evidence from a cohort of graduates from their medical school and showed that over half of them at the time the article was written, practiced in federally designated underserved areas, much more than general medical graduates during the same period.

Rumala and Carson Jr. (2007) offered a resource they considered underused in the effort to increase diversity in recruiting underrepresented minority students into medical school and ultimately increasing diversity in the physician workforce, namely, Minority Medical Student Organizations. Rumula et al. instituted a program of Admissions at the University of Toledo-Ohio College of Medicine, UTCOM, utilizing their Student National Medical Association (SNMA) in the recruitment and retention processes. The authors found that having too few minority students at a medical school can be a deterrent to others to enroll, but by using members of the SNMA to communicate with prospective students to inform them of the initiatives taking place at the medical school regarding diversity, the School garnered more trust, interest and ultimately enrollment from prospective students. They instituted the program over five phases, identifying issues and putting forth solutions for each phase to strengthen the program.

Summary of Increasing Diversity. Increasing racial and ethnic diversity in the healthcare workforce and in the classroom has positive implications for society overall. Medical students enjoy a more enriched educational experience when they are able to learn from and interact with students of different cultures, helping them to challenge assumptions. Students report more confidence to enter the healthcare workforce as future doctors if they are better prepared to deliver sensitive care to a multicultural patient population. With the shortage of primary care physicians in underserved areas, students exposed to other cultures in the classroom seem more likely to choose to practice in those areas.

Pipeline Programs Toward Increasing the Numbers of Underrepresented Minorities

Pipeline programs are designed to prepare and motivate students to pursue careers in medicine or medical research. There have been a number of these programs over the last 50 or more years aimed at preparing students for the rigors of health professions schools, medical and dental schools in particular. Most have been unsustainable. Pipeline programs have suffered financial cuts. The Health Careers Opportunity Program (HCOP), Centers for Excellence (COE) and the Minority Faculty Fellowship Programs (MFFP) were three successful programs administered by the federal government with an aim to improve the diversity in the health professions. Those programs have since been abandoned due to the political climate over the last several years. Two current programs administered by the AAMC are the Health Professions Partnership Initiative,

sponsored by both the Kellogg Foundation and The Robert Wood Johnson Foundation, and the Minority Medical Education program. As valuable as they are, they have been ineffective in increasing the numbers of underrepresented minorities, and Black men in particular, in medicine. Other programs have been in existence but have accepted and produced overall very small numbers of students per annum.

Roman (2004) introduced The Sophie Davis Model, which attempts to contribute to increasing the minority physician workforce using students from urban pipeline programs. The thinking behind the program is that by engaging students while they are still in high school, results in early exposure to the field, and a reduction in college dropout rates. With a built-in loan repayment service, it also addresses financial barriers while at the same time increases the number of primary care physicians working in underserved communities. The article describes in detail how a single program, The Sophie Davis Model, which is a 7-year combined BA/MD program, awarding both a Bachelors and Medical Doctor degree, works to prepare students to succeed in becoming physicians. The focus is on students who have had uneven preparation in the sciences. The program seeks young people in their senior year of high school from New York State inner cities that have been educationally disadvantaged yet are able to demonstrate academic achievement. The program teaches actual medical school classes beginning in the second year, while eschewing the MCAT and traditional premedical college classes in favor of demonstrated ability in the classroom.

Roman found that while the model works to produce competent physicians, unfortunately, it has produced a total of only 1,400 graduates over a 31-year period, with 1% not obtaining the medical doctor degree for assorted reasons. Moreover, only 25% of the graduates were African American. There was no mention of what percentage of those were men. For comparison, U.S. medical schools graduate on average upwards of 18,000 physicians in a single year. The program is similar to the European pathways to a medical education and other careers where students enter medical school directly from high school at the age of 18 years, incorporating less of a liberal arts background in the process.

MEDPREP, currently in existence for 42 years, is another such pipeline program evaluated by Jackson, McGlinn, Rainey, and Bardo, (2003) with the understanding that there were not enough pipeline programs preparing educationally and economically disadvantaged students for careers in health professions. Jackson et al. agreed that what makes a successful program is having support systems from the school and faculty, as well as hard working students. The paper outlines the program and its accomplishments toward preparing college students to prepare for, enter and successfully complete medical and dental school. The program helps these students to improve their abilities in reading comprehension, writing and test-taking skills. Additionally, it gives them information on the application process to professional schools. Jackson et al. noted a novel and unusual acceptance strategy used during the interview for admissions that revealed students' ability to problem solve. Admissions officers told students that there would be a party at the end of the

admissions process but did not give many details of place or arrangements for transportation. Students who arrived early and sorted out transport issues, demonstrating problem-solving skills, were accepted to the program. The students in this program appear to already be highly motivated. At the time of this paper in 2003, the program was celebrating 30 years of existence and having served 1,000 educationally or economically disadvantaged students, 80% of whom were underrepresented minority students, although the number of Black students were not specified.

Winkleby (2007) reported on how 18 years of a biomedical program at Stanford University School of Medicine worked, The Stanford Medical Youth Science Program (SMYSP). It is a program targeting high school students from low-income families (one criterion for admission), most of who are considered underrepresented minorities, at a critical juncture of their education to expose them to a future in the health professions. This is another program that intercepted students at the critical high school juncture. Again, lack of preparation proved a central issue. Low-income and/or underrepresented ethnic minority students who have an interest in pursuing a career in the health professions often do not possess the academic preparation or support, career-building knowledge or skills, or an understanding of the college admissions process to attain a degree in the health professions. Over a 20-year period, this particular pipeline program helped only 405 students. The program boasts 100% graduation from high school, and 99% college attendance, 101 of them went on to do post graduate work, and of those, 65% selected a health professions

career. Students receive long-term mentoring and career guidance even after completion of the program, as they are able to call on mentors, faculty and former students in addition to the students in their cohort, for assistance such as recommendation letters and networking. Goldsmith (1994), a graduate of the SMYSP, outlined the origins of the program born from two undergraduate students at Stanford University witnessing the discrepancy between the wealth of their school and educational experience, and the surrounding poor communities. Sustainability due to finances was the major concern for this valuable program.

Morrison and Cort (2014) did a brief review of the pipeline to medical school, using high school students who identified themselves as aspiring to become doctors as a definition of pipeline. They compared those students to the number of students actually matriculating to medical school using data from both the Education Longitudinal Study of 2002 as well as the American College Application Service, which collects data on all applicants to medical school. Results of their analysis exposed the so-called pipeline to medical school is not just leaking, but is actually more of a strainer, separating out students by demographics and maintaining the underrepresented groups that currently exists. The number of students who once held the aspiration of becoming a doctor fell precipitously when compared to the date they should be applying to medical school. This review was designed to be a brief analysis looking at the state of the pipeline and did not address the reasons for the effects.

For example, grades of the students who replied to the aspiration of a career question were not taken into account. However, it shows that aspirations are affected somewhere along the way, if not at every step.

Still, the American Association of Medical Colleges persists in its explicit goal of achieving a diverse physician workforce that reflects the diversity of the U.S. population as well as to support a culturally competent workforce to practice in underserved areas. The Association continues its efforts to address these discrepancies. In more recent pipeline programs, the AAMC has partnered with several institutions across the country to prepare students for the rigors of medical school. Student Medical and Dental Education Program and Aspiring Docs are two such successful programs that introduce students to the profession and are funded, for now.

Summary of pipeline programs. Pipeline programs appear to provide some of the missing ingredients to being a successful student for African American students: critical thinking and problem solving skills; more efficient note taking, study and organizational skills needed to handle large amounts of information in medical school; providing Academic enhancement and enrichment, mentorship, role models, research apprenticeship, college admissions preparation, motivation, exposure to college life and the field of medicine. Additionally, some programs seem to have provided emotional support. Not only should pipeline programs not be abandoned but ways to increase their numbers and financial support for them should be a priority.

Barriers and Challenges to Academic Success

With limited numbers of pipeline programs to provide the necessary rigorous educational preparation to pursue medicine as a career, most students face inadequate high school curriculums and numerous challenges, including institutional barriers, that must be overcome. Roman (2004) and Butler (2011) both highlight the uneven quality of sciences in urban high schools, noting that African American students do not have the background in the sciences to successfully complete college and ultimately enter medical school.

  Pre- higher education challenges. Iruka and Barbarin (2008) tell us that there is lack of preparation and readiness of African American children to start school, which puts them at a disadvantage and may explain why they are not successful, further adding to the persistence of the academic achievement gap between Black and White students. The authors examine the contributions and effects of parenting styles, the children's neighborhood and school systems that are associated with African American children's early learning and development. To frame their review, Iruka et al. employed Bronfenbrenner's 2000 ecological theory that the interconnection of micro-, meso-, exo- and macro-systems all interact to form the basis for a child's development. The authors also consider newly analyzed data from a national study, Early Childhood Longitudinal Study – Kindergarten Cohort. Iruka et al. point out that SES mediates parenting behaviors toward teaching their children. Higher SES African American parents utilize strategies that improve their children's development. Furthermore, African American children are not affected in the same way White children might be by

parenting styles. While the researchers recognize that African American mothers have more punitive parenting styles, allegedly leading to lower academic achievement and more behavioral problems, the children perceive it as caring and no-nonsense parenting. The authors call for research that considers the sociocultural view of African American parents on the subject of parenting practices. In addition, the authors found that some public schools lack the resources (finances, qualified teachers, books and materials) to successfully affect African American children's learning. According to the authors, the way to interconnect schools with African American parents and students is to determine how best to engage parents in their child's education both at home and at school. Moreover, teachers need to be assisted in recognizing how their values may differ from their students, so they can teach with cultural sensitivity. The authors also cite research showing variability in the numbers of successful children from disadvantaged neighborhoods, suggesting that the role of neighborhood did not have as large an impact as originally thought. Iruka et al. conclude that this is a crisis that is ongoing, needs continual attention and needs to be addressed by all parties. They purport that there is not enough research on the factors that influence African American children's success and that the measurements used are not calibrated with the African American experience and cultural values to reveal underlying causes.

Livingston and Nahimana (2006) propose that being able to appreciate the dynamics and interactions of Black urban families leads to a better understanding of how to educate Black male children. The authors note that with a 45% Black

male drop out rate in urban high schools on average, a one-in-four rate of African American male suspensions, and a disproportionate number of them represented in special education classes, creates the perception that public schools are not able to educate Black male children, despite calls for education reform. They sought to learn, "What are the structural, social and psychological challenges our young Black males have to navigate?" and "What are the pervasive expectations of Black males in our schools?" (pg. 210). These are crucial questions for understanding the interactions between teacher and student, which ultimately determines what the child learns. Livingston et al. puts forth an argument that an ecological approach is needed in order to address Black male children's needs, and employs that approach in their article. One area they cover in addition to the effects of unemployment, the war on drugs and incarceration is the negative impact of stereotypes on young Black men. Livingston et al. purport that the perceptions that young Black men are lazy, prone to violence and are of a volatile nature, affects their self-esteem and what they believe they can achieve. As a result, African American boys attempt to protect themselves against these stereotypes, by devaluing education and becoming tough. These authors call for an understanding of the factors affecting behavior, and for educators to keep Black male student's lived experiences while developing curriculum and programs.

The effects of racism and discrimination on Black men remain today. Noguera (2003) posited that schools currently underserve, or do a disservice, to the Black male population, contributing to a large number of students being put at greater

risk for failure in the education system. Noguera sought to understand what environmental and cultural powers influence how Black men and boys understand school, how these forces affect their behavior towards education and ultimately their academic performance. The author hypothesized that their academic performance can be improved by developing strategies that target the effects of those harmful environmental and cultural forces. He proposed that by studying the programs of schools with proven track records of successfully educating Black men, and armed with the knowledge, based in theory, of how to counter the negative stresses imposed by American society, overall education can be improved.

Noguera does a literature review offering suggestions on how to improve the school environment for Black boys and how to positively impact their attitude and identities toward education. His findings are numerous, and give explicit direction for further research, and recommendations for those seeking to engage young Black boys. The author first cautions us that the general perception that most Black men are in prison, have contracted HIV/AIDS and that suicide is on the increase among them, is erroneous. He extoled the importance of understanding how those who succeed do so, and the need for their input in developing interventions and strategies to improve their performance and the performance of others, noting that we as a society have more knowledge about those who do not survive the cycle of poverty in which they live, than those who despite their environment, exhibit resilience, perseverance and employ coping

strategies. This is where our focus needs to be directed. The effects of poverty addresses whether the problem stems from a socioeconomic standpoint.

   Stereotype threat. No review of the literature concerning African American education would be relevant absent the mention and understanding of Stereotype Threat, and Osborne and Walker (2006) identify it as a main reason for successful Black students to withdraw from school. Stereotype threat is a hypothesis put forth by Claude Steele (1997) who defines it as the negative consequences (e.g. withdrawal from school or un-identification with school) experienced by groups who fall under the stereotype of intellectual inferiority. Steele posits that the students most interested in achieving in school are the ones who suffer the threat most when they are in situations where they stand to either confirm or be the exception to the stereotype. For Black students most identified with school, stereotype threat negatively impacts test performance and could eventually affect grades. Minority students belong to a group stigmatized by society, and those who are otherwise strongly identified with academics at school can end up withdrawing from school under the pressures of stereotype threat. Importantly, Steele asserted that because stereotype threat is situational as opposed to an internal deficit, measures can be adopted to reduce or eliminate the threat, thereby improving the performance of Black students identified with academics. Moreover, he noted that ways to promote interest in school for students who are already unidentified with school should also be explored. Positive teacher-student relationships were among his suggestions for removing the threat and improving the learning environment for Black students

identified with academics and for encouraging those who are unidentified. He went on to provide research evidence in this regard. Osborne et al. posited that stereotype threat in the long-term might be the reason most successful students of color fail to continue to identify with academics and disassociate with school for fear of either confirming the stereotype or being an outlier/exception to the rule. The authors sought to underscore the connections among stereotype threat and academic achievement, and demonstrate precisely how they combine to affect how well students perform in school. They also examined whether a high identification with academics is related to high GPA, lower absences from school and fewer behavioral referrals. They did a longitudinal, quantitative study with high school students over a two-year period where they administered two well-known measurement instruments, School Perceptions Questionnaire and the Identification with School Questionnaire. They then correlated results of the two questionnaires to develop an "Identification with Academics (IA)" instrument and further tracked the students over the two-year period to determine the withdrawal rates by race. Osborne and Walker's results confirmed their hypothesis that a high IA is related to higher GPA, lower absences from school and fewer behavioral referrals. Their results also showed that withdrawal from school for White students was inversely related to IA; low IA resulted in increased withdrawal. For Black students, Steele's stereotype threat is observed, i.e., increasing IA resulted in increasing withdrawal for Black students, while the reverse is true for Caucasian students. Minority students who aspire to achieve

and are strongly associated with academics need to understand that success is achievable if they can overcome or mitigate the effects of stereotype threat.

Davis and Simmons (2008) provide a critique along with implications of Stereotype Threat on the educational outcomes of African American individuals. The authors acknowledge that stereotype threat is well documented and examine the criticisms other researchers have leveled at the theory, highlighting the areas in which these criticisms fall short, and the original research done by Steele and Aronson (1995), misinterpreted. Davis et al. assert that previous studies have not looked at stereotype threat in real world testing situations and settings where other factors are working as mediators and moderators to reduce performance of African American students. For example, students who strongly identified with the particular academic domain were more affected by a negative stereotype of their groups' abilities in that domain. Davis et al. pointed out that the pioneering authors (Steele & Aronson) demonstrated that the threat is not endemic to African Americans alone but can be replicated with White students who are presented with the existing stereotype that Asians perform better on Math, with the same negative results. Stereotype threat can also be reproduced for gender stereotypes as well as other groups of students. Davis et al. see great value in their approach as an opportunity to find interventions to mitigate the negative effects of stereotype threat.

The perception about the longstanding theory of oppositional culture lingers about Black male attitudes towards school, but is this theory and disassociation with school part of Black people's culture? Harris provides us with some insight into this question.

Harris (2006) revisited Oppositional Cultural Theory proposed by Ogbu (1978), as the reason Black students show resistance to schooling. Ogbu maintained that Black students become resistant to school from middle to high school due to their perception that education is equivalent to "acting White". Harris explored the question of whether the maturation component of oppositional culture theory put forth by Ogbu that Black students, as a culture, develop a resistance to school and do not try hard, hold true when tested. The author looks specifically at what she terms "involuntary minorities" to highlight their experience of being brought to the United States as slaves, involuntarily, as opposed to immigrating on their own volition. The study focuses specifically on African American Blacks and seeks to dispel the hypotheses' tenets of oppositional theory. It focuses on testing the following five hypothetical questions: (1) Do Black children perceive education as a benefit to increase opportunities for them as being more limited versus White children? (2) Do Black children have a less favorable attitude towards school and education than White children? (3) Is there greater resistance to school shown by Black children than by White? (4) Is the "acting white" hypothesis, whereby Black children reproach other Black children who achieve in school salient? and (5), Is the culture of Black children more counter-educational than White children? Harris collected quantitative data

selecting participants using a stratified sampling procedure to ensure they were equally represented in the traits of race and age as the county's middle schools. The source for the data came from The Maryland Adolescence Development In Context Study (MADICS). Her results provide empirical evidence that disputes each of the research questions in turn. For hypothesis (1), Harris looked at the size of the variance between students' aspirations and expected educational attainment, and found that Black students had higher educational aspirations and showed no significant difference in education expectations versus the White students. However, analysis of the final results exploring the gap between aspiration and belief in achievement revealed that Blacks perceived their educational opportunities to be more limited than those of White students, even after controlling for socioeconomic status. For hypothesis (2), Harris' results differed from Ogbu's assertion, showing instead that Blacks had a more favorable attitude toward school. Harris assessed racial differences for school attendance. For instance, Blacks in early grades rated attendance based on enjoyment more highly rather than as a mere obligation. There was no significant racial difference on rating the importance of mandatory attendance. Additionally, both Black and White students similarly asserted that over time attendance was important less on the basis of enjoyment and more due to school being mandatory. For hypothesis (3), Harris' data did not support Ogbu's theory that Blacks exhibit greater school resistance because they do not believe they can achieve success through education. Rather than measuring teacher's assessment of Black students' effort to improve academically, Harris tested

students' help-seeking attitudes, and time spent inside and outside the classroom on school activities. Harris found that Blacks sought more help, and there was no difference in time spent on homework, in agreement with previous studies. For hypothesis (4), while Harris found instances of Ogbu's "acting white" premise (Fordham & Ogbu, 1986), Black children in general did not allow it to interfere with their studies. To avoid criticism, Black children tended to downplay or hide their good grades from certain peers. Finally, for hypothesis (5), Harris assessed whether Black students in general have negative peer behaviors and values, and an overall negative cultural outlook on education. After controlling for SES, Harris found no significant differences for engagement in negative behaviors. Negative behaviors increase among peers for both groups as they get older, but the increase is slightly larger for Blacks. Overall, Harris did not find support for the major tenets of Ogbu's theory of oppositional culture among Black children. While she acknowledges that it might hold true for some small subgroups of the population, it does not account enough for variability within the Black culture.

   Racism and microaggressions. Other authors speak to class issue in education. Allen (2012) looked at the negative effects of racism, including microaggressions, on how Black middle-class men experience school and how it affects the opportunities available to them. Allen purported that little research exists that looks specifically at Black middle-class men, their families and their educational achievements and experiences as a group. The author did not make a clear hypothesis, but instead used critical race theory to explore how race affects or negotiates ways Black people experience subordination through

institutional racism, and as a tool to analyze microaggressions. Racial microaggressions are considered the current form of racism in this country. Sue et al. (2007) characterize racial microaggressions as routine, negative racial slights, insults and derogatory comments toward people of color, occurring frequently in every day interactions. They can be committed by the perpetrator intentionally but are often unintentional.

Allen did a qualitative study using a narrative approach to collect the stories of school experiences of middle-class Black men and their fathers, with a focus on the microaggressions encountered in the school setting and the fathers' intervening responses. Working-class students were also participants to allow the author to draw comparisons about how class mediated the students' experiences. Structured interviews and unstructured questions were asked during observations. Critical race theory is the lens through which this study was analyzed, revealing that class privilege does not protect Black male students against racism, racial stereotyping, differential treatment in matters of discipline at school, perceptions about intelligence or perceived deviant behavior. The students themselves can sense that teachers and other administrators feel less supportive of them, and that they receive unfair treatment.   Students describe feeling misunderstood, leading to academic exclusion and unequal disciplinary treatment, and easy suspension based on their race. The academic records, showing 40% of all suspensions were of Black male students, support the students' sentiments. Moreover, it is also consistent with the larger research literature on Black male suspension rates. The author refers to this as

microaggressions from the administration. Parents and fathers deliberately build relationships with teachers, and tried to use their knowledge of school system operations when incidents of race-based microaggressions came up, in an attempt to resist the negative effects on their sons' educational experiences. While the Black male children of middle-class parents are not immune from racism, their parents have some tools and ability to thwart racial injustices in the school setting.

Student voices. Hearing about the challenges to success from the voices of students who succeeded in getting into college helps us better appreciate their dilemma of getting through a high school curriculum. Scott, Taylor, and Palmer (2013) explore this avenue but with students already on the road to success, already accepted to college. The authors wanted to know how to stop Black boys from dropping out of high school. They hypothesized that by locating the difficulties Black boys encounter and cause them to leave high school prematurely, and by identifying ways to overcome them, can support Black boys to stay in school. This is consistent with what we learned earlier from Osborne (2003), i.e. the importance of hearing from Black boys themselves in development of solutions. Scott et al. did a qualitative study of Black male college-bound participants who graduated from high school and were already accepted to four-year universities. Data collection consisted primarily of essays written by the participants in applying for a scholarship to college. The essays were the outcome of the students reflecting on the challenges they faced and how they overcame them to complete high school and get accepted to college.

The authors noted that skilled and culturally competent teachers was a common theme among the students, who felt the effects of a deficit of Black male teachers to mentor, model, encourage and guide their efforts toward academic success, in addition to providing academic instruction. They felt they needed positive images of Black male role models in society as well, but persevered despite a lack of these valuable influences.

Rao and Flores (2007) explored the questions of what high school students know about medicine as a career, being a doctor, or what it takes to become a doctor. They asked their perceptions about there not being enough African American students pursuing careers in medicine and the large discrepancy in the number of African American practicing physicians compared with the African Americans in the general population. Moreover, scholars investigated African American students' perceptions of potential barriers to pursuing careers in medicine. The authors interviewed 12 African American students in a qualitative review, 34% of whom were young men. All participants were in their junior year of an inner-city high school. Forty-one percent of their parents had graduated from high school and 8% had not done so. Students reported that 50% of their mothers were college graduates versus 16% of their fathers. Thirty-three percent reported not knowing the highest level of educational attainment for their fathers. The authors discovered that students distinguished copious barriers to pursing a career in medicine: financial challenges; the time commitment; the stress and level of difficulty in studying to become a doctor; limited exposure to Black doctors and lacking opportunities to discuss college admissions at their school;

lacking family support; and a lack of knowledge about medicine in general. Most interestingly, students envisioned doctors as being White men, in white coats. Therefore, they did not see themselves in this role. Also of note was a lack of peer support that brought about accusations of acting white if academically successful. Additionally, playing basketball, rapping or even drug dealing were seen by their peers as ways of making fast money. From the results and student comments, it appeared that students had a set understanding of the perceived barriers. For example, the author mentions that there was a lack of interest in the sciences in general as one of their findings, but does not explore further with the students, reasons for this feeling. The Scholars could have asked about science courses offered at the high school the participants attended. Finally, students had definitive views on how important it is to increase the numbers of Black physicians as far as the physician-patient relationship is concerned – better interactions, understanding, and comfort levels. It is surprising that even with 50% reporting a parent with a college education, these participants did not appear to have information on careers in medicine.

College education challenges. Butler (2011) suggested that HBCUs were the environment for Black men to succeed but it seems they are not without their challenges. Palmer, Davis and Hilton (2009) did a qualitative study that looked at underprepared Black men entering remedial HBCU programs and the challenges to their academic success that can threaten attrition. The authors sought to understand their experiences and the strategies the Black men in these remedial HBCU programs employed that allowed them to persist and succeed to

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graduation. Palmer et al. used elements of a grounded theory approach in this qualitative study and employed snowball sampling to select some participants, by asking those who accepted to participate, to reach out to others. They also enlisted the assistance of university administrators to land the eventual participants, amounting to 15% of the students they originally contacted to participate. They used a constructivist design allowing the participants to construct their own meaning of events in their experiences. The authors conducted individual, 90 to 110-minute interviews after first collecting the requisite consent forms from the students. The authors noted behavioral observations of the students' responses to questions as well as their willingness to interact in the interview. They conducted follow-up telephone interviews for elaboration and clarification of themes that emerged during the discussion and coding. All data were transcribed and the transcription was returned to the participants to check for accuracy. The authors conducted member checks as well as used peer de-briefers with knowledge of in-depth interview methods to strengthen the dependability of the data. Finally, true to qualitative inquiry, the authors voiced their positionality as Black men. Rather than create a bias, they felt being Black men deepened and facilitated the trust and relationship with the study participants. The findings revealed three major themes: financial support; pride versus need; and what they termed the "inevitable disconnect". Financial support and the challenges presented by having limited support can impede persistence. Some students talked about the need to work full- or part-time as a necessity but also a challenge. Being pulled from classes and having your

schedule dropped were some of the consequences students expressed.

Frustration with the financial aid process was yet another factor they had to

overcome. However, one student talked of others needing to better manage their

finances, being sensible about what they purchase while in school. Pride versus

need, where pride sometimes prevented them from seeking the assistance they

needed was the second theme. Students discussed the reasons as stemming

from sometimes being responsible for self at home or being the "man" of the

house, then having to transition to yourself needing assistance at school was

difficult. They talked about Black men needing to let go of that pride and ask for

help. One student learned the hard way by waiting until the last moment to ask

for help in a math class and failing the class because he waited too long. The

"inevitable disconnection" was the third theme that had to do with the effects

some students' home environments and communities had on their ability to focus

on school, threatening academic success. Students discussed the need to be

able to recognize that they sometimes cannot effect change on problems at

home, and how they are being affected at school. It was difficult for some to

maintain grades while worrying about difficulties taking place in the home,

whether it was illness or something else.

   Rosenthal (2013) approached the problem of the small number of African

American men going into medicine, not from the students' perspective but from

the angle of consequences to the men themselves, for patient care, research of

diseases affecting the Black community, and from the cultural competence of the

entire medical community. The author employed Bronfenbrenner's 2000

ecological framework in addition to Landson-Billings, Critical Race Theory to organize her approach and analysis in examining the causes for the issue of too few African American men going into the field of medicine, and to offer potential solutions. Rosenthal argues that the existing research indicates that educational disparities exist as early as high school with low graduation rates, as well as low college graduation rates. The results of these disparities are felt not just by Black men themselves but also by society as a whole. She takes a holistic approach to the solutions she offers starting with individual support for students where they receive early exposure to medicine, and have role models who encourage them with a focus on individual attributes at the center. Family and community support, school resources and systems-wide commitment to support the students with mentorship and positive school experiences, early in students' educational journeys, helped to shape students' ability to pursue and explore different career choices. Mostly, it served to produce a culturally prepared physician workforce overall. Rosenthal's holistic model to increase the numbers of African American men in medicine does not elaborate on how to achieve these goal; mostly reflecting on what broad support systems need to be in place for successful outcomes.

   Graduate education challenges. By the time African American men make it to graduate programs, they have mostly learned how to navigate educational processes, how to persist despite challenges such as isolation some feel in graduate programs with few other African American men, and are seeking a

graduate education with a sense of purpose. The next section examines the challenges faced by African Americans in the context of success strategies.

Summary of Barriers and Challenges. The barriers and challenges to academic success for African American men are numerous. African American students start school already at a disadvantage. Societal stereotypes about the intellectual ability of African American students is held in question, and school performance is affected by stereotype threat. This threat needs to be better understood and accepted, and strategies have to be implemented to eliminate threatening situations, so African American students who identify strongly with school can perform, and those who are already disengaged can reclaim their school identity. Black male students absolutely care about school but can face microaggressions and differential treatment in the classroom, and suffer higher suspensions rates and disproportionate punishment. Essentially, African American males face a host of negative data and stereotypes without having a positive balance to combat the environment. Students should be consulted in developing solutions.

Solutions and Successes

College success. Over the last 15 years, scholars have been approaching the problem of educating Black men from a different angle, examining the reasons for success instead of focusing on reasons for failures. An increasing number of researchers are attempting to change the dialogue from a deficit model to one with a focus on Black male success.

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Kim and Hargrove (2013) are two such authors taking a critical look at whether Black men are deficient or resilient in the face of challenging academic environments. They seek an explanation for the resiliency Black males show in their educational pursuits as identified by resilience theorists. Kim and Hargrove sought to answer the factors of resilience that contribute to Black male educational success at PWIs and HBCUs. They did a literature review investigating extant empirical studies for factors that foster academic success in Black males. Their findings concurred with the literature that Black men succeed in spite of odds stacked high against them. Black men are resilient; they construct coping mechanisms through employment of peer support, mentors, family support, and faculty support and guidance as protective factors in their pursuit of an education. Many Black men sought to find ways to become student leaders on their campuses.

Shaun Harper, from the University of Pennsylvania (Harper, 2012) appears to be at the forefront of this effort to redirect the narrative providing strong research on Black male student successes. Harper and Davis (2012) offer a counternarrative to the perception that Black men lack interest in education. These authors contend that despite negative popular cultural perceptions about Black Men purporting a lack of interest in education, there are large numbers that do care about education. Therefore, Harper et al. sought to determine what is the compelling impetus for those who do succeed and aspire beyond college to persist, in the midst of all the disparaging information reported. The authors did a qualitative study on 304 application essays and interviews with 10 accepted

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students to the University of Pennsylvania's Graduate School of Education's Grad Prep Academy, a pilot program to prepare Black males to enroll in Ph.D. in Education programs. Applicants are Black undergraduate males attending different universities. The authors sought to elucidate where the students' drive to pursue a Ph.D. came from, despite the persistent academic inequities in schools, wide racial education achievement gaps, and the perception that Black males do not care about education. There was a 650-word essay and two open-ended questions, in addition to an in-person focus group conducted with the accepted students. Harper et al. took a narrative approach to convey the stories of these students' views and successes. Their findings uncovered three themes that demonstrated Black men do indeed care about education, which these students would express if given the opportunity and despite all of the negative stereotypes existing in society: (i) They were all aware of the educational inequities that exist, not just in the classroom but also in education policy, in addition to the conditions under which the educational gap between Whites and Blacks and other students of Color, is sustained. The vast majority of them were well aware of how educational institutions maintain racial inequity. (ii) Students all expressed a strong belief that education was the only way forward, to effect change in their communities. They all believed that education could create more equity in society by leveling the playing field and being, "the great equalizer"; "Everything is possible with education" (pg. 113) was a common sub-theme; the most used coded phrase to identify similar statements, and mantra among the applicants; and (iii) They were all purposefully pursuing a Ph.D. degree in Education. These

students' families, and through their educational experiences, were socialized into believing that education is achievable and to value school.

Professor Harper offers additional counternarratives, this time to negative epithets and perceptions. Harper (2009a) sought to illuminate the challenging experiences of being Black males on college campuses of predominantly White institutions. He wanted to learn whether there is a population of Black men who are engaged in academics and performing well. What strategies and psychological resistance measures do Black male students on PWI College campuses utilize in order to succeed academically, exceed expectations while consciously rebelling and challenging racist stereotyping? Harper did a qualitative study using the phenomenological approach to data collection, with the phenomenon being a Black male achiever on a PWI college campus. The author employs criterion-sampling methods to identify participants. Data are derived from the counternarratives of Black male students from across multiple PWI college campuses who discard the commonly held views in society about their limited abilities and potential for leadership and success. Two three-hour face-to-face individual, semi-structured interviews and some follow-up telephone interviews were held with each student. Students were also asked to submit written statements about how they navigated racist situations as well as notable moments from important transition periods. He applied NVivo qualitative software program in his analysis. Harper exposed the finding that there is indeed a population of Black males on college campuses who are not recognized as the academic achievers and student leaders inside and outside of the classroom that

they are. Black men are overlooked on those Campuses. These Black male students must employ strategies like engaging in student organizations and actively seek interactions with faculty, being successful academically, while experiencing racism at the same time. They vigorously resist racism and stereotyping when encountered on campus and promote themselves in a positive light through leadership positions. All students had the determination not to be cast into the stereotypical role of Black men on Campus, and some joined leadership roles in order to effect change in administrators' racist perceptions of them by offering, "…more affirming views of their individual selves and Black male collective" (pg. 699)

Adding to the discussion of shifting away from the deficit model is Milner (2007) who believes that there is too much focus on causes and theories as to the education deficit, and too many negative perceptions on the part of teachers that prevents them from teaching and empowering Black male students to reach their possibilities. He calls for action rather than entertaining more "excuses". Milner sought to determine what actions and positions are within teachers' ability to accomplish, that will take Black male students to the next educational level where they can fulfill their educational potential. Additionally, he examined why this student demographic is disciplined and punished, not just more often but also disproportionate to the offense.

The data collection procedure involves qualitative, mostly narrative research, along with the author's personal experience. He also includes his own research, past and present; including a project he is currently undertaking at an urban

middle school. Milner's findings offers accounts counteracting perceptions about Black male students' ability to succeed and reach their full capacities, while also contributing to changing the direction of negative discourse in regards to Black men in education. The author delineates five perspectives on teaching that can empower Black males in urban schools despite their current individual circumstances, placing the onus on all involved. Both teachers and students must envision a future life with potential successful possibilities, "know themselves in relation to others" (pg. 241), express possibility in their speaking rather than destruction, have and also demonstrate desire, and effect change through changing their thinking. Milner proffers sage advice and instructions for caring people who plan to work with this population to adopt at every level of education delivery.

Teachers' perspectives. For context, it becomes important to get the perspectives of teachers both African American and European American on educating Black boys. It is important to know how they view their pupils and whether they utilize the same strategies in educating them. Bacon, Banks, Young and Jackson (2007) did a contrast and analysis of these two groups of teachers to get their perspectives on three areas in educating African American boys: (i) Culturally responsive instruction, (ii) cultural discontinuity in interactions between home and school environments and how students themselves perceive effective teaching, and (iii) the kind of relationships between teachers and students in addition to their teacher communication styles. Bacon et al. collected qualitative data using focus group interviews with both teachers and Black students.

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Bacon et al. found that while both African American and European American teachers agree on important factors involved in educating Black male pupils, they had different foci and approaches to doing so. African American teachers were more focused on the personal, loving, supportive interaction while having high expectations of their students succeeding. Additionally, African American teachers' style of communicating with students at risk was one thought to be more culturally in line with the students' own, so students were more responsive to their African American teachers, and the teachers felt they were being effective with the students. On the other hand, European American teachers felt they too were effective with an approach that was more focused on having clear expectations and consequences, yet exhibited lower expectations for African American boys in addition to administering harsher discipline. They also considered that making the curriculum more interesting was a characteristic of an effective teacher. The European American teachers expressed that they had no time to discipline, and could not engage the students in the same way as their African American counterparts. From the students' perspective, African American boys noted they did better in school when they perceive their teachers genuinely care about them. An implication of this study is that students need to perceive their teachers are united and that all have high expectations of them in terms of their behavior as well as academic accomplishments.

Finances and Class. Finances and social class play important roles in student experiences that must also be acknowledged for Black male student success. Dixon-Roman (2012) speculated whether the educational experiences

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of middle- and upper-middle-class Black men are any different to Black men in general. The research question examines what are the practices of Black families from varying social statuses, with a focus on middle and upper-middle-classes, which might be associated with math and reading level achievement for their Black sons. What are their interactions and involvement with school service providers on behalf of their children, that contributes to their Black male children's achievement? Essentially, how do parental economic, and social and cultural practices covary with the developed achievement of Black men?

Dixon-Roman took a mixed method approach using preexisting longitudinal interview data and applied statistical analyses to that data. The data were gleaned from the Child Development Supplement (CDS) portion of the longitudinal study, the Panel Study of Income Dynamics and analyzed. The sample of 636 Black males was selected from a re-interview of the same participants in a second CDS-II study. The Woodcock Johnson-Revised (WJ-R) Achievement Test for reading and math was used at two different points in time to assess change. The analysis consisted of multi-level growth curve with PROC NLMIXED procedure of SAS version 9.1.3 statistical software. Results showed that parental practices of employing social and cultural capital do significantly mediate both math and reading achievement in Black males. Family income is also a factor. There were large differences in both the math and reading achievements of middle and upper-middle income students as compared with low-income students. When statistically considering income alone, the effects on reading and math were greater than when parental practices were included,

suggesting that those income differences can be counterbalanced by parents' active involvement in school as well as after- and out-of-school activities and programs in the community for lower income students. Working parents may not have the flexibility or knowledge about school processes to be able to intervene on behalf of their children in the same way as parents who had already had exposure and experiences in advanced education. Dixon-Roman's results also supports research showing that schools have different standards of treatment for Black males that results in increased occurrences of labeling and behavioral problems. Evidence for this is connected to a negative slope of the math line as well as reading achievement following a parent-teacher conference. Dixon-Roman suggests that this is an indication of Black parents themselves receiving differential treatment and not being able to fully advocate on behalf of their children in the same way as their White counterparts. It did not stop some from trying.

Black male achievers without the financial resources still make it to good schools despite being at a disadvantage. Harper and Griffin (2011) address the perception that Black male, low-income students at elite, expensive private schools are considered the beneficiaries of affirmative action policies and are not there on their own merit. The authors examined how these low-income, Black male achiever students gain access to high-cost and, elite, private institutions. Harper et al. performed criterion sampling in this phenomenological, qualitative study on the results of the National Black Male College Achievement Study (NBNCAS), a large empirical study of Black undergraduate men. Forty-two

participants met the income criteria for the study. Additionally, they used proxies to determine the socioeconomic status of the participants. Findings revealed that most of the participants came from rigorous high school experiences afforded by special programs (Posse, and Prep for Prep) that prepared them for college entrance. Moreover, the elite schools offered financial aid incentives for this group of well prepared students to attend their respective institutions; otherwise, participants reported that they would not have been able to attend those institutions. Harper et al.'s research proves the most important issue and recurring theme stressed in extant literature, which is that with proper preparation, Black male students are successful, when given the proper education.

Cost of a medical education. The cost of a medical education has been increasing at a rate much greater than inflation over the last 20 years, along with an increasing size of the debt incurred by medical students with debt (Younclaus & Fresne, 2013). More and more students matriculate to medical school carrying debt accumulated from their undergraduate degrees, and/or via credit card. In fact, 38% of medical students graduating in 2012 reported that they matriculated having borrowed a median of $20,000 for undergraduate school. Very few medical students are able to write a check for tuition, let alone finish the program without borrowing to cover the costs of textbook, instruments, various fees including board exams and travel to rotations and interviews, as well as for basic living expenses. Roughly 80% of students graduated with some amount of debt. Youngclaus and Fresne report the median debt of students who borrowed for a

medical education from a public and private medical school to be $160,000 and $190,000, respectively. While scholarships are available, more so at private schools, they are but a fraction of the cost of attendance, so students still incur debt. There are some scholarships offered by the military and National Health Service Corporation in exchange for service from the graduate, which covers all costs, but not many students take that option. For students lacking the financial means to attend college, debt is typically the limiting factor, so leveraging future income to pursue a medical degree can be prohibitive. Youngclaus and Fresne's report showed that Black/African American graduates incurred more educational debt and reported a higher medium debt amount than other groups. As stated earlier, Rao and Flores (2007) described their study participants as feeling challenged by the financial and time commitments to a medical education.

Clearly, African American students need to be made aware that a medical education is a worthwhile endeavor. It is worth the investment of both time and incurring debt to pay for the education, as very few doctors default on their debt. If a doctor defaults, it is most likely because she or he did not open and/or read her or his mail from the lender, or failed to submit a change of address. Otherwise, having to borrow should not be a deterrent to seeking a medical education, as repayment can be properly managed.

Graduate school successes. Johnson-Bailey, Valentine, Cervero, & Bowles (2009) assessed the experiences of Black graduate students at a Southern research university to determine whether the atmosphere of the campus

environment accounts for their low enrollment of Black Graduate students. The authors looked at the types of interactions between the Black graduate students and the faculty as well as with their fellow students. They attempted to gauge whether the students' memories of graduate school years and/or the program was positive. Since the students succeeded academically, how would they characterize their social experiences, and did those experiences remain constant?

Johnson-Bailey et al. used a mixed methods approach where the authors collected survey data from identified Black alumni, who graduated with either a graduate or a professional degree, over a 41-year period from a University in a Southern State in a longitudinal study. The entire population of Black Alumni from different graduate and professional programs were sent the survey questionnaire, and the respondents who properly completed the survey were the actual sample used. The survey instrument itself can be considered of a convergent design, as it contained both Likert scale questions as well as six open-ended questions, which were ultimately compared for similarities and consistency of responses during the analysis phase. Unexpectedly, the authors received additional data in the form of journals participants kept during their tenure, CVs, phone calls, newspaper clippings, and email and letter correspondence. Information in regards to their social experiences from these sources were also analyzed and compared.

Findings revealed, and were statistically supported by the data, that Black student experiences of racism over the 41 years had not diminished and were

certainly not non-existent. What did change over that time period, however, was that faculty discrimination and faculty underestimation of student ability decreased, while White student discrimination increased. The authors accounted for this by the reasoning that White faculty have age, longevity in experience with Black students and come from more varied backgrounds than White students who come from the same state having likely spent less time in the presence of Blacks overall. Moreover, the data supports the extant literature exposing the existence of the same factors of "isolation, discrimination, forced representation (one Black person represents the entire race) and stereotyping" on PWI campuses for both undergraduate and graduate students alike. Johnson-Bailey et al. felt that the data "exists in tandem, each supporting, expanding and clarifying the other" (pg. 196) and gave the example that "only quantitative analysis could show that White Professor Discrimination had decreased while White Student Discrimination increased". Additionally, "only qualitative data could convey a sense of what the participants meant by discrimination…" (pg. 196) The authors found common reports of loneliness, isolation and disconnection from the campus in addition to over 50% of respondent stories of overt racism. However, all stories were told with "accounts of persistence, endurance and survival." All students were steadfast in their commitment to succeed. The authors quoted two Black male participant responses where one Masters student reported direct discrimination, and the other, a PhD student stated "I was determined to complete the program, no matter what obstacles I faced" (pg. 194).

Ballard and Cintron (2010) analyzed African American male success in doctoral education using Critical Race Theory (CRT) as an analytical tool to investigate reasons for those who are enrolled in and graduating from programs. The study sought to determine if there were consistent themes in the narratives of five African American male participants that enable them to successfully graduate through qualitative interviews. Ballard et al. were able to sort participant responses under CRT's tenets of microaggression, counter-stories, and safe/counter spaces. Despite the varied lived experiences of the participants throughout the educational process they were each able to endure the process with the strong feeling that failure was not an option. African American males need to have role models and support in the form of mentors to help guide them through the process once they are admitted.

A critique in regards to this paper would be that using CRT did not allow the participants' individual voices to be directly heard. For example, all but one participant mentioned experiencing microaggressions, but the paper does not elaborate on how they dealt with it. One was not left with a sense of the specific challenges they faced and how those challenges were overcome or managed.

Medical student success. Thomas, Manusov, Wang, and Livingston, (2011) sought to determine what factors contribute to Black male students succeeding in gaining admission to and graduating from medical school. Understanding what it takes for this vital section of society to succeed is one important way to increase the number of Black male physicians. Thomas et al. agree with reports and extant literature that a diverse physician workforce is needed to deliver

healthcare services to underserved populations and communities that include research on diseases that disproportionately affect these communities. The authors suggest that patients will be more willing to participate in clinical trials and be more trusting of physicians that look like them. Their results illuminated that contributors to success for Black men who make it to medical school included the following themes: Exposure to the field of medicine early on in their years prior to high school; mentorship and role models in the community; social support from family, peers and teachers; and personal attributes that allow them to persevere and utilize these systems to succeed.

Summary of Student Successes. Despite the challenges African American male students face, there are students in college who are succeeding, although too few of them make it to graduate and professional programs. Successful college students engaged in student organizations on campus and actively sought interaction with faculty, while vigorously resisting racism. African American males construct coping mechanisms that include family and peer support, and actively solicited mentors. Teachers can contribute by providing culturally responsive instruction and exhibiting high expectations of their African American male students. Evidence shows that students with more modest financial resources are not dissuaded from pursuing higher education or medical school. Early exposure to the medical field was an encouraging factor in students choosing medicine as a career. More research needs to focus on the factors these students employ to persevere and remain resilient in the face of negative perceptions and stereotypes about them.

Conclusion

This review shows that there is plenty of historical and contemporary empirical evidence that clearly demonstrates the existing disparities as well as the negative implications of healthcare outcomes for poor and minority communities. African American patients do not receive the same level or rate of treatment for routine procedures even when controlling for factors such as income and health insurance, thereby increasing mortality rates. This review also contains empirical evidence showing that the benefits of increasing diversity in the health professions workforce extend to all Americans. Medical education is enriched with a diverse classroom experience, producing physicians better prepared to care for an increasingly multicultural population. Access to healthcare for the poor and underserved communities is improved as minority physicians disproportionately practice in those locations. Perceived trust and better interaction between physician and patient of similar race, ethnicity and culture, is noted, with the result of that trust having good potential to extend to more minorities participating in clinical trials, including research on diseases affecting minorities.

Eventually, the question comes back to, how to increase the numbers of underrepresented, particularly Black men, in the health professions when disparities clearly exist in an unequal education system and the education of Black boys, starting from kindergarten. Shifting the research focus to how the students who succeed manage to do so in spite of the challenges and barriers

they encounter is one important approach to a critical problem that needs a multipronged approach. Thus far, the research shows that early exposure to the medical field perhaps through pipeline programs, which have their own challenges, is one ingredient. Home and school environments with culturally prepared teachers who can work together with willing parents keeping student success as a central goal is of critical supportive value. Mentorship is another important ingredient; students need someone to guide and support them through the academic process. These are only preliminary insights from success stories, but more Black male student voices on how they were able to persist despite these obstacles need representation in the literature so that what makes them successful can be replicated by others.

Future direction for research

As the evidence in this literature review shows, not much has been written about the experiences of Black male medical students, and their voices have found little representation in the literature. Future research aimed at adding to the literature from a position of strength, illuminating but also widely reporting, what works for those Black men who have succeeded in medicine, is also needed. Given the dearth of Black male medical student voices in the literature, the author proposes additional qualitative inquiries to learn about the varied experiences of Black men enrolled in medical school. What protective factors did they employ in response to the challenges they encountered in order to persevere and navigate to the point of matriculating to medical school despite all of the barriers in their educational journeys? We need to better understand

questions like: (1) How do Black men in medical school understand and perceive their reason for academic success? (2) Are there unique resiliency characteristics in Black men who pursue a degree in medicine? And, just as vital are, (3) how can we engage more Black male physicians in pipeline processes and to serve as mentors to young Black boys? (4) What are the interactions with faculty and peers? (5) What changes would students themselves recommend to medical school administrators in order to improve minority recruitment, retention and wellbeing? This information would be invaluable, sending a message to high-school students, college students in the pipeline, and to school counselors and college health professions offices, that a career in medicine is an achievable goal for Black men.

One recommendation is to publish such vital information in mainstream educational journals and not just medical journals primarily read by educators of students already enrolled in medical school. Educational researchers need an understanding of what it takes for Black boys to succeed to the point of matriculation to medical school and that they are successful once there.

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