

Research on affirmative action and science education

[Education](#)



Historical disadvantages cannot be discounted when considering the achievement of individuals or a group of people in society, be it achievement in industry, innovation or importantly, education.

The minorities in America have historically been denied opportunities to the best education, and this was prevalent up until the victories of the Civil Rights movement in the 1960s onward. With the competitiveness of the country in the modern world largely dependent on how well its students excel in math and sciences, it is important to gauge the extent to which minorities have benefitted from affirmative action in education, with emphasis on the sciences and math.

This paper explores the factors that have contributed to the wide gap in representation of minorities in science and math education. It then looks on the brighter side to identify policy steps and moves made by the U. S government organs - including the executive and the judiciary - in ensuring that the achievement gap is closed, and the success of these initiatives thus far.

It also delves into initiatives at the individual college level, identifying programs that have been instituted and proved successful on a variety of points. Finally, a small peek at the progress made by blacks in science is offered as evidence of progress, however little.

Factors Contributing to Unequal participation of Blacks in Sciences

A lot of research has gone into addressing this issue and consistently, a number of factors have come out as the biggest culprits in stifling progress in science amongst blacks; poverty and environment, inferiority complex,

poorly-equipped schools and more. This section presents these factor one at a time;

Poverty and the Environment

Inner cities are populated by the poor, and this has been so for as long as they have been in existence. The question arises as to whether it is a permanent trap from which no one can escape, but people do rise economically from the inner cities, only that they immediately leave for safer neighborhoods and leave behind a neighborhood with even less virtue within it.

This is the environment in which most urban blacks live, and as they grow up, they are inevitably influenced by it. Many grow up in single parent families without a father figure to guide them, while the provider, usually the mother, working multiple jobs to put food on the table. Effectively, these children are raised on the streets, where crime and drug trade is rife.

They thus end up dropping out of school due to bad influence and a lack of guidance.

Those who do make it to high school and even college despite the odds face huge obstacles in trying to raise the requisite fees for college, which has risen to astronomical levels in recent years.

The most expensive courses tend to be science-based owing to the nature of the resources necessary for effective study. Most blacks who cannot raise enough to make it into science courses therefore have to settle for other courses or might not join college at all. While scholarships exist, these are very limited and competitive.

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Inferiority Complex

After a student has been through the experience described above, of poverty and a lack of opportunity, s/he is highly likely to become apathetic toward education.

They get to be told how blacks never excel at science or math from an early age; that they can only amount to as much as the people they see around them have. Under the circumstances, they tend to believe this and it reflects on their grades in math and sciences. This is compounded by a lack of proper equipment and instruction, as will be explained in the next section.

Inferior Schools

There are a number of ways in which schools get funding; for private schools, the parents pay high fees, meaning that poorer black children have little chance of getting in unless they are sponsored, which is rare. That means that public schools are where most poor black students end up.

These have funding shortages owing to the fact that the money comes from the state and/or federal funds, and is usually too little to cater for the large populations of black children in inner city schools.

The schools are therefore unable to hire enough high quality science teachers who require higher remuneration than their counterparts. Some teachers simply decline to work in tough conditions, opting to practice in private or charter schools.

Lab equipment for scientific study is often lacking or in poor shape, making it difficult for students in these schools to excel in the sciences. They therefore miss the cut when enrolling for science courses in college.

Inadequate Career Guidance

Ideally, students are supposed to make decisions on their career paths. But for this they need guidance, as choosing a career requires an understanding of the opportunities that exist, the challenges involved in the studies and on the job, the requirements for one to be admitted into a course that sets them on the path to that career, etc. in inner city schools however, there is a shortage of career counselors in schools and role models in society with whom black students can associate and get inspired to pursue careers in medicine or physics.

The result is a population of students lacking in information and inspiration to challenge themselves beyond their comfort levels and take on the more challenging courses in science.

Remedies

Seeing as the factors afore-mentioned are so debilitating, counter-measures need to be in place to remedy the situation. A number of proposals have been put forward, some of which are being used.

The first is specialized programs for career counseling that go beyond the immediate mandate; they will put special emphasis on ensuring that students get access to counseling for their problems back at home and help them focus on what they would like to become in future. This has the effect of overtaking the influence of the streets in shaping the mind of the student.

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A second remedy proposal has been the creation on special colleges of science for minorities that take into consideration the difficult background from which most of them hail. These will be able to admit students who have the potential for achievement but who cannot get into mixed race colleges because of grades or fees.

The special colleges will however be required to maintain high standards of excellence to get continued support. The Carnegie Fund is involved in such programs, and in most cases requires that the colleges it funds be affiliated to established universities that require good benchmark standards in facilities and achievement.

Policy and Minority Education

Across the country, there is recognition of the fact that the severely disadvantaged past from which minorities have emerged mean that they are inherently disadvantaged.

In stressing this point, President Johnson in 1965 said that it one could not take someone that had undergone centuries under shackles and suddenly free them and put them on the starting line to a race to compete with the rest and say that this was a fair situation.

This analogy has been used to justify affirmative action steps for the past half a century that started with the historic decision in ' Brown v. Board of Education' in 1954 that did away with the ' separate but equal' doctrine hitherto used to segregate minorities from accessing the best schools.

Since then, numerous laws and policies have been passed to further affirmative action; but a few stand out as having opened the door for minorities to excel in science.

Regents of UCA v. Bakke

In this landmark decision in 1978 by the Supreme Court, the University of California was ruled to be within the law and the constitution in including race as a factor in their decisions to admit students into their graduate program in medicine.

Bakke had filed a suit against the University on the grounds that he had twice been rejected entrance into the program at in favor of academically less qualified minority students. The court ruled that the exclusive use of race as a factor in admission was illegal, as would be the case when quotas are allocated to minorities.

However, the use of race as a factor to promote diversity in a college setting was constitutional and within the law. This decision opened the doors for institutions that had hitherto been reluctant to implement affirmative action on fears of lawsuits were now explicitly authorized to do so. It brought about a sharp increase in the percentage of minority students within classrooms as colleges give greater consideration to backgrounds of students through the personal statements they write.

In these statements are stories borne of historic racial disadvantage as minorities are bound to have more compelling accounts of poverty and other obstacles than would the average white applicant.

On the basis of this alone, some colleges now have minorities being the majority group in colleges. An example is the University of El Paso that has matched its surrounding's demographic of majority Hispanics with a similar percentage within the campus.

The ruling made in UCA v. Burke once came under challenge in Grutter v. Bollinger in 2003, but the ruling was in favor of continued consideration of race as a factor in admissions, further vindicating affirmative action.

Charter Schools

The elementary level of education is probably the most important in the development of an intellectual as it lays the foundation upon which everything else is built. Charter schools have been very successful in ensuring that more minority students receive quality education.

Charter schools are special types of elementary or secondary level schools that receive funding from the federal government yet remain largely autonomous, unencumbered by government bureaucratic regulations. In return however, the schools are required to attain certain benchmarks in the performance of students for them to continue running as charter schools and thus continue to receive funding.

Charter schools may be public schools that agree to operate under the guidelines of charter schools or may be privately initiated. They are, like public schools, not required to charge tuition.

They are in incredible demand owing to their performance, and often there is a waiting list of students waiting to enroll. Lots are often drawn for spaces at the school. As of 2009, 49 states had introduced charter schools.

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Charter schools are usually initiated in disadvantaged districts to improve the quality of education. Since most poor districts are comprised of minorities, it has proven inevitable that most charter schools are populated by inner city students.

The exposure to better teachers, to counseling and an overall effective learning environment has led to many minority high school students attaining sufficient grades to gain then entry into quality courses in science and engineering.