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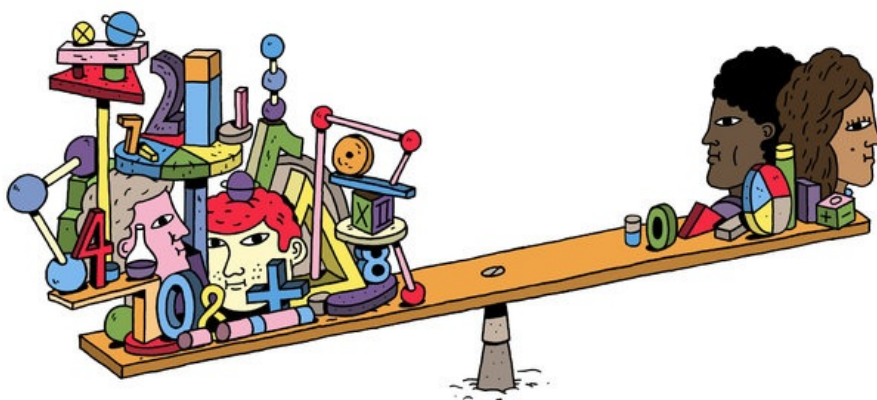
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EDITORIAL

Missing From Science Class

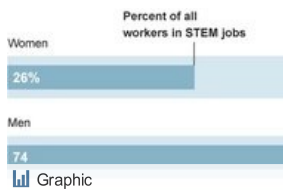
Too Few Girls and Minorities Study Tech Subjects



By THE EDITORIAL BOARD
Published: December 10, 2013

A big reason America is falling behind other countries in science and math is that we have effectively written off a huge chunk of our population as uninterested in those fields or incapable of succeeding in them.

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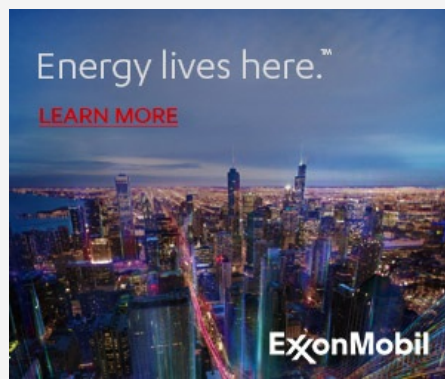
Math for Real Life

Women make up nearly half the work force but have just 26 percent of science, technology, engineering or math jobs, according to the Census Bureau. Blacks make up 11 percent of the workforce but just 6 percent of such jobs and Hispanics make up nearly 15 percent of the work force but hold 7 percent of those positions. There is no question that women and minorities have made progress in science and math in the last several decades, but their gains have been slow and halting. And in the fast-growing field of computer science, women's representation has actually declined in the last 20 years, while minorities have made relatively small gains.

These jobs come with above-average pay and offer workers a wide choice of professions. Opening them to women and minorities would help reduce corrosive income inequality between whites and other groups, and would narrow the gender gap in wages. Improving the representation of women and minorities would also enrich American scientific research and development, because they

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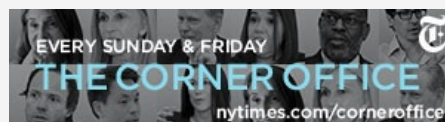
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Q. & A. With Freeman Hrabowski

By DAVID FIRESTONE

A university president who has probably done more to encourage interest in science and math among minority and low-income students than any other educator.

will add a different perspective to workplaces currently dominated by white and Asian men.

Moreover, the people who do well in these professions will be much more likely to lead the industry in the future and make decisions that affect thousands of workers and customers. Many technology companies, including Twitter until recently, have no women on their board of directors, and few blacks and Hispanics in senior management roles, in part because too few girls and minorities are becoming programmers and engineers.

What's Holding Them Back

The biggest career disadvantage faced by many lower-income blacks and Hispanics is their limited access to a good education. Compared with upper-income Americans, a greater percentage are raised by parents who have not gone to college or graduated from high school, and more grow up with single parents who do not have the time or resources to enrich their children's education. Moreover, a smaller percentage of minority children attend enriching prekindergarten programs, which studies have shown aids the development of cognitive and analytical skills that are needed to do well in science and math. A [recent study](#) showed that nearly half of Hispanic 4-year-olds are not enrolled in any preschool classes. While more than 60 percent of black 4-year-olds are enrolled, most of them are in programs of low or mediocre quality.

Schools that serve minority and lower-income neighborhoods tend to employ teachers with fewer years of experience and less specialized training in math and science than schools in white and upper-income neighborhoods, according to a 2012 National Science Foundation [report](#). By contrast, developed nations like Germany, South Korea and Belgium tend to devote more resources like teachers to schools that serve their most disadvantaged students than on schools that serve advantaged children, [according to](#) the Organization for Economic Cooperation and Development.

Lower Expectations

Entrenched stereotypes about who does well in science and math also work against minorities in classrooms. Too many teachers give up easily on them simply because they are not expected to do as well as white students. Despite those challenges, many minorities still enroll in science and math programs in college but fewer of them earn a degree in those programs in five years — 22.1 percent for Hispanics and 18.4 percent for blacks — than whites (33 percent) and Asians (42 percent), according to a [study](#) by researchers at the University of California, Los Angeles. Many of those who leave are simply ill-prepared for the rigors of college-level math and science. Others feel socially unwelcome because they make up a tiny minority in largely white and Asian science and engineering departments. They also have far fewer role models to look up to.

Unlike minority children, girls as a whole do about as well as or better than boys as [measured by](#) their high school grade point averages in science and math. And in the last several decades, women have made great gains in fields like biology, chemistry, psychology and sociology; they now earn a majority of undergraduate degrees and a growing proportion of advanced degrees in life sciences.

But women have made far fewer gains in physical sciences and more math-intensive fields. When making choices about their majors and careers, many young women rule out engineering and computer science partly because they are uninterested, feel ill-prepared for them or because society identifies these domains as male. Women who do earn degrees in these fields leave those professions at much higher rates than men. And the women who graduate with degrees in engineering and computer science are [less likely](#) to be employed than men.

In many cases, women seem to have internalized society's belief that they are incapable of mastering these fields as well as men. Carol Dweck, a professor at Stanford, and other psychologists have [found](#) that female students who are made to believe that math ability is innate have lower scores and are less likely to study math than girls who believe that math skills can be acquired through hard work. Another [study](#) showed that female college students got more questions right on math tests when they were told beforehand that "college students are good at math" than when they were told "women are bad at math," which suggests stereotypes undermine women's performance.

Insufficient Resources

These gaps could be reduced if every child had access to free public preschools. Earlier this year, President Obama proposed making high-quality preschools available to 4-year-old children of families

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with incomes of up to 200 percent of the federal poverty line, at a 10-year cost of \$75 billion. Studies have shown that every \$1 invested in preschools saves society \$7 in the future through lower spending on remedial education, higher productivity and less crime.

The country should also make sure that the schools that primarily serve minorities have the resources and support they need to hire qualified teachers so their students are not at a disadvantage relative to children in more affluent areas. States will need to take the lead to make this happen, but the federal government can also assist through grants and other support.

Conventional Teaching Methods

The Knowledge Is Power Program, which operates 141 public charter schools around the country, has effectively used smaller class sizes, longer school days and summer school to help lagging minority students improve test scores in math, reading and science. Teachers at KIPP schools maintain high expectations of all students, working intensively one-on-one with children until they comprehend every important concept. Though the program has been criticized for its dropout rates and admissions policies, one recent independent [study](#) of KIPP's approach showed that middle school students who spent three years in its schools had math scores that on average put them 11 months ahead of where they would have been had they not joined the school; they were 14 months ahead in science achievement.

Teachers also need to make science and math education much more practical and hands-on. Girls have shown much more engagement in subjects when they learn the [connection](#) between what they are studying and real-world problems. That may partly explain why so many talented girls prefer to go into life sciences, where that link has generally been more apparent.

Not Enough Role Models

Groups like the National Action Council for Minorities in Engineering have been [showing](#) minorities and girls that they can imagine themselves as scientists or engineers, providing role models to speak to middle school students and helping high schools set up engineering academies. A five-year [program](#) funded by the National Science Foundation at Bowie State University, a historically black university in Maryland, provides training and mentorship to high school science and math teachers and a summer science academy to 10th graders.

For both women and minorities, academic and social support is critical. The University of Maryland, Baltimore County has programs for [minorities](#) and [women](#) that provide students with scholarships, mentorship, internships and involvement in cutting-edge research. Students enrolled in its programs are much more likely to graduate than other comparable students.

More than half of the American population will be made up of minorities [in 2043](#). And the number of women who are the primary or sole earner in their families is [growing](#). Those trends make it imperative that one of the most dynamic sectors of our economy no longer remain a male and largely white and Asian domain.

A version of this editorial appears in print on December 11, 2013, on page A30 of the New York edition with the headline: Missing From Science Class.

READERS' PERSPECTIVES

TOPICS: [All \(555\)](#) [Holding Them Back\(107\)](#) [Lower Expectations\(133\)](#) [Insufficient Resources\(50\)](#)

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FILTER BY:

HOLDING THEM BACK

107 READER RESPONSES

Lucinda Piersol
NYC, United States • Student

Some schools that serve minority and lower income children have highly qualified math and science teachers such as in Holyoke, Ma. The teachers are frustrated by bad behavior of the students, problems of very young parents, problems of generational poverty, malnutrition, fetal alcohol syndrome, etc. It is said that the one third or one quarter of the students who seem to surmount the situation, those students who might achieve community college level, are frustrated by the general situation, and not by the teachers. Educational cant and "theory" hamper these teachers as well.

Kevin Cahill

Albuquerque, United States • Science and Math Professional

Too few girls and boys study STEM subjects. Why? Because American journalists know no science and don't like it. The media have made science unfashionable for 90 years. Girls pick up on the unfavorable press and avoid science, but so do boys.

Jonathan P

Durham, NC, United States

This viewpoint is not limited to science and math.

vulcan Alex

Jackson, United States

What a joke now we are going to force people to study science who are really not that interested in it. In an age where the internet brings things to almost everyone the excuse that some don't get enough resources is very weak. Look elsewhere for the reasons.

Joe Marshal

Naples, United States • Parent

I disagree for a couple of reasons. The section "What's Holding Them Back" does not mention girls at all. So "What's Holding Them Back"? And when did it happen that the humanities became a useless waste in the need to assimilate with the Borg? I am now an old fuddie duddie but when I went to university, the goal of the institution was to teach me how to think. You bemoan the fact that women and minorities are not equally represented in collegiate-level Vo-Tech trade schools. Of course we need the trades. If I had wanted to work in the trades, I would have taken Grandpa up on his offer to get me in the union. Gripping about women and minorities not beating down the doors to get into white male dominated jobs may only indicate that there is a problem with the jobs, not with women and minorities.

I-C L-E

The Bronx, NY, United States • Student

For whatever reason, many of the students U describe as being disadvantaged, do not seem to take advantage of opportunities when presented. Too often they are disruptive during lessons, and do not complete their assignments. Why would an experienced, talented teacher put up with such students if he or she can move on to a better pedagogical environment? Dedication is not enuf to keep a teacher motivated by the student population I describe above. I started in a poverly area school, and eventually moved on to a specialized (entrance exam) school.

Paul S

St. Louis, United States • Science and Math Professional

I think this is a bit shallow. I came from exactly the background described here. I was told that 'we don't go to college, we go to work', no pre-school at all (not even available in my small town). I didn't take any college prep classes. My way out was to join the military. At 28, I decided to go for an Electrical Engineering degree (again, no family support at all). The VA helped with expenses, but I still worked to put food on the table. In spite of all that, I made it. What it takes is courage - the courage to ignore those close to you, to take the gamble, to put in 5 years of 80+ hour weeks to acheive the goal. It's damn hard, but it's doable.

Sarah Williams

Lemitar, NM, United States

Yes. It is abundantly clear that schools in wealthy neighborhoods get far more than schools in low income neighborhoods or rural areas. Having lived in Washington, DC, a Boson suburb, a declining neighborhood in Pittsburgh, and now in rural New Mexico, I have seen this happening since I graduated college.

Michael Paine

Marysville, United States

Have any studies been taken to investigate the interests of K-12 students? Maybe due to cultural backgrounds some portions of that grade level just don't have in interests in science, etc.

Hugh M

Houston, United States • Student

My friends and I went to a HBCU. I am currently in medical school, and most of my friends are employed in the STEM fields. At our school, the students do not want to get involved with STEM because the classes are hard.

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LOWER EXPECTATIONS

133 READER RESPONSES

Lucinda Piersol

NYC, United States - Student

Minority girls who do well in math are sometimes held back by politically correct policy of some colleges where these girls are actually not strongly encouraged to use birth control since it is "not part of their culture," etc. Having children too early can be a huge factor in non-accomplishment.

Gary J

St. Louis, United States

The situation may be that women who have the ability to excel at engineering can also excel at a career that pays better and has better working conditions.

Sally Murphy

Eastchester, NY, United States - Student

Last night, my 12th grade daughter was inducted into the Math Honor Society, along with 14 other girls and 12 boys. Outstanding! I predict that 3 of the girls (20%) will go on to a S.T.E.M. career and that 8 (73%) of the boys will do so. There is much more social prestige accrued to a girl for being attractive and likeable than for being a math nerd. In spite of the tremendous strides women have made and society has made in embracing and celebrating women, their interests and their achievements, I believe that women still need more financial security and to be freer from chores in order to have the space and quiet, the support and security, to pursue their intellectual ambitions. To be proud nerds. As long as popular culture glamorizes fashionistas and housewives instead of mathletes and scientistas, we will all be shortchanged.

Louise O

New York, United States

TA's @ the elite colleges- went to one- discriminate against the women whom they feel forced to call on or when a woman speaks up: praise male insight while diminishing females. Even if the sections or labs weren't out right hostile, the atmosphere was unwelcoming to women. Us v Them. I believe it stems from a false construct of the male as superior: intelligence & moral fortitude with a millennia of institutions constructed to prevent truly challenging- ergo, false positive. Maybe it's because males don't give birth.

Jim Waddell

Columbus, OH, United States

The telling statistic in this section is the performance of Asians. Historically Asians were discriminated against as much as Hispanics, Native Americans and post Civil War blacks and were considered equally inferior to whites. That doesn't seem to have hurt their performance in STEM subjects. Any theory about the low proportions of women and minorities needs to also explain why Asians did so much better.

Olabisi Alao

Rochester, United States - Student

True. Some portion of America believe women should take the back burner in regards to the academic pursuit of the sciences and engineering. They would prefer to see girls in the life sciences, nursing and education majors.

L M

Greenbelt, United States - Student

Hi, No, I don't agree with this criticism. I'm a woman taking integral calc, and math classes are incredibly unfriendly toward women. The competitiveness is severe, and the male students turn on us. When boys drop out, particularly if they're Asian or black, the schools tries to help them. When girls drop out, our school simply expects it and does nothing. Oh, and if you do well and you're a girl, it's because you worked hard, not because you're talented.

Sarah Williams

Lemitar, NM, United States

Yes. Girls can be ignored in science and math classes both in the elementary, middle, and high schools, IF the teacher has the mindset that girls can't wrap their brains around those subjects. This can lead to lower self-esteem, doubt, and less enthusiasm by the girls, as they see their teachers always calling on the boys in the class. It is imperative that teachers recognize girls and boys equally, and praise their answers and their work.

Jim Young

Evanston, United States

What evidence can you cite for the statement you made: "Too many teachers give up easily on them simply because they are not expected to do as well as white students"

Thom G

San Diego, United States • Science and Math Professional

Math training is hard work with rewards much later. Engineering jobs in the computer sciences does not involve pure math; but they still need hard work with delayed satisfaction. It is the same for anyone. Maybe women, or minorities, find an easier path elsewhere.

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INSUFFICIENT RESOURCES

50 READER RESPONSES

Jim Waddell

Columbus, OH, United States

My daughter graduated with a degree in Chemistry, and then separately obtained a teaching certificate. She taught for 3 years in an urban school district. She finally gave up and left for the private sector. She left because of large numbers of teachers who were marking time until retirement, parents who had no interest in education, and generally poor school management. The district spends about the same amount per student as wealthy suburban districts, although I would admit this doesn't factor in the greater percentage of ESL and other more difficult students urban districts have to deal with. But the problem wasn't resources, it was people - students, parents, teachers, and managers.

Curtis M

Detroit, United States

I disagree. Gains posted by children who attended Head Start programs are not held over time. This is not the conclusion drawn by a conservative think tank, but a recognized statistical truth as uncovered by federal impact studies. President Obama is playing to his crowd and their constant cry for larger and larger government.

Olabisi Alao

Rochester, United States • Student

I agree with this criticism. There are statistics and regressive models that support some of these hypothesis.

Sarah Williams

Lemitar, NM, United States

I totally agree. In areas where minorities are served, it is far more important for the schools to have greater resources than in areas where there is wealth. Wealthy people will make sure that their children get a good education. In poor area, parents are using working two jobs just to make ends meet. Our resources need to go to them.

David C

Indianapolis, United States • Science and Math Professional

Please cited the studies that prove a 7:1 benefit on dollars spent. This seems to be a dubious claim and often these stats go woefully unchallenged. I remain skeptical until I can read these studies and their methodology.

Jack C

Pittsburgh, United States • Science and Math Professional

When I worked at an elite university, some folks in my research division run a minority students outreach program for bioinformatic. Every year they invite and pay college and high school kids be our Summer interns in addition to run similar seminars in Puerto Rico. I have not yet seen any of these programs yield convincing results or producing minority scientists. It is basically just a scam for some my coworkers to have yearly vacation on Caribbean under the disguise of political correctness. According to the latest finding of OECD, money is not a determining factor for academic excellence at all. Vietnam is significantly poor than the US yet their 15 years old student still out perform US students by a large margin.

Lola Montez

Cleveland, United States • Parent

A terrible idea. Why is it relentless promoted? Because "free public preschool" would create a huge need for MORE public union teachers at very high wages, lux benefits and early retirement (on the public dime) and with NO accountability (due to their powerful union and unholy alliance with politicians). This will fail like Head Start has continuously failed for 5 decades. What children need is a stable homelife, and to live with their married biological parents and be raised with good moral values. The rest comes naturally. The state and public unions cannot replace good parenting. We used to be able to produce educated citizens with schools that began at age SIX (first grade). In Finland, school begins at SEVEN (second grade) and they beat at by every metric. Children need to be home with a loving parent at 3 and 4, not stuck in public preschool.

scheduler_d

New York, United States

Preschools, afterschool programs and support for the working class parents who work odd hours through 8th grade is necessary to keep American and minority students who fall behind up to par. The 1% vs. the 99% is destroying American society at all levels, especially educating its' youth.

Sharon Reagan

Williams, United States · Educator

I've worked in the low demographic schools and I think the teaching is equal to more affluent schools. The poor kids come into school a year behind and face more social/emotional problems than affluent kids. Good pre-schools and afterschool programs are what is needed. Family expectations and support are also critical. Many Asian immigrant children face equal disadvantages; but their families place a very high emphasis on hard work and education.

Robert

Knoxville, United States · Science and Math Professional

Another program showering money when targeting it might be better. I have serious doubts about the federal government being able to organize and staff "high-quality preschools" for ~3M 4 year olds (the approximate total 4 year old population) when our existing primary schools can't possibly all be "high quality." And again, where are those teachers coming from? From the US Census Bureau CPS Oct 2012- Detailed Tables: About 1.25M 3 and 4 year olds from families with annual incomes up to \$40K are NOT enrolled in a preschool program--likely the ones most at risk. With \$7.5B/yr available, what could we do with this money to help these children? Well, we could give each of those families about \$5K/yr--about \$20/hr!--to spend just two hours, for 250 days, with their 3 or 4 year child on school concepts. Probably more attention than they'd ever get at pre-k.

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TEACHING METHODS

69 READER RESPONSES

Irene Smalls

Boston, United States · Educator

Part of the problem is the one size fits all approach to Stem. If robots look like Barbie Dolls girls would play with them. Girls have physical and emotional needs as well as cultural and socialization patterns that are part of who they are. Additionally, girls from different groups are socialized differently. Most STEM programs for girls do not take these factors into account. Let's think outside the widget for STEM programming. An example of this is all girls care about their hair. HairMath is an informal STEM program in development for math and science adverse girls of color. HairMath introduces girls of color to STEM through hairstyling. In creating STEM programs we need consultants of color giving input on what works in the real world for real girls of color. STEM careers pay more. Girls of color care about money but won't give up their hearts and souls.

Sarah Williams

Lemitar, NM, United States

Yes. I found that I and my children understood science and math far better when the subjects were made fun. Hands on education can capture the imaginations of children, make subjects far more interesting, and lead students into the love of science and math. The teachers need to find inventive ways to make these subjects, and in fact, all subjects, enjoyable. Sharing ideas is very important for teachers, and with easy access now to the internet, ideas can be shared across the country quite easily.

Edith M

Phildelphia, United States

I get the impression from the people I know (many scientists) that the women also feel that they need to be doing something to help others, and that is more apparent in the life sciences.

Americo Perez

San Francisco, United States

Making a connection between math and the real world is not essential (not done in South Korea or Japan). Suggesting that this is the reason girls are interested in the life sciences is misleading and reinforces stereotypes.

Lola Montez

Cleveland, United States · Parent

Our public schools are horribly hampered by ONE basic fact; they are still structured along customs of the 19th century, for example letting children off for the summer harvest. Or ending the school day at 2:30PM so kids could go do the chores. Only 1% of us work on

farms, but we keep this schedule even though it is costly and inefficient -- WHY? because highly paid public union teachers WANT all summer off with pay. They WANT to go home 3 hours early. They WANT their privileges. They do not want to work an 8 hour day, like everyone else, or get 2 weeks vacation like everyone else. The fact that this is harming children (poor kids the most!) does not matter. All that matters is that teachers get their posh union privileges -- while WE taxpayers foot the bill.

Dennis R

New York City, United States • Science and Math Professional

Why is this section called "Conventional Teaching Methods." The first paragraph seems to be an advertisement for KIPP schools. While it appropriately describes the large dropout rates it neglects to say that these school take fewer special education students, English language learners and spend more money per student than other schools in the same district and so comparisons to other schools is problematic. In an editorial about the inclusion minority students there should be an in-depth analysis of reports suggesting that these schools have unusually high rates of attrition for black males. Instead the editorial praises its standardized test scores. The second paragraph describing the benefits of "unconventional" teaching methods for girls by offering more hands-on and practical learning needed more emphasis because it holds real potential to improve the inclusion of females in STEM fields. The NYTimes needs to improve this editorial series.

Jason C

Athens, United States

Could be totally wrong, but I thought the lesson of KIPP was that it addresses the motivation, discipline, and study skills issues head-on and very successfully. Since KIPP students then succeed at a conventional math curriculum, they didn't need some kind of specialized math-for-minorities (what would that even mean?)-- they needed specialized help to develop the focus and discipline that everyone needs to succeed in school because their very difficult out-of-school lives make it unusually hard for them. Racism and poverty are certainly what makes their out-of-school lives difficult! But I doubt racism and poverty affect your STEM skills directly; it seems more likely that dealing with racism and poverty corrodes the quiet time, focus, resilience and discipline that are required to do anything difficult and this effect shows up differentially in STEM because STEM is harder than other subjects. Or am I totally wrong? It's happened before...

Lauren R

Nashville, United States

Good teaching will always stress the connection between theory and real-world problems -- this is not something that should be focused on behalf of women or minorities. Without such context, there is little inspiration of imagination, and it is this imagination that fuels true intellectual thought.

Bethesda Q

San Diego, United States • Educator

I agree with the findings, yet is undeniable the fact that these subjects are challenging for most students as well as teachers. I know teachers who are intellectual in math and physical sciences but cannot transfer effectively the concepts to their students. The most important thing the school can do to remediate this problem is train and motivate their teachers and invite community collaboration.

Michael Haddon

Alameda, United States • Educator

KIPP teachers work very long hours for relatively little money. Their turnover is very high, their teachers burn out. Smaller class sizes and more hours on task will improve learning.

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FEW ROLE MODELS

87 READER RESPONSES

Lucinda Piersol

NYC, United States • Student

I do not agree with the promotion of gender equal roles. I would prefer some acknowledgement of sex differences which are biological, if not well understood. How about a 60% 40% breakdown in roles, i.e. not complete role reversal. I have seen many instances of complete role reversal not work so well.

Carl W

Vermont, United States • Science and Math Professional

The author may be right about everything, and we should do more, but there are also much bigger issues at play. Finding answers to why many more Asians, of both genders, are in the STEM fields compared to native born Caucasians would provide a higher level view of what is fundamentally missing in America when it comes to these fields. If we can't get enough

of the previously dominant group to stay engaged, why should we expect to do better with other groups in our culture. A bigger question is what do we really value and measure as a culture and in our education system?.

Sarah Williams

Lemitar, NM, United States

Absolutely. Women who are these fields might make themselves available to school districts, and come and talk with students. Minority women who have gone into these fields would be especially valuable to talk about their experiences, and give encouragement to the girls in the class.

Michael Paine

Marysville, United States

There is not doubt on this matter. What role models do young people see every day on the tube? Rich entertainers and athletes, who wants to grind out an MA or PhD in science or math and remain out of the lime-light of money and fame?

K P

Boulder, United States • Science and Math Professional

As a female scientist, I would not encourage girls to go into science. Take science courses, understand science, but get a job where it doesn't take 10 years just to reach the bottom of the ladder.

Petrus B

Boston, United States

Math and science are hard. There You can't dumb them down. Here is the tough truth: Only smart and hard working kids can succeed at math and science; skin color or ethnic background doesn't matter. Hard work matters. Get it right or go home. Science is unforgiving. We do kids a disservice by saying otherwise.

Jodi K

Brunswick, United States • Student

Last year I tried to examine whether this issue was as prevalent my high school, Hunter College High School, which is considered "gifted and talented". For my article in the school newspaper I found that many of the elective classes were skewed by gender biases, with higher-level math and physical science classes dominated by men and humanities classes by woman (in my AP Computer Science class there were 24 students - only 3 of whom were female). In interviews with the students, I found that very few perceived explicit gender biases or sexism. However, I think the discrepancy in gender representation among the various subjects, especially given the resulting economic gap, speaks to greater self-confidence issues among women. Importantly, this issue is not just present among charter schools, but exists at all levels of schooling, because ultimately low self esteem is a classless problem for women.

VSM

Ashburn, United States • Science and Math Professional

When you say minority. You need to be specific. There are many asians in science and math and they are also minorities.

Mike M

Dripping Springs, United States • Parent

google tams. first hit will be the Texas Academy of Mathematics and Science. Check it out, you will see that at TAMS the students are pretty darned equal, m/f, and this state's brightest.

john mcgraw

armonk, ny, United States

Poppycock! Half of the population will be multi-ethnic by 2043, if not well before this date. Our current categories of majority/minority will be meaningless. However, we will still see meaningful divisions -- and Republicans and Democrats -- based on income, family, personal beliefs and education. There will be no substitute for motivated individual achievement. Our education system must -- and hopefully will -- gradually improve to provide to provide all the skills needed for a dynamic and successful society meeting the needs of mid-21st century. Yes, we must make STEM disciplines open and inviting to all, but posing this an issue of women or minorities is mistaken. We must emphasize achievement in science, technology, engineering and math for all.

[Show More Responses](#)

Anne Rosenberg

Ithaca, United States • Educator

I agree with most or all of the points in this article, but I think one crucial piece is missing. Many young people are not inspired by science and math as it is taught in most classrooms. These subjects need to be relevant to everyday life AND capture the imagination of our students if we want more girls and minorities to pursue them beyond the bare minimum requirements.

Linda Burtch

Chicago, United States • Science and Math Professional

In a recent study we published analyzing salaries of the analytics workforce supporting the fast growing field of Big Data - a subset of the STEM fields - we found that women entering the analytics workforce average 98% of a man's salary at a comparable job level. This is a great opportunity for women to be on a level playing field with men in terms of compensation in this very high paying STEM specialty.

gary P.

Redding, United States

Here in California, a tiny minority fills our top Universities. In every top tier University this group is overrepresented: They are children of Chinese American parents. The urban high schools that these children attended had no special resources or financing. But behind these kids were tough parents who demanded excellence and hard work with no compromise. I challenge you Easterners to walk the college campuses of our UC system and count the droves of our Chinese American students--they disprove every notion that Easterners have on Affirmative Action and special treatment.

charles b

minneapolis, United States

The issue is not about American students. The issue is about students who are White or Asian males. It appears clear White and Asian males in all countries (not only the US) do better in science and math than women or other racial/ethnic groups. Clearly, what country White or Asian males live in is irrelevant, not the issue. Even with studies that adjust for all other so-called disadvantaged and socioeconomic factors, the disparate outcome remains the same. Whites and Asians vastly outpace other groups/categories in science in math. It has always been this way and will surely always remain this way. You might wonder why this is? How can this be? What can be done? Perhaps it's finally time to set aside ideology and politically correct thinking, and recognize the vast differences in intellectual ability responsible for science and math abilities. It's simply the way the world works..

Jill E

Scottsdale, United States • Science and Math Professional

I am an African American female with a biology major, chemistry minor and masters work in biomedical engineering. I worked for major medical device companies. When I lost my job because my company wanting to purchase patents from me, it was impossible to get another job in the industry. I currently work in the IT industry running 3 development groups as a contractor. I believe the reason is as a woman/minority, I am not part of the "club". I not the first person on the minds of the men I worked with as someone for a position. This is in spite of the fact that I ate lunch with them, chatted with them daily. As a female, I am not able to play golf with them, go drinking with them. So, although I am respected in the workplace, I am still, sadly, to them a girl.

B D

New York, United States

The "reason" attested here - a sort of tired political correctness - is part of the problem. Instead, why don't we point an accusing finger at the compulsive obsession with commerce and gain as the only things of value in life? ...

Richard C

San Jose, United States

I don't think that a board of Liberal editors sitting around a conference table in New York making the usual PC generalizations about society being at fault is helpful nor is it correct. It is actually tiresome. The real elephant in the room is the liberals' dreaded "PR" word - Personal Responsibility. If pre-kindergarten is helpful, as educators here claim and parents don't enroll their kids because their culture does not encourage education, then the "fault" lies there. And volkisch "genetic" theories suggested by one commenter is more racial theory than it is constructive dialog.

David Gregory

Marion, AR, United States

Most schools are poorly funded and equipped to present science effectively. Add in the assault on education by Evangelical Christians who seek to repeal any science inconvenient to their politics or fairy tales and we have a formula for failure. Our public school has a fancy indoor practice facility for the Football team but lacks adequate science education facilities, which shows the problem is not funding. As to the lack of young women and minorities participating, the problem is nothing the schools can change. That change starts at

home.

Jim F

Phoenix, United States

The feminists in the editorial department can't bring themselves to addressing the plight of young men, particularly young Hispanic men. Firstly, we need more teachers. The one's we have are good, but they don't have enough time to answer questions. During the weekly question sessions at my son's school, white middle-class and upper-class girls monopolize the teachers' time. This is especially tough for young Hispanic boys most of whom are culturally reserved. I am not talking hypotheticals here. Feminists hijacked affirmative action for the benefit of affluent white women.

John Moore

Indianapolis, United States

It (few Blacks in tech) is NONE of the things mentioned in this article. Its the fact that White/Asian tech firms (White/Asian hiring managers) just won't HIRE Blacks. It is that simple. Even if you are qualified and can do the work, White/Asian tech firms don't want you.

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