



ISSUE NO. 1:
**ARE PARENTS AND STUDENTS
READY FOR MORE MATH AND
SCIENCE?**

A Report from **Education Insights** at
Public Agenda.

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A Public Agenda Initiative to Build Momentum for Improving American Schools

REALITY CHECK 2006



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This is the first in a series of reports from *Reality Check 2006*, an ongoing set of tracking surveys on education issues. *Reality Check* surveys attitudes among public school parents, students, teachers, principals and superintendents on a regular basis. The series also includes periodic surveys of employers and college professors.

Jean Johnson, Ana Maria Arumi, Amber Ott and Michael Hamill Remaley prepared this report.

More information about the findings in this report, including full question wording and results, can be found at:

WWW.PUBLICAGENDA.ORG

Regular updates and new reports will be available at this location throughout the year.

ARE AMERICAN PARENTS AND STUDENTS READY FOR MORE MATH AND SCIENCE?

Introduction by Jean Johnson

“Obsolete” is the word Microsoft Chairman Bill Gates used to describe the nation’s high schools in his speech to the nation’s governors and education leaders at the 2005 National Education Summit. Gates explained his concerns crisply: “By obsolete, I mean that our high schools – even when they’re working exactly as designed – cannot teach our kids what they need to know today. ... Our high schools were designed fifty years ago to meet the needs of another age. Until we design them to meet the needs of the 21st century, we will keep limiting – even ruining – the lives of millions of Americans every year.”¹

Gates is not the only one advocating major reform. The American Diploma Project, an influential consortium that includes Achieve, Inc., The Education Trust and the Thomas B. Fordham Foundation, believes that expectations about what youngsters learn in high school must be raised and raised dramatically. According to the group, “the diploma has lost its value because what it takes to earn one is disconnected from what it takes for graduates to compete successfully beyond high school – either in the classroom or in the workplace.”²

High Level Concerns about Math and Science

Much of the concern centers on continuing gaps in achievement between white and minority youngsters and the high dropout rate among disadvantaged students. But some of the most dramatic critiques focus on the need to ramp up science and math education among students across the board. The Business Roundtable and United States Chamber of Commerce, for example, are leading voices for dramatically increasing the focus on science and math

in the nation’s high schools.³ The concern here? That U.S. leadership in science and technology is at risk unless high schools do more to train and nurture a whole new generation of young American scientists, engineers and mathematicians.

According to reports issued by these and other business organizations, American high school students are not sufficiently skilled and knowledgeable about science and math in general. Far too few have the preparation and desire to enter engineering and other careers that are critical to the nation’s economic competitiveness.

Just how ready are American families to take up the challenge the country’s business leaders propose?

¹ Gates, Bill. Prepared remarks to the National Education Summit on High Schools, February 26, 2005. Published on the website of the Bill & Melinda Gates Foundation.

² “Ready or Not: Creating a High School Diploma That Counts,” from The American Diploma Project, a partnership of Achieve, Inc., The Education Trust and the Thomas B. Fordham Foundation. February 2004.

³ Examples include: Business Roundtable press release “Business Roundtable Encourages Focus on Math and Science in Initiative for Teacher Excellence.” June 6, 2005. Also, the official statement on “Math & Science” on the website of the Center for Corporate Citizenship of the United States Chamber of Commerce, available on the website of the Business Education Network as of January 19, 2006.

Do parents share leaders' vision?

Earlier editions of Reality Check surveys from 1998 through 2002 showed that while most employers and professors were dissatisfied with high school graduates' skills, most families were confident that their own schools prepared their youngsters well. But given the passionate and high profile calls for high school reform, have parent and student views changed? Just how ready are American families to take up the challenge these leaders propose?

New results from the 2006 Reality Check surveys suggest that parents and students come to this issue from very different starting points. These results are part of Public Agenda's multi-year Education Insights initiative designed to address communication and engagement problems that could stall or derail progress in improving schools. The work was supported by the GE Foundation, the Nellie Mae Education Foundation and The Wallace Foundation.

Leaders need to lead

In the following pages, we summarize attitudes about high school reform and math and science education from our new round of Reality Check surveys. While neither parents nor their offspring underestimate the role science and math will play in the future world of work, the research suggests that leaders working for major high school reform need to do their homework. Families are aware of the challenge in a general sense, but relatively few see this as the pre-eminent issue facing their local high schools. More important,

Despite parents' lip service agreement that U.S. schools should be competitive, proposals to increase math and science coursework for their own kids could come as something of a surprise.

relatively few seem to absorb its implications in their own personal lives. That is, despite parents' lip service agreement that U.S. schools should be competitive, proposals to increase math and science coursework for their own kids could come as something of a surprise. As leaders in government, business and education move forward to address this issue, as they build a strong leadership consensus to act, they may be well advised to reach out to parents and students directly as well. Based on this research, they have one more agenda item to add to their list – helping American families understand the economic and educational challenges the country faces and involving them in strategies to find effective solutions.

Methodology

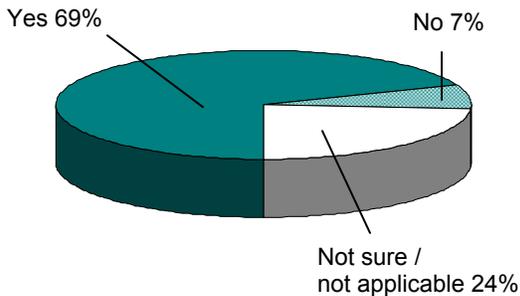
The findings in "Reality Check 2006: Are Parents and Students Ready for More Math and Science?" are based on two focus groups with parents and telephone interviews with a national random sample of 1,379 parents of children now in public school and 1,342 public school students in grades six through 12. Interviews were conducted between October 30 and December 29, 2005. The margin of error for the sample of parents is plus or minus 3.8 percentage points; the margin of error for the sample of students is plus or minus 3.4 percentage points. It is higher when comparing percentages across subgroups. Full survey results can be found at www.publicagenda.org.

FINDING ONE: JUST HOW MUCH HARDER SHOULD HIGH SCHOOL BE?

Most of the elected officials, corporate CEOs and education experts working for high school reform come to the issue with a premise. They believe today's schools aren't as challenging as they need to be and that students just aren't learning enough. But parents start from a vastly different mindset. Most are convinced their own children will be well prepared for college or work when the time comes. Substantial majorities believe the schools their children attend are better than the ones they went to. Most also say that the material their children are learning is more challenging and difficult than what they themselves had to learn when they were in school.

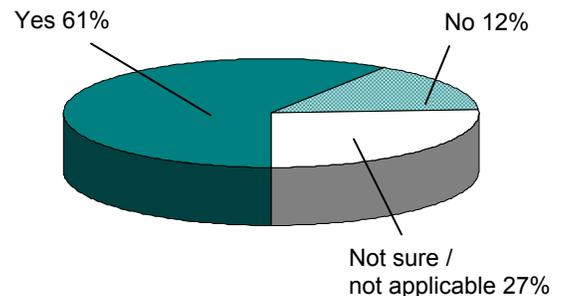
Most Parents Believe Their Children Will be Prepared for College

When your child graduates from high school, do you think she will have the skills needed to succeed in college?



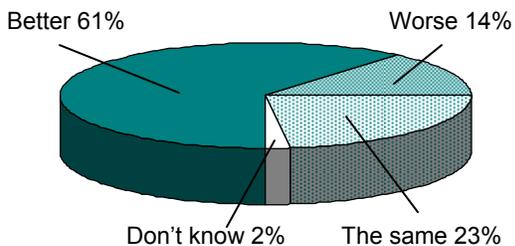
...and for the World of Work

When your child graduates from high school, do you think he will have the skills needed to succeed in the work world?



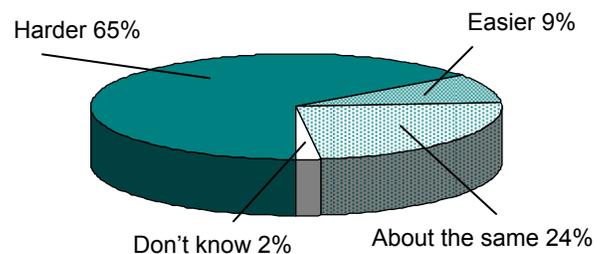
Schools are Better Now Than When I Was Growing Up

Is the education your child is getting at school, better or worse than the education you got at her age?



...And Harder, Too

In general, do you think the material they are learning is harder, easier or about the same as when you were in school?



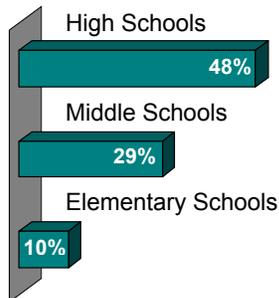
*Question wording in charts may be slightly edited for space. Percentages may not equal 100% due to rounding or the omission of some answer categories.

FINDING TWO: ARE THE PROBLEMS SOCIAL OR ACADEMIC?

Most parents agree with reformers that high schools aren't flawless, and by very large margins, they say that education problems in their own community are in the high schools and middle schools – not the primary schools. But for most parents, the concern is not about an outdated curriculum or less-than-challenging academic standards. Instead, their worries center on societal problems and student misbehavior. Other Public Agenda studies have documented the broad unease today's parents feel about the cultural environment their children grow up in. Large majorities worry about keeping their children away from drugs and alcohol and about negative influence from other youngsters. These fears are even more pronounced among low-income parents.

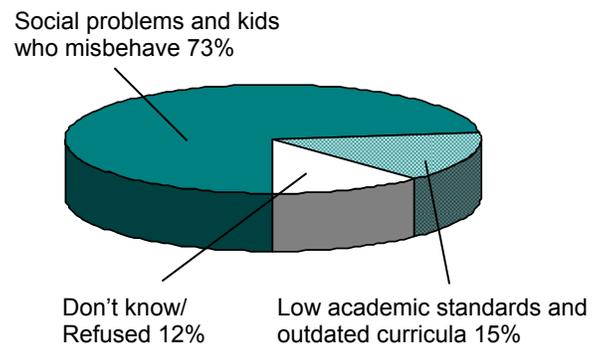
Parents Acknowledge Local Schools Have Problems

In your local community, which schools, if any, appear to face the most problems?



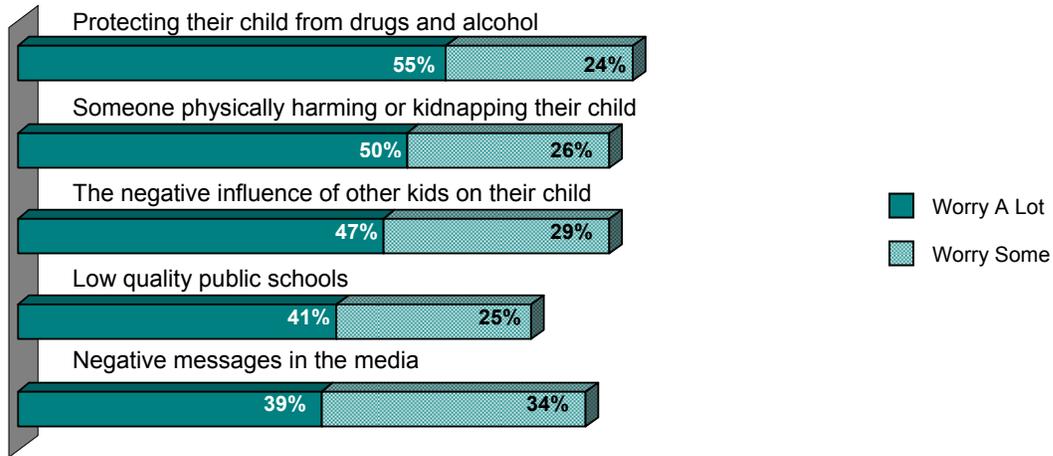
But Few Name Academics as Their Major Worry

Do you think that the most pressing problems facing the high schools in your local community come from:



Most Parents Worry About Societal Dangers to Their Children

% of parents who say they worry about: *



*from "A Lot Easier Said than Done: Parents Talk about Raising Children in Today's America." Public Agenda, 2002

Low-income Parents Worry Even More*

% OF RESPONDENTS WHO SAY THEY WORRY "A LOT"	LOW-INCOME PARENTS	HIGH-INCOME PARENTS
Protecting your child from drugs and alcohol	73%	46%
Someone physically harming or kidnapping your child	65%	39%
The negative influence of other kids on your child	63%	39%
Low quality public schools	56%	38%
A lack of organized activities for your child to join	28%	7%

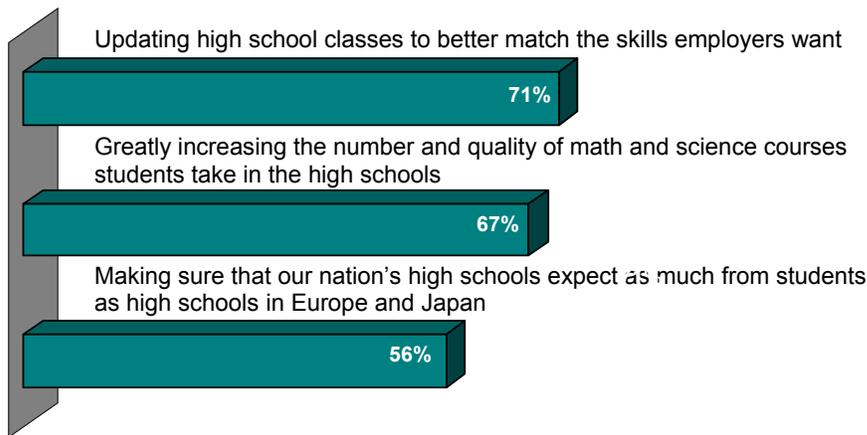
*from "A Lot Easier Said than Done: Parents Talk about Raising Children in Today's America." Public Agenda, 2002

FINDING THREE: MANY PARENTS ARE COMPLACENT ABOUT SCIENCE AND MATH EDUCATION

In concept at least, most parents want their children to learn skills that will equip them for a good job in the future, and most acknowledge the need for internationally competitive high schools with strong math and science programs. But that doesn't mean most parents are chomping at the bit for more math and science for their own child. Most say the amount of science and math their own child studies now is "right." Parents whose children are currently in high school are even more likely to be satisfied with the status quo. Paradoxically, given the level of leadership anxiety about math and science education in the United States today, the number of parents who worry about whether local schools are teaching enough math and science has declined since the mid-nineties.

Most Parents Support Proposals to Make High Schools More Competitive Internationally

% of parents who say the following proposals will improve high school education in the United States:

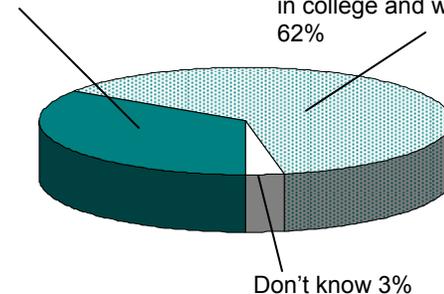


Most Parents Say Students Do Need to Study Advanced Math for Success

Which comes closer to your view?:

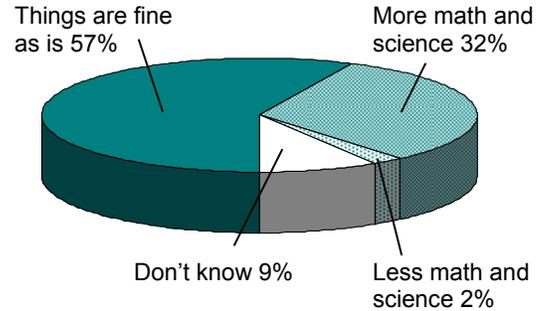
Most students don't need to study higher math skills like advanced algebra and calculus – all most really need in life is good basic math skills
34%

It's crucial for most of today's students to learn higher level math skills like advanced algebra and calculus – they are the gateway to success in college and work
62%



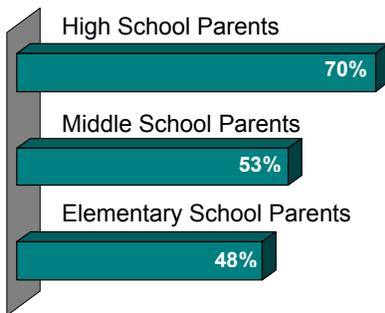
But Most Parents Say Their Child Takes Enough Math and Science Now

Do you think that your child's school should be teaching him/her a lot more math and science, less or are things fine as they are?



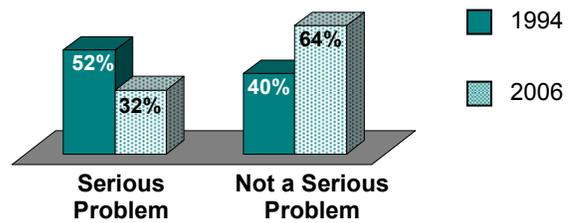
Parents of High School Students Are Even More Likely to Say the Current Situation Is Satisfactory

% of parents who think their child's school is teaching the right amount of math and science:



Parents' Concerns About Math and Science Education Has Fallen Since the Mid-1990s

How serious a problem is each of these in your own community's public schools...kids are not taught enough math and science?*



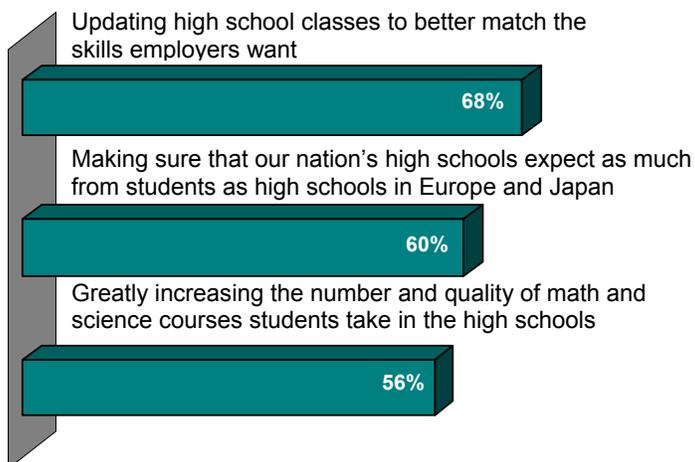
*from "First Things First." Public Agenda, 1994.

FINDING FOUR: MANY STUDENTS ARE LUKEWARM TO MATH AND SCIENCE

Like their parents, most students seem to support revamping high school curricula for a competitive, technologically-oriented world. But like their parents, relatively few seem to think about this issue as one that hits close to home. When students are asked about a variety of possible problems at their schools, concerns about lack of emphasis on science and math is near the bottom of the list. Like their parents, students are more concerned about social issues such as a disrespectful atmosphere and cheating. And, despite widely-publicized predictions about the role science and technology will play in the future, nearly four in 10 students say they would be quite *unhappy* if they ended up in a career with a math or science focus.

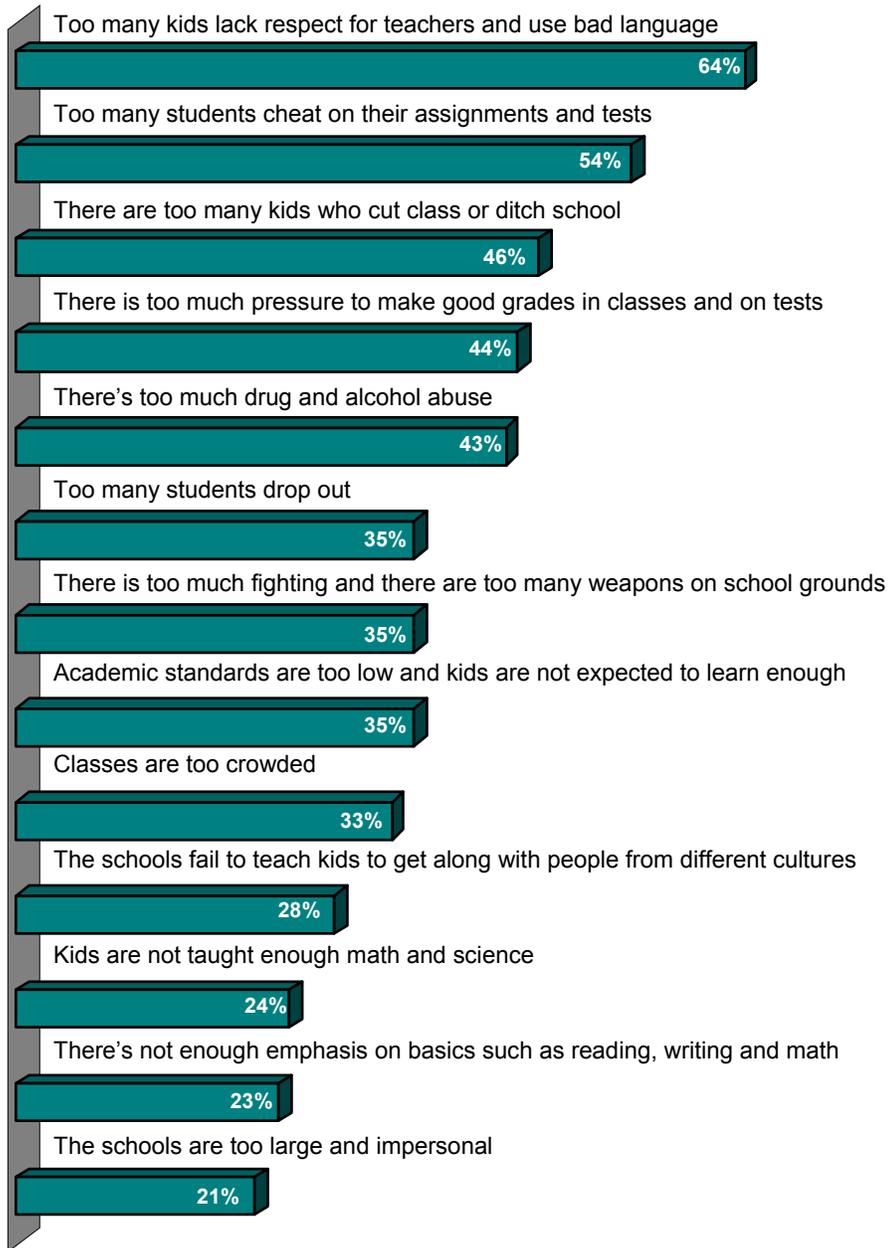
Students Too Want Schools to Prepare Them for Good Jobs in a Competitive World

% of students who think each of the following proposals will improve high school education:



Lack of Math and Science Courses is Near the Bottom of Their List of Concerns

% of students who think the following are problems in their own public schools:



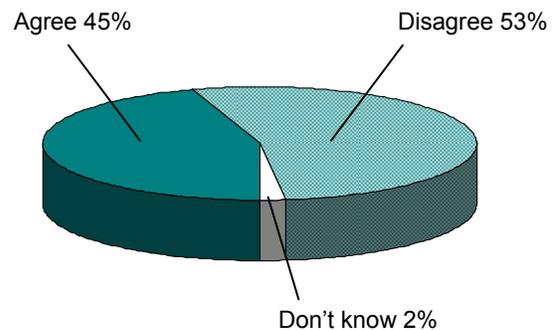
Just Half of Students Say Strong Math and Science Skills are Absolutely Essential for Their Future

% of students who feel the following are essential to pick up and know before they're done with school and go out into the real world:



Nearly Four in 10 Would be “Really Unhappy” in a Math or Science Career

I'd be really unhappy if I ended up in a job or career that required doing a lot of math or science.

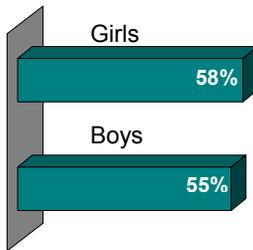


FINDING FIVE: ARE HIGH SCHOOL GIRLS LESS INTERESTED?

Despite widely-publicized concerns about how few young women pursue higher degrees and professional work in math and science, the findings in this survey show no significant differences between the attitudes of girls versus boys. Majorities of both girls and boys endorse the idea of improving science and math education in high schools as a general concept. Although fairly large numbers of students reject the idea of a math or science career for themselves – about four in 10 students say they would be really unhappy in such work – girls are no more likely to say this than boys. Boys and girls seem equally confident about their math skills. Even though American students generally score poorly on international comparisons of student math ability, most American students – whether they are girls or boys – voice confidence that they have learned a lot in their math classes.

Improving Math and Science Improves H.S. Education, Girls and Boys Agree

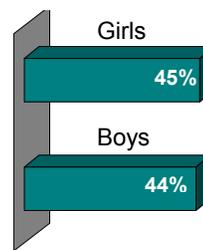
% of students who say that increasing the number and quality of math and science courses would improve H.S. education:



*Note: This difference is not statistically significant

Boys and Girls Equally Ambivalent About Math and Science Careers

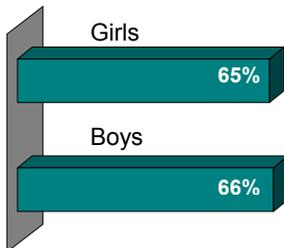
% of students who say they'd be really unhappy if they ended up in a job or career that required doing a lot of math and science:



*Note: This difference is not statistically significant

Both Boys and Girls Say They Have Learned A Lot in Math Class

% of students who say they have learned a lot when it comes to doing math:



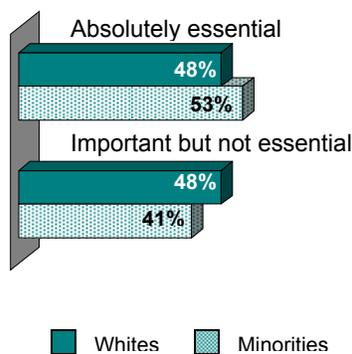
*Note: This difference is not statistically significant

FINDING SIX: MINORITY STUDENTS SEE MATH AND SCIENCE AS ESSENTIAL

While attitudes among girls and boys about math and science education are similar, there are some differences in attitudes between minority and white students. Minority high schoolers are more likely to consider math and science “absolutely essential” for “real world” success and to say that more and better math and science courses would improve high schools. Black students are more likely to believe that kids are not being taught enough math and science and that it is a serious problem.

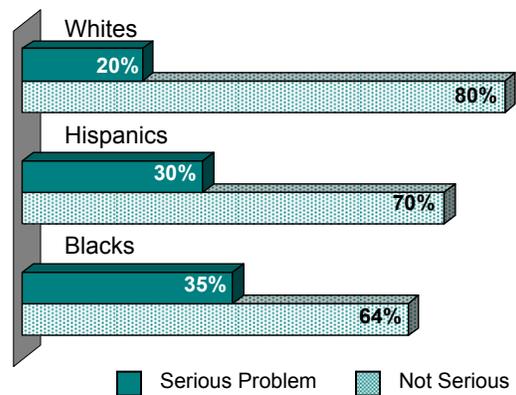
More Minority Students See Math and Science as Essential for Success

% of students who feel that understanding science and having strong math skills before they're done with school and go out into the real world are:



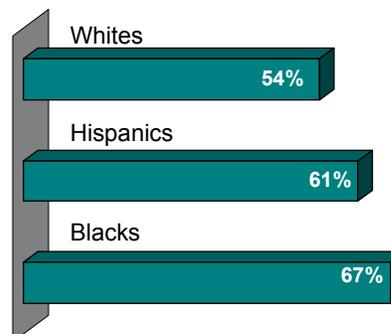
Black Students More Likely to See Serious Problem in Kids Not Being Taught Enough Math and Science

Do you think it's a serious problem that kids are not taught enough math and science?



Black Students are Strong Believers in Increasing Math and Science to Improve H.S. Education

% of students who say that increasing the number and quality of math and science courses would improve high school education:



RELATED PUBLIC AGENDA PUBLICATIONS

Life After High School: Young People Talk about Their Hopes and Prospects. Supported by The College Board, GE Foundation, The George Gund Foundation, W.K. Kellogg Foundation and KnowledgeWorks Foundation. 2005. Full Report: 42 pgs. Executive Summary: 10 pgs. Print Edition Price: \$5.00. ISBN: 1-889483-86-9. “A new survey of young adults on their plans after high school finds they understand the limitations of life without a college degree, but often lack the money, motivation or guidance to pursue higher education. The survey, conducted by the nonpartisan research group Public Agenda, also shows that most young people who forgo college find themselves falling into jobs by chance.” – Lou Dobbs on CNN’s Lou Dobbs Tonight

All Work and No Play? Listening to What Kids and Parents Really Want from Out-of-School Time. Supported by The Wallace Foundation. 2004. 55 pgs. Print Edition Price: \$10.00. ISBN: 1-889483-85-0. “The Public Agenda study shows that most parents have other benefits in mind, wanting extra activities to be meaningful, challenging and character building, rather than primarily academic, [Wallace Foundation President M. Christine] DeVita said...adding that gathering opinions from parents and teens, rather than policy advocates, was one of the major reasons The Wallace Foundation commissioned the study.” - *The Washington Post*

Teaching Interrupted: Do Discipline Policies in Today’s Public Schools Foster the Common Good? Supported by Common Good. 2004. 60 pgs. Print Edition Price: \$5.00. ISBN No. 1-889483-84-2. “I was eager to read a major report on discipline in our schools being released today by...Public Agenda, one of the most interesting and useful chroniclers of opinion inside American classrooms. It is both an intriguing and a disturbing document. The vast majority of teachers surveyed say they are often treading water in a sea of adolescent misbehavior and parental mistrust.” – Jay Mathews, *The Washington Post*

Rolling Up Their Sleeves: Superintendents and Principals Talk About What’s Needed to Fix Public Schools. Supported by The Wallace Foundation. 2003. 74 pgs. Print Edition Price: \$10.00. ISBN No. 1-889483-83-4. “A major new study released today finds American school administrators feel red tape keeps them from raising student performance. The nationally recognized, non partisan research organization Public Agenda says superintendents and principals have a number of concerns. Their biggest headaches are bureaucracy and the expense of complying with local, state and federal mandates.” – CNN

Stand by Me: What Teachers Really Think about Unions, Merit Pay and Other Professional Matters. Supported by The Broad Foundation, the Thomas B. Fordham Foundation, The William and Flora Hewlett Foundation, and The Sidney J. Weinberg, Jr. Foundation. 2003. 64 pgs. Print Edition Price: \$10.00. ISBN No. 1-889483-82-6. “The research group Public Agenda consistently offers insightful studies of education, and its latest report is a winner. *Stand by Me* draws out teachers’ views of the policies that shape their professional lives – what they think about unions, merit pay, tenure, alternative certification, standardized testing and more.” – Scripps Howard News Service

Where We Are Now: 12 Things You Need to Know About Public Opinion and Public Schools. Supported by Washington Mutual. 2003. 35 pgs. Print Edition Price: \$5. ISBN No. 1-89483-81-8. “Drawing on 10 years’ worth of surveys, focus groups and other analyses of public opinion, Public Agenda has developed a compelling analysis of current attitudes toward the nation’s schools. Although toughened standards and high-stakes tests have drawn the bulk of policymakers’ and press attention, Public Agenda’s findings demonstrate that education is influenced far more by classroom-level conditions.” – *Cleveland Plain Dealer*

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About Public Agenda

Founded in 1975 by social scientist and author Daniel Yankelovich, and former U.S. Secretary of State Cyrus Vance, Public Agenda works to help the nation's leaders better understand the public's point of view and to help average citizens better understand critical policy issues. Our in-depth research on how citizens think about policy has won praise for its credibility and fairness from elected officials from both political parties and from experts and decision makers across the political spectrum. Our citizen education materials and award-winning web site www.publicagenda.org offer unbiased information about the challenges the country faces. Recently recognized by Library Journal as one of the Web's best resources, Public Agenda Online provides comprehensive information on a wide range of policy issues.

About Education Insights

Education Insights is a multi-year initiative launched by Public Agenda to expand community and parent engagement in public education. Building on our extensive opinion research in education and seminal work in developing practical public engagement projects, Education Insights addresses the miscommunication and lack of consensus that sometimes hampers reform. The initiative reflects our belief that the drive to transform American education is at a critical juncture. With astute leadership and genuine community engagement, we believe public education reform can attract broad and sustained support. But without a genuine effort to bring a broader group of Americans into the movement, we fear that the momentum for change could weaken, leaving the country with too many school systems beset with weaknesses and inequities.

About Reality Check

Reality Check is a set of public opinion tracking surveys on important issues in public education. From 1998 through 2002, Public Agenda conducted annual surveys of parents, teachers, students, employers and college professors covering primarily standards, testing, and accountability issues. In 2005 and 2006, Public Agenda revised and updated these Reality Check surveys to cover a broader range of questions, including high school reform, school leadership, teacher preparation and quality, school funding and other key issues. The new Reality Check surveys also include responses from public school principals and superintendents. The tracking surveys will be repeated periodically as a service of Education Insights. The 2005-2006 Reality Check research is supported by the GE Foundation, the Nellie Mae Education Foundation and The Wallace Foundation.

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