

National Foundation for American Policy

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New Study Finds Over 60% of the Nation's Top Science and Math Students are Children of Immigrants

ARLINGTON, VA – New research from the National Foundation for American Policy (NFAP), an Arlington, VA-based public policy group, shows that 60 percent of the nation's top science students and 65 percent of the top math students are the children of immigrants.

A new study released Monday by NFAP also shows that foreign-born high school students make up 50 percent of the 2004 U.S. Math Olympiad's top scorers, 38 percent of the U.S. Physics Team, and 25 percent of the Intel Science Talent Search finalists—the United States' most prestigious awards for young scientists and mathematicians.

The foundation produced these findings after conducting more than 50 interviews and examining the immigration backgrounds of top U.S. high school students. The study, *The Multiplier Effect*, is published in the upcoming issue of *International Educator* and a complete copy of the report can be found at www.nfap.net.

“These findings provide evidence that maintaining an open policy toward skilled professionals, international students, and legal immigration is vital to America's technological and scientific standing in the world,” said **Stuart Anderson**, Executive Director of NFAP and author of the report.

“If opponents of immigration had succeeded over the past 20 years, two-thirds of the most outstanding future American scientists and mathematicians would not be here today because U.S. policy would have barred their parents from entering the United States,” said Anderson. Anderson made his comments at a news conference at the National Press Club to release the study's key findings.

“Efforts to preserve U.S. strength in science and technology should start by recognizing the key role that immigrants and their children play in the nation's leadership in these fields. As the research demonstrates, the contributions made by the children of immigrants are beyond that ever considered by policymakers,” Anderson said.

The study's key findings include:

- Sixty percent of the finalists of the Intel Science Talent Search (24 of 40) and 65 percent of the U.S. Math Olympiad's top scorers (13 of 20) are the children of immigrants. Forty-six percent of U.S. Physics Team members (11 of 24) are the children of immigrants.
- Seven of the top 10 award winners at the 2004 Intel Science Talent Search were immigrants or their children. In 2003, three of the top four awardees were foreign-born.

- Among finalists in the 2004 Intel Science Talent Search, more children (18) have parents who entered the country on H-1B (professional) visas than parents born in the United States (16). More of the Math Olympiad top scorers also have parents who received H-1B visas (10) than parents born in the United States (7). New H-1B visa holders each year represent less than 0.04 percent of the U.S. population, illustrating the substantial gain in human capital that the United States receives from the entry of these individuals and their offspring.
- Nearly a quarter (9 of 40) of Intel Science Talent Search finalists' parents came to America as international students. Twenty percent (4) of the U.S. Math Olympiad top scorers' parents entered first as international students.
- Foreign-born high school students make up 50 percent of the 2004 U.S. Math Olympiad's top scorers, 38 percent of the U.S. Physics Team, and 25 percent of the Intel Science Talent Search finalists.
- Today, more than 50 percent of the engineers with Ph.D.s working in the United States – and 45 percent of math and computer scientists with Ph.D.s – are foreign-born, according to the National Science Foundation.

“While some have decried the ‘exporting’ of U.S. jobs and intellectual capital, many of those individuals also oppose the nation’s openness to skilled professionals and students entering the county on temporary visas, ironically, a key source of maintaining and expanding the United States’ intellectual base in science, mathematics, and technology,” said Anderson.

“Previously it was thought that these restrictions on immigration impacted only the skills of such professionals. Now we understand that America suffers an even greater blow by losing those professionals’ children. The students here today are great examples of the benefit to America of maintaining a welcoming posture towards those who seek a better life for themselves and their families.”

Other Gains from Immigration, Mix of Countries, and Conclusions

One should not infer from the study that the United States gains only from the entry of high-skilled professionals and their children. Immigration is the crucial factor in determining whether labor force growth in the United States rises or becomes stagnant as in Western Europe. Parents of six of the 40 Intel Science Talent Search finalists, including three family-sponsored immigrants and two refugees, arrived through the general openness of the United States’ immigration system, as opposed to its employment-based part. Two of the top Math Olympiad top scorers entered as family-sponsored immigrants.

The Intel Science Talent Search finalists showed a diverse mix of foreign-born parents, including seven from India, five from China, three from Taiwan, two each from Russia and Ukraine, and one each from Vietnam, Israel, Turkey, and South Korea. The foreign-born parents of the 2004 U.S. Math Olympiad's top scorers were divided among South Korea (four), China (four), Russia (three), and India (two). Nearly all of the immigrant parents of U.S. Physics Team members were born in China. The parents of Elena Udovina, born in Russia, are an exception.

The report provides examples of many outstanding children of immigrants poised to make substantial contributions to American society.

While the National Science Board and others worry about the future of American science, the study notes that with a relatively open immigration policy, the future will not be bleak in this area. "When immigrants are allowed to come to the United States legally and stay, the nation also in many cases gains the future skills of outstanding children who become U.S. citizens.

"The question is whether the United States will maintain a student and immigration system that is open enough to integrate that talent into U.S. society—or will policymakers push or keep that talent out of the United States?"

Anderson concludes: "Those who wonder from where the next generation of U.S. scientists and mathematicians will come should look closely at the small children standing next to their parents as they take the oath of citizenship. The research shows that closing the door to immigrants, students, and skilled professionals hurts the United States today—and for generations yet to come."

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About the National Foundation for American Policy

Started in 2003, the NFAP is a non-profit, non-partisan organization dedicated to public policy research on trade, immigration and other issues of national importance. Its Advisory Board members include economist Jagdish Bhagwati (Columbia University); Richard Vedder (Ohio State University); former U.S. Rep. Guy Vander Jagt (MI); former INS Commissioner Jim Ziglar; Cesar Conda, former Domestic Policy Advisor for Vice President Dick Cheney, and others.

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Background on Intel Science Talent Search, Math Olympiad, and Physics Team

Previously known as the Westinghouse talent search or the “Junior Nobel Prize,” 95 percent of winners of the **Intel Science Talent Search (STS)** traditionally have pursued science as a career, with 70 percent earning Ph.D.s or M.D.s. More than 1,500 high school seniors entered the contest in 2004 and submitted research papers that documented his or her findings, including possible laboratory results. The top 40 finalists gathered in Washington, D.C., in March 2004.

The U.S. Math Olympiad, the nation’s premiere mathematics competition for high school students, is organized by the Mathematical Association of America. Each year through a series of tests the contest reduces a group of 250,000 students down to 24 or fewer top scorers.

The U.S. Physics Team is chosen annually through a competition organized by the American Association of Physics Teachers and the American Institute of Physics. Five students, including Russian-born Elena Udovina and Chinese-born Yi Sun, were chosen from the 24-member team to represent the United States in Seoul, South Korea at the 2004 International Physics Olympiad.

Some of the students profiled in the NFAP study:

Dix Hills, NY-resident Felicia Yuen-Lee Yen, whose parents originally came as international students from China, has developed a diagnostic test to help predict tumor formation in the early stages of breast cancer. Earlier detection of tumor growth could reduce the death rate from breast cancer significantly.

Neha Chauhan (Staten Island, NY), whose parents entered from India on H-1B visas, has researched food nutrients and compounds that can help prevent Alzheimer’s disease. Neha has founded a national organization to increase understanding of Alzheimer’s among younger U.S. Americans.

Duy Minh Ha (Portland, OR), a family-sponsored immigrant from Vietnam, has researched the use of estrogen replacement therapy for lowering the risk of Alzheimer’s.

Cumberland, MD-resident Qilei Hang, who came here as an 8-year-old from China when her father pursued a Ph.D. in engineering and later obtained an H-1B visa, said of the increased opportunity in America her parents’ immigration gave her: “If I were in China, I’d be preparing for the big exam, the one that decides whether you go into blue collar work or get to go to college. In China, it’s a one-shot deal.”

Romanian-born Andrei Munteanu (Washington, DC), whose mother earned a spot in the Diversity Visa Lottery, was inspired by the movies *Armageddon* and *Sudden Impact* to invent a new algorithm to predict collisions between earth and asteroids.

Lisa Doreen Glukhovsky (CT), whose parents arrived as refugees from Russia, developed a method that “could one day help mitigate the danger of asteroid collisions with Earth.”