

San Jose Mercury News

May 23, 2011

Children of recent immigrants lead America's scientific competitions

By Lisa M. Krieger

Quantifying what has long been obvious in Silicon Valley, a new analysis shows the majority of America's top high school science competitors are the children of new immigrants.

The report, released Monday by the nonpartisan National Foundation for American Policy, found that about two-thirds of the finalists at the Intel Science Talent Search -- the Nobel Prize of high school science -- were born to parents who hailed from either China or India.

Only 12 of 40 finalists at this year's competition -- a national contest based on solutions to scientific problems -- had parents who were born in America.

"The benefit America derives from the children of immigrants in science and math is an additional advantage the country reaps from being open to talent from around the world," said author Stuart Anderson, director of the organization and a former head of policy at the Immigration and Naturalization Service.

The results are evident in Silicon Valley classrooms: Children of immigrant parents, particularly those with skills-based H-1B visas, are abundant in the top tiers of academia.

"You see it here in Silicon Valley. It's like planting a vigorous sapling and giving it Miracle-Gro," said Menlo Park father Vivek Wadhwa, a visiting scholar at UC Berkeley's School of Information and a native of India.

"Here you take the cream of the crop," from their birthplace abroad, "then put them in some of the best schools in the world "... these

students are really, really competitive and work very hard, inspired by their parents, and represent all the American ideals."

The winner of this year's competition was a home-schooled youth of American-born parents from Danville named Evan O'Dorney.

But the largest number of Intel finalists -- 16 -- had parents who hailed from China. Ten were born to Indian parents. There was also one finalist whose parents were from Iran, and another from South Korea.

To put the numbers in perspective, Chinese comprise only 1.0 percent and Indians 0.8 percent of the American population. So if contest winners were proportionate to their population, there would only be one child of an Indian or Chinese parent every 2.5 years - not more than 10 in one year.

Of the finalists' immigrant parents, almost all came to the United States on H-1B visas, which allow highly skilled foreign nationals to work here. Most H-1B visa holders hold at least a bachelor's degree, and many have advanced degrees.

Three of Silicon Valley's 2011 finalists were born to parents from India: Amol Aggarwal of Saratoga; Rohan Mahajan of Cupertino; and Nikhil Parthasarathy of Mountain View. One local finalist, Andrew Liu of Palo Alto, has parents from China.

"It doesn't surprise me if you look at the quality of people coming here," said Wadhwa, who is also director of research in the Center for Entrepreneurship and Research Commercialization at Duke University. "They tend to be highly educated. And the vast majority have STEM-related (science, technology, engineering and math) degrees."

For instance, both of Nikhil's parents have Ph.D.s. His father works at Microsoft, studying signal processing. His mother, an organic chemist, teaches chemistry at the Harker School.

There is another characteristic linking families here on H-1B visas: the motivation to regain status at the top of the economic ladder, lost when they immigrated to the U.S., Wadhwa said.

"The families are upper echelon. They leave their country at the top of the social ladder, then come here at the bottom," he said. "As an immigrant, you are treated differently, and you have to struggle, and work harder, to catch up again.

"They watch their parents work hard and struggle and then they gain the same motivation," he said. "They seek to prove themselves to their families."

Having a foot in more than one culture may inspire new ideas and interests in young people, noted author Anderson.

Finalist Rohan Mahajan, whose Indian father works for Cisco, researched methods of improving the efficiency of photo-electro-chemical cells, which could improve solar energy. Something much more simple also motivated him.

"I got interested in energy production," he said, "because whenever we went to India the power always went out."

Contact Lisa M. Krieger at 408-920-5565.

ORIGINS of YOUNG SCIENTISTS

A new analysis of 2011 Intel Science Talent Search finalists shows the vast majority have parents who are new immigrants. Here are their countries of origin:

China: 16

United States: 12

India: 10

Iran: 1

South Korea: 1

Source: National Foundation for American Policy.