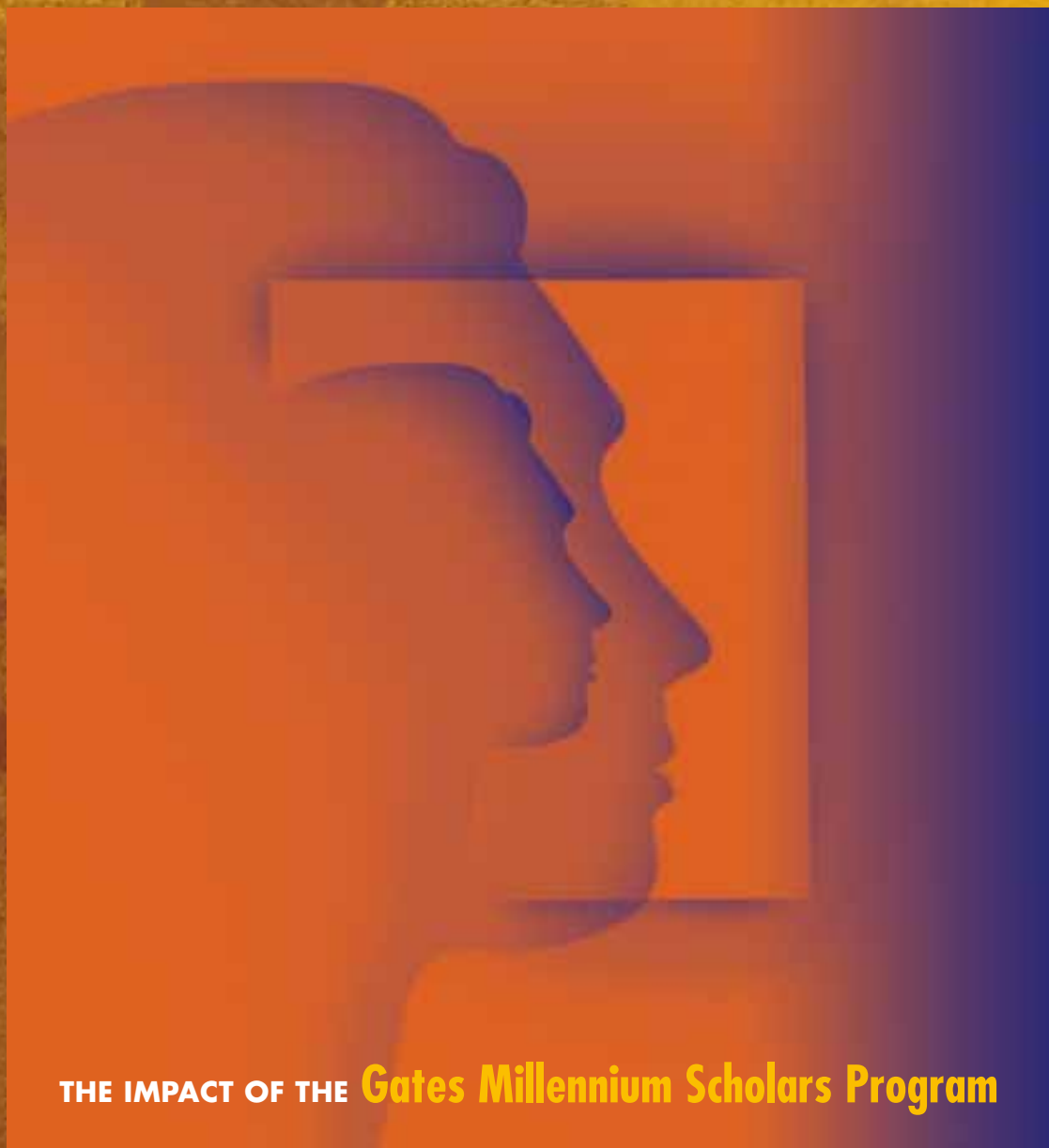


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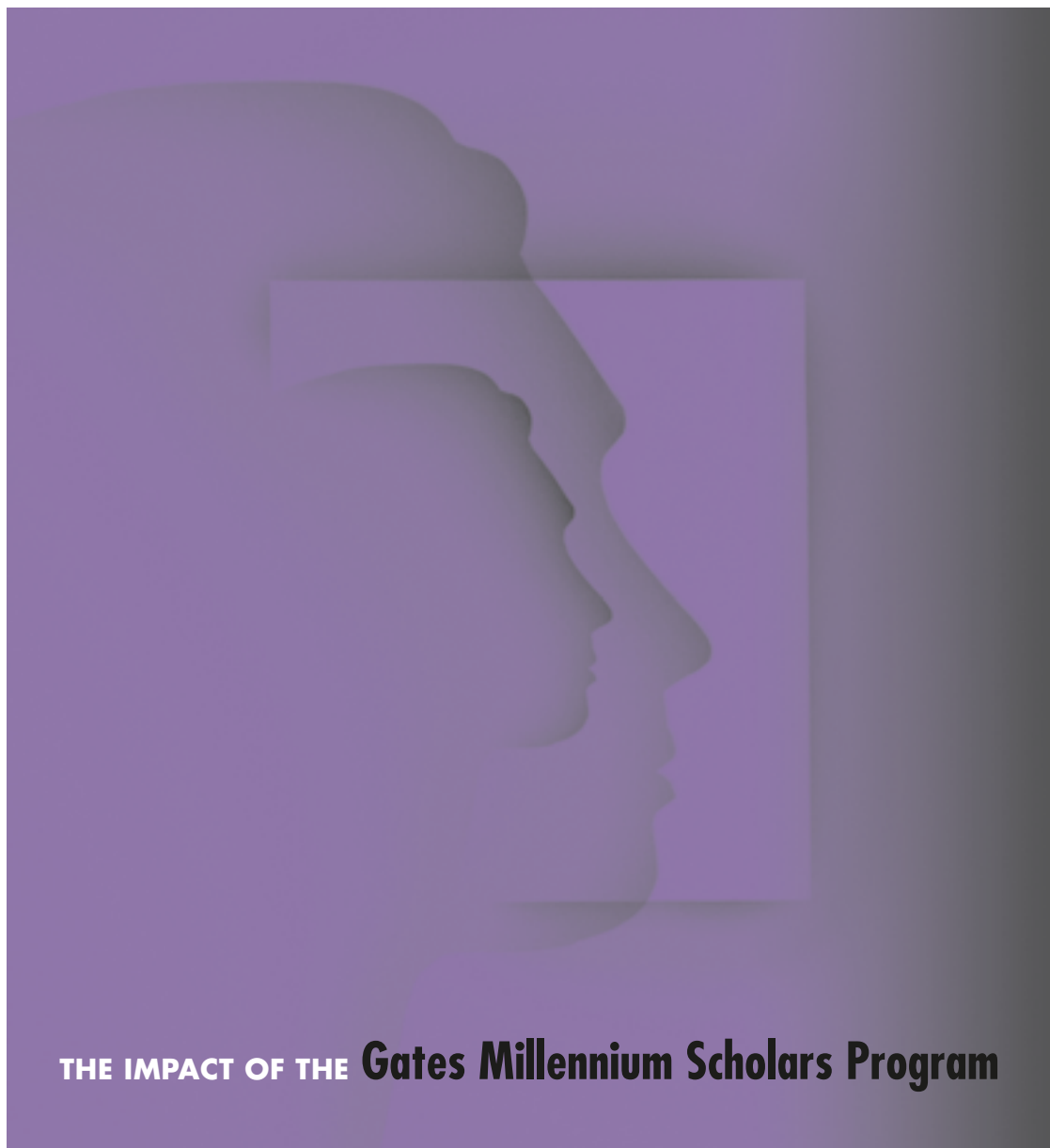
THE IMPACT OF THE **Gates Millennium Scholars Program**

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Executive Summary

Since 1999, the Gates Millennium Scholars program—an initiative of over \$1 billion sponsored by The Bill & Melinda Gates Foundation—has awarded scholarships to more than 10,000 extraordinarily talented low-income students of color with the goal of eventually funding a total of 20,000 students. Extensive research on the program has compared outcomes for the first several cohorts of Scholars with both non-recipients—applicants who did not receive the scholarship—and national comparison groups of low-income, high-achieving minority students.

Preliminary findings from this research demonstrate that Gates Millennium Scholars have several advantages. They have reduced work and debt burdens, more options in terms of choosing a college, and more chances to become engaged and take leadership roles on their college campuses and in their communities. The program also enhances college persistence and completion for Scholars and provides a wider range of choices once they complete college and move on to graduate schools and careers. Maybe these high-achieving students would have attended college in any case, but the Gates Millennium Scholars program allowed them to choose the college of their dreams, to fully participate in academic and social life on their campuses, and to graduate more quickly and with much less debt.

Specific outcomes:

Scholars defer loans and work

- ▶ Scholars were much less likely than non-recipients to take out loans, and when they did borrow, the amounts were smaller. For example, by their third year in college, only a little more than one-half of Scholars who entered as freshmen in 2001 had borrowed any money, compared to more than three-quarters of non-recipients. Among those students who borrowed at any time during college, the average total loan debt for Scholars was only \$6,525—48 percent less than that of non-recipients.
- ▶ Scholars were less likely than non-recipients or a national sample of comparable students to work for pay or to hold off-campus jobs. Scholars who entered college in 2001 and 2002 also worked fewer hours during their freshman year, 30 percent fewer than the number of hours worked by non-recipients. In addition, Scholars who did work often reported that they did so to gain experience, rather than because of financial need.

Scholars enroll in highly selective colleges

- ▶ Becoming a Gates Millennium Scholar was associated with higher rates of enrollment in four-year, private, out-of-state, and highly selective postsecondary institutions versus institutions with more open admissions policies. Only 3 percent of Scholars entering college in 2000, 2001, and 2002 attended a two-year institution, compared to nearly half of a national sample of low-income, high-achieving minority students. Moreover, even after accounting for intervening factors such as exceptional test scores that themselves increase the likelihood of attending selective schools, receiving the scholarship increased by 11 percent the likelihood that students would attend a highly selective college.

Scholars exhibit engagement and leadership in college

- ▶ Overall, Scholars showed higher levels of academic and community engagement. When compared to non-recipients, Scholars entering college as freshmen in 2001 more often discussed ideas with faculty, worked on schoolwork with other students outside of class, and

worked on creative projects. Scholars were more likely to have participated in residence hall activities, cultural activities that reflected their ethnic heritage, tutoring sessions, and religious activities. Scholars were also considerably more likely than non-recipients to have participated in community service.

Scholars persist in and complete college

- ▶ Scholars were more likely to persist in college than non-recipients. Retention rates at the end of both the freshman and junior years were 13 percent higher for Scholars who entered college in 2001 and 2002 than for non-recipients from the same years, even when accounting for factors that are likely to have an impact on academic success such as income, parental education, test scores, and academic preparation.
- ▶ Graduation rates for the Scholars were much higher than those of a national sample of low-income, high-achieving minority students. After five years, 80 percent of Scholars who entered college as freshmen in 2000 had completed a college degree and less than 13 percent had left the program. The five-year completion rate for the comparison sample, on the other hand, was only 49 percent—26 percent of these students were still enrolled in college, and 25 percent were no longer enrolled.

Scholars enroll in graduate school

- ▶ Undergraduate Scholars who received their award in 2000 or 2001 and had graduated from college by 2004 were substantially more likely than non-recipients to apply for and enroll in graduate school.
- ▶ Gates Millennium Scholars have the opportunity for continued funding if they attend graduate school in certain fields in which minorities are underrepresented. In 2005, 233 Scholars—18 percent of those who completed their undergraduate degrees that year—elected to continue on to graduate school in one of these fields. Furthermore, Scholars from the 2000 and 2001 cohorts who enrolled in graduate school were more than four times more likely than non-recipients to choose education—one of the designated fields—as their area of graduate study.

Research on the Gates Millennium Scholars program is still in its early years. As more Scholars are selected and enter college and as the current Scholars complete their degrees and move on to graduate school and the workforce, more research will be needed to determine the impact of the program on the lives of the Scholars themselves and on the higher education system. In the long term, The Bill & Melinda Gates Foundation anticipates that this scholarship program can influence increased enrollment and success in college for low-income minority students and improve the representation of minorities in the fields of computer science, education, engineering, library science, mathematics, public health, and science. It is too early to know if these goals will be realized, but preliminary outcomes show promise, and the research framework is in place to continue to assess the impact of the program on the lives of the remarkable young people who are the Gates Millennium Scholars.

Introduction

Since 1999, in an effort to increase minority access to higher education, The Bill & Melinda Gates Foundation has pledged over \$1 billion to fund scholarships for high-achieving, low-income minority students with the goal of eventually funding a total of 20,000 students. The first cohort of Gates Millennium Scholars was chosen in 2000 and included more than 1,400 entering freshmen, together with more than 2,400 continuing undergraduates and 200 graduate students. In each subsequent year, the program has funded around 1,000 entering freshmen, and as of 2006, more than 10,000 extraordinarily talented students of color have received scholarships. The Gates Millennium Scholars program, administered by the United Negro College Fund in partnership with the Hispanic Scholarship Fund, the American Indian Graduate Center Scholars, and the Organization of Chinese Americans, is the largest private scholarship effort in the world.

To be eligible to become a Gates Millennium Scholar, a student must be African American, American Indian/Alaska Native, Hispanic American, or Asian Pacific Islander American and a citizen or permanent resident of the United States. He or she must also have at least a 3.3 grade point average in high school, demonstrate leadership and a commitment to community service, and be eligible for a federal Pell Grant, a financial aid program intended for students from low-income families. Candidates for these scholarships must be nominated by a teacher or school administrator familiar with their academic work as well as by someone familiar with their extracurricular leadership activities and community service.

Test scores such as the SAT and ACT are not required as part of the application process. Instead, candidates for the program write essays that are evaluated by readers trained to assess the student's potential. A variety of criteria are considered, including positive self-concept, realistic self-appraisal, a preference for long-term goals, the ability to handle racism, and the availability of a strong support network. The philosophy behind this process is that such qualities indicate students who will be able to overcome the challenges that inevitably arise in the pursuit of higher education and who will go on to earn a degree and become leaders in their communities.

Once a student has been selected as a Gates Millennium Scholar, he or she receives funding sufficient to cover tuition, fees, books, and living expenses. This last dollar funding supplements any other scholarships or grants the student may receive, but students are not required to take on loans or work-study positions. Funding is available for up to five years of full-time undergraduate study with an average annual award of almost \$10,000. In addition, continuing Scholars may request additional funding for graduate study, provided they pursue advanced degrees in computer science, education, engineering, library science, mathematics, public health, or science—all fields in which members of racial and ethnic minority groups are underrepresented (with the possible exception of education).

In an effort to better understand the outcomes and impacts of the Gates Millennium Scholars program, The Bill & Melinda Gates Foundation has undertaken an ambitious research and evaluation agenda. The primary source of data for this research is an ongoing longitudinal survey that collects information from both Gates Millennium Scholars and a sample of applicants who did not receive a scholarship. The objective is to follow these students through college and graduate school and into the working world. Students surveyed who did not become Gates Millennium Scholars—the non-recipients—provide a crucial comparison group of high-performing minority students against which to measure the achievements of the Scholars themselves.¹

¹ Comparability of Scholars and non-recipients has limitations, but in many cases, researchers have been able to compensate for differences between the two groups by using statistical techniques to minimize the impact of factors that might influence various outcomes.

The purpose of this report is to summarize and synthesize the extensive research that has been conducted on the Gates Millennium Scholars by a number of well-known researchers, a list of whom is provided at the end of this report. Also, this report is aimed at a general audience so the focus is on the key findings of the research conducted thus far, rather than on the details and methodologies of each research study.²

There are clear and consistent trends in the research findings that highlight the impact the Gates Millennium Scholars program has had on its beneficiaries. These trends—which remain relatively stable regardless of the group of Scholars being studied and the type of data used—allow for confident statements about the program, its participants, and its outcomes.

² For those interested in further details, much of the research summarized in this report will be made available to the public at www.norc.org/gatesscholars/.

The Gates Millennium Scholars

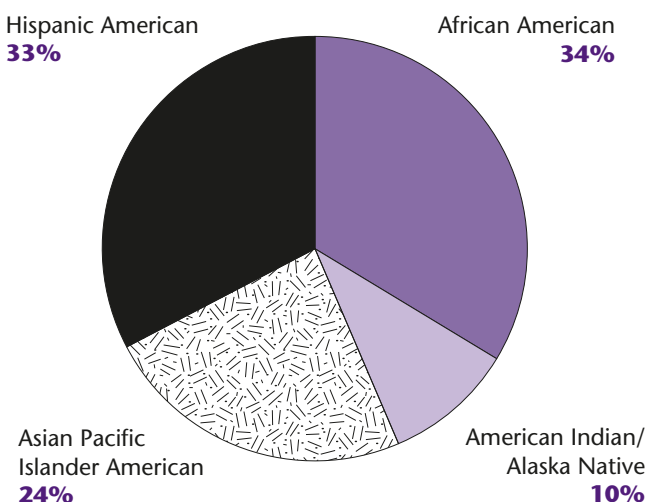
Demographic background

A key requirement for becoming a Gates Millennium Scholar is, of course, to be a member of a minority racial or ethnic group. Among Scholars entering college as freshmen in 2000 and 2001, the racial/ethnic distribution was 34 percent African American, 33 percent Hispanic American, 24 percent Asian Pacific Islander American, and 10 percent American Indian/Alaska Native (Figure 1). When compared to the overall population of the United States, this distribution means that Asian Pacific Islander American and American Indian/Alaska Native students were somewhat overrepresented in the Scholar population as compared to African American and Hispanic American students.

Within this already diverse group, moreover, the Scholars exhibited a remarkable diversity in terms of race and ethnic origin. Around 8 to 12 percent of Scholars described themselves as a combination of two or more races, and Scholars had ethnic affiliations with more than 30 different countries. Asian American Scholars were most likely to identify their ethnicity as Vietnamese, Chinese, or Korean—countries that account for a significant proportion of recent Asian immigrants to the United States. A substantial majority of Hispanic American Scholars were of Mexican descent, but some also had ethnic origins in Puerto Rico or Cuba. American Indian/Alaska Native Scholars came from more than 35 different tribal groups, but the largest number were members of the Cherokee (particularly the Cherokee Nation of Oklahoma), Choctaw, and Navajo tribes.

The Gates Millennium Scholars from 2000 and 2001 also included a substantial number of recent immigrants. Although Scholars must be citizens or legal permanent residents of the United States, nearly 25 percent of the Scholars were born outside the United States, and almost half grew up in a home with parents who primarily spoke a language other than English. Most immigrant Scholars were Hispanic American or Asian Pacific Islander American. In fact, only about half of Asian American Scholars and less than three-fourths of Hispanic Scholars were native to the

Figure 1. Percentage distribution of Gates Millennium Scholars entering college as freshmen in both 2000 and 2001, by racial/ethnic group



NOTE: Groups are mutually exclusive. Percentages add to more than 100 percent due to rounding.

SOURCE: National Opinion Research Center 2006.

Scholar Profile: Dayoung (Day) Kim

Day’s family emigrated from Korea to the United States when she was in elementary school and settled in rural Alabama, where they were the only Korean family in their small town. At school, the other children called her cruel names, and she often felt different and unworthy. However, with support from her family and from teachers who recognized her potential, Day went on to excel in her studies, participate in cheerleading and public speaking, and eventually graduate from high school as valedictorian. As a minority group member, she felt that she had more to prove than other students and that she had to set a precedent for excellence.

With help from her high school principal and counselor, Day applied for the Gates Millennium Scholars program and other scholarships. This financial aid enabled her to attend the University of North Carolina at Chapel

Hill, where she did well in her studies and got involved with student groups such as the Korean Students Association, a hip-hop dance group, and several Christian organizations. The students she met through these activities provided support for Day when her father was diagnosed with terminal cancer during her second semester in college. Although her father died before seeing her graduate from college, Day knows that she has been able to fulfill his dream of an education for her.

Today, Day works for a prominent consulting firm and hopes to eventually earn an MBA. She believes that her college experiences helped her build skills and confidence that will enable her to reach her goals—supporting her mother, who runs a small business, and becoming a leader for social change. Ultimately, she believes, life is “all about service,” and she wants to contribute to making society a better place for all.

Table 1. Indicators of socioeconomic status of Gates Millennium Scholars entering college as freshmen in 2000 and the total U.S. population, by racial/ethnic group

		Father attained high school diploma or higher	Father attained bachelor’s degree or higher	Parents own home	Mother employed
African American	Scholars	90%	28%	48%	78%
	U.S. population	72%	14%	45%	59%
American Indian/ Alaska Native	Scholars	90%	20%	65%	90%
	U.S. population	71%	12%	56%	not available
Asian Pacific Islander American	Scholars	73%	29%	49%	71%
	U.S. population	80%	43%	53%	not available
Hispanic American	Scholars	51%	13%	61%	64%
	U.S. population	52%	10%	46%	54%

NOTE: Educational attainment for the total population is based on people age 25 and older and includes both parents. Data for the total U.S. population for educational attainment and home ownership were drawn from 2000 U.S. Census. Employment data for the total U.S. population were drawn from the July 2004 Current Population Survey.

SOURCE: National Opinion Research Center 2006; U.S. Census 2000; Current Population Survey July 2004.

These families may have had low incomes, but they also had some additional resources in terms of employment, education, and/or home ownership that may have **helped their children to perform well in high school.**

United States. Around 80 percent of the Asian American Scholars born outside the United States had become naturalized citizens along with more than half of the non-native Hispanic Scholars. Naturalization rates among Scholars are well above the rates for these minority communities as a whole.

Just as the requirement that Gates Millennium Scholars be members of minority groups ensures significant racial and ethnic diversity among the Scholars, the requirement that Scholars be eligible for federal Pell Grants ensures that they come from low-income families. Data collected for Scholars entering college in 2002 indicate that nearly two-thirds of Scholars in that year came from families earning less than \$30,000 per year. Similarly, Scholars from the first three years of the program who participated in a series of focus groups generally reported family incomes in the \$20,000 to \$30,000 range.

These findings are supported by other information about the socioeconomic status of the Scholars' families. In the families of students who entered college as freshmen in 2000 and 2001, only around three-quarters of parents had earned a high school diploma, and during high school, only about half the Scholars lived in a home owned by their parents. These statistics, which show educational attainment and home ownership rates below the national average, paint a picture of families for whom a college education may well seem out of reach. As one Scholar put it during a focus group:

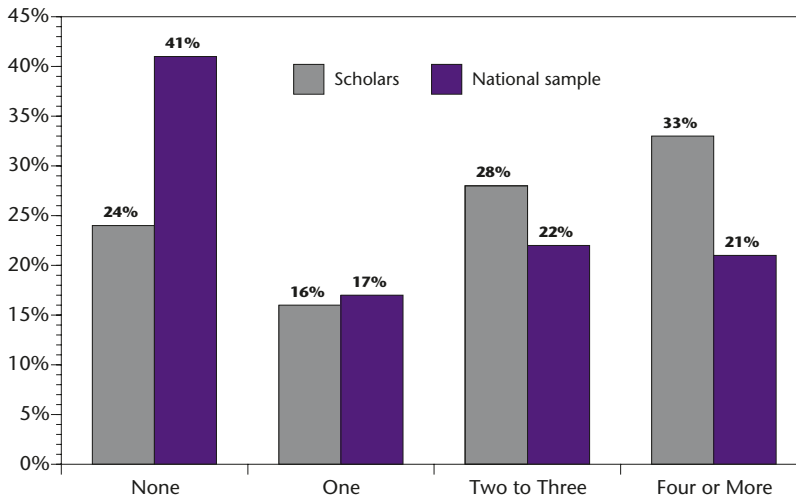
The number one barrier [to college access] would have to be economics. Growing up we couldn't afford a computer so I'd go to the library to do a paper all though high school. Along with that, came the insecurity of being poor. And although I was in honors classes, I was one of the few minorities in those classes. So emotionally that too played a large factor in my development as a student.

On the other hand, when compared to their respective minority groups, these Scholars' families showed some important differences. With the exception of Asian Pacific Islander Americans, the home ownership rates and educational attainment of Scholars' parents were at the same level or higher than the average for members of their minority groups, regardless of income. Similarly, the parents of Scholars, and particularly their mothers, were employed at rates equal to or better than those of American adults in general (Table 1). These families may have had low incomes, but they also had some additional resources in terms of employment, education, and/or home ownership that may have helped their children to perform well in high school.

Academic preparation

Certainly, the 2000 and 2001 first-year Gates Millennium Scholars had solid academic records. The scholarship requires that candidates maintain a 3.3 grade point average in high school, and the Scholars generally achieved these grades in challenging college-preparatory classes. Almost all Scholars who entered college in 2000 and 2001 took at least three years each of science and math in high school. In addition, the extent to which Gates Millennium Scholars took Advanced Placement examinations provides some insight into the high schools they attended. Around 75 percent of the Scholars took at least one Advanced Placement exam during high school, and more than 25 percent took four or more AP exams. The one exception to this trend was among American Indian/Alaska Native Scholars, nearly half of whom took no Advanced Placement exams during high school.

Figure 2. Percentage of Gates Millennium Scholars entering college as freshmen in 2002 who took Advanced Placement exams compared to a national sample of low-income, high-achieving minority students

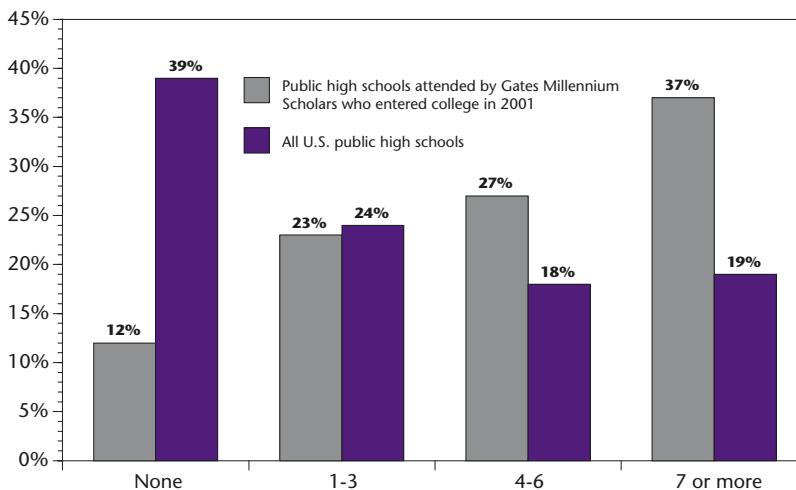


NOTE: Advanced Placement (AP) exams are a set of College Board sponsored exams that often count toward a student's college credit depending on an institution's AP credit policy. The national sample was drawn from the 2002 Cooperative Institutional Research Program (CIRP) Freshman Survey. The comparison group included first-time, full-time minority students at four-year institutions whose parental income and SAT/ACT scores were similar to those of the Scholars.

SOURCE: Hurtado, Saenz, and Dar 2006.

Scholars who entered college as freshmen in 2001 most often attended public high schools, and **nearly two-thirds of these high schools** were from the top quartile in terms of school size.

Figure 3. Percentage of U.S. public high schools offering different numbers of Advanced Placement courses, 2000-01



NOTE: Advanced Placement (AP) exams are a set of College Board sponsored exams that often count towards a student's college credit depending on an institution's AP credit policy. 116 public high schools with GMS recipients did not have AP information.

SOURCE: Trent, Gong, and Owens-Nicholson 2004.

Scholars who entered college as freshmen in 2002 had stronger academic backgrounds than a comparison group of low-income, high-performing minority students. Nearly one-third of the Scholars took four or more Advanced Placement exams in high school while only about one-fifth of the comparison group took this many AP exams. Similarly, less than a quarter of the Scholars took no AP exams versus more than two-fifths of the comparison group (Figure 2).

Scholars who entered college as freshmen in 2001 most often attended public high schools, and nearly two-thirds of these high schools were from the top quartile in terms of school size. Moreover, nearly two-thirds of the high schools attended by Scholars offered at least four Advanced Placement courses, far above the national average of 37 percent (Figure 3). On the other hand, with the exception of Asian Pacific Islander American students, Scholars were likely to have attended high schools where members of their minority groups were underrepresented in gifted education programs, suggesting that, while these high schools may have offered a challenging curriculum, it was not always equally available to minority students.

The academic strength of the 2000 and 2001 first-year Scholars was also reflected in the fact that they reported SAT scores nearly 150 points above the national average. These scores are particularly impressive when compared to the average scores for their respective minority groups. African American Scholars, for example, scored, on average, more than 260 points higher on the SAT than did African American students nationwide. Scores for those Scholars who took the ACT rather than the SAT showed similar patterns of academic potential.

Despite their strong academic records, many of the Scholars found the college application process challenging. Often, these students were the first in their families to go to college and, although most indicated that their families were supportive of their ambitions, the students often found it hard to get advice about the steps they should take. As one Scholar explained:

The high school that I came from, there was not a lot of support for seeking information about higher education, not enough information out there on colleges. So most of the college research and application information—all that stuff—I had to do on my own. The counselors weren't really there. They signed forms, but they were not proactive about getting everybody to learn about college.

Many Scholars turned to whatever source of information was available—an older sibling or relative who had attended college, a supportive teacher or counselor, a family friend. For many, the road to college was a haphazard process and one fraught with the possibility of failure. One Scholar said of this challenge, “I kind of had to do it by myself... If I had somebody to help me with those things, it would have been very helpful.”

Non-recipient differences

The non-recipient students who were included in the longitudinal survey were, in many ways, very similar to the Gates Millennium Scholars themselves. Like the Scholars, the non-recipients were racially and ethnically diverse, had strong academic backgrounds, and had high scores on the

Table 2. Indicators of socioeconomic status of Gates Millennium Scholar applicants entering college as freshmen in 2000, by recipient status

	Father attained high school diploma or higher	Father attained bachelor's degree or higher	Mother currently employed	Parents own home
Scholars	72%	23%	72%	54%
Non-recipients	89%	47%	82%	81%

NOTE: Non-recipients are students who applied for the Gates Millennium Scholarship but did not receive it.

SOURCE: National Opinion Research Center 2006.

qualitative criteria used to assess their application essays for the scholarship. One area in which the non-recipients differed somewhat from the Scholars, however, lay in indicators of socioeconomic status. Compared to the Scholars, the parents of non-recipients were more likely to have earned a high school diploma, more likely to be employed, and much more likely to own their own home (Table 2). The differences were predictable because one reason some non-recipients were not selected as Scholars was because they had family incomes too high to qualify for a Pell Grant.

Both Gates Millennium Scholars and the non-recipients represent a pool of high-achieving young people who were very likely to attend college and succeed, despite the disadvantages they faced. Nonetheless, pursuing higher education can be a significant financial burden for low-income families, and the intent of the Gates Millennium Scholars program is to lighten that burden for some of these talented students. The remainder of this report, therefore, looks at the ways in which this scholarship has made a difference in the lives of the first several cohorts of Scholars, as compared to the non-recipients and to other groups of high-achieving, low-income students of color.

Outcomes of the Gates Millennium Scholars Program

Scholars defer loans and work

Without a doubt, becoming a Gates Millennium Scholar significantly reduces reliance on student loans. In fact, receiving the scholarship was found to be the strongest predictor of reduced debt burden. Only about a third of freshmen Scholars in 2000 and 2001 took out loans during their first year in college, compared to more than half of non-recipients, despite the fact that the Scholars generally attended more expensive colleges. This trend continued as the Scholars progressed through school. By their third year in college, for example, only 56 percent of Scholars who entered as freshmen in 2001 had borrowed money at any time since starting college, compared to 77 percent of non-recipients (Table 3). This finding is explained, in part, by the fact that Scholars received much higher average grant and scholarship amounts, reducing their need to rely on loans. For example, during their third year of college, the median grant aid for Scholars who entered college as freshmen in 2001 was almost \$15,000—including their Gates scholarship—while the median grant aid for non-recipients that year was only around \$5,000.

Moreover, Scholars who did take out loans borrowed much less money than did non-recipients. Among students who were freshmen in 2001 and took out loans, the average loan amount for non-recipients was \$5,629, while Scholars had average loan amount of \$3,856—31 percent less. By the time these students reached their third year in college, this disparity had increased. Non-recipients who started college in 2001 and took out loans had accumulated total average loan debts of \$12,560. Scholars who began college at the same time and took out loans, on the other hand, had accumulated total average loan debts of \$6,525—48 percent less (Table 3).

Becoming a Gates Millennium Scholar was also associated with some reduction in the need for students to work while enrolled in college. For example, the number of hours worked during their freshman year by Scholars who entered college in 2001 and 2002 was 30 percent lower than

Table 3. Percentage of Gates Millennium Scholar applicants entering college as freshmen in 2001 who took out loans during college and average loan amounts, by recipient status

	Scholars		Non-recipients	
	Percent	Avg. Loan Amount	Percent	Avg. Loan Amount
Borrowed during first year	33%	\$3,856	53%	\$5,629
Borrowed during third year	32%	\$4,714	66%	\$6,272
Borrowed any time during college	56%	\$6,525	77%	\$12,560

NOTE: Based on currently enrolled students. Non-recipients are students who applied for the Gates Millennium Scholarship but did not receive it. Loan averages are weighted and exclude students who did not take out any loans.

SOURCE: National Opinion Research Center 2006.

Scholar Profile: Tanesha Willis

Since the time her babysitter took her for a visit to Howard University in Washington, DC, Tanesha knew that this school was where she wanted to attend college. Even after her parents divorced and she moved from New Jersey to Milwaukee with her mother, Tanesha's desire to attend Howard never wavered.

Tanesha applied the strong work ethic instilled in her by both her mother and her grandmother to ensure that she would be able to attend her dream school. In Milwaukee, she found herself one of only 11 African Americans in her high school graduating class, and she felt pressure to show her classmates that, as she put it, "all of us are not dumb; we're just as bright as you." Tanesha also became a leader in her community, serving on her high school's advisory board and working in her church.

When the time came to apply for college, Tanesha had to face the fact that her mother was a single parent who did not have a lot

of money. Tanesha decided to take out loans in order to go to Howard, rather than accept another school that offered her more financial aid. She did not regret her choice, though, because Howard's School of Business became Tanesha's academic home, and she received considerable help from upper-level students in the school, as well as from faculty and staff.

When Tanesha became a Gates Millennium Scholar during her second year at Howard, she felt the award was a blessing because it allowed her to focus on school without having to worry about how to finance her education. She was able to take on leadership roles on campus, serving as a mentor to incoming students in the business school and volunteering at the local Boys and Girls Club. Tanesha's experience at Howard gave her great confidence and prepared her to move into the world as a working adult. Support from the Gates Millennium Scholarship enhanced this process by allowing her to really enjoy college without the financial pressure.

the number of hours worked by non-recipients.³ This trend towards reduced work for pay persisted as Scholars continued through college—only 65 percent of Scholars who were college freshmen in 2001 were working for pay as of 2004, and 43 percent of these working students held only on-campus jobs. Compared to non-recipients from the same year, Scholars were less likely to be working for pay and somewhat more likely to be working only on campus.

These differences become even more significant, however, when this group of Scholars is compared to a national sample of high-achieving, low-income minority students. Among these students, who, like the group of Scholars described above, were in their third year of college in 2004, 76 percent were working for pay and 26 percent of those had only on-campus jobs (Table 4).

Despite these findings, the fact remains that quite a few Scholars continued to work and to take out loans even after receiving the scholarship. Focus group responses suggest that Scholars who borrowed money did so primarily to pay for summer school expenses not covered by the scholarship. Scholars also pointed to housing expenses and the need to provide financial support for family members as key reasons why they continued to work or borrow. As one Scholar put it, "I still work in order to help my parents out and pay for the costs of living, but I don't have to have two or three jobs like some other students do. I can afford to send money home when my family needs it."

Scholars who worked also did so for a variety of other reasons, not all related to financial need. In a number of cases, Scholars said that they worked to gain experience and noted that the scholarship allowed them to work fewer hours than they would have otherwise. One Scholar, for example, said, "I do work but I work like 6 to 8 hours a week. It's very minimal, and I'm not so much working for the income but just for experience." Moreover, Scholars who worked were more

³ This study used quasi-experimental methods that correct for the non-random distribution of the Gates Millennium Scholarships and so provides stronger support that this difference is caused by receiving the scholarship rather than by intervening factors.

Table 4. Work activities in 2004 of Gates Millennium Scholar applicants entering college as freshmen in 2001, by recipient status, compared to a national sample of low-income, high-achieving minority students

		Scholars	Non-recipients	National sample
Currently working for pay	Yes	65%	74%	76%
	No	35%	26%	24%
Working on or off campus	On-campus	43%	36%	26%
	Off-campus	48%	49%	71%
	Both on-campus and off-campus	8%	14%	4%

NOTE: Non-recipients are students who applied for the Gates Millennium Scholarship but did not receive it. The national sample was drawn from the 2003-04 National Postsecondary Student Aid Study (NPSAS) and included third-year, dependent, minority students who began at four-year institutions, had grade point averages in their first academic year of at least 3.3 on a 4.0 scale, and had family incomes below \$40,000.

SOURCE: National Opinion Research Center 2006: National Center for Education Statistics, NPSAS:04, Data Analysis System.

likely to be engaged in both academic and community life on their campuses, suggesting that there may actually be some benefits to working while in college.

Regardless of their work or loan status, Scholars participating in focus groups were clear that receiving the scholarship had opened doors for them. They indicated that it allowed them to attend schools they would not have otherwise been able to afford and that it greatly reduced the financial burden both on themselves and on their families. Scholars also noted that receiving the award allowed them to prioritize academics and school participation over work. As one Scholar explained, “Without Gates, I would have to spend most of my time either working or trying to find a way to pay for college. I wouldn’t have the chance to do what I wanted to do.”

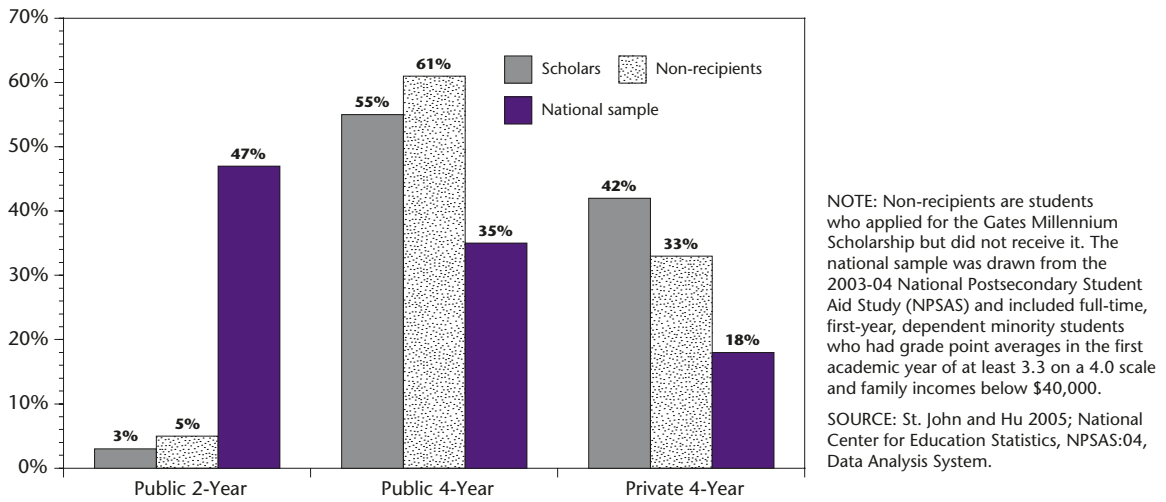
Scholars enroll in highly selective colleges

Becoming a Gates Millennium Scholar was associated with higher rates of enrollment in four-year versus two-year institutions. In general, applicants for the Gates Millennium Scholars program, both recipients and non-recipients, enrolled in four-year institutions in high numbers. However, among freshmen entering college in 2000, 2001, and 2002, Scholars were more likely than non-recipients to have attended only four-year schools while more non-recipients attended only two-year schools or both a two-year and a four-year school. In fact, receiving the scholarship was found to reduce the likelihood that the Scholar would enroll in two-year colleges versus public four-year colleges by 40 percent. Scholars were also much more likely to attend four-year colleges than were a national sample of high-achieving, low-income students. While 47 percent of the national sample attended public two-year colleges, the percentage of Scholars attending this type of institution was slightly less than 3 percent (Figure 4).

Gates Millennium Scholars were also more likely than students from various comparison groups to study at private institutions and to attend college out of state. Forty-two percent of Scholars entering college in 2000, 2001, and 2002, attended private institutions, compared to 33 percent of non-recipients from the same years (Figure 4). Becoming a Gates Millennium Scholar significantly increased the likelihood that a student would attend a private school, even when accounting for other factors likely to affect college choice. Moreover, 48 percent of Scholars who began college in 2000 and 2001 attended out-of-state colleges, versus only 21 percent of a national sample of high-achieving, low-income minority students.⁴

⁴ This study used a sample of students from the NCES 1996-2001 Beginning Postsecondary Students Longitudinal Survey. Low income was defined as the lowest quartile of family income and high-achieving as the top third of SAT/ACT scores.

Figure 4. Type of institution attended by Gates Millennium Scholars entering college as freshmen in 2000, 2001, or 2002 compared to non-recipients and a national sample of high-achieving, low-income minority students



Most importantly, Gates Millennium Scholars enrolled in highly selective colleges at greater rates than students of similar backgrounds and abilities, providing them with benefits such as access to expanded peer networks and increased recruiting by top companies and graduate schools. Forty-two percent of Scholars who entered college in 2000, 2001, and 2002 enrolled in highly selective colleges, compared to only 36 percent of non-recipients from those same years.⁵ Even after accounting for factors such as test scores and reasons for choosing a college, receiving the scholarship increased by 11 percent the likelihood that students would attend a highly selective college, as opposed to a more moderately selective one. Moreover, nearly 40 percent of Scholars who entered college in 2002 enrolled in highly selective schools compared to only 30 percent of a matched national sample of high-achieving, low-income minority students (Table 5).

Overall, the research findings on college choice point to the very positive impact that the Gates Millennium Scholars program has had in expanding options for high-achieving, low-income students of color, particularly in expanding access to four-year, private, out-of-state, and highly selective postsecondary institutions. The award may, in fact, play a particularly important role in expanding college choice, as students are able to make enrollment decisions without worrying

Table 5. Distribution of the institutional selectivity of colleges attended by students entering college as freshmen in 2002, by Gates Millennium Scholars and a national sample of high-achieving, low-income minority students

Average SAT scores of freshmen	GMS sample (n=809)	CIRP sample (n=1,618)
Low and Medium Selectivity: 600-1200	60%	68%
High Selectivity: 1201 and higher	40%	30%

NOTE: The national sample was drawn from the 2002 CIRP Freshman Survey. Comparison group included first-time, full-time minority students at four-year institutions whose parental income and SAT/ACT scores were similar to those of the Scholars. Institutional selectivity was based on average SAT scores for incoming freshmen.

SOURCE: Hurtado, Saenz, and Dar 2006.

⁵ Highly selective institutions were defined as those in the two highest selectivity ranking categories used in Barron's *Profiles of American Colleges and Universities* (2001 edition).

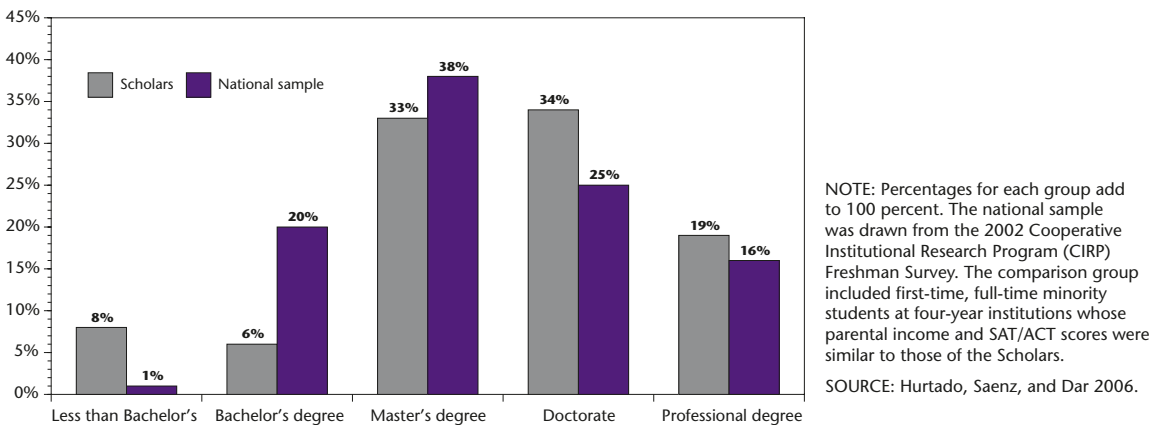
Overall, the research findings on college choice point to the very positive impact that the Gates Millennium Scholars program has had in **expanding options for high-achieving, low-income students of color...**

about the added expense of choosing a more expensive institution. Scholars also do not have to worry about incurring heavy debt burdens or working long hours while in college.

Scholars aspire to earn advanced degrees

Gates Millennium Scholars exhibit high aspirations compared with a national sample of low-income, high-achieving minority students. Even after taking into consideration family income and academic ability, Scholars were significantly more likely than their peers to aspire to earn an advanced academic or professional degree. In fact, 86 percent of the Scholars who entered college in 2002 expected to earn a degree beyond the baccalaureate as compared to 79 percent of their peers. This pattern was especially pronounced among students who aspired to earn a doctorate, with 34 percent of Scholars hoping to attain this degree versus only 25 percent of students in the comparison group (Figure 5).

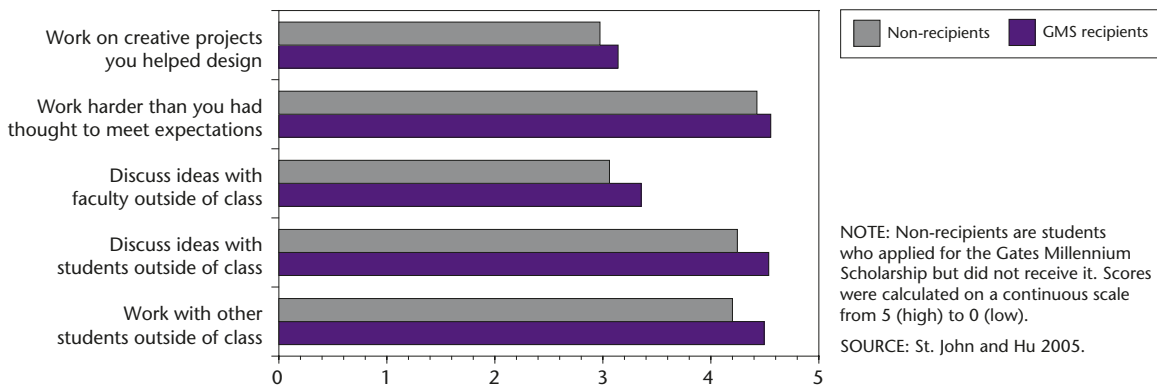
Figure 5. Percentage of Gates Millennium Scholars entering college as freshmen in 2002 who aspired to earn various degrees compared to a national sample of low-income, high-achieving minority students



Scholars exhibit engagement and leadership in college

Scholars who entered college in 2000, 2001, and 2002 scored higher than their non-recipient counterparts on five items measuring academic engagement used on the longitudinal survey. Questions covered topics such as discussing class-related ideas with other students or with faculty outside of class and working exceptionally hard to meet an instructor's expectations (Figure 6). Receiving the scholarship had a positive impact on academic engagement even after taking into consideration the fact that Gates Millennium Scholars received more financial aid and were more

Figure 6. Average academic engagement scores for Gates Millennium Scholars and non-recipients entering college in 2000, 2001, or 2002



Scholar Profile: Camilo Romero

Camilo was raised in Costa Mesa, California, by his mother and grandmother who moved to the United States from Colombia two years before he was born. Although his family encouraged him to do well in school, Camilo had no relatives who had been to college and so thought little about it until he reached high school.

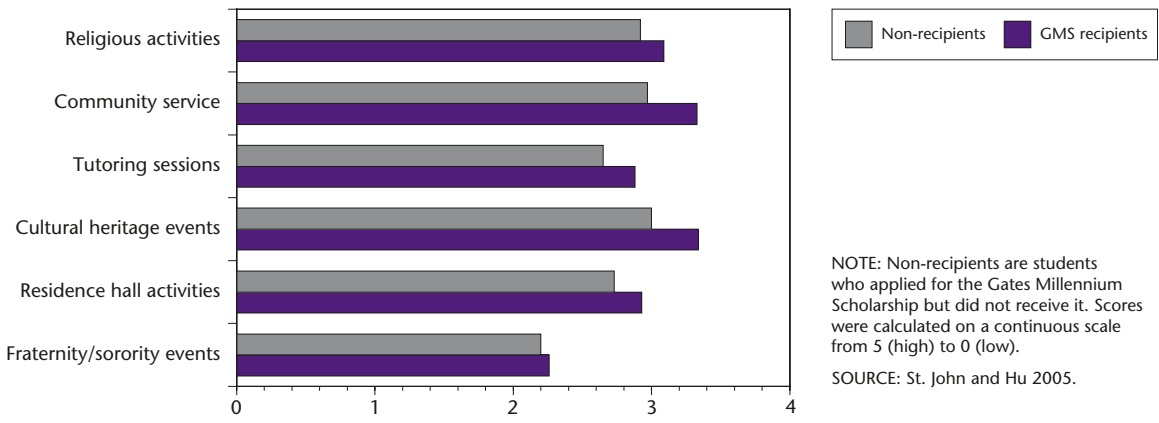
Camilo received a scholarship and attended a large Catholic high school in a nearby city, and he felt that he did not fit in with the other students at the school, many of whom were white and from wealthy and privileged backgrounds. His teachers were supportive, however, and encouraged him to consider attending college. One counselor in particular became his ally, and Camilo would go to the counselor's office at lunchtime to get information about college and what it would take to get there. Camilo believes that his frustration with the racial and class barriers at his high school motivated him to do well in school and ultimately to attend college.

Camilo chose to attend the University of California at Berkeley, in part because, when he visited other colleges, he found few students who looked like him. At Berkeley, he got involved with various Chicano/Latino student

programs. His work with other students of color helped him to define himself and to realize that there are bigger things in life than making money. As a result, he chose to major in sociology rather than in business and became an activist for social justice causes. This transformation was hard for his family to understand since they expected him to do something more "practical" with his life. Nonetheless, the financial freedom that came with being a Gates Millennium Scholar made it possible for Camilo to become a student leader on campus, while he also chose to work to help his family.

After graduating from college, Camilo took a job as an organizer for United Students Against Sweatshops, an international organization that advocates for workers' rights. He views this job as ideal because it allows him to work on issues that he is passionate about, to take a leadership role, to educate others, and to work with people in his community. His goals in life are to help others in his community get the same advantages that he has received and to ensure that the work he does contributes to the greater social good. He believes that becoming a Gates Millennium Scholar made a tremendous difference in his life by opening many doors of opportunity and allowing him to follow his passion.

Figure 7. Average community engagement scores for Gates Millennium Scholars and non-recipients entering college in 2000, 2001, and 2002



likely than non-recipients to attend a private college, factors that are themselves associated with increased academic engagement.

Overall, Scholars exhibited higher levels of academic engagement than did non-recipients. Scholars entering college as freshmen in 2001 more often discussed ideas with faculty, worked on schoolwork with other students outside of class, and worked on creative projects than did non-recipients. In addition, Scholars were more likely to perceive their school as helpful in developing their analytic, communication, and writing skills, as well as in improving their ability to adapt to change.

As with academic engagement, Scholars who were college freshmen in 2000, 2001, and 2002 were found, as a group, to be more involved in community activities than were their non-recipient counterparts. For example, Scholars were more likely than non-recipients to have participated in residence hall activities, cultural activities that reflected their ethnic heritage, tutoring sessions, and religious activities. Scholars were also more likely than non-recipients to have participated in community service (Figure 7). This outcome reflects the extent to which Scholars who took part in focus groups expressed a strong desire to push for social change and upward mobility in their communities and to serve as active role models, particularly for disadvantaged youth.

Research findings also suggest that Scholars were more able than non-recipients to tap into supportive networks on campus, networks that may help them overcome the challenges of college life. For example, Scholars were more likely than non-recipients to turn to faculty members for support and encouragement and to feel that at least one faculty member had taken an interest in their development. Scholars were also more likely to say that they feel like a part of the campus community.

Encouraging students of color to fulfill their leadership potential is an important component of the Gates Millennium Scholars program, and Scholars were more likely than non-recipients to hold a leadership position on campus during their first year in college. However, this observed difference proved not to be significant after accounting for intervening factors such as college choice. Focus groups suggested that Scholars saw themselves as leaders before being selected for the program and so did not attribute their leadership abilities and desire to lead to their participation in the program. One Scholar noted, for example, “I don’t think that, personally, GMS made me a leader. I was already a leader.”

Nonetheless, Scholars clearly believed that the program gave them additional opportunities for leadership. They indicated that receiving the scholarship allowed them more time to participate in campus activities and to take on leadership positions. As one student explained:

Receiving the Gates scholarship gave me a tremendous opportunity. It opened up so many other avenues for me. Once I was able to stop working, I had time to start an Indian club

on my campus. I was the president and founder. During our second year, we were voted outstanding club for the campus.

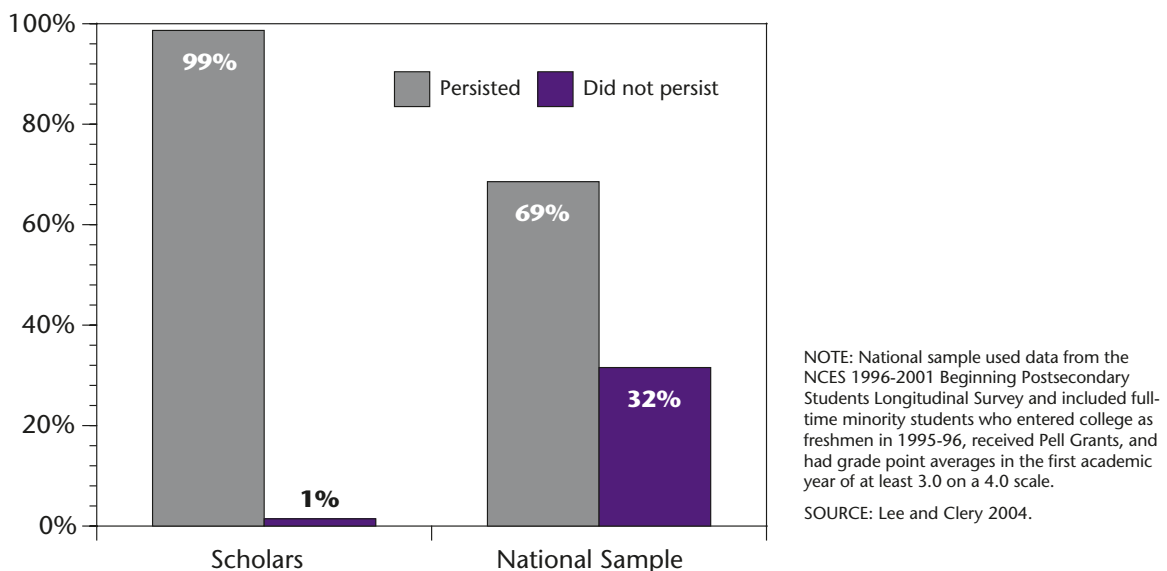
The research findings also indicate that academic and community engagement were strongly and positively correlated with leadership. This suggests that the Gates Millennium Scholars program encourages leadership both directly, through program activities such as the leadership conference Scholars attend during their first year in the program, and indirectly, through increased academic and community engagement.

Scholars persist in and complete college

In general, applicants to the Gates Millennium Scholars program—both Scholars and non-recipients—have persisted in and graduated from college at high rates. This outcome reflects the fact that program applicants are, by and large, very motivated and high-achieving students who are likely to succeed under any circumstances. However, there is evidence that Scholars are more likely to persist in college than are non-recipients. Retention rates at the end of both the freshman and junior years were 13 percent higher for Scholars who entered college in 2001 and 2002 than for non-recipients from the same years, even when accounting for factors such as income, parental education, test scores, and academic preparation that are likely to have an impact on academic success.⁶

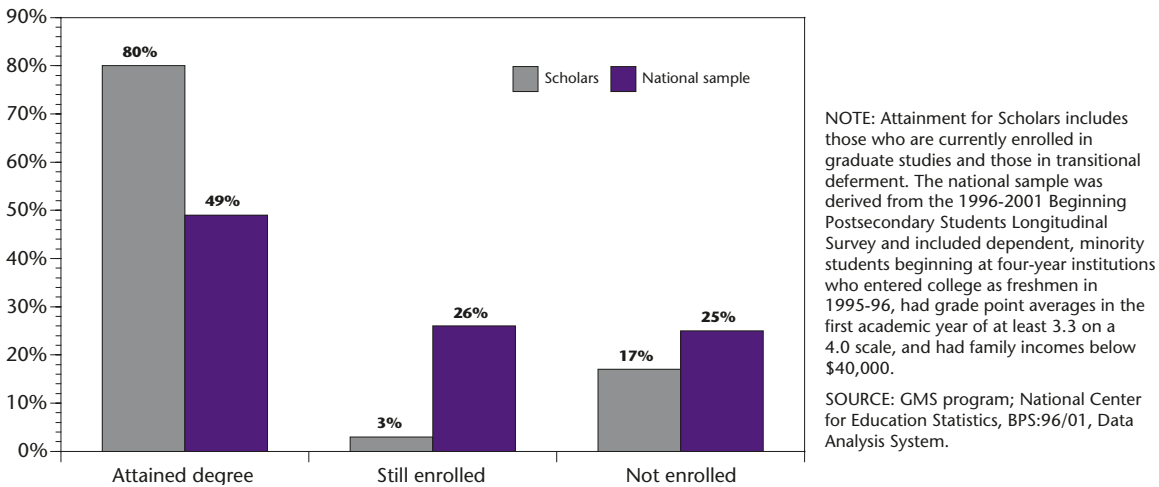
Gates Millennium Scholars also persisted in college at higher rates than the general population of low-income, high-achieving students of color. For instance, 99 percent of Scholars who entered college as freshmen in 2000 remained enrolled through two consecutive academic years compared to only 69 percent of students from a national sample who entered college in 1995 and remained enrolled through two consecutive academic years (Figure 8).

Figure 8. Two-year persistence of Gates Millennium Scholars entering college in 2000 compared to a national sample of low-income, high-achieving minority students entering college as freshmen in 1995-96



⁶ This study used quasi-experimental methods that correct for the non-random distribution of the Gates Millennium Scholarships and so provides stronger support that this difference is caused by receiving the scholarship rather than by intervening factors.

Figure 9. Five-year completion rates for Gates Millennium Scholars entering college as freshmen in 2000 compared to a national sample of low-income, high-achieving minority students entering college as freshmen in 1995-96



Graduation rates for Gates Millennium Scholars show even more positive outcomes. For Scholars who entered college as freshmen in 2000, the graduation rate after five years—with most Scholars earning baccalaureate degrees—was 80 percent. Less than 13 percent of Scholars from this cohort have dropped out of the program altogether (3 percent of the remaining students were still enrolled in undergraduate studies and 4 percent were taking a temporary leave of absence). For Scholars who began college in 2001, the four-year graduation rate was 50 percent, with only 12 percent leaving the program.

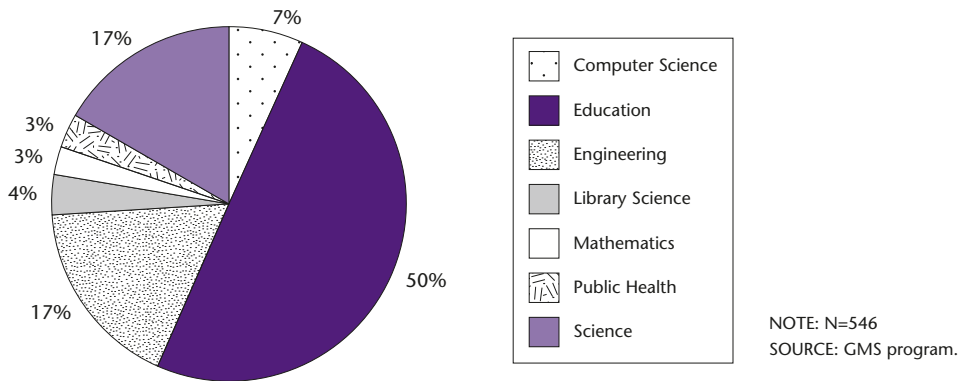
These graduation rates are particularly notable when compared to rates of college completion for a national sample of low-income, high-achieving minority students. After five years, 80 percent of the first group of Scholars had completed a college degree, but the five-year completion rate for the comparison sample was only 49 percent, while 26 percent of these students were still enrolled in college and 25 percent were no longer enrolled (Figure 9). This outcome demonstrates that Gates Millennium Scholars are completing degrees in a timely manner at substantially higher rates than a comparable national sample of college students. This fact highlights the value of the scholarship in improving the chances that talented minority students will be able to earn college degrees.

Scholars enroll in graduate school

For many students, graduate school is an important step along the road to success in life, and becoming a Gates Millennium Scholar may encourage students to take that step. Undergraduate Scholars who received their award in 2000 or 2001 and had graduated from college by 2004 were substantially more likely than non-recipients to both apply for and enroll in graduate school.

The Gates Millennium Scholars program offers continued support to Scholars who wish to earn a graduate degree, provided the Scholar chooses a preferred field (computer science, education, engineering, library science, mathematics, public health, or science), and a significant number of Scholars have taken advantage of this opportunity. In 2005, for example, 233 Scholars—18 percent of those who completed their undergraduate degrees that year—elected to continue on to graduate school in one of the designated fields. In addition, a number of recently graduated Scholars have stated their intention to pursue future graduate study by applying to defer the scholarship. For some students, this opportunity for continued funding has made graduate school more attainable. As one female Scholar with plans to earn a graduate degree in chemistry explained, “Originally my plan was to go to work for a couple years to earn enough money to go to grad school, and now I feel like I have the opportunity just to continue.”

Figure 10. Percentage distribution of all Gates Millennium Scholars enrolled in graduate school by field of study, 2006



Offering graduate scholarships in selected fields helps to diversify areas in which minorities are underrepresented (Figure 10). This strategy seems to have had an effect on at least some fields. For example, in 2000-01, only eight doctoral degrees were conferred to minorities in library science nationwide, but there are currently 20 Gates Millennium Scholars enrolled in graduate library science programs. Moreover, Scholars from the 2000 and 2001 freshman cohorts who enrolled in graduate school were more than four times more likely than non-recipients to choose education as their field of graduate study.

The impact of the Gates Millennium Scholars program on the choice of library science and education as fields of graduate study is an interesting one, since these are areas in which jobs often do not pay as well as in other fields. Focus group responses suggest that receiving the scholarship

Once in graduate school, the financial support provided by the Gates Millennium Scholars program can help graduate Scholars **gain access to the best academic programs in their field without regard to cost.**

may enable some students to choose a lower-paying field of study. Comments from Asian Pacific Islander American graduate students, for example, indicated that funding from the Gates Millennium Scholars program enabled them to follow their heart and choose a field of study they desired in place of one encouraged by their parents—in this case, fields outside the areas of science, math, and engineering.

Once in graduate school, the financial support provided by the Gates Millennium Scholars program can help graduate Scholars gain access to the best academic programs in their field without regard to cost. Over time, in fact, graduate Scholars have become more likely to enroll in private universities. Whereas nearly three-fourths of graduate Scholars from the first year of the program attended public institutions, graduate Scholars as of the program's sixth year are evenly distributed between public and private schools. Graduate Scholars in science, math, and engineering who received support during the first year of the program also reported that receiving the scholarship enabled them to work with the faculty members of their choice and to pursue their own research interests, rather than having to choose a research project based on which faculty member had the funds to hire them.

Scholars pursue rewarding careers

In addition to enabling some students to pursue a graduate education, the reduction of financial barriers may also have an impact on career choice for Gates Millennium Scholars. While Scholars who received their awards in 2000 and 2001 were no more likely than non-recipients to be working in a job related to their major, a higher debt burden increased the chance of a disconnection between job and major, suggesting that students with more debt may feel compelled to take high-paying jobs even if those jobs are not in the student's primary field of interest. Although it is too soon to have detailed findings about the full impact of the Gates Millennium Scholars program on career choice, the fact that Scholars take on much less loan debt than non-recipients implies that Scholars may have more choices about the jobs they choose after graduation.

Focus groups conducted with Gates Millennium Scholars also showed that these students want to pursue careers that will allow them to bring positive change to their communities and to benefit disadvantaged groups. One student said, "I'm not all about becoming rich and famous or anything like that. It's all about bettering myself to help better my community and my family." Students tended to see the fact that they received the scholarship as a privilege that requires a sort of "paying forward" by serving as role models for others. As one Scholar put it:

I did want to become a civil rights lawyer but I changed my mind and decided to become a teacher. I still have that drive because of where I come from and because of my racial background. I would like to help those students who do come from an ethnic background where they may not be encouraged as much to continue their education. And by seeing me in the classroom and serving as a positive reinforcement for them [they may decide] to go on and continue [their] education.

Preliminary findings from research about the Gates Millennium Scholars program, then, demonstrate that this scholarship offers recipients reduced work and debt burdens, more options in choosing a college, and more chances to become engaged and take on leadership roles on their college campuses and in their communities. The program also enhances the academic success of recipients and permits a wider range of choices once they finish college and move on to graduate schools and careers. These high-achieving students may well have attended college in any case, but the Gates Millennium Scholars program has allowed them to choose the college of their dreams, to fully participate in academic and social life on their campuses, and to graduate more quickly and with much less debt. As Camilo Romero, the Scholar profiled earlier in this chapter, put it, the program opens doors and allows participants the opportunity to pursue their passion.

Scholar Profile: Mary Smith

While growing up as a member of the Choctaw tribe, Mary lived in a small town in Oklahoma with her mother and three older siblings. Two of Mary's siblings enrolled in college, but both dropped out before earning a degree. However, her mother, who had attended vocational school, strongly encouraged Mary to continue to prepare for college. Although Mary thought that her high school was not very challenging academically, she did have a strong support network. She was involved with several tribal affiliated groups and was part of the Native American youth council for her area. Through this participation, Mary had the opportunity to travel to many national conferences and to take on leadership roles.

Mary decided to attend the University of Oklahoma in order to remain close to her family. The support she received as a Gates Millennium Scholar smoothed her transition into college financially, but Mary struggled academically. Her

high school had not taught adequate study skills and she had difficulty keeping her grades up. She discovered Project Threshold, a program that helps minority and first-generation students, and the program became a real safety net for her. Throughout her struggle Mary received support from other students in the Native American organizations that she joined. The GMS program allowed Mary to participate in extracurricular activities, become a leader on campus, and focus on diversity issues.

After graduating with a bachelor's degree in education, Mary hopes to attend the University of Wisconsin to earn a master's degree in education, focusing on higher education and leadership. Her long-term goal is to earn a doctorate in education and to teach as a college professor or to work with a non-profit organization that deals with issues of poverty. Her experiences in college—having great professors and learning how the system works—have inspired her desire to help others as an educator.

The Impact of the Gates Millennium Scholars Program

Research on the Gates Millennium Scholars program is still in its early years. Only the first six cohorts of Scholars have been selected, with a seventh to come in 2006. Many of these students, especially those who began college as freshmen in 2002 or later, have not yet received their bachelor's degrees, much less entered graduate school or the workforce. Inevitably, then, the current research on the impact of the program is preliminary, giving only hints of what may be found as more Scholars move through higher education. This research is an ongoing process, with data to be collected on the early cohorts of Scholars for many years to come.

Nonetheless, in the short and medium terms, the program clearly has produced important outcomes for the Scholars. As this report indicates, receiving the scholarship expands college choice. Scholars are more likely than comparison groups of high-achieving, low-income students of color to attend four-year, private, out-of-state, and highly selective colleges and universities. Scholars are also less likely to borrow money to pay for college, and when they do borrow, they take on less debt. This reduced debt burden, in particular, has the potential to make a long-term difference for Scholars as they finish their undergraduate degrees and make decisions about graduate schools and careers. Even this early research has shown that Scholars are more likely than their peers to enroll in graduate school, a decision that may be influenced by the fact that they will graduate from college with much less debt.

Research has shown that becoming a Gates Millennium Scholar increases the likelihood that students will persist in their efforts to earn a degree. Perhaps even more importantly, Scholars are

Scholars are more likely to be **actively engaged during their college careers** – both in terms of academics and community life.

more likely to be actively engaged during their college careers—both in terms of academics and community life. If, as the program intends, these students will go on to become leaders in their communities, this engagement is a very positive sign, holding out hope that reducing financial burdens can help exceptional students fulfill their potential.

Although there is clear evidence that receiving the scholarship does have a positive impact in areas such as college choice and completion rates, research reveals few major differences between the Scholars and those applicants who did not receive the scholarship. Like the Scholars, non-recipients are enrolling and persisting in college at high rates and show considerable academic and community engagement. This finding, rather than detracting from the impact of the Gates Millennium Scholars program, highlights the fact that the pool of high-achieving, low-income students of color is quite large. Those students who do not become Scholars still have great potential and would benefit from additional financial aid so that they, too, could have more options about where to attend college, have more freedom during college to pursue their dreams

and ambitions, and have greater opportunities to pursue graduate school or service careers free of burdensome loan debt when they graduate.

As more Scholars are selected and enter college and as the current Scholars complete their degrees and move on to graduate school and the workforce, additional research will be needed to determine the impact of the program both on the lives of the Scholars themselves and on the higher education system. In the long term, the hope of The Bill & Melinda Gates Foundation is that this scholarship program can influence increased enrollment and success in college for low-income minority students and improve the representation of minorities in the fields of computer science, education, engineering, library science, mathematics, public health, and science. It is too early to know if these goals will be fully realized, but preliminary outcomes show great promise and the research framework is in place to continue to assess the impact of this program on the lives of the remarkable young people who are the Gates Millennium Scholars.

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