

Expanding Access and Opportunity

THE IMPACT OF THE
GATES MILLENNIUM
SCHOLARS PROGRAM

BY THE INSTITUTE
FOR HIGHER
EDUCATION POLICY

**JANUARY
2010**



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ACKNOWLEDGMENTS

This report was prepared for the Bill & Melinda Gates Foundation by the Institute for Higher Education Policy and was written by Jennifer Ramsey, research project manager. Additional content review and editing were provided at IHEP by Alisa F. Cunningham, vice president of research and programs; Gregory Kienzl, director of research and evaluation; Laura Gorgol, research intern; and Tia T. Gordon, marketing and communications consultant. Additional review from the Bill & Melinda Gates Foundation was by Margaret Tyler, senior program officer.

The opinions and conclusions expressed in this report are those of the authors and do not necessarily represent the views of the Bill & Melinda Gates Foundation.

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Executive Summary

In 1999, the Bill & Melinda Gates Foundation began an innovative scholarship program that provides full financial support to low-income minority students across the United States. The Gates Millennium Scholars (GMS) program has already awarded more than 10,000 scholarships to exceptional students, with the ultimate goal of funding at least 20,000 students over the course of the 20-year program. Extensive research conducted on the program examines outcomes for several cohorts of Scholars using comparative data from non-recipients (students who applied but did not receive the scholarship) and national comparison groups of low-income, high-achieving minority students.

The earliest findings from this research indicate that Scholars receive numerous advantages. They have reduced work and debt burdens as well as more flexibility in their choices, which leads to enhanced persistence, college completion, and community engagement after college. These are highly motivated students who likely would have attended college without the scholarship, but their experiences would have been very different.

SPECIFIC OUTCOMES:

Scholarships provide flexibility

- Largely thanks to the generous relief from their financial burden, Scholars had more choices regarding institution, major, and time use. Scholars worked fewer hours, which allowed them to become more academically and socially engaged during college. They were more likely to enter a four-year or private institution and to change their major as undergraduates.

Scholars in STEM fields

- Educational aspirations and high school courses taken influenced whether a student (Scholar or non-recipient) majored

in a science, technology, engineering, or mathematics (STEM) field. However, when other factors are taken into account, Scholars were more likely than non-recipients to enter and persist in STEM majors. The higher levels of academic engagement also positively affected Scholars in STEM fields.

Financial concerns are lifted

- Scholars were less likely to take out loans; when they did, the amounts were significantly smaller. Their parental contributions were also significantly lower than those of non-recipients. Scholars worked fewer hours and were more likely to hold an on-campus job if they did work.

Scholars exhibit high levels of engagement

- Earlier research demonstrated that Scholars were more academically and socially engaged in their college communities. Not only did Scholars exhibit this behavior in their early college careers, they also continued to show higher levels of engagement throughout their education.
- Academic engagement during college led to higher levels of civic engagement both

during and after college. Being a Scholar was highly correlated with working with needy communities, one of the desired outcomes of the GMS program.

Undergraduate completion

- Although both Scholars and non-recipients were highly likely to complete a baccalaureate degree within six years, Scholars generally completed their degrees more quickly.
- Institutional selectivity positively affected graduation rates and time to degree for Scholars, while the influencing factors for non-recipients were additional grant money and higher levels of parental contribution.

Graduate school

- Scholars were more likely than non-recipients to enter graduate school immediately on completion of their undergraduate degree. They were also more than twice as likely as non-recipients to enter a STEM field.
- Some significant differences have emerged among groups of Scholars. Students with greater loan debt or higher amounts of parental contribution were less likely to enroll in a graduate program. Men were more likely

to enroll than women, and African Americans were more likely to enroll than Hispanic and Asian/Pacific Islander Americans.

Career tracks of Scholars

- Scholars' majors and career choices were closely related to one another in all fields except those that focus on mathematical and scientific ability. This indicates that they had the opportunity to enter their fields of interest. However, job satisfaction was more influenced by working conditions than by career-major congruence.

Halfway through this scholarship program, research results demonstrate some very positive outcomes for Scholars. As the current Scholars progress through college and graduate school, and new Scholars are selected, more research is needed to ensure that the goals of the program are being met. The early results show promise, so it is likely that the program will demonstrate more and more positive outcomes as it makes improvements to support the goal of increased minority access and leadership.

Introduction

In 1999, the Bill & Melinda Gates Foundation announced the formation of the largest private scholarship initiative to date, the Gates Millennium Scholars program (GMS). With more than \$1 billion pledged to fund scholarships for high-achieving, low-income minority students, the program is committed to increasing minority access to higher education in general and to disciplines in which the targeted groups have been historically underrepresented. The program offers supplemental and specifically targeted support services to help students persist and attain a four-year degree.

To become a Gates Millennium Scholar, the student must be African American, American Indian/Alaska Native, Hispanic American, or Asian/Pacific Islander American, and must be a citizen or permanent resident of the United States. Potential Scholars must demonstrate financial need by showing eligibility for a federal Pell Grant, and they must have at least a 3.3 grade point average (GPA) in high school. After being nominated by a teacher or counselor, students must compose essays that provide insights into their personal characteristics. The essays are scored using a set of noncognitive criteria, such as leadership and citizenship qualities, positive self-concept, realistic self-appraisal, availability of a strong support network, and ability to handle racism. These qualities are believed to help students overcome the many challenges they will face in their pursuit of postsecondary education.

The GMS program is a “last dollar” scholarship, meaning that students receive full funding for their college tuition, fees, books, and housing after accounting for other grants

and scholarships. Thus, Scholars are not required to seek any work-study or loans to satisfy the unmet need portion of their financial aid package. Funding for undergraduate study is available for up to five years and may continue if a Scholar pursues a graduate degree in computer science, education, engineering, library science, mathematics, public health, or science.

As part of its strategic objectives, the Bill & Melinda Gates Foundation commissions regular, in-depth evaluations of the GMS program. The National Opinion Research Center (NORC) at the University of Chicago conducts a longitudinal survey of selected GMS cohorts that will follow Scholars and applicants who were not selected (non-recipients) into their mid-thirties. The data collected by NORC provide a descriptive picture of the lives and experiences of the Scholars and non-recipients, and are used to determine what effect the scholarship program has had on its recipients. Along with the NORC analysis, the Bill & Melinda Gates Foundation has contracted

senior higher education researchers to perform rigorous statistical analyses to determine the relationship between receipt of the scholarship and the desired outcomes, controlling for individual and institutional differences. A third group of researchers conducted interviews and focus groups to gain further insight into the Scholars' self-perceptions on their lives and educational careers.

The various findings reveal key differences between students who received the scholarship and those who had the academic qualifications for the scholarship but did not possess a high enough score on the noncognitive qualities assessed by the program (educational, economic, and social dimensions). Nearly all Scholars and non-recipients graduated from college within six years, which is not surprising, as both groups are composed of highly motivated and high-achieving students. However, their respective experiences during college were dramatically different. The main difference was that Scholars did not have to work or take out loans, which led to an

enriched educational experience with long-term benefits.

This synthesis report focuses primarily on the Scholars and non-recipients who entered college in 2000 and 2001. Unless otherwise noted, the data used in this report are based on these cohorts, who have been out of high school at least six years. This time frame is long enough to observe undergraduate completion and graduate school or labor market entrance. References to other students or surveys are used to enhance the researchers' findings or to discuss a unique population within the dataset.

This report reviews the findings from an earlier report (when students were in their third year of college) and synthesizes those findings with recent research (when this same group was six years out and either still in school or beginning their careers).¹ The goal of this round of research is to better understand how receipt of the GMS scholarship affects students' lives, even after college.

¹ The earlier report, *Expanding Access and Opportunity: The Impact of the Gates Millennium Scholars Program*, can be found at www.ihep.org.

Demographic Background

Among Scholars entering college as freshmen in 2000, 2001, and 2002 (cohorts 1, 2, and 3), the overall racial/ethnic distribution was 34 percent African American, 34 percent Hispanic American, 22 percent Asian/Pacific Islander American, and 10 percent American Indian/Alaska Native (SEE FIGURE 1 AND TABLE 1). Compared with the minority freshman population of the United States, Asian/Pacific Islander American and American Indian/Alaska Native students were somewhat overrepresented in the Scholar population.²

Approximately one-tenth of Scholars in the first three cohorts described themselves as a combination of two or more races, and Scholars had ethnic affiliations with more than 30 different countries. Asian/Pacific Islander American Scholars were most likely to identify their ethnicity as Vietnamese, Chinese, or Korean—countries that account for a significant portion of recent Asian immigration to the United States. A substantial majority of Hispanic American Scholars were of Mexican descent, but some had ethnic origins in Puerto Rico or Cuba. American Indian/Alaska Native Scholars came from more than 35 different recognized tribal groups; the largest percentages were from the Cherokee (particularly the Cherokee Nation of Oklahoma), Choctaw, and Navajo tribes.

A substantial number of the Scholars were immigrants. Nearly one-fourth of the Scholars in the first three cohorts were born outside the United States, and over half were raised in a home where the parents primarily spoke a language other than English. Most immigrant

Scholars were Hispanic American or Asian/Pacific Islander American. In 2000, over half the Asian/Pacific Islander American Scholars and three-quarters of the Hispanic Scholars were native to the United States. While the numbers of native Hispanic Scholars remained about the same each year, by 2002, only 43 percent of the Asian/Pacific Islander American Scholars were born in America.

The requirement that Scholars be eligible for federal Pell Grants ensures that they come from low-income families, those with students who most need financial support for college. Nearly two-thirds of the Scholars in 2002 came from families that earned less than \$30,000 per year. Scholars from the first three years of the program who participated in focus groups generally reported family incomes in the \$20,000 to \$30,000 range.

These findings are supported by other information about the Scholars' families from the longitudinal survey. Among the Scholars who entered college in 2000 and 2001, only

² As this report builds on an earlier research report using students who entered college in 2000 and 2001 (see previous footnote), much of the demographic information is the same. Where information is available, additional cohorts have been added to provide a more complete picture of the universe of Scholars.

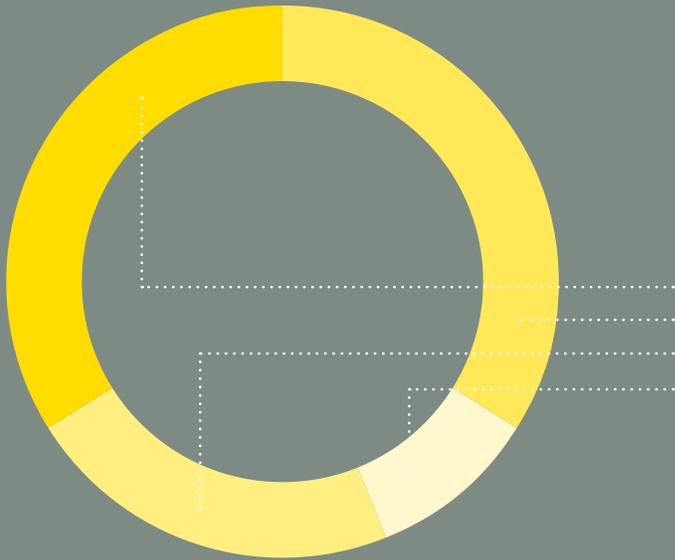


FIGURE 1

Percentage distribution of Gates Millennium Scholars entering college as freshmen in 2000, 2001, and 2002, by racial/ethnic group.

- 34% Hispanic American
- 34% African American
- 22% Asian Pacific Islander American
- 10% American Indian/Alaska Native

Note: Groups are mutually exclusive.

Source: National Opinion Research Center 2006, 2007

IN THEIR OWN WORDS¹

Good afternoon. ...I'm born and raised, south side Chicago, Illinois, child of a single mother. She worked real hard to support me to get me where I am right now. She struggled as far as I can remember to put me through school. I've been in private school up until college, and when it came time for me to leave high school to go on to college, I knew that I needed to get out of Chicago.

As you all know, there are a lot of different things that are going on in Chicago right now that are affecting the black youth, especially males. Just along for my four years, I lost, like, four friends, and I knew that my mom couldn't afford to send me anywhere outside Chicago as well as outside of Illinois. So, when the Gates Millennium Scholarship came around for me, I knew then that this was my opportunity to get out, so I applied. My mom was there with me every step of the way to help me get those essays done because trust me those essays are killer.

So I was able to attend the college or university of my choice. I decided that I wanted to attend an HBCU. So, I attended North Carolina A&T State University in Greensboro, North Carolina. I attained my bachelor's degree of science in engineering and physics. Currently, I work in Rockville, MD for Lockheed Martin as a test systems integration engineer.

And ever since I've got up here into the DC area, I've constantly emailed back to the Gates

Millennium Scholars to ask, "Hey is there anything I can come out here and do for you all? Is there a program that you have that you'd like for me to attend?" Because I know of the great impact that the program had, and I want to share my experience with other students, and so they can go back and they can tell their friends, or even people like you that have the opportunity to help guide these students to this great opportunity to take advantage of because the financial barrier might be the thing that's keeping them from attending the college or four-year university, and I don't want anyone to miss that opportunity because, just because of financial reasons, because if you feel that you let finances let you keep you where you are, there's no telling where you would be right now.

DC is also one of those areas where it's hard, it's hard for the youth, and the finances, I believe, are gonna be the way to get them out of there to let them better themselves and experience other opportunities. I just want you all to just realize that, the youth, especially males, they're not looking for us to go to college and better ourselves, they're looking for us to be another statistic so they can talk about us every day on the news. And, I just want you all to see me, as well as [another Scholar], that there's better out here for us, and that you all might just be that first step that young males need in order to not be a statistic on the six o'clock news or ten o'clock news. Thank you all.

¹ The sections entitled, "In Their Own Words," are excerpts of speeches given at the Access and Opportunity Assembly held in Washington, D.C. on Sept. 23, 2009. Though several other Scholars spoke at the event, due to space constraints, this is a selection of those for which IHEP received permission to publish and is reflective of the scholarship recipients as a whole. Others are used in quotes throughout the publication.

around three-quarters of their parents had earned a high school diploma, and just half owned their home. These statistics, which show educational attainment and homeownership rates below the national average, paint a picture of families for whom a college education may seem out of reach.

On the other hand, compared with their respective minority groups in the general U.S. population, Scholars' families showed some important differences. With the exception of Asian/Pacific Islander Americans, home ownership rates and educational attainment of Scholars' parents were at the same level or higher than those of other members of their minority group, regardless of income. Similarly, Scholars' parents—particularly their mothers—were employed at rates equal to or better than the average American family. These families may have had low incomes, but they were no different in terms of employment, education, and home ownership than their more affluent peers, which may have contributed to their children performing well in high school.

TABLE 1

Demographic characteristics of Gates Millennium Scholars entering college as freshmen in 2000, 2001, and 2002.

Note: Totals may not add to 100 due to rounding.

Source: National Opinion Research Center 2006, 2007

		2000	2001	2002
Race/Ethnicity	American Indian/Alaska Native	10%	12%	11%
	Asian/Pacific Islander American	24%	20%	16%
	African American	34%	36%	36%
	Hispanic American	33%	32%	37%
Gender	Female	69%	68%	70%
	Male	31%	32%	31%
Born in United States	Yes	77%	78%	78%
	No	23%	22%	22%
Father's Educational Attainment	Less than High School	28%	24%	27%
	Certificate	3%	4%	3%
	High School	27%	26%	25%
	Some College/Associate's Degree	20%	20%	23%
	Bachelor's Degree	15%	14%	16%
	Master's Degree	5%	8%	4%
	Doctorate	3%	4%	3%
Mother's Educational Attainment	Less than High School	25%	22%	24%
	Certificate	4%	5%	3%
	High School	23%	22%	27%
	Some College/Associate's Degree	26%	27%	24%
	Bachelor's Degree	16%	16%	13%
	Master's Degree	5%	7%	6%
	Doctorate	0%	1%	3%

ACADEMIC PREPARATION AND HIGH SCHOOL BACKGROUND

Scholars most often attended public high schools, and nearly two-thirds of those schools were in the top quartile in terms of size. A greater percentage of Scholars attended schools in urban or suburban areas, but this differed substantially by racial/ethnic group. Also, despite being eligible for Pell Grants, Scholars were less likely to attend a school that received Title 1 funds.³

The Scholars are high-achieving students, as demonstrated by their drive and college planning activities. The scholarship requires that candidates maintain a 3.3 GPA in high school, and the Scholars generally achieved these grades in challenging college-preparatory classes and programs, such as Advanced Placement (AP) and International Baccalaureate (IB). Almost all Scholars completed three years each of science and math in high school. In addition, three out of four Scholars took at least one AP exam during high school, and over 25 percent took four or more AP exams. The exception was American Indian/Alaska Native Scholars; less than half of whom took any AP exams. The academic strength of the Scholars was also reflected in the fact that they reported SAT scores nearly 150 points above the national average.

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 supported their educational ambitions, they often found it hard to get advice about the steps they should take. This lack of advice was exacerbated by the problem of attending large schools that have high student: counselor ratios and, therefore, weaker college preparatory support. Many Scholars turned for information to an older sibling or relative who had attended college, a supportive teacher or counselor, or a family friend.

Despite these challenges, most Scholars had high degree aspirations while in high school. The majority in all ethnic groups aspired to at least a graduate degree, whether first professional or master's level. The Scholars had strong academic backgrounds and the motivation and drive to succeed, which gave them the confidence to aspire to higher educational levels than other low-income minority students.

DIFFERENCES BETWEEN SCHOLARS AND NON-RECIPIENTS

The non-recipient students included in the longitudinal survey were in many ways very similar to the Scholars. Like the Scholars, the non-recipients were racially/ethnically diverse, had strong academic backgrounds, and scored high on the qualitative criteria used

³ Title 1 funds are federal funds given to schools with large numbers of disadvantaged students.

TABLE 2

Indicators of socio-economic status of Gates Millennium Scholarship applicants entering college as freshmen in 2000 and 2001, by recipient status.

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

Source: National Opinion Research Center 2006, 2007

	Scholars	Non-Recipients
Father attained high school diploma or higher	74%	87%
Father attained bachelor's degree or higher	24%	36%
Mother attained high school diploma or higher	71%	86%
Mother attained bachelor's degree or higher	22%	34%
Mother currently employed	72%	79%
Parents own home	54%	73%

to assess their application essays. Non-recipients differed from the Scholars on a few key socio-economic indicators (**SEE TABLE 2**). Compared with the Scholars, the parents of non-recipients were more likely to have earned a high school diploma, be employed, and own their home. None of these differences should be surprising, as Pell Grant eligibility (a signal of low-income status) was a factor in determining who would receive a GMS scholarship.

Both Scholars and non-recipients were high-achieving young people who were very likely to attend and succeed in college, despite the economic disadvantages they faced. Nonetheless, pursuing higher education can be a significant financial burden, and the intent of the GMS program is to lighten that burden for some of these talented students to help propel them to success. The remainder of this report examines the ways in which the scholarship has made a difference in the lives of the first two cohorts of Scholars compared with non-recipients and, where appropriate, with other high-achieving low-income students of color.⁴

⁴ For some studies, researchers used students other than just non-recipients for comparison. Depending on the research methodology and the questions asked, other populations may have enabled more adequate comparisons.

Experiences of Scholars While Pursuing Undergraduate Degrees

Without a doubt, becoming a Scholar brings opportunities that would typically be out of reach for a low-income minority student. Most college decisions take into account future benefits and opportunity costs, and the provision of enhanced financial aid allows students greater opportunity to make better decisions about the use of their time while they are in school. The opportunity to spend time on activities associated with positive student outcomes is a huge boon. Receiving such a generous scholarship gives students a greater range of choices during their schooling.⁵

SCHOLARSHIPS PROVIDE FLEXIBILITY

Early research showed that the scholarship provided students with more flexibility to spend their time as they choose and not focus on earning money to help pay for their education. Researchers found that not only did this create a situation in which Scholars had less debt burden and worked fewer hours but that the additional time gave them the opportunity to become more academically and socially engaged during college. With new information available on additional cohorts, the latest research confirms those findings and strengthens the argument that they are linked to receipt of the scholarship.

The earlier report showed that becoming a Scholar is associated with higher rates of enrollment in four-year versus two-year institutions. As one Scholar said, “It’s been a tremendous weight off my shoulders. I thought I would have to go to a community college after I worked so hard in high school.” Scholars were also more likely than non-recipients to

enroll in selective institutions and more likely to attend private institutions or institutions outside their state, perhaps because of the decreased financial burden. Receiving the scholarship contributes to greater choice. Scholars can focus on what would be the best institution for them rather than the most affordable one.

Scholars in the first two cohorts changed majors more frequently than non-recipients with significant differences by race. African American Scholars were more likely than other Scholars to change their major at least once, and American Indian/Alaska Native Scholars were least likely to change their major. For non-recipients, the opposite was true.

Though students may be attracted to certain fields of study when they begin their college careers, interests often change as they are introduced to new subjects. The GMS scholarship does not require undergraduate students to select a particular major; the program provides room for students to explore

⁵ Although the students graduated from high school six years before researchers collected these data, high school attributes and background characteristics continue to influence certain outcomes, such as persistence, engagement, and college GPA. For a fuller picture of the students’ high school experiences, see the earlier report, *Expanding Access and Opportunity: The Impact of the Gates Millennium Scholars Program*, located at www.ihep.org.

new interests without losing their financial aid. The fact that Scholars were more likely than non-recipients to change their major might reflect the freedom they felt to pursue newfound interests and talents without risking the loss of financial support.

ENCOURAGING SCHOLARS TO ENTER STEM FIELDS

Though Scholars may use the scholarship in any field, the GMS program invests heavily in the goal of increasing diversity in certain fields of study, particularly the science, technology, engineering, and mathematics (STEM) fields. Minority students have traditionally been underrepresented in those fields, but as diversity increases in the United States, it is important for those fields to encourage diverse leadership to provide role models for future generations.

The two most important factors influencing both Scholars and non-recipients to choose a STEM major were high educational aspirations and completing more math and science courses

in high school than other undergraduates. Entering college with the intent to major in a STEM field had a greater effect on Scholars than on non-recipients. Once intent is factored in, Scholars were more likely to enter and persist in a STEM major than non-recipients who express similar levels of interest in STEM fields. Another interesting finding is that among the students who did not provide information on their intended major as freshmen, Scholars were more likely to be majoring in STEM fields by their junior year. Thus, it appears that receipt of a GMS scholarship encourages both students who express interest in STEM fields and those who are not certain of their preferred major to go into STEM fields and graduate with a STEM major.

However, the selection of a STEM major differed by entering cohort, gender, and race/ethnicity. Students who entered in 2000 and 2002 were slightly less likely to major in a STEM field, while those who entered in 2001 were slightly more likely to do so. Furthermore, students entering in 2001 were 50 percent more likely to have a

IN THEIR OWN WORDS

I'm always honored to be asked to continue to be involved with the Gates Millennium Scholarship program because when I got it, you know, you're just so excited that you got a scholarship that you don't realize how this program can really stay with you and encourage you and keep you networking and growing, so I just want to thank you all at UNCF for continuing to invite me to these events, and I'm happy to be here.

For me I think I really represent what the program can do when you find the opportunity that it gave me. I can say without a doubt that this program changed my life because when I received the scholarship I was at a point where I was an incoming senior, so I was at a crossroads. My husband was getting ready to go to law school, and I needed to transfer universities, and I really didn't have the money to continue, and I was very ready to quit even though I really wanted to finish, but money was the barrier. So when I received the award it literally opened the door and allowed me to finish. And then knowing I could continue on into other disciplines that encouraged me to do so as well.

I just wanted to share a little bit about my background, which is important to me and to the significance of why I'm here today. I'm the oldest of six children, in a family that struggled financially. When I graduated from high school, I had been a HeadStart student and [in] high school already going to college and my parents lost their home, and I couldn't live there anymore. And, it took me about a year to get back into

school, and I also had a son at the time, so I had a lot of barriers in front of me. Getting into college and going to college for me was still one of those things that was like a dream, for my mother and my parents who didn't get to do that, and to me that is what this program means is that you are literally able to help people fulfill a dream that maybe their parents didn't, maybe they are the first in their family to do this.

The scholarship is more than just money to me now. It opened the door to finish school, but it also showed me that I could compete out there with any other student. It didn't matter that I didn't have the SAT prep classes or any of those things; I can still compete in the world like everybody else because I have the brains and the desire to do so. And so, my message to you who have the opportunity to impact youths' lives is that, just remind them of that, that you are not limited by anything but yourself. And your programs and the Gates Millennium Scholarship program are here to help you achieve whatever it is that you want to achieve. This is the greatest gift that you can give somebody who wants to go there. So, I just wanted to say that I'm representative of somebody who may not be here if it wasn't for the program, and people like you are one step in that process.

My own son has, now he wants to win the science fair program, he wants to be an engineer. This has changed the next generation in my family, so that's what it means to me, and I thank all of my alum here today. So thank you very much.

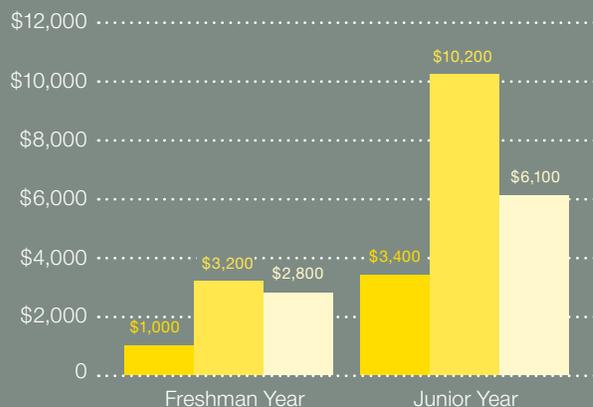


FIGURE 2

Cumulative loan debt for entering freshmen in 2001 and 2002 (in dollars).

Scholars
Non-Recipients
National Sample

Source: DesJardins and McCall 2008

STEM field as their second major, while those entering in 2002 were almost 38 percent less likely to be in a STEM field for their second major. For students entering in 2001, more female Scholars majored in STEM than male Scholars, though that finding did not hold true for female Scholars in 2000 and 2002.

Overall, there is some evidence to suggest that the GMS program encourages more minority students to choose a STEM major. The scholarship appears to affect the persistence of students who express an initial interest in majoring in STEM fields, which is encouraging. Finally, the scholarship means that students are required to work less and thus have time for more academic engagement—this situation appears to benefit students who are interested in STEM fields.⁶

SCHOLARS HAVE A LIGHTER FINANCIAL BURDEN⁷

In a sample of students who entered college in 2001 and 2002, Scholars were less likely than non-recipients to take out loans; when they did, their cumulative loan debt was less than that of non-recipients. Scholars also borrowed less than a national sample of low-

income minority students. In their freshman year, Scholars borrowed approximately \$1,000, while non-recipients borrowed more than three times as much. Nationally, low-income minority students borrowed a few hundred dollars less than the non-recipients. By their junior year, the difference was even greater, with non-recipients having a cumulative debt three times that of Scholars (FIGURE 2). As one Scholar said, “Seeing friends who face financial barriers in college makes me feel so grateful and so privileged to have the scholarship. Some didn’t have money to pay for tuition, so they dropped out of college, worked full-time and/or lived in their cars.” This Scholar noted that without the scholarship those experiences could have been hers.

Scholars also worked fewer hours than both non-recipients and the national sample. On average, Scholars worked about 11 hours a week during their freshman year, compared with 13 hours for non-recipients and 19 for the national sample. By their junior year, Scholars were working 15 hours a week, still less than the comparison groups, which were at 19 and 20 hours, respectively.

6 The impact of the scholarship on engagement (academic, social, and civic) is explored later in the report.

7 The comparisons made in this section are between Scholars and non-recipients who had similar scores—near the cutoff—on the noncognitive selection criteria.

IN THEIR OWN WORDS

Thank you, Carlos. Good afternoon. I really cannot say enough about how proud I am to be invited to these events to talk about the opportunity, the blessing really, that the Gates Millennium Scholars (GMS) program has bestowed upon me. I would like to begin by sharing a little bit about my background.

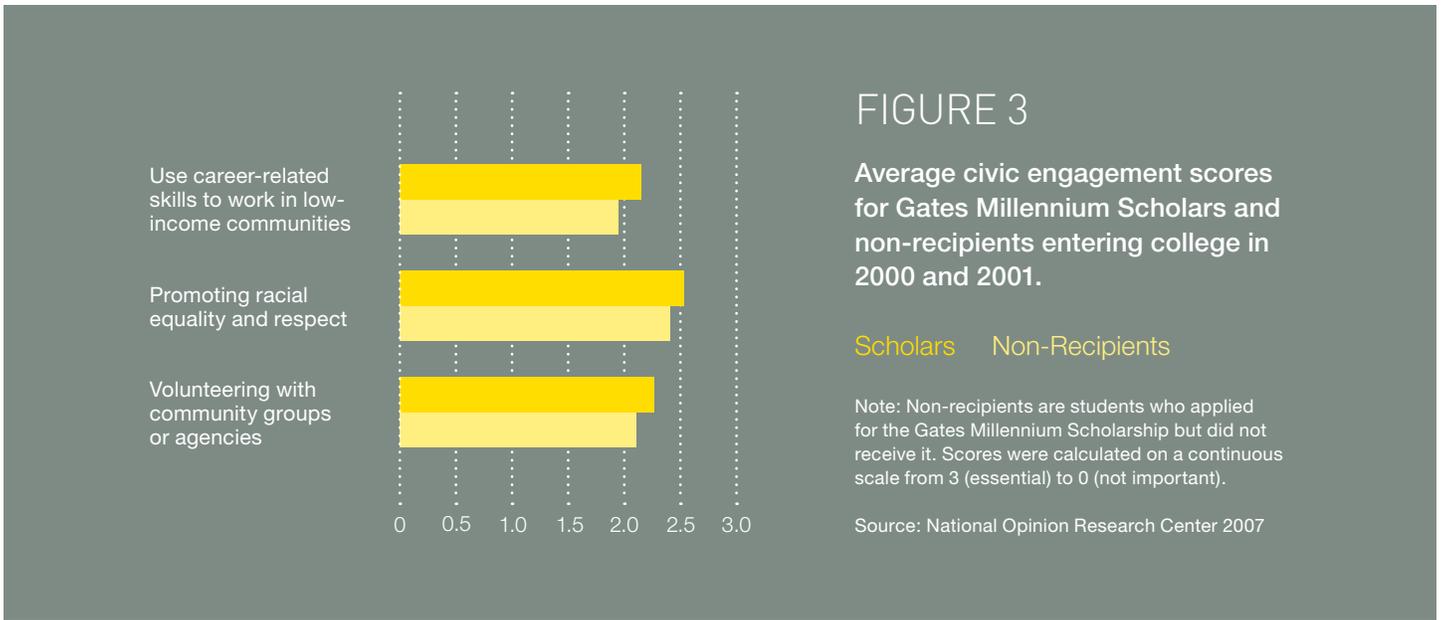
...I am from Pohnpei in Micronesia. Pohnpei is a very small island in the Pacific Ocean, north of Australia and east of the Philippines. Without the Gates Millennium Scholars program, I would most likely still be there. Not that it's a bad place to be; it is actually a great place to grow up. The island is pristine and the people are friendly, but there are limited opportunities to get an excellent education and network with impressive peers and educators like those present today. And this to me is one of the greatest things that the GMS provided—an opportunity to grow and reach my full potential.

I am a full time student pursuing a master's degree in environmental science at George Washington University. I also currently work full time at the Department of the Interior and part time with an internship organization for college students. I am a father of a 2 ½ year old daughter. My schedule is overwhelming but I persist for two primary reasons. First, I am making the most out of this opportunity that GMS has provided. Secondly, I firmly believe in the saying "to whom much is given, much is expected." I owe many people for

getting to where I am today and I stand on great shoulders. The credit for any successes I have experienced in life is due to the help I have received—from the Gates Millennium Scholars, my parents, different mentors and different people that I have met along the way. I persist for my own betterment and to show these generous people that their investment in me is not wasted.

Now I would like to talk about college success and preparedness, especially for our organizations that are here today. Mentorship is a critical role that each of you plays in ensuring a student's preparedness for and success in college. I know without a doubt that I will not be where I am today without my mentors and I certainly would not have completed the GMS application without them! The funding opportunity that GMS provides is the powerful kick off the starting blocks but it is the mentorship that will maintain the student's speed during the race. This is one of the other reasons why GMS is not just about scholarship money. It fosters mentoring relationships.

So I humbly ask each of you take up that very important role and be a mentor for the youth around you. You can start by mentoring and guiding a student through the GMS application process. Even if those you help do not get the GMS scholarship, you will have imparted on them skills which will enable them to get other scholarships and other opportunities.



Though the scholarship was meant to relieve students of the need to work or take out loans during college, most Scholars did one or the other, or both. Many students said they did not have to work but chose to do so for non-monetary reasons. Several Scholars made statements such as this one: “I’m not so much working for the income but just for experience.” Others reported helping their families with personal situations, such as family illnesses or other siblings’ tuition.

Receipt of the scholarship also relieved some of the family’s financial burden. In their freshman year, the parental contribution of Scholars was approximately \$650 less than that of non-recipients, which represents a decrease of 72 percent for African-Americans, 68 percent for Asian/Pacific Islander Americans, and 64 percent for Hispanic Americans. By the students’ junior year, the cumulative parental contribution was almost \$1,400 less across all ethnic groups.

SCHOLARS ARE CIVICALLY AND SOCIALLY ENGAGED

Scholars in the first two cohorts were more

likely than non-recipients to become academically and socially engaged in their college communities (FIGURE 3). This is a meaningful result, as a substantial body of research shows that such engagement influences future success in college and after graduation. The earlier research showed greater engagement among Scholars during the first few years of college, and the recent research shows that they continued to stay socially and academically engaged up to graduation and beyond.

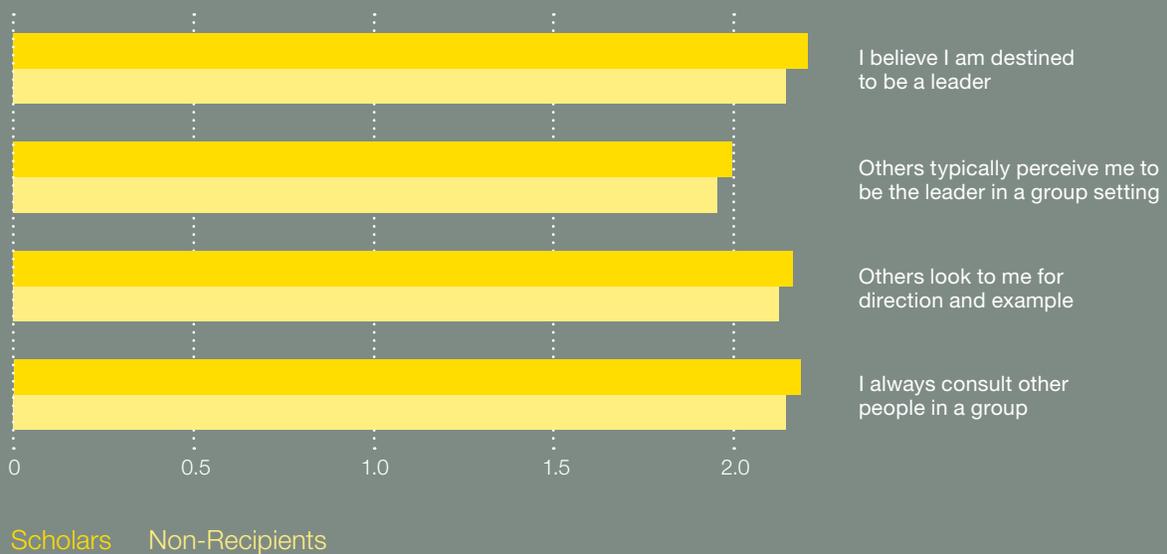
Academic and social engagement of Scholars during their time in college was positively related to their activities after graduation. For instance, Scholars’ social engagement during college was related to positive democratic values, civic engagement, leadership competency, and whether or not they held leadership positions in their communities. Academic engagement in college also positively influenced Scholars’ civic engagement after college and the likelihood that they would hold leadership positions. The only indicator on which non-recipients placed more emphasis than Scholars was voting in national elections. However, Scholars were more likely

FIGURE 4

Average leadership competency scores for Gates Millennium Scholars and non-recipients entering college in 2000 and 2001.

Note: Non-recipients are students who applied for the Gates Millennium Scholarship but did not receive it. Scores were calculated on a continuous scale from 3 (strongly agree) to 0 (strongly disagree). The answers to the item, "I do not relate to the most common definitions of 'leadership'" were reversed in order to keep it equivalent to the other responses.

Source: National Opinion Research Center 2007



to place importance on working in high-need communities and to have voted in local elections.

One explanation for the high level of civic engagement is that because they are relieved of the financial burden of attending college, Scholars have more opportunities to pursue activities outside work or school. They have more freedom than non-recipients and other low-income students to explore extracurricular opportunities that might, in turn, influence their work in local or high-need communities after graduation.

One of the selection criteria for the scholarship involves demonstrated qualities of leadership. The program hopes that Scholars will ultimately become role models and leaders for future generations. The research shows that Scholars exhibit small but significant stronger leadership qualities than non-recipients throughout college. The social engagement of Scholars has a positive effect on leadership qualities. (SEE FIGURE 4).

Although Scholars exhibited higher levels of engagement than non-recipients throughout college, their level of engagement declined in the early years after graduation meanwhile non-

recipients' level of engagement was relatively unchanged throughout college and into their early careers. It may be that the financial support during college allows Scholars to develop civic commitments, but they find it difficult to retain that level of commitment once they begin working. These findings mirror the national trend of students being less engaged in their early careers.

Despite the decline in their engagement after college, most Scholars continue to say that the scholarship has afforded them not only the opportunity, but the desire to give back to the community. One Scholar has returned to his hometown tutoring program as well as started his own scholarship fund to give back to more students from his community. As he says, "Because Bill Gates opened the gates for me, I can open the gates for other people. Because Melinda Gates opened the gates for me, I can open the gates for other people, because you all [scholarship supporters] are there to support and open the gates for us, we can help support other students." While they may not have the time available to commit to as many hours to community service, they are clearly still highly engaged in civil society.

Undergraduate and Graduate Outcomes

For Scholars who entered college in 2000 and 2001, the most recent research explores the ways in which their post-graduation lives differ from those of non-recipients. Six years after high school, almost all Scholars and non-recipients had completed their undergraduate degrees and entered graduate school or the labor market.

SCHOLARS COMPLETE FOUR YEAR DEGREES

One of the goals of the GMS program is to increase the number of low-income and minority students who graduate from college with a four-year degree in a timely manner. Scholars receive funding for up to five undergraduate years; it is expected that they will graduate in the average time frame of American undergraduate students. Scholars who entered college in 2000 and 2001 were more likely to enroll in a four-year institution compared with non-recipients, who were more likely to initially enter a two-year institution. Both Scholars and non-recipients were almost twice as likely (with Scholars having a slight edge) to complete an undergraduate degree than high-achieving but low-income minority students nationally.

Nearly all Scholars and non-recipients completed a baccalaureate degree within six years; however, almost 10 percent more Scholars than non-recipients completed the degree in four years. Thus, while the program may not affect graduation and persistence rates overall, it shows promise in enabling students to graduate in the traditional time frame.

Institutional selectivity also affects graduation rates and time to degree. Using the average SAT score of incoming freshmen to rate institutional selectivity, Scholars in selective institutions increased their likelihood of graduating by up to 18 percent. Conversely, the selectivity of the institution had no effect on the graduation rates of non-recipients; in their case, an increase in grant money or parental contribution was the most important factor in degree completion. This finding suggests that the financial barrier may be the most important issue in degree completion for low-income students. Once that barrier is removed, other factors begin to influence student behavior.

SOME SCHOLARS ENROLL IN GRADUATE SCHOOL

Scholars entered graduate programs sooner and at higher rates than non-recipients, possibly due to the additional funding for graduate study in select fields in which minority students have traditionally been underrepresented. To boost graduate school enrollment in those fields, the program continues to financially support Scholars who pursue an advanced degree in one of them.

IN THEIR OWN WORDS

I am Native Alaskan, I'm from the Tlingit tribe; it's a small tribe in southeast Alaska. I was born there, and I grew up in Washington State since I was about five years old. I come from a family with six kids; I'm the second oldest, and that was very, very busy for my family.

I really enjoyed school, and my blessed mother spent her time typing scholarships, applications, for me, and that was her contribution aside from my parents both highly encouraging me to pursue my dreams. I am the first in my family to obtain anything higher than an associate's degree or certificate.

I obtained my bachelor's of science in psychology, general psychology, from Brigham Young University in Provo, Utah. I obtained a full-ride scholarship there. I finished in December, and that gave me just enough time to apply for a Ph.D. program. I found a wonderful program close to home at Washington State University, and it was in the College of Education. I love statistics; I love research design, and the program that I found just happened to be the perfect program for me. I did start there, and the first year of the Gates Millennium Scholars program my, one of my professors told me, "Here's this, I'm nominating you, just fill out the forms." And that was such a blessing to me.

I was able to complete my Ph.D., and that was one of the most difficult times of my life. It's so hard to finish even just a bachelor's or

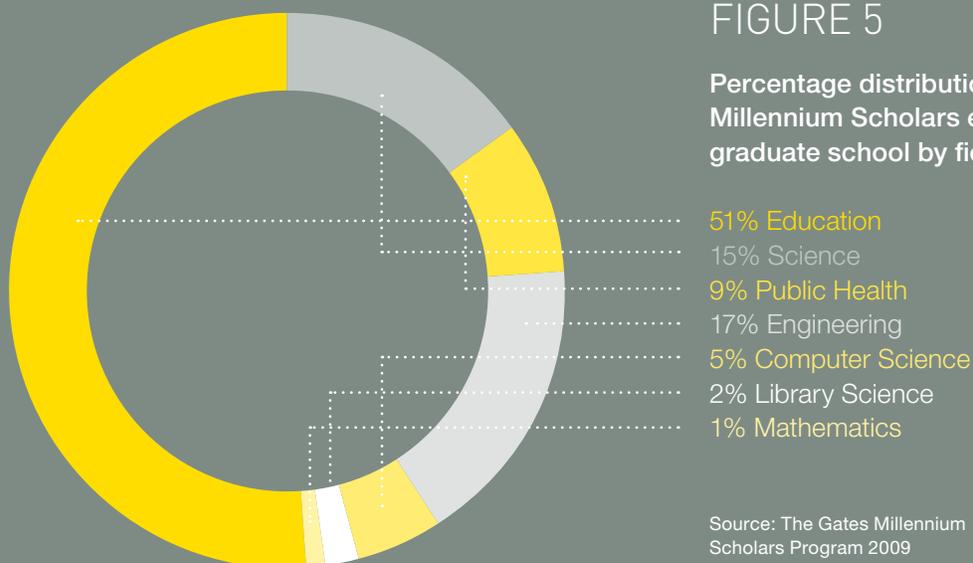
a master's program, and I went straight from kindergarten all the way through my Ph.D., and that might have been insane, in and of itself, but what I wanted to do, the only way I could do research, was to go through that particular program. So, it was because one of my caring professors found out about the program, nominated me and pushed me and said, "You're already ready for this. Just fill out the papers. I know you can get it." And that has helped me so much through my Ph.D. program.

It was a very, very long and lonely haul. If you take a look at the statistics, the amount of people who enroll in a Ph.D. program and actually finish with a Ph.D. is so small, very, very, very small. And, furthermore, if you take a look at the number of woman, the number of minorities, and, furthermore, the number of Native Alaskans that are finishing with a PhD are very, very miniscule.

So, one of the things that I would ask of everyone here today is think about that next step, think about encouraging, providing as many opportunities as you can to encourage someone to say, "Hey, I'm aware of the program. Just fill out the forms. You're ready." And just be the support of them. It is just so hard to hang in there for any program. The courage that it takes to finish, the courage that it takes to apply even, you can provide that for any of the Scholars. And, it will be the best thing in their lives, and I know that because that happened to me, and I was so blessed.

FIGURE 5

Percentage distribution of Gates Millennium Scholars enrolled in graduate school by field of study.



Source: The Gates Millennium Scholars Program 2009

(SEE FIGURE 5). Scholars with a greater loan burden were less likely to enroll in graduate school; a number of them said they needed to work to save money. Similarly, Scholars whose parents had contributed a relatively large amount toward their under-graduate education were 55 percent less likely to enter a graduate program immediately.

Differences existed among racial groups within the Scholar population. African American Scholars were more likely to enter a graduate program, and Hispanic Americans and Asian/Pacific Islander Americans were more likely to begin working right after completing their undergraduate degrees. There were also institutional differences in graduate enrollment. Scholars and non-recipients who attended private universities were more likely than those who attended public institutions to enter graduate school directly. Women were less likely to enter a graduate program, even though they constituted approximately 70 percent of the

Scholars and were more likely than their male counterparts to have completed a bachelor's degree (SEE TABLE 3).

Scholars were more than twice as likely as non-recipients to enter a graduate program in a STEM field. In fact, an undergraduate STEM major was one of the factors that had a positive effect on entering a graduate program. This finding supports the argument that financial barriers are a significant factor in the decision to further one's education beyond the bachelor's degree; the continued support for the Scholars appears to dramatically reduce (or remove entirely) this barrier. As noted by one Scholar, "What is interesting is that the Gates program actually meets the demands of the new century. I've not known of a scholarship program that funds you all the way up to your Ph.D."

Another positive outcome for the Scholars is the greater likelihood of enrolling in a master's or doctoral program. Of the total Scholar and

TABLE 3

Graduate program aspirations and enrollments for Gates Millennium Scholars entering college in 2000 and 2001.

Note: Percentages may not add to 100 due to rounding.

Source: Myers, Gotch, Holliway, and Pavel 2008

	Entered Graduate Program	Applied But Did Not Enter	Did Not Apply
Scholars	47	18	34
Non-Recipients	41	15	43
2000 Scholars	51	15	33
2001 Scholars	34	18	47
Female	40	17	42
Male	46	15	37
African-American	45	16	37
American Indian	41	16	43
Asian/Pacific Islander	42	16	41
Hispanic	42	17	41

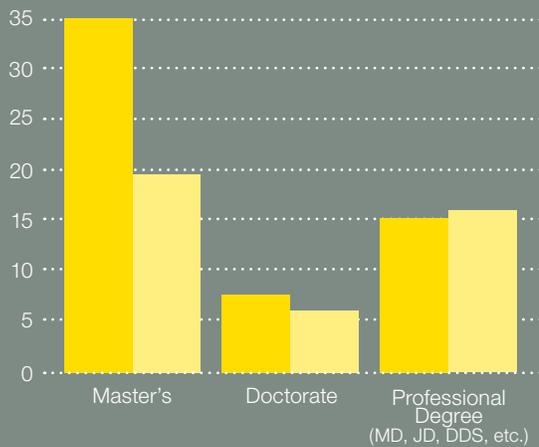


FIGURE 6

Graduates who entered college in 2000 and 2001 and are currently enrolled in a graduate program by type of degree.

Scholars
Non-Recipients

Source: National Opinion Research Center 2008

non-recipient pool of students who entered a graduate degree program, the percentage of Scholars who entered master's and doctoral programs was higher than that of non-recipients (FIGURE 6). As more low-income and minority students acquire education beyond the baccalaureate, it increases the pool of role models for subsequent generations, which is one of the goals of the GMS program.

Though some Scholars enrolled in a graduate school program that was not eligible for continued financial support, several Scholars reported that without the guarantee of continued aid in the select fields, they would not have been able to pursue a graduate degree. Some students even said that they had never considered graduate school until they learned that their funding would continue. As one Scholar explained, "I now know I can continue on studying in school, and I don't know if I had not been a Scholar if that would have been a goal of mine." To increase the educational attainment for low-income and minority students—particularly in fields that require education beyond the baccalaureate

degree and in which such students have been underrepresented—continued financial support appears to be a strong factor.

SOME SCHOLARS START CAREERS

The success of Scholars who entered the labor market is also worth examination. Several factors were associated with the choice of entering the workforce instead of going to graduate school. For example, African American Scholars were more likely to go to graduate school, while Hispanic American Scholars were more likely to find a job after graduation. Not surprisingly, students with lower educational aspirations were more likely to enter the labor market. Scholars and non-recipients who attended public universities and had lower college GPAs were more likely to enter the workforce than to enroll in graduate school.

Scholars were able to choose an occupation close to their interests. The relationship between one's interests and occupational choice (in this case, the student's first job after graduation) was measured using a taxonomy developed by John Holland (1997).⁸ The

⁸ For more information, please see *Making Vocational Choices: A Theory of Vocational Personalities and Work Environments*, Odessa, FL: PAR.

BOX 1

As part of his theory of career choice, John Holland categorizes personalities into six major categories: realistic, investigative, artistic, social, enterprising, and conventional. The general characteristics of these types are as follows:

- **Realistic**—Likes concrete tasks and usually has mechanical abilities
- **Investigative**—Has mathematical and scientific ability and enjoys solving problems
- **Artistic**—Likes self-expression through art and enjoys being imaginative
- **Social**—Likes social interaction and has good communication skills
- **Enterprising**—Enjoys taking on leadership roles and makes persuasive arguments
- **Conventional**—Likes structured tasks and has clerical and arithmetic ability

classification scheme posits that a person selects a work environment and occupation based on his or her skills and interests, which fall into one of six “occupational personality” categories (SEE BOX 1). Over half the participants who entered college in 2000 and went to work after graduation entered occupations that were the same or very similar to their major field of study during their junior year. The one exception was those with majors that focused on mathematical and scientific ability, who spread themselves out into all six occupational personality types when they entered the workforce.

For the most part, Scholars responded to the incentives of the GMS program; that is, they were more likely than non-recipients to continue their education if they majored in a STEM field as undergraduates. Thus, they were less likely to immediately enter a STEM occupation after graduation. Scholars with STEM degrees who did enter the workplace were more spread out by occupational type than those in other majors. The Scholars who entered STEM-related occupations tended to be Asian American and male. Additional surveys will be conducted after these cohorts of students complete their graduate degrees; at that time, the number of Scholars entering STEM-related occupations will be easier to measure accurately.

When Scholars and non-recipients were asked about job satisfaction, the overwhelming proportion of job satisfaction was associated with working conditions. Specifically, positive work experiences were related to equity in the organization. Workplaces that were perceived to have more equitable systems for recognition and opportunity for all employees provided much higher job satisfaction than those that had more bias.

The scholarship did not appear to have any immediate effect on the earnings of Scholars, who earned slightly less than non-recipients. The most influential factor was major field of study. Though the GMS program sought to increase the socio-economic status of low-income minority students, it appeared to influence some students’ interest in majors and corresponding occupations that are less remunerative. Having a smaller financial burden might enable Scholars to pursue a field of study that interests them rather than one that will lead to a lucrative career so they can pay off their college loans.

Conclusion

To date, thousands of scholarships remain to be awarded. Research on the early cohorts of Scholars indicates that the award has had a significant effect on educational and career outcomes. As researchers continue to follow these students into their mid-thirties, the program's effects will become more visible and ultimately will add to the literature on the effects of scholarships for low-income minority students.

At this point in the program, many Scholars have completed their undergraduate degrees and moved further in their life goals. Some have entered graduate school to pursue further education, while others have used their education as a platform to start their careers.

Reducing the financial burden of college appears to affect Scholars in multiple ways. Receiving the scholarship encourages students to enroll in the institutions of their choice, often more selective and four-year schools—two qualities that typically lead to higher graduation rates. The lower financial burden also allows Scholars to be more academically and socially engaged in college, which influences educational outcomes and levels of civic engagement. The Scholars leave college with a significantly lower debt burden than their peers, which affords them flexibility in choosing their career directions.

After college, Scholars remain active in their communities. They demonstrate high levels of civic engagement, bringing their knowledge and leadership to the communities in which they live. If they enter the workforce, they are very likely to be in a field related to their college major. Though they earn less than their non-recipient peers, the disparity is almost entirely explained by differences in majors. However, Scholars are also more likely to enter graduate programs and continue their education. This is likely due to

fewer concerns over their personal debt burden as well as the continued funding for select fields. Further research will help determine socio-economic effects as students settle into their post-undergraduate lives.

The goal set by the Bill & Melinda Gates Foundation is that the GMS program will influence enrollment and success in college among low-income minority students. As shown in this synthesis report, the early evidence is for the most part encouraging. As more Scholars are selected and further research is conducted, more insights will be available on how the program affects the lives of Scholars as well as the higher education system and the workforce as a whole.

The program is designed to encourage Scholars to enter certain fields in which minorities have historically been underrepresented: computer science, education, engineering, library science, mathematics, public health, and science. In addition to affecting the lives of individual Scholars, increasing the number of role models in these fields may have a greater impact on the lives of those not fortunate enough to receive this particular scholarship. The program continues to show great promise and is a wonderful opportunity to recognize the exceptional students who are the Gates Millennium Scholars. As one Scholar perfectly stated, “It isn’t just a scholarship; it is also a family.”

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