Who Goes to College?
High School Context, Academic Preparation, the College Choice Process, and College Attendance

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Findings from independent analysis do not necessarily represent the opinions of the Bill & Melinda Gates Foundation.

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"Success results when preparation meets opportunity."
– Joseph B. Wirthlin

"Shoot for the moon . . . a miss will put you among the stars."
– African American Proverb

Together these epigrams convey the importance of preparation as a prior condition for success. In this paper, we examine the relationship between high school preparation and college attendance. The assumption underlying this study was that adequate preparation is necessary for success. The group studied represents some of this nation's most talented and accomplished high school graduates. The fact that not all of these applicants for the 2001 Gates Millennium Scholars (GMS) awards were successful in their quest for financial support does not detract from the overall academic excellence of the pool. Thus, it is reasonable to search for explanations for links between high school context, high school preparation, college choice, and college attendance in the experiences of these exemplary students. Perhaps the answer to the puzzle confronting teachers, parents, researchers, and policy makers of how best to improve educational achievement for all youth is contained in the life stories of the select group of students who are sufficiently bold and qualified to apply for (and, in some instances, win) the extraordinarily competitive Gates Millennium Scholarships.

BACKGROUND

The path to college begins early and is influenced by a variety of factors. Sometimes the presence of strong parental influence is the major determinant for students preparing for college attendance (Hearn, 1984; Stage & Hossler, 1989). At other times, personal aspirations or fears, peer influence, or sheer enjoyment of learning are the major determinants of students' academic preparation (Galotti & Mark, 1994; Hossler, Braxton, & Coopersmith, 1989). These determinants,

however, reflect only the level of student commitment to learning. They do not account for such factors as the learning environments students encounter, the rigor of the curriculum presented, or the degree to which the schools they attend expect and encourage high academic achievement and advanced learning (Hearn, 1991; McDonough, 1997).

The literature on college choice suggests that opportunities to learn differ for students of different races, ethnicities, social classes, and regional urbanicities, as specific resources provided in academic settings vary between and within schools (Garet & DeLany, 1988; Oakes, 1985; Oakes, Quartz, Ryan, & Lipton, 2000; Pachon, Federman, & Castillo, 2000). This research demonstrates that urban, low-income students of color encounter unique challenges gaining access to rigorous academic courses, adequate educational resources, quality instruction, early college counseling, and other college prerequisites. School-managed strategies, such as academic tracking, selective distribution of information about college prerequisites, and access to other college planning resources, determine the knowledge and social capital students have to guide subsequent college choices and selections.

PURPOSE OF THE STUDY

The purpose of this study is to examine patterns of high school preparation related to college choice and enrollment for students from different high school learning environments. First, the study examines differences across racial/ethnic, gender, social class, and regional groups with regard to college destinations for Scholars. Second, it explores the influence of background characteristics, such as college aspirations and decisions/behaviors of students prior to college enrollment, on college destination. In particular, we propose to analyze the pathways to college for students and how factors related to college preparation accumulate to influence college

enrollment and successful transition to college. Although student admission to a first-choice college and student selection of a first-choice college may refer to different factors (e.g., student admissibility vs. student preferences and ability to pay), we investigate student enrollment in first-choice colleges as one outcome. As discussed further below, we are interested in the factors that influenced the enrollment decisions of these high-achieving grant applicants.

Several elements of a larger picture must be considered in order to comprehend fully the multi-layered, dynamic aspects of college access and success for different groups of students. Therefore, we propose to address various research questions related to secondary preparation and postsecondary opportunities. A developmental life course perspective provides the foundation for this study; thus, we examine academic plans, preparation, achievement, and performance for different groups of students during the critical years of high school and transition to college.

The research questions guiding this study are as follows:

1. What factors facilitate or hinder students' preparation in high school for application to college or university?
2. What effect, if any, does high school context have on the academic preparation and postsecondary plans, decisions, and outcomes of students from different racial/ethnic and gender subpopulations?
3. If there are observed racial/ethnic, gender, and social class differences in high school preparation, college choice, and college outcomes among different subgroups of students, what are the research, practice, and policy implications?

DATA AND METHODS

The study employed quantitative and qualitative methods, drawing on two major sources of data: 1) national survey data from the applicant pool for the 2001 GMS program, and 2) interview data from a subsample of Fall 2001 Scholars in their freshman year of college.

Fall 2001 GMS Freshman Applicants. Data were collected by the National Opinion Research Center (NORC) at the University of Chicago, which included survey responses from

1,500 applicants to the Fall 2001 GMS freshman class. Of the applicants who reported racial background, 510 classified themselves as African American, 135 as Native American/Alaska Native, 312 as Asian Pacific Islander American, 219 as Hispanic American[1] and 114 as white[2]. The survey included questions on first, second, and third-choice colleges, degree aspirations, beliefs and values, family support for college, high school academic preparation, undergraduate activities, and background information.

These data were subjected to quantitative analyses in order to identify differences between student cohorts by background characteristics and to determine how background preparation and high school context are correlated with college choice, transition, and success. Using the Fall 2001 GMS Applicant Data Set, we analyzed descriptive data including means, standard deviations, correlations, and cross-tabulations to determine the relationships across racial/ethnic, gender, and socioeconomic student cohorts. Four regression models were developed:[3] The first regression model (logistic) examined associations among independent variables and the outcome measure enrollment in student's first-choice college. The second regression model (ordinary least squares regression) examined the associations among independent variables and an outcome measure indicating extent of adjustment to college life. A third regression model (ordinary least squares regression) examined the influence of independent variables on the outcome measure educational aspirations, while a fourth regression model examined the influence of independent variables on the outcome measure college persistence (i.e., likelihood of dropping out of college prior to graduation).

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[1] The numbers of respondents who answered each survey question differ. As a result, total counts for the descriptive statistics found in Appendix C may not be the same as the above.

[2] The sample for the survey was drawn from the GMS applicant pool, all the members of which had been identified as belonging to the target racial/ethnic groups. However, on the survey, respondents were allowed to self-identify their race or ethnicity. Some multi-racial respondents selected white as their racial category. This group was not included in the analyses.

GMS Interview Sample. The researcher solicited interviews with Scholars attending a November 11, 2002, GMS Leadership Conference in Los Angeles, California. Invitations to participate in the interviews were sent via electronic correspondence along with background information on the study. A total of 56 students were in the interview study. The gender and racial/ethnic breakdown of the interview sample was as follows: gender – 43 females, 13 males; race/ethnicity – 14 African Americans, 11 Native Americans/Alaska Natives, 19 Asian Pacific Islander Americans and 12 Hispanic Americans.

Interviewees were grouped by ethnicity and divided into six focus groups: African American (2 groups), Native American/Alaska Native, Asian Pacific Islander American (2 groups), and Hispanic American. Participants completed a research survey that included questions on high school achievement, standardized tests completed, assessments of levels of preparation for college, and background information. (See Appendix A.) Focus group interviews lasted approximately one and one-half hours and included questions about sources of information concerning college and major challenges in addition to barriers and facilitators for college preparation. (See Appendix B.) At the conclusion of the focus groups, participants were given $5 gift cards from Starbucks coffee shops as a gratuity.

Qualitative data enhanced the researcher's understanding of patterns revealed in the broader quantitative study. We analyzed patterns from the GMS Interview Sample and identified several themes related to high school preparation and transition to college. ATLAS ti software was used to examine the focus group interview transcripts for major themes and key patterns. The goal was to elucidate themes revealed by quantitative analyses and to uncover overlooked patterns/factors.

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[3] For all regression models, only the African American, Asian Pacific Islander American, and Hispanic American respondents were included due to the low counts of the remaining two racial groups in the final models.

RESULTS

Generally speaking, descriptive statistics reveal stark racial contrasts. (See Appendix C.) The results sometimes are surprising in that our findings often refute common stereotypes of racial groups. For example, stereotypes and monolithic conceptions such as the presumed high achievement and "success" of Asian Pacific Islander Americans as a whole and assumptions that African American and Hispanic American students consistently have more academic and social difficulties fail to represent adequately the rich dynamics and diversity within the different groups.

Indicators of socioeconomic status, such as parents' education, point to Asian Pacific Islander Americans and Hispanic Americans as the groups with the greatest proportion at the lower end of the economic spectrum. Despite this, Asian Pacific Islander Americans tend to hold the highest educational aspirations of all racial/ethnic groups. They also are most likely to have taken many high school math and science classes as well as Advanced Placement (AP) exams. Asian Pacific Islander Americans also are most likely to have experienced being the racial minority in their high school classes and are the most likely to report lower self-esteem or sense of control over their lives. Although Asian Pacific Islander Americans have the highest mean admissions test scores and the highest mean of time spent studying of any racial group, they are the most likely to report difficulties keeping up with college homework. The tendency of Asian Pacific Islander Americans to attend their first-choice college is not significantly different from other racial/ethnic groups.

Disputing common perceptions that African American and Hispanic American students confront the most barriers to educational success, these data suggest that Native American/Alaska Native students often encounter more obstacles than their African American and Latino

counterparts. While it is true that, overall, Hispanic Americans have higher proportions of parents with low educational attainment than Native Americans/Alaska Natives, the latter students are the least likely of all racial groups to have taken math and science classes or AP exams. Further, Native American/Alaska Native students also have the lowest mean SAT and ACT scores. Challenging widespread stereotypes, African American students are the least likely to believe that planning does not work out and the least likely to report difficulty in keeping up with college homework. African Americans also are more likely to express higher degree aspirations compared with other racial/ethnic groups.

Below are specific racial and gender differences (all statistically significant cross-tabulations are significant at the .001 level unless otherwise noted):

- Father's education: While African Americans and Native Americans/Alaska Natives have similar patterns of father's education (64 percent and 70 percent high school or some college, respectively), Asian Pacific Islander American and Hispanic American students show extremely bifurcated patterns. A sizeable percentage of fathers from these two groups are at the lowest levels of education (20 percent of Asian Pacific Islander Americans and 18 percent of Hispanic Americans have less than high school). Comparable percentages of fathers for these groups are at the highest levels of education (18 percent of Asian Pacific Islander Americans and 17 percent of Hispanic Americans have graduate degrees). Females are more likely than males to have fathers with less than a high school degree (20 percent vs. 16 percent) and are less likely to have fathers with an advanced degree (10 percent vs. 16 percent) ($p<.01$).

- Mother's education: Similarly, Asian Pacific Islander Americans are much more likely to have mothers with less than a high school education (27 percent), followed by Hispanic Americans (19 percent), African Americans (5.6 percent) and Native Americans/Alaska Natives (5.3 percent). Asian Pacific Islander American students are least likely to have mothers with graduate degrees (40-50 percent lower than all other students). No significant gender differences were found in mother's education; about half of all male and half of all female respondents had mothers with no more than a high school education.

- Racial composition of high school classes: Almost half of all African American and Asian Pacific Islander American students strongly disagree when asked if their racial group was the majority in their high school classes (46 percent and 47 percent, respectively). Forty two percent of Native American/Alaska Native students agreed or strongly agreed that their racial group was the majority. There were no significant

gender differences in high school racial composition; less than one-third of both male and female students said most of their high school classes were with students of the same racial group.

- Mathematics and science curriculum: While most African Americans and Asian Pacific Islander Americans reported four or more years of high school math (91 percent and 90 percent, respectively), fewer Native Americans/Alaska Natives said the same (72 percent), with Hispanic Americans (85 percent) in the middle. Native American/Alaska Native students were also the least likely to have taken four or more science classes: 58 percent on the low end vs. 79 percent of Asian Pacific Islander Americans on the high end ($p < .01$).[4] Slight gender differences were shown; females were slightly less likely to have taken four or more years of math than their male counterparts and slightly more likely to have taken three years instead ($p<.05$). However, it was impressive that in this sample, about two-thirds of both males and females took at least four years of high school science.

- SAT or ACT scores: Not surprisingly, there are statistically significant racial and gender differences in mean scores for both the SAT (Asian Pacific Islander American = 1247, Hispanic American = 1161, African American = 1110, Native American/Alaska Native = 1094; male = 1185, female = 1136) and the ACT (Asian Pacific Islander American = 26.2, Hispanic American = 24.5, Native American/ Alaska Native = 23.1, African American = 22.9; male = 25, female = 24).

- Advanced Placement exams: Nearly half of Native American/Alaska Native students had not taken any AP exams (45.7 percent), while Asian Pacific Islander American students were most likely to have taken at least four (50.0 percent) and least likely to have not taken any. Surprisingly, a high proportion of Hispanic American students took at least four AP exams (33.6 percent), and Hispanic Americans were less likely not to have taken any (24.4 percent) compared with the other groups. There were no statistically significant gender differences; about one-third of each gender did not take any AP exams, while another one-third took four or more.

- High school affiliation: Hispanic Americans were most likely to have attended a private school (19 percent) or religious school (17 percent). Asian Pacific Islander Americans were least likely to have attended either type (4 percent and 3 percent, respectively). No gender differences were seen; about one-tenth or fewer of all students (regardless of gender) attended a private or religious school.

- Self-esteem and locus of control: Although many reported highest self-esteem (36 percent), Asian Pacific Islander Americans were most likely to report low self-esteem (disagree or strongly disagree, 9.1 percent), almost two times more likely than Native Americans/Alaska Natives (4.7 percent), Hispanic Americans (4.6 percent), and African Americans (5.5 percent). However, Asian Pacific Islander Americans were the least likely to report highest level of self-esteem compared with all other groups (59

[4] Hispanic Americans (68 percent) and African Americans (72 percent) were between the two extremes in four-year science enrollment.

percent of African Americans, 50 percent of Native Americans/Alaska Natives, and 56 percent of Hispanic Americans). Regarding locus of control, again, Asian Pacific Islander Americans were most likely to say that planning does not work out (13 percent agree or strongly agree). On the other hand, African Americans were the least likely to believe that planning does not matter (6.2 percent). There were no significant racial differences in academic self-esteem (all mostly high). Similarly, significant gender differences were absent; more than 90 percent of male and female students report high self-esteem and locus of control. Slightly fewer of both genders disagreed with the statement that people like them do not do well academically, evidencing high academic self-concepts across the group.

- Reasons for choosing college: Native American/Alaska Native students were least likely to consider reputation as "very important," while Asian Pacific Islander Americans were the most likely to place a high value on this factor (67 percent vs. 86 percent, respectively). There were no gender differences on the importance attributed to college academic reputation. There were no significant racial/ethnic or gender differences over low cost as reason for college choice; low expenses proved very important to all students.

- Academic difficulties: Although all groups had sizeable proportions reporting difficulties keeping up with homework as first-year college students, Asian Pacific Islander American students were most likely to say they found it "difficult" or "very difficult," while African Americans were the least likely (47 percent vs. 29 percent). Asian Pacific Islander Americans and African Americans also were the least and most likely to report no difficulty with freshman homework (15 percent vs. 28 percent, respectively). No gender differences were found; a little over one-third of males and females reported difficulty with homework. There were no significant racial/ethnic or gender differences in difficulty managing time or paying for college; all groups were split about half-and-half.

- Educational aspirations: Compared with all other racial/ethnic groups, African American and Asian Pacific Islander American students were more likely to have the highest education aspirations. They were the least likely to want a bachelor's degree or less (the proportion was nearly half that for other racial groups). However, the type of advanced degree sought was different for each group. African American students tended to want to pursue doctoral degrees (38 percent) more than professional degrees (22 percent). In contrast, about the same number of Asian Pacific Islander Americans planned to pursue doctoral degrees (27 percent) as to pursue professional degrees (26 percent).

- Other: Racial/ethnic and gender differences for the average proportion of time spent studying were statistically significant (Asian Pacific Islander American = 53.9 percent of time, Hispanic American = 49.8 percent, African American = 47.1 percent, Native American/Alaska Native = 46.1 percent; male = 48.2 percent, female = 50.3 percent, $p<.05$). There were no statistically significant differences by race, neither as to whether students were attending their first-choice school (most are) nor in their overall

college adjustment (most adjusted well). However, there were notable gender differences; overall, females were less likely than males to be attending their first-choice college (68 percent vs. 79 percent). Native Americans/Alaska Natives reported slightly less often than other groups that they were "very unlikely" to drop out of college before graduating ($p<.05$) (there were no gender differences on this question).

Turning our attention to multivariate relationships in the data, we used regression in an attempt to discover which factors were the most powerful determinants or correlates of the college choice outcomes. All regression results were relatively straightforward and make sense intuitively. First, we used logistic regression in order to examine the multiple predictors of attending the first-choice college. Each subsequent block of variables added to the model increased the model's explanatory power. (See Table 1.) However, the attitudes, time use, college persistence, and educational aspirations variable blocks did not significantly alter the model statistically. In the final model, it is clear, holding all other variables constant, that needing to attend a low-expense school (Exp(B)=.58) and having less difficulty with college homework (Exp(B)=.71) are both associated with decreases in the odds that a student will attend his/her first-choice college. Being African American (Exp(B)=.58) gave a significant coefficient at the .05 level until the college adjustment variables were introduced into the model. Variables that <u>increase</u> the odds of attending the first-choice school, holding all other variables constant are:

- Being male more than doubles the odds of attending the first-choice school (Exp(B)=2.01).
- As reputation of school becomes increasingly important to the student, the odds of going to first-choice college more than doubles with each incremental increase in importance (Exp(B)=2.03).

When we used linear regression to explore multivariate predictors of college adjustment (does not feel like part of campus community; strongly agree to strongly disagree), the results were enlightening. (See Table 2). Each subsequent block of variables added to the model and increased the model's explanatory power. This was especially true for variables in the attitudinal

block. The indicators in the high school characteristics, college persistence, and educational aspirations variable blocks did not significantly alter the model statistically. Holding all other variables constant in the full model, the largest effects were found with increases in the level of importance of school reputation in selecting the school (β=.164, $p<.001$), academic self-concept (β=.136, $p<.01$), and self-esteem (β=.132, $p<.01$). Increasing levels of proportion of time devoted to study in college have a negative effect on college adjustment (β=-.120, $p<.01$). Being Hispanic American increases college adjustment slightly (β=.106, $p<.05$) in addition to not having difficulties with college expenses (β=.105, $p<.01$) and having higher education aspirations (β=.093, $p<.05$).

Linear regression of educational aspirations showed that each subsequent block of variables added to the model increased the model's explanatory power to the final model. (See Table 3.) The effect of more time devoted to study was especially strong. The attitudes, college choice, specific college adjustment indicators, and college persistence (i.e., likelihood of dropping out of school) variable blocks did not significantly alter the model, statistically speaking. Holding all other variables constant, the strongest predictors of educational aspirations according to our full regression model are: proportion of time devoted to study (β=.167, $p<.001$), number of science courses taken in high school (β=.127, $p<.01$), and *not* being Asian Pacific Islander American (β=-.142, $p<.01$) or Hispanic American (β=-.098, $p<.05$).

Finally, linear regression of college persistence (drop out before graduation; strongly agree to strongly disagree) also helped to clarify complex multivariate relationships. Each subsequent block of variables added to the model and increased the model's explanatory power up to the final model. (See Table 4.) The high school characteristics, college choice, time use, and educational aspirations variable blocks did not significantly alter the model statistically. Holding all other

variables constant, those with a stronger locus of control were more confident in their ability to persist in college (β=.108, p<.01). Students whose mothers have higher education levels also tended to have stronger college persistence, net of all other effects (β=.092, p<.05). Finally, the degree to which students have problems adjusting to homework loads in their first years at college also predicts college persistence, net of other effects (β=.113, p<.05).

Gates Millennium Scholars Interviews

Of the 56 Scholars who participated in focus group interviews, the majority were female (77 percent). By race/ethnicity, the scholars included 14 African Americans (25 percent), 11 Native Americans/Alaska Natives (19 percent), 19 Pacific Islander Americans (34 percent), and 12 Hispanic Americans (21 percent). These students reported a spectacular 3.9 grade point average in high school and continued to do very well in their first year of college (3.5 GPA). The majority had aspirations to pursue advanced degrees and to enter high-status professions, with 9 African Americans (64 percent), 7 Native Americans/Alaska Natives (64 percent), 12 Asian Pacific Islander Americans (63 percent), and 6 Hispanic Americans (50 percent) aiming for doctorates or degrees in medicine or law.

Among the focus group participants, females reported lower scores on standardized tests than males, particularly for SAT I math (correlation coefficient, r=-.37, p<.05). Similarly, African Americans in this sample reported lower standardized test scores for SAT I verbal (r=-.61) and math (r=-.42). By contrast, Asian Pacific Islander American Scholars in this sample reported higher SAT I math scores (r=.53, p<.01). As one would expect, students' scores on different standardized tests were highly and positively inter-correlated. Students from higher income backgrounds tended to be more satisfied with their high school academic preparation for college

($r=.40$, $p<.01$) and with the quality of teaching at their high school ($r=.40$, $p<.01$). Finally, students who were satisfied with the quality of their high school teachers and academic counseling tended to report satisfaction with the availability of college information at their high schools.

In a further look at how Scholars compare in terms of their academic backgrounds and perceptions about academic preparation in high school, Appendix F shows the distribution of mean test scores, high school GPA, and college GPA by race/ethnicity. In general, the students have comparable mean GPAs, despite the fact that African Americans and Native Americans/Alaska Natives in this data set reported lower SAT I math scores compared with their Asian Pacific Islander American and Hispanic American peers.

Cross-tabulation of student satisfaction with high school academic counseling showed the value of disaggregating among focus group participants. We found that a majority of African Americans (42.9 percent) and nearly half of Native Americans/Alaska Natives (45.5 percent) in this sample were not satisfied with the quality of their high school academic counseling. By contrast, the majority of Hispanic Americans were very satisfied (66.7 percent) with high school counseling and the majority of Asian Pacific Islander Americans (52.6 percent) were somewhat satisfied with this important component of their academic preparation.

With this backdrop, we now turn our attention to the qualitative data from the Scholar interviews. Presumably, Scholar responses, comments, and discussions will provide a richer consideration of issues raised in the surveys conducted with Freshman 2001 applicants and with GMS recipients.

Understanding the High School Contexts and College Preparation

To understand better how various factors come into play in student preparation for college and throughout the transition to college, we examined verbatim responses from focus group participants to identify themes related to college preparation. Systematic analyses of scholar focus group interview transcripts were conducted using ATLAS ti software.

The focus group discussions on college preparation identified three common themes related to implicit family support for college goals, student desire for a "better life," strong motivation for college, and student recognition of a "hidden curriculum" in terms of differential treatment from school personnel regarding college preparation. Specifically, students in all groups confirmed parental support that considered college as a requirement, and not an option. In many instances, parental support of college goals was as much "implicit" as explicit. Most students indicated that this support for college was emphasized beginning in elementary school and carried throughout their academic careers. As an example, one student shared how parents and family, through remarks and behaviors, communicated the expectation of college attendance.

> And, for me, college was always something like my parents always told me, "Oh, yeah, you gonna go to college." So, I always grew up thinking, Oh, I'm going to college, I'm going to college. Junior high, I'm going to college and going to college. Like high school, I was like, okay, I'll take hard classes so I can go to college. And then, like when I started thinking about SAT, and that's when I really got serious about, you know, I'm gonna go to college. There are things that I have to do if I really wanna go.

Students from low socioeconomic backgrounds understandably emphasized motives for college attendance that reflected desires to overcome or rise above current economic circumstances. These aspirations often exceeded their current living conditions and were expressed as "wanting more." These students routinely referred to lessons learned from parents who did not complete college.

> I feel my parents just wanted me to have something more than they had . . . so they were pushing me, get in college. 'Cause like my mom graduated college, but my

> dad never did so I feel that they kind of . . . like they're kind of living through me what they couldn't have.

Students across all racial/ethnic cohorts recognized not only between-school inequities, but also "within-school" inequities in educational resources and experiences during their high school years. In this respect, they saw how formal academic tracking and informal mechanisms prevented certain groups of students from accessing college preparatory tracks with rigorous coursework. Moreover, informal interactions with counselors and teachers often were colored by negative racial/ethnic stereotypes. The result was the creation-perpetuation of racial/ethnic inequalities within the school, hindering access to information and courses essential for college preparation. One high-achieving student commented,

> As far as prepping for college, I think they [the teachers and counselors] are kind of biased, like the school and everything because the school like even in elementary, they're kinda divided. You have kinda the smart kids and the like not so smart kids. And, when I was in high school, like all the kids who were in the good classes, they got the benefits of everything. We got the college tours, we got mentors, we got tutoring, like helping with our financial aid package and everything. And you know, telling us what classes to take. But as far as the other kids, they didn't get any help toward preparing for college and that's why the majority of them don't even attend college after graduating.

In addition, there were comments from certain racial/ethnic student groups that revealed how their special circumstances (i.e., racial, cultural, social, historical, and economic) were linked with educational inequities. African American and Hispanic American students voiced concern over how negative racial/ethnic stereotypes caused school personnel and students from other cultural backgrounds to unfairly question their academic abilities. One young woman related her experiences with and triumph over racial discrimination:

> My dad worked there [at school] as a janitor, and so, like, I always felt like I had a little bit of an advantage. It seems kinda funny but I always felt that I had this little bit of an advantage because he was there, talking to the faculty. Everybody there underestimated me, nobody believed in me but it was…it was like there was no support that I . . . but he was there to tell them, you know, "This is my daughter . . .

> you have to believe in her." And, he was there to pressure them into letting me into the classes that could take, and that I wanted to take and that I needed to take.

These students also reported how economic and life hardships motivated them to be more committed and to prepare more rigorously for college. Having experienced limited opportunities in their communities, these students were determined to gain a better life through educational advancement.

> I guess I realized I wanted to go to college after working in the fields for 11 years. In my final year of my junior year in high school then I realized that I didn't want to work 16 hours a day, you know, all during the week, during the summer. Coming home from the fields with, you know, cut fingers, bleeding and stuff like that, you know. I didn't like it. And, I figured, you know, I needed to do something else besides work the fields, you know, earning $5.50 an hour. So that's when I decided, you know, to get more serious [about school].

However, rather than dwell exclusively on negative factors that shaped their educational aspirations, African American and Hispanic American Scholars acknowledged important mentors who made the difference in their lives. They pointed to mentors and supporters who were "the wind beneath their wings" as they sought to rise above educational disadvantage, poverty, despair, and hardship.

> She [a counselor] was a big influence. Any time you needed information, she was there. If you wanted to know about a specific college, she'll have a huge folder with your name on it—the school you wanted and she'll just like, "Here's the stuff you needed and a little extra on the side." . . . I'd say maybe 20 percent of the high school seniors graduating never thought in their lifetimes that they would ever attend a college. And they were, they're on, you know, class night, they were announcing like whose college you're going to and which university, you know.

At the same time, a Latina highlighted the ambivalence that sometimes exists for "first-generation" students of color as they pursue their goals of college attendance. The tensions were manifest in mixed messages from adults and peers who expressed pride in her academic accomplishments and, at the same time, expressed fears that she would be separated from her family, friends, and community.

> I also was encouraged and both discouraged at the same time. I was always encouraged by like older adults saying, "You know, you can make it" and stuff. But a lot of peers would always tell me, "Oh, you can't make it," you know. Most Mexicans don't make it, and a lot of my Hispanic peers would always tell me, "You're acting white now." And I felt some kind of racism in my classes 'cause I was usually the only Mexican in my honors classes.

Responses from Native American/Alaska Native Scholars reflected different patterns of planning and progress through the college admissions process that seemed at points less specific and systematic. For example, while all Scholars identified college and occupational success as important goals, Native Americans/Alaska Natives provided less definitive plans for attaining these goals. Beyond less specific articulation of the specific steps leading to college, Native Americans/Alaska Natives also more often reported late preparation for college and postponement of the college choice process until late in the junior or senior year of high school.

> I always knew I wanted to go to college. And when I finally got to high school, it came down to like where you wanna apply in my senior year the college I'm going to now. Yeah, they were offering a program where like a visitation program so I flew out there to visit the campus. And I just fell in love with it and so I came back to my high school and I learned that they had given us an extension for like early decisions, so I went ahead and applied and then I got in. So, yeah, so I kinda made the final choice of my college my senior year afterward.

Finally, Asian Pacific Islander Scholars also offered unique responses. These students consistently voiced very traditional ideals about college choice, overwhelmingly preferring four-year, selective universities. Asian Pacific Islander students who did not prefer four year institutions often were reluctant to discuss alternative plans to attend junior colleges or, worse yet, the decision not to attend college at all, they said. An Asian Pacific Islander American scholar commented on the importance of the prestige factor in college choice.

> It's like even if you did go to college, like, some went to junior colleges and that was like disaster. "Where are you going to college?" And people would be like, "Um, nowhere really," because it was almost like a badge of shame that you were going to a community college. Like if you weren't going to college at all, that was like unheard of.

In addition, there was much discussion about the negative consequences associated with the definition and treatment of Asian Pacific Islander American students as a whole as a "model minority." In general, students felt the obligation to live up to the myth, to strive and to achieve because of others' raised expectations. However, students also recognized a negative side to the myth in that often they were steered away from student support systems, tutoring, and other vital academic resources because stereotypic beliefs (i.e., "model minority") suggested that they either did not need or would not benefit from such services. Perversely, in some instances, the seemingly positive images of Asian Pacific Islander American students produced negative consequences. Students sometimes found it more difficult to take advantage of campus academic and social support services.

> They [teachers] think every Asian gets things, like that they understand everything really well. And so, like when I go talk to my professor, [he] expects me to understand what he's talking about. And, I just say to him, like, "I don't understand." He's like, "What don't you understand?" . . . He's like, "You're supposed to understand, you're smart." I'm like, "No." It's like, I don't know, there's this . . . false expectation that I'm supposed to be good at so-and-so, so they kinda like cheat me on teaching me the simple way.

SUMMARY, DISCUSSION, AND IMPLICATIONS

The assumption underlying this study is that adequate preparation is a necessary foundation for academic success. More specifically, we hypothesized that successful college choices and schooling experiences are influenced by many factors. To be successful, students must have a network of individuals and resources (educational, social, and cultural) for information on college preparation and access available to them. These students also must have available pre-collegiate school contexts conducive to and supportive of high academic

achievement (Post, 1990; Allen, 1992). Students who have more human, social, cultural, and economic capital of this sort also are more likely to succeed in school (Stanton-Salazar, 2001).

Arguably, applicants for the prestigious and lucrative Gates Millennium Scholarships are among the nation's most accomplished graduating high school seniors. So, it is fitting that this study uses data from the Fall 2001 GMS applicant pool to explore critical influences on high school preparation and college choice. These survey data provide information about educational background, family demographics, attitudes, and the college choice process for 1,500 multiple race/ethnicity applicants. Supplemental data (questionnaires and focus group interviews) came from an interview study of 56 African American, Asian Pacific Islander American, and Hispanic American Scholars in the 2001 cohort. Together, these data sets provide broad and specific views (based on quantitative and qualitative data) of the college choice process spanning from high school preparation to college selection to academic adjustment in the first year of college.

The key findings from this study convey important lessons. First and foremost, we see ample reason to challenge conventional wisdom about race/ethnicity and achievement in this society. In point of fact, the applicant pool data reveal across all racial/ethnic groups that students who are high achievers and who worked hard to prepare themselves take advantage of opportunities when and wherever presented. Equally important, however, is the clear, ample evidence that for reasons of economics, race, ethnicity, and gender, opportunities continue to be distributed differentially among these talented young people.

The American creed places great weight on individualism. Our ideals presume the American Dream to be equally available to all who possess the necessary desire, moxy, talent, and energy. However, success ultimately is based not only on individual ability or initiative, but also on factors outside individual control (e.g., social institutions and their actors, social setting). What

we see revealed in these data – for a group where effectively all/any questions about their personal qualifications are removed – is the power of societal factors to shape individual outcomes. Educational barriers, rooted in this country's historic (and present) customs and structures of racial/ethnic discrimination, continue to frustrate the educational ambitions of far too many qualified students of color.

In general, the successful transitions of these scholars into college hinged on their academic preparation, internal motivation, and access to key sources of support (parents, friends, school personnel, scholarship programs). As noted in GMS focus group responses, these students acknowledged the many barriers to postsecondary opportunities, but they were resilient, knowing that the alternative to enrollment was continued economic and social hardship. In some cases, these students went beyond their limited knowledge about college and access to college-educated people to petition teachers and counselors for information and access to a rigorous curriculum. They capitalized on their limited information to build connections among friends and greater networks of support in school.

Most notably, we see how financial constraints can set the trajectory of a talented young student's educational opportunities and goals, with clear consequences for his or her future professional accomplishments. To the degree that sufficient economic resources are made available, as with the GMS awards, students are better able to pursue their educational and occupational dreams to the maximum extent of their ability. Over the course of their lives, many of these students experienced economic disadvantage and hardships that most certainly restricted their educational opportunities. Rather than succumbing, these students, their families, and key mentors adopted resistance strategies that made lemonade from lemons. The consistent response to economic hardship was to realize the promise that educational achievement held as a means to

overcome and rise above economic deprivation. Subsequently, these students held on to the brass ring that was education for all they were worth.

Another lesson we learn is that human potential is not easily reduced to simplistic measures like standardized test scores or the number of Advanced Placement courses taken. African Americans and females had lower test scores compared with Asians and males; however, their academic achievements were nearly comparable. Similarly, the fact that Native American/Alaska Native and female students had taken fewer high school science classes than Asian Pacific Islander American and male students did not automatically translate into lower academic accomplishments. Finally, given the opportunity, Native American/Alaska Native students who, relative to other racial/ethnic students, had been denied educational resources and preparation were able (when circumstances permitted) to compete on an equal footing.

These findings remind us that educational achievement is a social process, shaped by human exchanges within definitive socio-cultural contexts. If the answers to individual outcomes are indeed to be found neither "in the stars" nor "in our selves," then they can be found in institutional contexts and social relationships. John Ogbu's study (1978) of educational achievement differences between majority and minority groups across several societies reinforces this point. He found that while educational achievement levels for Vietnamese in Australia were quite low, the opposite was true in the United States. Similar contradictions were revealed for Black West Indians in England versus the United States. Dramatic cross-national differences in the academic success rates of the same cultural group are best explained in terms of contextual differences. Where the aspirations and preparation of individuals of certain groups are supported, successful outcomes will be the result. On the other hand, where these opportunities are blocked,

underachievement will be the result. It is just that simple (Allen, 1992; Allen, Spencer, & O'Connor, 2002).

Ultimately, the implications of this study pose a challenge to our society. Will the society embrace its ideals and eliminate the vast educational inequities that continue to deny opportunities for a better life to certain excluded racial/ethnic and economic groups, or will it allow these inequities to persist? The future of our nation is tied up in the answer to this question. Over this century and the next, the United States must rely on a population that is increasingly female, of color, immigrant, and poor. Investments in creating opportunities for educational development and advancement for these disproportionately excluded groups will pay handsome dividends in the development of a skilled, financially viable labor force. The Bill & Melinda Gates Foundation is investing one billion dollars in the education of the next generation; however, we need billions more. Too many bright, talented, and motivated poor students and students of color are still denied educational opportunities. In this sense, we must confront an age-old question, a question confronted by many great societies before the United States. Which will it be – "Swords or plowshares?" "Bombs or butter?" "Smart weapons or smart children?" History has taught us that how a society answers this simple question determines that society's future and its fate.

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Table 1. Logistic Regression Model Predicting Attendance at First-Choice College: African American, Asian Pacific Islander American, and Hispanic American Students, Gates Millennium Scholars Freshman Applicants, Fall 2001 (N=668)

	B	S.E.	Wald	Sig.	Exp(B)
Constant	.176	1.837	.009	.924	1.193
Independent Variables					
Background/Demographics					
Father's Education	-.058	.088	.427	.514	.944
Mother's Education	.037	.095	.155	.694	1.038
African American	-.442	.266	2.767	.096	.643
Asian Pacific Islander American	-.181	.286	.403	.525	.834
Hispanic American			2.575	.109	
Male	.699**	.213	10.772	.001	2.012
High School Characteristics					
Of Majority Race in H.S. classes	.050	.091	.303	.582	1.051
Years of H.S. Math	-.116	.290	.159	.690	.891
Years of H.S. Science	.167	.184	.823	.364	1.182
SAT score	.001	.001	.752	.386	1.001
Number of H.S. AP Exams	.057	.067	.728	.394	1.059
Private H.S.	.425	.503	.713	.398	1.529
Religious H.S.	-.937	.550	2.901	.089	.392
Attitudes					
General Self-Esteem	.183	.120	2.330	.127	1.201
Locus of Control	.217	.153	2.010	.156	1.243
Academic Self-Concept	-.257	.141	3.304	.069	.773
College Choice					
Level of importance in selecting school with low expenses	-.553***	.157	12.401	.000	.575
Level of importance in selecting school with strong reputation	.708**	.221	10.238	.001	2.030
College Adjustment					
Level of difficulty in keeping up with schoolwork	-.345*	.147	5.494	.019	.708
Level of difficulty in effective time management	.136	.130	1.089	.297	1.145
Level of difficulty in paying for college expenses	.107	.097	1.222	.269	1.113
Time Use	.610	.516	1.400	.237	1.841
College Persistence	-.017	.380	.002	.965	.983
Educational Aspirations	-.070	.097	.524	.469	.932

NOTE: Statistically significant at the following levels: *p<.05; **p<.01; ***p<.001.

Model Summary	
Omnibus Tests of Coefficients	Chi-square = 82.520, df(23) p<.001
-2 Log Likelihood	717.030
Cox & Snell R^2	.116
Nagelkerke R^2	.167

Table 2. Linear Regression Predicting College Adjustment Overall, All Variables, African American, Asian Pacific Islander American, and Hispanic American Students, Gates Millennium Scholars Freshman Applicants, Fall 2001 (N=683)

	B	S.E.	β	Sig.
Constant	.943	.543		.083
Independent Variables				
Background/Demographics				
Father's Education	-.007	.026	-.012	.787
Mother's education	.027	.028	.043	.325
Asian Pacific Islander American	.081	.072	.050	.263
Hispanic American	.192*	.075	.106	.011
Male	-.016	.059	-.010	.785
High School Characteristics				
Of Majority Race in H.S. classes	.012	.027	.017	.642
Years of H.S. Math	.010	.083	.004	.907
Years of H.S. Science	-.030	.055	-.020	.590
SAT score	-.000	.000	-.023	.621
Number of H.S. AP Exams	-.013	.020	-.027	.516
Private H.S.	.064	.136	.027	.639
Religious H.S.	-.080	.155	-.030	.607
Attitudes				
General Self-Esteem	.118**	.036	.132	.001
Locus Control Planning	.087	.045	.078	.056
Academic Self-Concept	.139**	.040	.136	.001
College Choice				
Level of importance in selecting school with low expenses	-.032	.043	-.028	.463
Level of importance in selecting school with strong reputation	.305***	.069	.164	.000
College Adjustment				
Level of difficulty in keeping up with schoolwork	.009	.042	.011	.830
Level of difficulty in effective time management	-.051	.038	-.066	.178
Level of difficulty in paying for college expenses	.080**	.029	.105	.005
Time Use	-.486**	.152	-.120	.001
College Persistence	.211	.111	.072	.057
Educational Aspirations	.070*	.028	.093	.013

NOTE: Statistically significant at the following levels: *p<.05; **p<.01; ***p<.001.

Model Summary			
R	.405	Adjusted R^2	.135
R^2	.164	S.E.	.700

Table 3. Linear Regression Predicting Educational Aspirations, All Variables, African American, Asian Pacific Islander American, and Hispanic American Students, Gates Millennium Scholars Freshman Applicants, Fall 2001 (N=691)

	B	S.E.	β	Sig.
Constant	.710	.746		.341
Independent Variables				
Background/Demographics				
Father's Education	.055	.035	.070	.123
Mother's education	-.044	.038	-.053	.241
Asian Pacific Islander American	-.299**	.098	-.142	.002
Hispanic American	-.236*	.102	-.098	.022
Male	-.047	.081	-.022	.559
High School Characteristics				
Of Majority Race in H.S. classes	.004	.037	.004	.908
Years of H.S. Math	.162	.114	.055	.155
Years of H.S. Science	.244**	.075	.127	.001
SAT score	.000	.000	.079	.099
Number of H.S. AP Exams	.020	.027	.033	.455
Private H.S.	-.111	.187	-.036	.553
Religious H.S.	.160	.214	.045	.455
Attitudes				
General Self-Esteem	.004	.049	.004	.931
Locus Control Planning	.022	.062	.015	.726
Academic Self-Concept	.038	.055	.028	.490
College Choice				
Level of importance in selecting school with low expenses	-.014	.059	-.009	.818
Level of importance in selecting school with strong reputation	-.043	.095	-.017	.653
College Adjustment				
Level of difficulty in keeping up with schoolwork	.062	.058	.056	.283
Level of difficulty in effective time management	.010	.052	.009	.851
Level of difficulty in paying for college expenses	.007	.039	.006	.868
Time Use	.888***	.206	.167	.000
College Persistence	.007	.010	.029	.452

NOTE: Statistically significant at the following levels: *p<.05; **p<.01; ***p<.001.

Model Summary			
R	.295	Adjusted R^2	.057
R^2	.087	S.E.	.964

Table 4. Linear Regression Predicting College Persistence, All Variables, African American, Asian Pacific Islander American, and Hispanic American Students, Gates Millennium Scholars Freshman Applicants, Fall 2001 (N=691)

	B	S.E.	β	Sig.
Constant	2.222***	.169		.000
Independent Variables				
Background/Demographics				
Father's Education	.008	.009	.039	.384
Mother's education	.019*	.010	.092	.042
Asian Pacific Islander American	-.021	.025	-.039	.393
Hispanic American	.011	.026	.017	.686
Male	-.022	.020	-.042	.271
High School Characteristics				
Of Majority Race in H.S. classes	-.000	.009	-.001	.969
Years of H.S. Math	.041	.029	.054	.157
Years of H.S. Science	.029	.019	.059	.133
SAT score	.000	.000	.035	.461
Number of H.S. AP Exams	.001	.007	.006	.882
Private H.S.	.004	.047	.005	.927
Religious H.S.	-.000	.054	-.068	.250
Attitudes				
General Self-Esteem	.015	.012	.050	.222
Locus Control Planning	.040**	.016	.108	.010
Academic Self-Concept	.043	.013	.125	.001
College Choice				
Level of importance in selecting school with low expenses	.010	.015	.027	.486
Level of importance in selecting school with strong reputation	-.015	.024	-.025	.522
College Adjustment				
Level of difficulty in keeping up with schoolwork	.033*	.015	.113	.027
Level of difficulty in effective time management	-.004	.013	-.016	.748
Level of difficulty in paying for college expenses	-.006	.010	-.022	.563
Time Use	.047	.053	.034	.377
Educational Aspirations	.115	.153	.029	.452

NOTE: Statistically significant at the following levels: *p<.05; **p<.01; ***p<.001.

Model Summary			
R	.322	Adjusted R^2	.074
R^2	.104	S.E.	.244

APPENDIX A

Survey for Gates Millennium Scholars Focus Groups

1. What is your gender?
   a) Male
   b) Female

2. Are you: (Please check all that apply)
   a) African American
   b) Native American
   c) Arab American
   d) Caucasian
   e) Chinese
   f) Filipino
   g) Japanese
   h) Korean
   i) Other Asian (please specify) _____
   j) Mexican/Chicano
   k) Puerto Rican
   l) Central American
   m) Cuban
   n) South American
   o) Other Hispanic/Latino (please specify) _____
   p) Other _____

3. What is your best estimate of your parents' or total household income last year? Please consider income from all sources before taxes. (Mark one only)

a)	Less than $6,000	_____	h)	$40,000 to $49,999	_____
b)	$6,000 to $9,999	_____	i)	$50,000 to $59,999	_____
c)	$10,000 to $15,999	_____	j)	$60,000 to $69,999	_____
d)	$16,000 to $19,999	_____	k)	$70,000 to $74,999	_____
e)	$20,000 to $24,999	_____	L)	$75,000 to $99,999	_____
f)	$25,000 to $29,999	_____	m)	$100,000 to $149,999	_____
g)	$30,000 to $39,999	_____	n)	$150,000 to $199,999	_____
			o)	$200,000 or more	_____

4. Citizenship status: (Mark one)
   a) U.S. citizen
   b) Permanent resident (green card)
   c) Neither

5. Are your parents: (Mark one)
   a) Both alive and living with each other?
   b) Both alive, divorced or living apart?
   c) One or both deceased?

6. What is your parent's highest level of education?

	Father	Mother
a) Grammar school or less	( )	( )
b) Some high school	( )	( )
c) High school graduate	( )	( )
d) Postsecondary school other than college	( )	( )
e) Some college	( )	( )
e) College graduate	( )	( )
f) Some graduate school	( )	( )
g) Graduate degree	( )	( )

7. What is your mother's job title? _____

8. Where does your mother work (for example - automotive shop, elementary school, hospital, or other industry)?: _____

9. What is your father's job title? _____

10. Where does your father work (for example - automotive shop, elementary school, hospital, or other industry)?: _____

11. What is your probable career choice?
Please specify: _____

12. Highest level of education you plan to complete?
a) Bachelor's degree (B.A., B.S., etc.)
b) Master's degree (M.A., M.S., etc.)
c) Ph.D. or Ed.D.
d) M.D., D.O., D.D.S., or D.V.M. degree
e) LL.B. or J.D. (law)
f) B.D. or M.DIV (Divinity)
g) Other (specify): _____

13. Circle the answer that best describes your overall high school grade point average?

a) A+ or A	d) B	g) C
b) A-	e) B-	h) C-
c) B+	f) C+	I) D+ or below

14. Circle the answer that best describes your overall college grade point average?

a) A+ or A	d) B	g) C
b) A-	e) B-	h) C-
c) B+	f) C+	I) D+ or below

15. Have you taken the following standardized exams? (If the answer is "yes" to any of these items, please list your highest score)
a) SATI Circle: Yes No Math: _____ Verbal: _
b) SATII Circle: Yes No Math: _____ Verbal: _
Elective on SATII (give name and score):_____
c) ACT Circle: Yes No Score: _____

16. Please circle how many College Advanced Placement (A.P.) courses you completed in high school?

a) None	d) 4-6	g) 11 or more
b) 1-2	e) 5-7	
c) 3-5	f) 8-10	

17. How well do you feel your high school has prepared you academically for college?
a) Extremely well
b) Fairly well
c) Somewhat
d) Not too well
e) Not at all

18. How satisfied were you with the following at your high school: (Mark one for each item)

	Not satisfied	Somewhat Satisfied	Very satisfied
a) The quality of teaching at your high school?	_____	_____	_____
b) The quality of academic counseling at your high school?	_____	_____	_____
c) Availability of college-related information at your high school?	_____	_____	_____
d) Quality of personal counseling?	_____	_____	_____

19. Where did you get most of your college information from?
    a) Parents
    b) Siblings
    c) Other family members
    d) Peers
    e) Teachers
    f) Counselors
    g) Internet
    h) Other (please specify): _____

20. Of your closest friends, how many of them went to college?
    a) None
    b) Less than half
    c) About half
    d) More than half
    e) All

21. What types of colleges did you apply to?
    a) Community college
    b) State college
    c) Public 4 year university
    d) Private 4 year university
    e) Other (specify): _____

22. What was the primary reason for applying to the college type in Question #21?

    _____

    _____

23. On a scale of 1 (low) and 10 (high), please rate the following activities:

    a. AMOUNT OF TENSION: Current ability to learn new material quickly ___
    b. LEVEL OF RELEVANCE: Relevance of campus social clubs and activities at your college to meet your needs __
    c. AMOUNT OF PRESSURE: Pressure felt in high school to complete academic college preparation ____
    d. AMOUNT OF PRESSURE: Pressure felt in high school to participate in honors/AP or accelerated curriculum ___
    e. AMOUNT OF PRESSURE: Pressure felt in high school to maintain effective communication with teachers ____
    f. AMOUNT OF TENSION: Establishing effective communication and mentorship with college professors ___
    g. AMOUNT OF TENSION: Ability in high school to learn new material quickly ___

APPENDIX B

Protocol for Focus Group Interviews with Gates Millennium Scholars

1. What high school did you attend (location, type of school)?

2. When did you first realize your desire to attend college?

3. What actions did you take (and when did you take these actions) to realize your college plans?

4. Describe some of the individuals who were most informative in helping you to realize your college attendance.

5. Describe some of the individuals who were least informative in helping you realize your college attendance.

6. What structures were in place at your high school to assist with your search for information about college and about specific colleges?

7. What structures were in place in your high school to help you complete college prerequisite courses?

8. Describe the interactions between you and representatives from your first-choice, second-choice and third-choice colleges when they visited your high school. (PROMPT: What information did they share with you about the prospective college, college costs, and your competitiveness in their applicant pool?)

9. If you had the opportunity to replay your college planning process, what would you handle differently and why?

10. At what point in your college search process did you find out you were a GMS recipient and how did this award impact your college choice?

APPENDIX C

Descriptive Statistics of Fall 2001 Gates Millennium Scholars Freshman Applicants by Race[5]

	African American	Native American/ Alaska Native	Asian Pacific Islander American	Hispanic American
Father's education				
Less than high school	8.5%	9.2%	20.1%	17.7%
High school graduate/GED	36.1	32.3	23.8	30.4
Some college	27.8	36.9	17.7	22.0
College graduate/B.A.	16.0	13.8	20.7	15.3
Graduate degree/M.A. or Ph.D.	11.6	7.7	17.7	16.7
Total N	*449*	*130*	*294*	*209*
Mother's education				
Less than high school	5.6%	5.3%	27.0%	19.4%
High school graduate/GED	26.2	26.3	24.3	25.8
Some college	36.3	36.8	19.0	25.8
College graduate/B.A.	21.6	19.5	23.7	19.8
Graduate degree/M.A. or Ph.D.	10.3	12.0	6.0	9.2
Total N	*504*	*113*	*300*	*217*
Sex				
Female	73.7%	70.4%	67.9%	58.0%
Male	26.3	29.6	32.1	42.0
Total N	*510*	*135*	*312*	*219*
Race majority of the students in high school				
Strongly disagree	46.4%	25.6%	46.8%	34.4%
Disagree	22.7	32.3	35.5	30.7
Agree	12.0	27.1	12.9	22.0
Strongly agree	18.9	15.0	4.8	12.8
Total N	*507*	*133*	*310*	*218*
No. of years of math completed in high school				
Two	1.0%	1.5%	.6%	1.8%
Three	8.1	26.7	9.0	13.2
Four or more	91.0	71.9	90.4	84.9
Total N	*509*	*135*	*311*	*219*
No. of years of science completed in high school				
One	-	-	.3%	.5%
Two	2.9	6.7	.6	4.1
Three	25.1	35.6	20.6	27.9
Four or more	71.9	57.8	78.5	67.6
Total N	*509*	*135*	*311*	*219*

[5] Percentages do not total to 100 because mixed-race respondents who classified themselves as white were not included in the analyses.

Descriptive Statistics of Fall 2001 Gates Millennium Scholars Freshman Applicants by Race (Cont.)

	African American	Native American/ Alaska Native	Asian Pacific Islander American	Hispanic American
Took SAT				
Yes	79.1%	39.1%	90.9%	82.9%
No	20.9	60.9	9.1	17.1
Total N	*506*	*133*	*309*	*217*
SAT score				
Mean	1110	1094	1247	1161
SD	(162)	(153)	(176)	(158)
Total N	382	42	272	174
Took ACT				
Yes	64.7%	86.5%	46.4%	57.0%
No	35.3	13.5	53.6	43.0
Total N	*504*	*133*	*302*	*214*
ACT score				
Mean	22.9	23.1	26.2	24.5
SD	(3.8)	(4.2)	(4.4)	(4.3)
Total N	*316*	*112*	*134*	*117*
No. of AP exams taken				
None	36.7%	45.7%	12.1%	24.4%
One	18.1	19.7	12.1	13.4
Two	15.5	18.9	11.1	15.2
Three	10.8	6.3	14.7	13.4
Four or more	18.9	9.4	50.0	33.6
Total N	*502*	*127*	*306*	*217*
Attended private high school				
No	90.2%	92.6%	95.8%	81.2%
Yes	9.8	7.4	4.2	18.8
Total N	*510*	*135*	*312*	*218*
Attended religious high school				
No	93.3%	96.3%	97.1%	83.5%
Yes	6.7	3.7	2.9	16.5
Total N	*509*	*135*	*312*	*218*
Self-esteem				
Strongly disagree	1.2%	-	1.6%	2.3%
Disagree	4.3	4.7	7.5	2.3
Agree	35.4	45.3	55.4	39.5
Strongly agree	59.1	50.0	35.5	55.8
Total N	*506*	*128*	*307*	*215*
Locus of control planning				
Strongly agree	1.6%	2.4%	1.6%	3.7%
Agree	4.6	6.4	11.4	5.1
Disagree	52.1	56.0	53.6	44.9
Strongly disagree	41.8	35.2	33.4	46.3
Total N	*505*	*125*	*308*	*214*

Descriptive Statistics of Fall 2001 Gates Millennium Scholars Freshman Applicants by Race (Cont.)

	African American	Native American/ Alaska Native	Asian/Pacific Islander American	Hispanic American
Level of importance in selecting school with strong reputation				
Not important	1.4%	3.1%	.6%	1.4%
Somewhat important	17.7	29.8	13.8	23.3
Very important	80.9	67.2	85.5	75.3
Total N	*509*	*131*	*311*	*215*
Use of time in school				
Mean	47.1%	46.1%	53.9%	49.8%
SD	(18.0)	(17.8)	(18.6)	(18.1)
Total N	*505*	*125*	*308*	*212*
Level of difficulty in keeping up with schoolwork				
Very difficult	6.1%	3.1%	8.8%	8.8%
Difficult	23.0	33.6	38.6	28.8
Not very difficult	42.9	43.0	37.3	40.5
Not difficult	28.0	20.3	15.3	21.9
Total N	*508*	*128*	*308*	*215*
Likelihood of dropping out before graduation				
Very or somewhat likely	.4%	.8%	1.0%	1.4%
Somewhat unlikely	2.8	9.2	3.6	2.8
Very unlikely	96.8	90.1	95.4	95.8
Total N	*506*	*131*	*303*	*213*
Educational aspirations				
Less than BA degree	.8%	3.2%	.3%	-
B.A. or post-BA certificate	6.7	16.8	8.2	15.6
MA degree	32.9	39.2	38.4	35.5
Professional degree	21.8	16.0	26.2	16.6
Doctoral degree	37.7	24.8	26.9	32.2
Total N	*477*	*125*	*294*	*211*

Selected Descriptive Statistics of Fall 2001 Gates Millennium Scholars Freshman Applicants by Gender*

	Female	Male
Father's education		
Less than high school	20.3%	15.7%
High school graduate/GED	29.5	28.7
Some college	23.6	23.2
College graduate/B.A.	16.3	16.0
Graduate degree/M.A. or Ph.D.	10.3	16.4
Total N	*1020*	*470*
No. of years of math completed in high school		
Two	.9%	1.2%
Three	13.7	9.2
Four or more	85.4	89.6
Total N	*1105*	*501*
Attending first-choice school?		
Mean	31.8%	21.4%
SD	68.2	78.6
Total N	*1058*	*485*

* Only those cross-tabulations by gender that were statistically significant, at least the $p<.05$ level, are included in this table.

APPENDIX D

Means, Standard Deviations and Correlations for Variables, Gates Millennium Scholars Freshman Applicants, African American, Asian Pacific Islander American, and Hispanic American Students Fall 2001 (N=660)

		M	S.D.	1	2	3	4	5	6	7	8	9	10	11	12	13
1.	FATHEDUC	2.95	1.27		.516***	-.019	.041	-.024	.083*	-.093*	.067	.020	.278***	.110**	.096*	
		.068														
2.	MOTHEDUC	2.95	1.19			.177***	-.122**	-.075	-.008	-.017	.054	.001	.124**	.013	.129**	
		.090*														
3.	AFRICAN AMERI	.46	.50				-.634***	-.489***	-.108**	.033	.030	-.023	-.326***	-.302***	-.008	-
	.040															
4.	ASIAN	.32	.47					-.365***	.000	-.101**	.018	.086*	.333***	.285***	-.131**	-
	.116**															
5.	LATINO	.22	.41						.130**	.074	-.056	-.070	.016	.041	.157***	
		.180***														
6.	MALE	.34	.47							-.045	.098*	.013	.133**	.023	.035	
		.034														
7.	HSMJRITY	1.94	1.05								-.015	-.048	-.181***	.015	-.148***	-
	.070															
8.	HSMATHYR	3.90	.33									.200***	.104**	.100**	.043	
		.029														
9.	HSSCIEYR	3.71	.51										.156***	.146***	-.049	-
	.082*															
10.	SATSCORE	1171.68	177.30											.466***	.095*	-
	.008															
11.	APEXAM	2.30	1.58												-.045	-
	.130**															
12.	HSPRIV	1.12	.32													
		.764***														
13.	HSREL	1.08	.28													
14.	ESTGOOD	1.37	.83													
15.	LCPLANNI	3.32	.68													
16.	AENOTWEL	3.37	.74													
17.	RSNLOWEX	2.39	.66													
18.	RSNSTREP	2.83	.40													
19.	UDIFFSCW	2.77	.88													
20.	UDIFFTIM	2.44	.96													
21.	UDIFFEXP	2.50	.98													
22.	TIMEUSE	.50	.19													
23.	DROPCOLL	2.95	.25													
24.	HIGHDEGR	3.79	.99													
25.	FCHOICE	.71	.45													
26.	NPARTCAR	3.32	.75													

NOTE: Correlations significant at the following levels: *p<.05; **p<.01; ***p<.001 (2-tailed).

Means, Standard Deviations and Correlations for Variables, Gates Millennium Scholars Freshman Applicants, African American, Asian Pacific Islander American, and Hispanic American Students Fall 2001 (N=660)
(Continued)

		M	S.D.	14	15	16	17	18	19	20	21	22	23	24	25	26
1.	FATHEDUC	2.95	1.27	.020	.028	.066	-.042	.026	-.014	.028	.064	-.011	.105**	.079*	.008	
		.038														
2.	MOTHEDUC	2.95	1.19	.047	.075	.087*	-.113**	.047	.033	.071	.038	-.071	.139***	.016	.007	
		.088*														
3.	AFRICAN AMERI	.46	.50	.048	.016	-.087*	.012	.006	.158***	.064	.016	-.097*	.033	.094*	-.116**	-
		.038														
4.	ASIAN	.32	.47	-.129**	-.052	.056	.022	.072	-.140***	-.050	.000	.118**	-.043	-.048	.070	-
		.041														
5.	LATINO	.22	.41	.088*	.039	.042	-.040	-.088*	-.032	-.021	-.019	-.016	.009	-.059	.061	
		.092*														
6.	MALE	.34	.47	.029	-.017	-.034	-.074	.032	-.045	-.033	-.013	-.048	-.048	-.020	.157***	-
		.001														
7.	HSMJRITY	1.94	1.05	.015	-.038	-.042	.036	-.037	.055	.013	.033	.032	-.011	-.006	.003	
		.008														
8.	HSMATHYR	3.90	.33	-.048	.030	-.018	-.001	.025	.028	.004	.001	.003	.089*	.091*	.005	
		.010														
9.	HSSCIEYR	3.71	.51	.094*	.076	-.012	.016	.019	-.011	-.027	.006	.099*	.084*	.161***	.059	
		.004														
10.	SATSCORE	1171.68	177.30	-.047	.076	.059	-.198***	-.157***	-.085*	-.048	.113**	.073	.054	.091*	.151***	
		.033														
11.	APEXAM	2.30	1.58	.003	.047	.055	-.086*	.091*	-.058	.016	.032	.101**	.057	.054	.122**	
		.000														
12.	HSPRIV	1.12	.32	-.012	-.011	.020	-.069	.054	.021	.082*	-.021	-.008	-.027	.003	-.007	
		.020														
13.	HSREL	1.08	.28	.014	-.037	.032	-.042	.037	.049	.076	-.035	-.026	-.053	.000	-.060	
		.016														
14.	ESTGOOD	1.37	.83		.357***	.236***	.036	.054	.099*	.076*	.009	-.090*	.131**	.042	.058	
		.217***														
15.	LCPLANNI	3.32	.68			.323***	-.054	.113**	.142***	.144***	.009	-.012	.189***	.073	.077*	
		.201***														
16.	AENOTWEL	3.37	.74				-.113**	.064	.092*	.099*	.115**	-.035	.171***	.050	-.014	
		.242***														
17.	RSNLOWEX	2.39	.66					-.158***	.057	.022	-.113**	-.027	.007	-.036	-.181***	-.085*
18.	RSNSTREP	2.83	.40						-.053	-.018	-.034	.090*	-.003	.024	.175***	
		.168***														
19.	UDIFFSCW	2.77	.88							.669***	.181***	-.155***	.129**	.065	-.108**	
		.049														
20.	UDIFFTIM	2.44	.96								.160***	-.079*	.087*	.050	-.036	
		.015														
21.	UDIFFEXP	2.50	.98									-.134**	.013	.017	.029	
		.139***														

22.	TIMEUSE	.50	.19				.017	.163***	.075	- .117**
23.	DROPCOLL	2.95	.25					.094*	-.008	
24.	HIGHDEGR	3.79	.99	.131**					-.022	
25.	FCHOICE	.71	.45	.093*						
26.	NPARTCAR	3.32	.75	.130**						

NOTE: Correlations significant at the following levels: *p<.05; **p<.01; ***p<.001 (2-tailed).

APPENDIX E

Description of Fall 2001 Gates Millennium Scholars Freshman Applicants Variables Used in Regression Models

Dependent Variables	**Description**	**Coding**
Fchoice	Currently attending first-choice college	0=No; 1=Yes
Npartcar	Level of agreement that student does not feel part of campus community	1=Strongly agree; 2=Agree; 3=Disagree; 4=Strongly disagree
Dropcoll	Likelihood to drop out before graduation	1=Very likely; 2=Somewhat likely; 3=Somewhat unlikely; 4=Very unlikely
Highdegr	Highest degree expected	1=Less than two years of college; 2=Two or more years of college; 3=Bachelor's degree; 4=Post-baccalaureate certificate; 5=Master's degree; 6=First professional degree; 7=Doctoral degree
Independent Variables	**Description**	**Coding**
Fatheduc	Highest grade or level of father's education	1=Less than high school; 2=High school graduate/GED; 3=Some college; 4=College graduate/B.A; 5=Graduate degree/M.A. or Ph.D.
Motheduc	Highest grade or level of mother's education	1=Less than high school; 2=High school graduate/GED; 3=Some college; 4=College graduate/B.A; 5=Graduate degree/M.A. or Ph.D.
African American, Asian, Latino	Race of respondent	0=Not of racial group; 1=Member of racial group
Male	Student gender	0=female; 1=male
Hsmjrity	Took majority of high school classes with students from the same race	1=Strongly disagree; 2=Disagree; 3=Agree; 4=Strongly agree
Hsmathyr	Number of years of HS math courses taken	0=None; 1=One; 2=Two; 3=Three; 4=Four or more
Hsscieyr	Number of years of HS science courses taken	0=None; 1=One; 2=Two; 3=Three; 4=Four or more
Satscore	SAT scores	
Apexam	Number of AP exams taken	0=None; 1=One; 2=Two; 3=Three; 4=Four or more
Hspriv	Attended private high school	0=No; 1=Yes
Hsrel	Attended religious high school	0=No; 1=Yes
Estgood	Level of agreement that student feels good about herself/himself	1=Strongly disagree; 2=Disagree; 3=Agree; 4=Strongly agree
Lcplanni	Level of agreement that plans do not work out/planning leads to unhappiness	1=Agree strongly; 2=Agree; 3=Disagree; 4=Disagree strongly
Aenotwel	Level of academic esteem (do not do well in college)	1= Agree strongly; 2=Agree; 3=Disagree; 4=Disagree strongly
Rsnlowex	Level of importance in selecting school with low expenses	1=Not important; 2=Somewhat important; 3=Very important
Rsnstrep	Level of importance in selecting school with strong reputation	1=Not important; 2=Somewhat important; 3=Very important
Udiffscw	Level of difficulty in keeping up with schoolwork	1=Very difficult; 2=Difficult; 3=Not very difficult; 4=Not difficult
Udifftim	Level of difficulty in effective time management	1=Very difficult; 2=Difficult; 3=Not very difficult; 4=Not difficult

Udiffexp	Level of difficulty in paying for college expenses	1=Very difficult; 2=Difficult; 3=Not very difficult; 4=Not difficult
Timeuse	Proportion of time spent studying	Calculated by time spent studying divided by sum of time spent studying, time spent participating in college-sponsored extracurricular activities, and time spent relaxing or socializing
Dropcoll	Likelihood to drop out before graduation	1=Very likely; 2=Somewhat likely; 3=Somewhat unlikely; 4=Very unlikely
Highdegr	Highest degree expected	1=Less than two years of college; 2=Two or more years of college; 3=Bachelor's degree; 4=Post-baccalaureate certificate; 5=Master's degree; 6=First professional degree; 7=Doctoral degree

APPENDIX F

Comparison of Academic Indicators by Focus Group Race/Ethnicity

	African American (N=14)	Native American/ Alaska Native (N=11)	Asian Pacific Islander American (N=19)	Hispanic American (N=12)
INDICATORS				
Mean HS GPA	3.93	3.93	3.92	3.79
(S.D. HS GPA)	(.15)	(.16)	(.12)	(.21)
Mean College GPA	3.46	3.50	3.47	3.45
(S.D. College GPA)	(.58)	(.42)	(.31)	(.38)
Mean SAT I Math	506	545	667	630
(S.D. SAT I Math)	(69)	(7)	(84)	(67)
Mean SAT I Verbal	513	600	590	591
(S.D. SAT I Verbal)	(54)	(85)	(90)	(52)

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