UC "Eligibility": The Quest for Excellence and Diversity

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"On this generation of Americans falls the full burden of proving to the world that we really mean it when we say all men are created free and are equal before the law. All of us might wish at times that we lived in a more tranquil world, but we don't. And if our times are difficult and perplexing, so are they challenging and filled with opportunity." -
    Robert F. Kennedy, 1961

Introduction

Who should be admitted into the largest and most prestigious public system of distinguished universities in the world and how should these decisions be made?

The answer to the two-pronged question is portentous because the stakes are high. The State of California looks to its universities to prepare wise, skilled, and civic-minded leaders in all spheres of life: science and technology, commerce and the professions, cultural life and public service. Neither California nor the nation can afford to overlook pools of talent.

From the perspective of the individual student, admission into a campus of the University of California (UC) system is greatly prized because it represents a pathway to the American dream — a dream that with hard work and persistence in doing the right and necessary things, even the least of us can attain to the highest levels of economic, social, and personal success. That dream has captured the hearts of Californians and people the world over, not only because of the great promise and power of the dream but also because of its historical attainability: a UC education continues to be among the most affordable and democratically available of any university education in the world. UC's attainability can provide a powerful motivator for California's elementary and secondary school students to strive for high academic achievement.

But have we kept full faith with the dream? Can we do better?

Strong social forces continue to make UC more accessible for relatively privileged segments of California's population.

• Despite its founding legislation, UC has never achieved a student body that approximates the general ethnic, geographic, and socioeconomic distribution of high school graduates in the State. This was true even before Proposition 209 effectively curtailed affirmative action practices,

• The gap that had been narrowing has widened sharply since 1994 between the percent of under-represented racial and ethnic minority students graduating from California public high schools and those enrolled as new UC freshman.

• Nearly half of UC's admittted freshmen each year come from high schools that account for only one-fifth of California's public high school graduates.

• UC extends offers of freshman admission to disproportionate numbers of students from high-income households, and from families where parents have post-graduate education.

Such unequal access neglects much of the State's future leadership potential, as well as possible creative and economic contributions, and threatens the University's own base of political support. The necessity of maintaining the confidence, support, and affection of the general public was recognized by the 1868 Organic Act, which directed the Regents "to so apportion the representation of students, when necessary, that all portions of the State shall enjoy equal privileges therein." (Section 14) Accordingly, this principle has been repeatedly reasserted by Regental policy, which currently gives each campus the goal of enrolling a student body that "encompasses the broad diversity of backgrounds characteristic of California."

It is time to consider how the University can fulfill these principles, given the recent history of admissions policy and the current realities of K-12 education. The University of California has always reviewed its admissions policies from time to time to ensure that they are right for the young people of this state. However, in no previous time has the need for a fundamental reconsideration of admissions been more urgent than today.

In this paper we describe UC's unique admissions system. We show that the information

used to determine whether students are "eligible" for UC has limited power to predict actual success at UC, and we demonstrate that using other information that is readily available can yield more accurate prediction. We also document how current eligibility requirements disproportionately exclude students from large numbers of high schools, from low-income households and families with less educated parents, as well as from under-represented racial and ethnic groups. At the end, we propose a way forward.

UC's Unique Admissions Process

Unlike most land grant universities and colleges that, bowing to populist demands, were open to virtually anyone who applied, UC has been free to establish admissions policies that were relatively selective from the beginning. The 1868 Organic Act passed by the California legislature provided the charter for the University of California (UC), and directed the Regents to, among other things, set the "moral and intellectual qualifications of applicants for admission" (Douglass 1997). The Regents, in turn, have looked to the faculty for their expertise on issues pertaining to educational policy, including the academic qualifications necessary for admission.[1] The standing committee of the Academic Senate responsible for formulating recommendations about admissions policy is the Board of Admissions and Relations with Schools (BOARS).

From the beginning, admission standards set by University faculty placed primary value on the completion of specific high school course requirements. Throughout the University's history, its promulgation of curricular requirements (which evolved by the 1930s into the predecessor to the current "a-g" subject requirements) and its role in certifying college preparatory courses that meet those requirements were intended to set consistent, clear, high and achievable standards for California high schools about the minimum academic preparation needed for college-bound students. Prior to the establishment of the Western Association for Schools and Colleges (WASC) in 1963, the University even accredited high schools. The University's set of course requirements, together with the scholarship requirement that students achieve a certain minimum grade point average (GPA) in these courses, have functioned as a "road map" and as eligibility

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[1] Regents' Standing Order 105.2 provides, in part, that "The Academic Senate, subject to the approval of the Board, shall determine the conditions for admission, for certificates, and for degrees other than honorary degrees."

criteria for students aspiring to attend UC.

The University of California's eligibility criteria were intended to serve two longstanding and fundamental purposes. First, they signal to college preparatory students how they should prepare for the University. The goal was to establish high, clear, and attainable academic standards for students, with the promise of access to every student in the state who meets prescribed standards. Second, UC requirements signal to schools the importance of providing a strong academic curriculum. The eligibility criteria served to communicate to high schools the importance of rigorous and engaging academic preparation, academic mastery, and how proper preparation is tied to both admission and future success at the University.

The 1868 Organic Act clearly intended UC to represent all segments of the State's population. Section 14 declared, "Admission and tuition shall be free to all residents of the State and it shall be the duty of the Regents, according to population, to so apportion the representation of students, when necessary, that all portions of the State shall enjoy equal privilege therein." It may be surprising to note that even in the case of the University's earliest classes, women were admitted on equal footing with men. Educational opportunity with respect to UC access, therefore, has always been defined not only in academic terms but also by "representativeness" so that all Californians, in theory, would have a chance to attend the University

The year 1960, however, was a watershed not only for UC but for the whole state of California — it was the year of the California Master Plan for Higher Education. Among a number of things that attended it, the Master Plan added a new and distinctly different purpose to be served by the University's freshman eligibility requirements: namely, to provide a standard for UC to identify the top 12.5 percent of California graduating high school students for admission to the University of California system.

The 1960 Master Plan, which created the three-tiered system of public postsecondary education in California, directed UC to draw from the top one-eighth of California high school graduates, thereby rationing access to the institution on the basis of the State's

willingness to invest in that education, and not solely on the basis of the ability of those admitted to benefit from the education or represent the state's citizenry. The Master Plan did not define "top"; that continues to be left up to UC. The current eligibility rules identify the students to be considered as being in the top 12.5 percent.

Before long, the eligibility rules came to define a guarantee. As early as the 1970s, the University informed the Legislature that it had put procedures in place to ensure that all qualified students were accommodated, though not necessarily at their campus or major of choice. In 1988, The Regents provided a formal statement articulating a moral responsibility to provide a space for all students who, as defined by UC, fell within the top 12.5 percent of high school graduates:

> "Mindful of its mission as a public institution, the University of California has an historic commitment to provide places within the University for all eligible applicants who are residents of California."[2]

As eligibility rules took on the function of rationing access to guaranteed admission, standardized test scores were added to the requirements. In 1966, BOARS reported to the Academic Assembly that a 1965 eligibility survey conducted by the California Council for Higher Education – a state agency created under Master Plan legislation and subsequently renamed the California Postsecondary Education Commission (CPEC) – estimated that the University was drawing from the top 14.6 percent of high school graduates. After considerable controversy and a close vote, UC faculty recommended requiring the ACT or SAT, plus three SAT achievement tests, as a means to shrink the eligibility pool back down to 12.5 percent. Thus, beginning in fall 1968 — 100 years after the Organic Act — all freshman applicants to the University were required to submit standardized examination scores to fulfill eligibility requirements.

It is important to recognize that UC is not budgeted to enroll 12.5 percent of the State's high school graduates each year. The State contribution to UC's annual budget is based

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[2] The University of California Board of Regents, *University of California Policy on Undergraduate Admissions*, adopted May 25, 1988.

(in part) on an actual enrollment rate, which in recent years has been about 7.5 to 8 percent of the State's high school graduates. CPEC continues to conduct periodic studies to determine whether UC eligibility rules are identifying more or less than the Master Plan target of 12.5 percent, but this exercise has no direct bearing on UC's budget. In actual fact, according to CPEC, UC has made offers of freshman admission to 13 or 14 percent of California's high school graduates in recent years. The actual enrollment rate is considerably lower because some admitted students do not enroll.

Pathways to UC Eligibility

There are three "paths" to attaining "UC eligibility." The currently predominant path is "Statewide Eligibility," which tacitly is based on the assumption that graduating high school students across the state are comparable in terms of educational circumstances (including quality of schooling and socioeconomic and geographic circumstances). To be statewide eligible, students need to have attained a grade of C or better in each of the required ("a to g"[3]) courses; earned a weighted GPA in the a-g courses of at least 2.8 if California residents (now increased to 3.0 for 2007 applicants) and 3.4 if from out of state; and achieved certain minimum scores (depending on the high school GPA) on standardized tests.[4] In theory, it should be possible for high school students, or their parents or counselors, to know whether or not they meet the eligibility criteria. However, as the paper will explain (see below), it is often difficult to make an accurate determination.

A second pathway to UC eligibility was added in 1999 and is based on the unstated assumption that the state's schools may not be comparable but that students can be compared within schools. Students whose weighted GPAs in a-g subjects place them in the top 4 percent of their high school class are deemed "eligible in local context" (ELC). Unlike statewide eligibility, it is not intended that students themselves, or their parents or counselors, can determine by looking at their transcripts whether they qualify as ELC. That determination is made by the UC Office of the President (UCOP), which asks high schools to send to UCOP the transcript records for about the top 12 percent of students,

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[3] www.ucop.edu/a-gGuide/

[4] http://www.universityofcalifornia.edu/admissions/undergrad_adm/paths_to_adm/freshman/scholarship_reqs.html

according to their GPA in a prescribed pattern of a-g subjects as of the end of junior year. ELC status also requires that admissions tests be taken and submitted because of the winnowing effect of the requirement, even though the scores themselves play no role in determining eligibility by this pathway. By requiring no minimum test scores, ELC emphasizes within-school standing and competition. UCOP then analyzes the transcripts to select the top 4 percent. These students are sent a congratulatory letter, telling them that if they complete the remaining a-g courses satisfactorily and maintain their GPA, they will be ELC. The letter also encourages them to take the standardized tests required for statewide eligibility. The great majority of ELC students end up satisfying statewide eligibility requirements, but evidence suggests that some of them would not have done so if they had not received the letter. ELC was created in order to take account of the fact that the university applicant pool did not represent the population of qualified high school graduates in California. It was one of several efforts the University has been making to increase the percentage of eligible students in under-represented sectors of the state population.

The third path to eligibility is by examination alone. Students who score very high on standardized tests become eligible even if they have not taken all the a-g courses. This path was created for students who lack standard course transcripts or grades because they come from exceptional circumstances such as home schooling, or from other countries. Fewer than one percent of all UC eligibles are deemed eligible by examination alone.

The UC Eligibility Index

Under the Master Plan, the University has remained free to determine the criteria for "eligibility" but these have had to produce results that met the rationing demands of the Master Plan. In serving that rationing role, the University instituted a sliding scale "Eligibility Index" in 1979 based on high school grade point average (GPA) and test scores. This scale has been frequently recalibrated over the years in order to maintain the prescribed level of exclusiveness.

UC faculty developed the adjustable "index" for determining eligibility based on a combination of test scores and grade point average. Though the introduction of

standardized tests in an eligibility index represented a scientific approach to assessing academic potential, the creation of an index also had the effect of reducing the importance of coursework and grade point average in determining UC eligibility. Unlike the curricular and scholarship requirements that were the foundation of UC admissions policy from the beginning, and that were measures of academic performance, the use of admissions tests and the creation of an eligibility index were inserted chiefly as tools to manage the surge in enrollment demand.

However unintentionally, the presence of the index also de-emphasized the consideration of educational circumstances such as economic hardship and geographic representation – – considerations that had characterized previous admissions practices. Inherent in the former policy was the promise of a wide range of students applying to the University and gaining admission based on courses completed, and grades earned. With the implementation of an eligibility index, admissions criteria to the University became both more standardized and less broadly accessible.

Applications from eligible students often exceed budgeted spaces on most of the campuses, so each campus selects almost exclusively from the pool of eligible applicants. Eligible applicants not selected by any of the campuses to which they applied are assigned to a referral pool, and offered admissions to those campuses with remaining space.

Efforts to improve eligibility rates in particular sectors of the population have the effect of making the established eligibility pool larger than 12.5 percent of graduating high school seniors. Accordingly, each time the University notices improvement in eligibility rates, it has been compelled to raise eligibility standards to reduce the size of the pool. As a result, an increasing number of students who are qualified for the university by virtue of their academic performance are excluded from the eligibility pool. Because students who are made eligible by outreach efforts tend to be the disadvantaged and the under-represented, it is these very individuals who are cut from the eligibility pool every time the University has to reduce the number of eligible students. Adding to the challenge of access for those students, the University promises neither a seat in nor

consideration for admission by the University to applicants who qualified under the previous standards but who are excluded from the more tightly circumscribed eligibility pool.

UC's Distinctive and Puzzling Admissions Process

Among the nation's competitive colleges and universities, the UC admissions process is unique. No other state system has an eligibility construct that establishes the University's admissions standards and, at the same time, makes admission available to every student in the state who meets those standards. The UC eligibility pool, itself, is also unique in being defined as a proportion of high school graduating seniors. Other states' minimum statewide or systemwide standards are explicitly based on levels of adequate preparation and/or probability of student success.

Although the UC eligibility index is intended to be simple, it really is not. Consider the definition of an a-g course (the University's college preparation subject requirements). To count toward eligibility, every a-g course at every high school must be approved by a team of reviewers at UCOP, a judgmental process based on information distant from the nature and quality of the course actually offered. Not every high school English class, for example, counts toward satisfying the English ("b") subject requirement. The current list of approved a-g courses for each high school is posted on the UC web site.[5] High schools are invited to update this course list each year. However, less affluent high schools sometimes lack resources and the wherewithal to keep their approved list up to date. Teachers and counselors (and students) often do not know whether a given course does or does not appear on the UC approved list. Some applicants from these high schools fail to meet eligibility standards simply because the courses they took did not appear on the approved list — unbeknownst to them. For example, in one such high school where one of the authors of this paper has been working to help increase college-going, an examination of the master schedule revealed 19 courses that should have been – – and subsequently were — added to the approved a-g list.

Consider also the matter of "honors-level" credit for certain UC-approved courses. In

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[5] http://www.ucop.edu/doorways

computing the weighted GPA that is used to determine eligibility, such courses are given an extra grade point: a "C" counts as a "B," a "B" counts as an "A," and an "A" is counted as 5 grade points instead of 4. Again, some schools are more adept at getting courses approved for honors-level credit, and students from these schools are therefore more likely to meet eligibility standards because of the extra grade points they are able to amass.

Because of these and other complexities,[6] getting an accurate count of eligible students is difficult. Indeed, that is why the official California Post-Secondary Education Commission (CPEC) study that defines the "eligibility" pool is deemed too laborious and expensive to do every year. That is also why UCOP, itself, has to identify ELC students, rather than leaving it up to the schools or students themselves.

Lack of transparency in the eligibility requirements is part of the reason for unequal access to UC. Lack of transparency is not the whole reason for unequal access, of course. Parents' general knowledge of college admission procedures, availability of college counselors, encouragement to take demanding academic classes, the quality of teaching starting from elementary school, and the strength of the "college-going culture" all affect access, in California and elsewhere (e.g., see Bowen, Kurzweil, and Tobin 2005). But the hidden complexity of the UC eligibility procedure also contributes to differential access.

Another unique and often misunderstood feature is that admission into UC is a two-stage process — eligibility and selection. First, UC must determine whether a student is UC-eligible. Second, a campus must decide whether to select a student applicant. In recent years, meeting the minimum eligibility requirement has not been enough to gain admission to most UC campuses and programs. If the number of UC-eligible applicants exceeds the spaces available for a particular campus or major, the campus uses criteria

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[6] "Validation" rules are an example. For example, a grade of D in Algebra 1 ordinarily would not count toward meeting UC requirements, but if an applicant subsequently received a grade of C or better in Algebra 2, the later grade would "validate" the Algebra 1 requirement. The same would be true of a course sequence fulfilling the requirement in a language other than English. Competent counselors know these rules. But even competent counselors sometimes do not know answers to questions such as whether a grade of C in the second semester of a year-long course would validate a grade of D in the first semester.

that exceed the eligibility requirement to select students. These criteria are contained in the *Guidelines for Implementation of University Policy on Undergraduate Admissions*.[7] While the eligibility index utilizes a limited set of criteria and is highly quantitative and therefore predictable, current selection guidelines call for a careful, thorough, and qualitative review of each applicant's academic and personal information. In this way, the comprehensive review policy is designed to identify excellence and achievement, recognizing the individual circumstances of each student. Comprehensive review lets campuses develop their own procedures for applying the systemwide criteria set forth in the Guidelines.

All UC-eligible students are offered admission to a campus, but not necessarily to one of their choosing – as some are surprised to learn. In applying to a campus, a student may be signaling their choice, but this choice might not be matched by selection by the campus or campuses to which a student applied.

Though the University's eligibility criteria have provided a seemingly "bright line" for establishing who was eligible for UC and who was not, UC faculty as early as 1884 recognized the need to admit students in exception to these standards in order to provide opportunity for talented students from throughout the state who showed academic promise but who might not have had access to a high-quality college preparatory curriculum. At different points in UC history, these alternate paths have included admission upon recommendation of the high school principal, admission for students ranking in the top ten percent of their high school class (discontinued in 1962), and admission for students who scored very high on various admission tests.

Regents' policy currently permits up to 6 percent of enrolled freshmen to be admitted "by exception" — meaning they do not satisfy the definition of eligible — but campuses are not obliged to admit any students in this category, however otherwise excellent they may be. Currently only about 2 percent of enrolled freshmen are admitted by exception; most of these are athletes or in the performing arts.

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[7] Available online at http://www.ucop.edu/sas/adguides.html

In 2005, responding to one of the specific requests by a study group of Regents and Chancellors appointed by the UC President, BOARS issued new guidelines encouraging campuses to make greater use of admission by exception (AE), and clarifying the intent of the policy.[8]

Regents' policy since 1988 has guaranteed a freshman "seat" somewhere in the UC system for every graduating California high school student who satisfies the definition of "eligibility." Admission by exception gives campuses the option of considering applications from students who do not meet the eligibility requirements. However, it should be understood that there is no requirement that the applications of excellent but non-eligible students be considered in admissions and, historically, most campuses have given such applications scant attention. Students who do not meet eligibility requirements, however otherwise superior, not only lack a guarantee of admission — they also have no guarantee that their application will even be read.

A Proposal: To Fully Read More Applications

Since 2001, UC campuses have used a "comprehensive review" process to select students for admission to their respective campuses but these guidelines have not applied to determining eligibility for UC as a whole. BOARS guidelines describe 14 different criteria that campuses are expected to consider.[9] The fundamental purpose of the guidelines is to encourage as "best practice" the consideration of a broad range of information about applicants, by reading the entire application, applying multiple measures of achievement and promise, and considering individual students in the context of their unique personal and academic circumstances. Comprehensive review calls for campuses to take into account not only the applicant's grade point average and test scores, but also other dimensions such as whether students challenged themselves to take difficult academic courses that were available to them, whether they show extraordinary personal talent or leadership, whether they distinguished themselves in extracurricular activities, and whether they had to work to support the family, among other things. The additional information permits campuses to make more accurate and equitable decisions

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[8] www.universityofcalifornia.edu/senate/committees/boars/a.by.e.guidelines.1005.pdf

[9] http://www.ucop.edu/sas/adguides.html

about which students deserve places at UC.

We would like to offer the following proposal for discussion.

1. **UC should reduce the number of freshman applicants who are guaranteed admission to UC on the mere basis of high school grade point average (GPA) and test scores only. For instance, instead of using only the GPA in UC-approved courses and prescribed test scores to guarantee admission and admissions consideration to 12.5 percent of California high school graduates, UC might use those criteria to guarantee admission only to the top 5 or 6 percent on that basis.**

2. **UC should use comprehensive review of entire applications to choose the rest of the new freshmen each year.**

3. **UC should commit to fully evaluating the applications of all students who meet a basic standard of academic qualification. For instance, one possible standard would be completion of all UC-prescribed and approved courses with grades of C or better, and a minimum GPA in those subjects of 2.5.**

The next sections of this paper will explain why enacting this proposal could improve UC's ability to select students who are likely to succeed, and lead to selection of a student body that more fully encompasses the diversity of California on various dimensions.

Improving UC's Selection of Students Who are Likely to Succeed

Ostensibly, the UC eligibility index identifies students who have attained high levels of academic achievement in high school and are therefore prepared to benefit from undergraduate study at UC. However, empirical studies have found that the variables included in the eligibility index actually do not explain most of the variation in success among students who are admitted and enroll at UC. Adding other information contained in the application significantly improves the accuracy of predicting UC undergraduate outcomes.

Using recent UC data, Geiser and Studley (2002) have demonstrated the limited

predictive power of variables in the eligibility index. They studied "77,893 first-time freshmen who entered UC over the four-year period from Fall 1996 through Fall 1999" (p. 3). They used freshman GPA — the criterion most often used in this kind of validity study — as their primary measure of academic success at UC. Predictors included high school GPA with the extra points for honors-level courses, the sum of scores on the verbal and quantitative SAT I examination, and the sum of scores on three SAT II examinations. In a regression for all 77,893 freshmen admitted over the four-year period, these variables — the ones that are used to determine UC eligibility — accounted for only 22.3 percent of the variance in freshman grades at UC (Table 2). Separate regressions for each of the four years found the variance explained by these predictors ranged from 21.1 percent in 1998 to 23.2 percent in 1996. Separate regressions for each of the campuses found the fraction of variance explained by these predictors ranged from 15.5 percent at Berkeley to 22.8 percent at Santa Barbara (Table 4).

In a subsequent paper, Geiser and Santelices (2004) focused on the policy of awarding extra grade points for certain courses in computing the high school GPA that is used to determine UC eligibility. Existing policy adds a full grade point for each course that has been approved by the UC Office of the President (and listed on Doorways) as Advanced Placement, International Baccalaureate, or other "honors-level", or for a lower-division course taken at a two-year or four-year college if that course is transferable to UC.[10] The purpose of this policy is to encourage students to take more academically challenging courses while in high school. However, this policy has been repeatedly criticized for further advantaging students already advantaged because they attend the more affluent and better resourced high schools in the state.

To test whether the extra grade points actually help identify students who are more likely to succeed at UC, Geiser and Santelices analyzed UC grades for first-time freshmen entering in 1998, 1999, and 2000. As predictors, they used the SAT I and SAT II composites, plus the high school GPA with or without the extra grade points for AP or honors-level courses. They found that using the weighted high school GPA (with the

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[10] Up to eight semesters of such coursework can be given the extra grade point in computing the weighted GPA for determining UC eligibility.

extra grade points) consistently accounted for <u>less</u> of the variance in UC grades than using the unweighted high school GPA with no extra grade points. Said another way, the GPA without the honors point was a better predictor of later UC grade performances. For example, for the freshmen who entered in 1999 the regression with weighted high school GPA accounted for 19.8 percent of the variance in UC freshman grades, but using the unweighted high school GPA the regression accounted for 21.5 percent.

Geiser and Santelices also analyzed second-year UC grades for these same cohorts. Using the same set of predictors, they again found that the regressions using unweighted high school GPA accounted for more variance than those using weighted high school GPA. For example, among the freshmen who entered in 1999 the regression with weighted high school GPA accounted for 12.3 percent of the variance in second-year UC grades, but using the unweighted high school GPA the regression accounted for 13.9 percent.

Geiser and Santelices found that the fraction of variance explained in the regressions for second-year UC grades was six to seven percentage points less than in the regressions for first-year UC grades. The fraction of variance in second-year grades explained by the variables that determine UC eligibility ranged from 12.3 percent for the 1999 entrants to 14.7 percent for the 2000 entrants.

Overall, these results indicate that the variables used in the UC eligibility index explain only a small fraction of the variance in first-year grades at UC, and an even smaller fraction of the variance in second-year grades. Using weighted rather than unweighted high school GPA actually <u>reduces</u> the fraction of variance explained.

Further evidence of the limitation of the eligibility index in predicting who will succeed at UC comes from considering available information on applicants' academic achievement relative to others from the same high school. The statewide eligibility index uses high school GPA and test scores in raw form, rather than ranking students within high schools. There is evidence that some high schools generally give higher grades than others. Using class rank rather than raw GPA corrects for such differences. This is not a

new idea — admissions offices at many other colleges and universities consider applicants' rank within their high school class. Similarly, some high schools have higher average SAT scores, in part due to greater access to tutors and other forms of test preparation and coaching. It is also useful, therefore, to compare applicants' SAT scores with others from the same high school.

Table 1

Percentage of Variance in UC Freshman GPA

Explained by Raw Grades and SAT Scores, with and without

Measures of Achievement Relative to Applicant's High School

	2003 raw grades and SAT scores	2003 raw grades and SAT scores + relative measures	2003 gain	2004 raw grades and test scores	2004 raw grades and SAT scores + relative measures	2004 gain
Systemwide	26.0	28.8	2.8	27.5	29.9	2.4
Berkeley	18.9	21.3	2.4	17.8	19.9	2.1
Davis	25.7	28.8	3.1	26.4	29.7	3.3
Irvine	21.9	25.8	3.9	19.1	20.9	1.8
LA	22.7	26.2	3.5	22.3	27.4	5.1
Riverside	19.5	22.7	3.2	16.6	18.6	2.0
SD	26.3	29.9	3.6	20.7	24.9	4.2
SB	25.3	27.2	1.9	27.6	30.1	2.5
SC	14.7	17.0	2.3	13.4	15.9	2.5

Table 1 summarizes the gain in explanatory power of regression models when applicants'
academic achievement relative to others from the same high school is considered in
addition to raw GPA and test scores. The dependent variable is UC freshman GPA, and
the measure of explanatory power is the R-squared statistic adjusted for the number of
predictors. Measures of achievement in the high school context include GPA, SAT
scores, numbers of a-g and honors courses — all expressed as percentiles relative to other
applicants to UC from the same high school over a three-year period — and the high
school's API score. Table 1 shows that adding this information boosts explanatory power
by 2 to 5 percentage points, depending on the campus and year. This is an appreciable
(and statistically significant) gain, given that raw grades and test scores by themselves
generally account for less than 25 percent of the variance in UC freshman GPA. Merely

viewing students' academic achievement in the context of the high schools they attend can substantially improve the predictive value of information in the application.[11]

Academic achievement relative to other applicants from the same high school is only one kind of available information that has predictive value. The UC application also includes other academic achievement data, such as whether a student's grades improved over the course of her high school career, scores on AP exams, and whether the applicant is taking a challenging set of courses during senior year. This is all data that campuses are expected to consider in comprehensive review, but not included in the current determination of UC eligibility.

Further evidence on predicting success at UC comes from an unusual dataset compiled at Berkeley, on all freshmen who entered in 1999-2000. The data file contains all courses taken and grades received while at Berkeley, whether the student graduated, and some information about whether the student took a leadership role in any student activities. In addition, the file also includes more of the information from the student's application than is usually retained for administrative purposes. For students who participated in the voluntary UC Undergraduate Experience Survey (UCUES), additional information is available on engagement in coursework, research, and other aspects of campus life. Appendix II contains a series of analyses of this data file, conducted by the UC Office of the President at the request of BOARS.[12]

The comprehensive review process at Berkeley explicitly considers each student's achievements relative to other applicants from the same high school. Several indicators

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[11] Full results of these regressions are in Appendix I, produced by the UC Office of the President at the request of BOARS. The results with "raw grades and SAT scores" in Table 1 are from Model 1a, and the results with "raw grades and SAT scores + relative measures" are from Model 4. The purpose of these regressions is only to compare the information content of various sets of predictors. The coefficients on individual predictors cannot be used directly to create a selection index or score. Some coefficients are negative because predictors are highly correlated with each other. Some are negative for other reasons, e.g. negative coefficients on SAT I math score probably reflects the tendency for students with higher math scores to take quantitative courses, in which average grades tend to be lower.

[12] Unlike most other UC campuses, which admit freshman only in the fall term, Berkeley also admits some freshmen for spring semester. In 1999-2000, about 20 percent of new freshmen entered in the spring. To compare Berkeley with the other campuses, Appendix I included only freshmen who entered in the fall. To give a complete picture of the Berkeley freshman class, Appendix II also includes those who entered in spring. The regressions for freshman GPA in Appendices I and II therefore do not match exactly.

of academic achievement are expressed as percentiles relative to other students from the same high school who applied to Berkeley within the past three years. In addition, these same indicators are also shown as percentiles relative to all Berkeley applicants in the current year, and all applicants from this school who applied to any UC campus. The indicators that are viewed in these multiple contexts are the weighted and unweighted high school GPA, the number of a-g courses taken, number of honors-level courses taken before senior year and planned for senior year, and scores on each part of the SAT I or the total ACT score. This information is concisely displayed on a "read sheet" which is placed at the front of the applicant's file. The read sheet also summarizes other information about the applicant's high school, so that admissions readers can see at a glance what kind of high school it is, and how the applicant performed relative to others from the same school.

To compare the predictive power of the UC eligibility index variables with certain other information in the application, Appendix II shows regressions for first-year GPA at Berkeley, latest GPA (for most students, this is the final GPA at graduation), and also logistic regressions for whether the student graduated in five years or less. In addition, several outcomes are measured for students (about 35 percent of the class) who responded to the 2003 UCUES: course disengagement, engagement in research and creative projects, self-reported skill acquisition, career engagement and preparation, community service and leadership. For all students, another outcome was the number of semesters in which the student signed as one of the leaders responsible for a student organization.

Appendix II uses the following sets of predictors from the student's application:
(1) The eligibility index variables: raw values of weighted high school GPA (uncapped[13]) and SAT scores.
(2) Variables measuring academic achievement in the context of the applicant's high school. This set includes the student's percentile relative to other Berkeley applicants

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[13] For detrmining UC eligibility, the number of honors-level courses that can be awarded extra grade points is "capped" at 8 semesters. Appendix I used this capped, weighted GPA. The Berkeley data file analyzed in Appendix II did not include this capped, weighted GPA, however, so the uncapped weighted GPA is used instead.

from the same high school on the following variables: weighted high school GPA, SAT I verbal score, SAT I math score, SAT II writing score, number of a-f courses taken, number of honors-level courses taken before senior year, and number of honors-level courses planned for senior year. Also included were variables indicating whether these percentiles were missing (usually because the student attended a high school that sent too few applications to Berkeley for percentiles to be meaningful). This set of variables about achievement in school context also included the Academic Performance Index (API) for the student's high school in the year 2000[14], and whether the API score was missing (because the student attended a private high school or a school outside California).

(3) Certain other predictors: the number of Advanced Placement examinations on which the student achieved a score of 3 or better, and the proportion of Advanced Placement examination scores that were 4 or 5; also a set of factor scores summarizing information about other academic achievements, the applicant's perceived "spark," participation as a leader in high school activities, obstacles arising from family, personal, or school circumstances (see explanation in Appendix II). This is not an exhaustive list of all the other possible predictive variables on the application.

Table 2 summarizes the gain in explanatory power of regression models when applicants' academic achievement relative to others from the same high school, and certain other predictors, are considered in addition to raw GPA and test scores. The measure of explanatory power is the R-squared statistic adjusted for the number of predictors.[15] The full results are in Appendix II.[16]

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[14] API is computed by the California Department of Education based on standardized test scores of all students at the high school.

[15] The models predicting graduation in five years were estimated using logistic regression, and the goodness-of-fit statistic is the Nagelkerke R square, which also adjusts for the number of predictors.

[16] The results with "raw grades and SAT scores" in Table 2 are from Model 1a, the results in column (2) are from Model 4, and results in column (3) are from Model 6. Again, the purpose of these regressions is only to compare the information content of various sets of predictors. The coefficients on individual predictors cannot be used directly to create a selection index or score.

Table 2

Percentage of Variance in Berkeley Undergraduate Outcomes
Explained by Raw Grades and SAT Scores, with and without
Measures of Achievement Relative to Applicant's High School
And Certain Other Predictors

Outcome	(1) Raw grades and SAT scores	(2) = (1) plus achievement in high school context	(3) = (2) plus AP scores and four factor scores
Freshman GPA	15.0	19.3	20.4
Latest/final GPA	18.4	23.0	24.4
Graduate within 5 yrs	9.6	12.4	13.3
Course disengagement	2.8	4.2	4.7
Research engagement	0.1	0.6	1.1
Skill acquisition	7.1	7.2	7.3
Career engagement	12.0	12.1	12.6
Service	0.4	1.2	4.2
Student leadership	1.0	1.4	2.8

As in Table 1, results in Table 2 show that adding measures of academic achievement in the high school context to the eligibility index variables increases predictive power substantially. Achievement in high school context is especially useful in predicting academic outcomes, i.e., grades, graduation, and academic engagement. In predicting the last two outcomes in Table 2 — service participation measured by UCUES, and student organizational leadership measured for all students — the factor score measuring leadership of activities during high school had a significant influence.

Tables 1 and 2 demonstrate that other information available to admissions offices, beyond raw GPA and SAT scores, can help predict undergraduate success at UC. This

implies that some students currently deemed eligible for UC on the basis of GPA and SAT scores are, in fact, less likely to succeed at UC than some other students whose high school grades and test scores would not make them eligible, but who could be identified on the basis of other information in the application.

Some direct evidence to support this conclusion comes from the data on freshmen who entered Berkeley in 1999-2000. The systemwide policy in effect at that time directed each campus to admit half of the new freshmen on the basis of academic qualifications alone, and the other half on the basis of a more comprehensive review. Berkeley followed this policy by assigning two scores to each application: an academic score and a comprehensive score, each on a five-point scale. The academic score was more encompassing than the current eligibility index, because it was based on all academic achievements as revealed in the application. Nevertheless, the academic score was not intended to reflect information about non-academic accomplishments or the applicant's personal or school circumstances. The comprehensive score was meant to reflect both academic and non-academic accomplishments, judged in the context of the applicant's circumstances.

Students admitted on the basis of academic qualifications alone were designated as "tier 1" admits. Those admitted on the basis of the comprehensive score were labeled "tier 2." Admitted applicants with the very best academic scores were all in tier 1. But some students with less stellar academic scores still made the cut for tier 1. Other students with those same academic scores were admitted on the basis of their comprehensive scores and counted in tier 2. Comparing outcomes for tier 1 and tier 2 students with academic scores near this boundary gives an indication of whether the comprehensive review had more predictive value than the academic score alone.

Apparently, it did. We looked at one important outcome: whether students graduated within six years. The best academic score is 1, worst is 5, and each application was scored by two readers. The boundary for admission in tier 1 was around 2.5. Table 3 shows that 330 tier 1 admits had academic scores of 2.5, while 580 had scores of 2 and only 97 were admitted as tier 1 with academic scores of 3. The pattern for tier 2 admits is

just the opposite, with more tier 2 admits receiving academic scores of 3. This is the way the policy was intended to work. The six-year graduation rates differed by less than one percent between tiers 1 and 2 with academic scores of 2 and 2.5. But at the bottom of tier 1, where the academic score is 3, those admitted through comprehensive review had a graduation rate that was 2.5 percent higher than those admitted on the basis of academic score only. For students whose academic qualifications were strong but not stellar, considering more information about the applicants apparently improved admissions officers' selection of students who would succeed at Berkeley.

Table 3
Percentage of 1999-2000 Berkeley Freshmen
Who Graduated within Six Years, by Academic Score and
Whether Admitted on Basis of Academic (tier 1) or Comprehensive Score (tier 2)

	Percent who did not graduate within 6 years	Percent who did graduate within 6 years	Number of students
Ave. academic score = 2			
Tier 1	6.0	94.0	580
Tier 2	6.8	93.2	73
Ave. academic score = 2.5			
Tier 1	9.4	90.6	330
Tier 2	10.0	90.0	451
Ave. academic score = 3			
Tier 1	13.4	86.6	97
Tier 2	10.9	89.1	824

Encompassing the Diversity of California

Predicting who will succeed at UC is one purpose of admissions policy, but it is not the only one. The 1868 state law that established the University of California directed the Regents to "so apportion the representation of students, when necessary, that all portions of the State shall enjoy equal privileges therein" (section 14). The ideal of representing the population of California continues to inspire UC admissions policy. In 1988 the Regents stated goals for UC admission policy, in language they reaffirmed in 2001 and again in 2004. They declared "That the University shall seek out and enroll, on each of its campuses, a student body that demonstrates high academic achievement or exceptional personal talent, <u>and that encompasses the broad diversity of backgrounds characteristic of California</u>." (emphasis added) This was part of Resolution RE-28, which passed by a 22 – 0 vote on May 16, 2001.

To monitor how well UC is fulfilling its commitment to represent "all portions of the State," BOARS requested the Office of the President to construct a set of indicators. Over the years, researchers have produced many studies that bear on this question, but different studies have used different kinds of information and various methods of analysis, so it is difficult to determine whether UC students have become less or more representative of the state, and by how much. Some of the annual data UC has published in recent years does give an indication of trends, particularly with respect to gender, race, and ethnicity. The indicators presented here build on those analyses, and extend the comparisons to include socioeconomic and geographic dimensions of California.

The most recent available indicators are for 2004. Some of these were also constructed for 2001, 2002, and 2003; these are available at . It is anticipated that these will be updated on an ongoing basis, and expanded to consider transfers to UC as well as admitted freshmen.

Indicator 1: 2004

Inclusiveness Indicators for All CA Public Schools with Grade 12--2004

Number of Students Progressing through Each Stage toward UC Enrollment
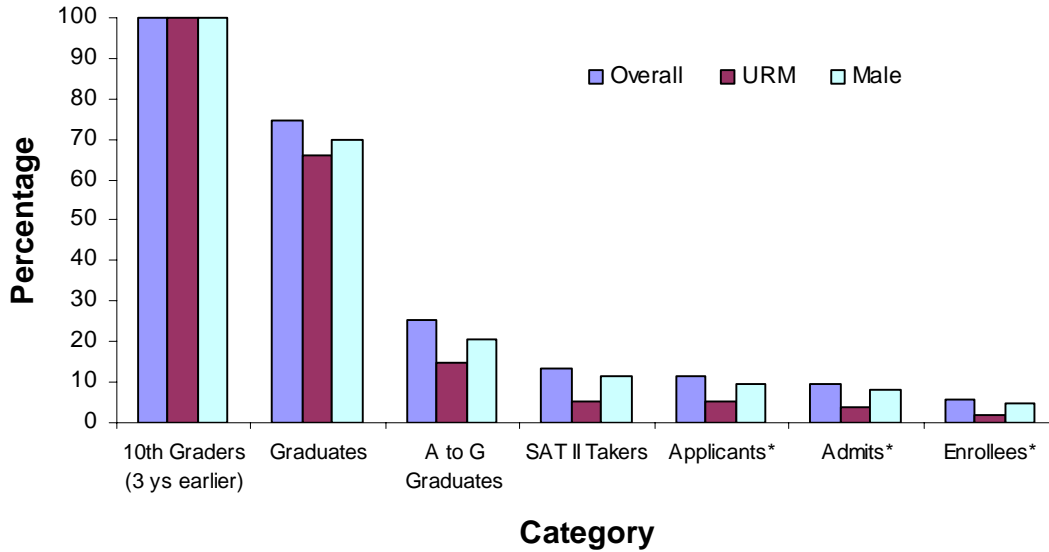
	10th Graders (3 ys earlier)	Graduates	A to G Graduates	SAT II Takers	Applicants*	Admits*	Enrollees*
2004							
Total Number	459,588	343,484	115,680	62,239	52,470	43,786	25,768
% of 10th Graders	100.0	74.7	25.2	13.5	11.4	9.5	5.6
% of Graduates		100.0	33.7	18.1	15.3	12.7	7.5
% of A to G Graduates			100.0	53.8	45.4	37.9	22.3
% of SAT II Takers				100.0	84.3	70.4	41.4
% of Applicants					100.0	83.4	49.1
% of Admits						100.0	58.8
URM							
Total Number	226,730	149,725	33,348	12,409	12,149	9,106	4,707
% of 10th Graders	100.0	66.0	14.7	5.5	5.4	4.0	2.1
% of Graduates		100.0	22.3	8.3	8.1	6.1	3.1
% of A to G Graduates			100.0	37.2	36.4	27.3	14.1
% of SAT II Takers				100.0	97.9	73.4	37.9
% of Applicants					100.0	75.0	38.7
% of Admits						100.0	51.7
Male							
Total Number	236,533	165,310	49,173	26,683	22,760	18,900	11,278
% of 10th Graders	100.0	69.9	20.8	11.3	9.6	8.0	4.8
% of Graduates		100.0	29.7	16.1	13.8	11.4	6.8
% of A to G Graduates			100.0	54.3	46.3	38.4	22.9
% of SAT II Takers				100.0	85.3	70.8	42.3
% of Applicants					100.0	83.0	49.6
% of Admits						100.0	59.7

*UC applicants, admits, and enrollees include data for the entire academic year. However, if a student applied for more than one term within the same academic year or was admitted to multiple terms or campuses, this student was only counted once.

Indicator 1 shows the percentages of 10th grade students in California public high schools who progress through each stage toward enrollment at UC. The calculations begin with 10th graders three years earlier. For example, the chart and tables for 2004 begin with the 459,588 students who were 10th graders in 2001. The number of high school graduates in 2004 was 343,484, which is 74.7 percent of the number of 10th graders in 2001. According to reports from high schools, 115,680 of the 2004 graduates had taken the a-g courses required for UC eligibility. The number of "a to g graduates" was 33.7 percent of all graduates that year, and 25.2 percent of the 10th graders in 2001. According to the College Board, 62,239 California public high school seniors took SAT II examinations in 2004; this number is 18.1 percent of the 2004 graduates, and 13.5 percent of the 10th graders in 2001. Finally, UC data show 52,470 California public high school seniors applied for admission as UC freshmen in 2004-2005. Of these, 43,786 were admitted, and 25,768 eventually enrolled. Overall, the number who enrolled was 7.5 percent of the 2004 graduates, and 5.6 percent of the 10th graders in 2001.

Indicator 1 also shows this progression separately for under-represented racial and ethnic categories (URM includes African American, Chicano, Latino, and American Indian), and for males. These groups have lower percentages of students who progress through each stage toward UC enrollment.

An immediate implication of Indicator 1 is that UC would likely increase the proportion of URMs among the admitted freshman class if it applied comprehensive review to all a-g completers. Among the 115,680 graduates in 2004 who had completed a-g requirements, 33,348 were URMs. That is, 28.8 percent of the a-g completers were URMs. But only 23.2 percent of freshman applicants, and 20.8 percent of admitted freshmen, were URMs. The concentration of URMs is 8 percentage points higher among a-g completers than among freshman admits. If UC were to receive and review applications from all a-g completers, the percentage of URMs among UC freshman would likely increase. This would be even more true if more California school districts follow the lead of San Jose and Los Angeles by making a-g the standard curriculum for all high school students.

Indicator 2: 2004

Percentage of Admits by Decile—2004 Overall
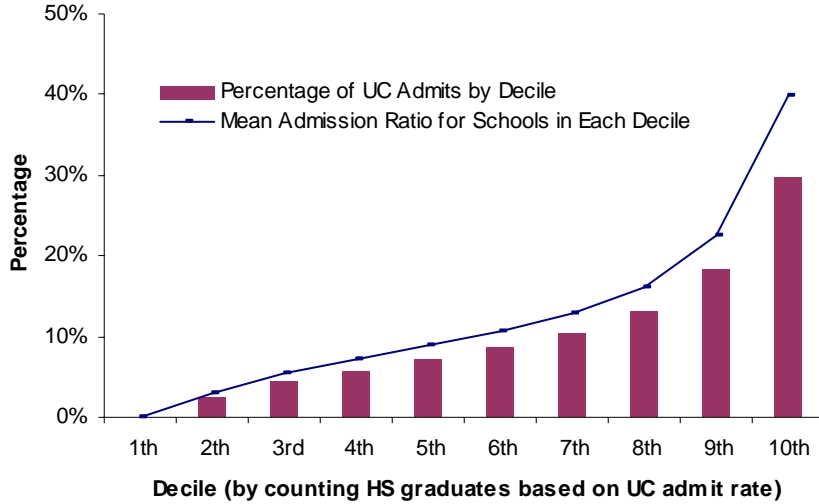
Data Table

Decile	# of Schools	% of Admits	Admission Ratio
1st	790	0.0%	0.0%
2nd	321	2.4%	3.0%
3rd	111	4.5%	5.5%
4th	94	5.7%	7.0%
5th	103	7.2%	8.7%
6th	86	8.7%	10.5%
7th	90	10.3%	12.5%
8th	97	12.9%	15.7%
9th	89	17.9%	21.7%
10th	99	30.4%	38.5%
Total	1880	100.0%	12.2%

Percentage of Admits by Decile—2004 URM
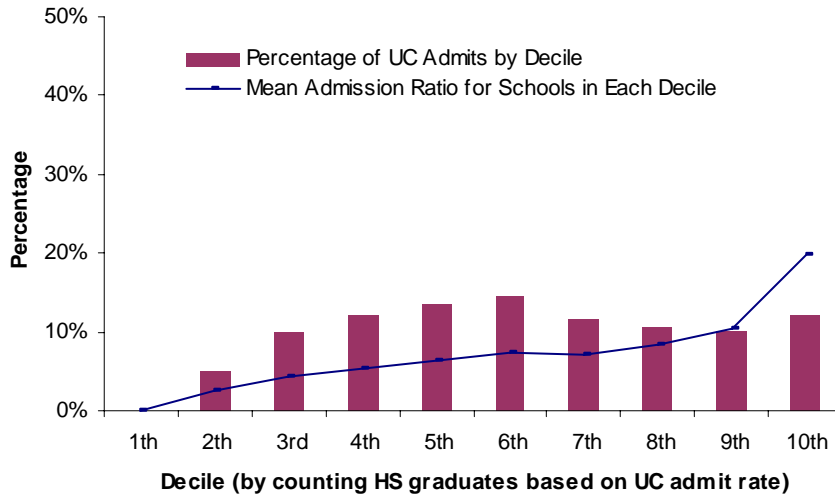
Data Table

Decile	# of Schools	% of Admits	Admission Ratio
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3rd	111	10.0%	4.2%
4th	94	12.3%	5.3%
5th	103	13.5%	6.4%
6th	86	14.4%	7.5%
7th	90	11.7%	7.1%
8th	97	10.6%	8.4%
9th	89	10.1%	10.4%
10th	99	12.1%	19.6%
Total	1880	100.0%	5.7%

Indicator 2 focuses on the number of students admitted to UC as freshmen each year, as a percentage of the number of high school graduates the preceding spring. For each California public high school, the "admission ratio" in a particular year is the percentage of graduates who are admitted to a UC campus. To construct Indicator 2, the high schools are first ranked in order according to their admission ratio. The 1st decile contains high schools with the lowest admission ratios, and the 10th decile contains high schools with the highest admission ratios. Each decile accounts for 10 percent of the total

number of high school graduates in that particular year. The number of high schools in each decile varies somewhat, because the number of graduates differs among high schools. In particular, the 1st and 2nd deciles contain larger numbers of high schools than the other deciles, because these deciles include large numbers of continuation and alternative high schools, which have few graduates per school.

The 10th decile of high schools, which by definition produced 10 percent of all California public high school graduates, accounted for 30.4 percent of all UC freshman admits from California public high schools in 2004. The 9th decile accounted for 17.9 percent of the freshman admits. Taken together, these two top deciles produced 20 percent of all California public high school graduates, and 48.3 percent of the UC freshmen admitted from California public high schools. These percentages are similar in the three preceding years.

The fact that almost half of the admitted freshmen come from high schools that account for only one-fifth of the high school graduates is in part a reflection of the lack of transparency we mentioned earlier. Some high schools are not adept at getting their courses listed on Doorways for a-g credit or the honors "bump." In addition, inequality among high schools reflects broader social and economic disparities (e.g., see Yun and Moreno 2006; Bowen, Kurzweil, and Tobin 2005).

Indicator 2 also shows results separately for URM students. The schools included in each decile are the same as in the overall analysis for that particular year. High schools in the 5th and 6th deciles accounted for relatively large numbers of URM students admitted to UC. In other words, a relatively large share of URM freshmen from California public high schools came from high schools that did not have very high overall admission ratios.

Indicator 3-1

Gap Analysis for Underrepresented Minority (URM) <u>A-G Courses Completers</u>
(CA Public Schools with a 12th Grade)

	2004	2003	2002	2001
URM A-G Courses Takers (African American, Chicano/Latino, and Native American)				
Actual URM Graduates	149,725	144,827	135,530	129,003
Overall Ratio of A-G Courses Takers*	33.68%	33.55%	34.57%	35.58%
Predicted URM A-G Courses Takers	50,426	48,595	46,855	45,896
Actual URM A-G Courses Takers	33,348	31,892	30,367	30,278
Gap	17,078	16,703	16,488	15,618
A-G Courses Takers if no differences within schools	42,743	41,623	40,317	39,907
Gap Due to Differences within Schools	9,395	9,731	9,950	9,629
Gap Due to Differences between Schools	7,683	6,972	6,538	5,989
Proportion of Gap Due to Differences within Schools	55%	58%	60%	62%
Proportion of Gap Due to Differences between Schools	45%	42%	40%	38%
African American A-G Courses Takers				
Actual African American Graduates	25,267	24,860	23,453	22,474
Overall Ratio of A-G Courses Takers*	33.68%	33.55%	34.57%	35.58%
Predicted African American A-G Courses Takers	8,510	8,341	8,108	7,996
Actual African American A-G Courses Takers	6,344	6,053	5,929	5,874
Gap	2,166	2,288	2,179	2,122
A-G Courses Takers if no differences within schools	7,979	7,679	7,469	7,173
Gap Due to Differences within Schools	1,635	1,626	1,540	1,299
Gap Due to Differences between Schools	531	662	639	823
Proportion of Gap Due to Differences within Schools	75%	71%	71%	61%
Proportion of Gap Due to Differences between Schools	25%	29%	29%	39%
Chicano/Latino A-G Courses Takers				
Actual Chicano/Latino Graduates	121,418	116,847	109,043	103,795
Overall Ratio of A-G Courses Takers*	33.68%	33.55%	34.57%	35.58%
Predicted Chicano/Latino A-G Courses Takers	40,892	39,206	37,698	36,928
Actual Chicano/Latino A-G Courses Takers	26,327	25,121	23,750	23,772
Gap	14,565	14,085	13,948	13,156
A-G Courses Takers if no differences within schools	33,875	33,016	31,896	31,877
Gap Due to Differences within Schools	7,548	7,895	8,146	8,105
Gap Due to Differences between Schools	7,018	6,190	5,802	5,050
Proportion of Gap Due to Differences within Schools	52%	56%	58%	62%
Proportion of Gap Due to Differences between Schools	48%	44%	42%	38%

* "Overall Ratio of A-G Courses Takers" was calculated by dividing high school graduates from CA public schools with a 12th grade who completed A-G courses by all high school graduates from CA public schools with a 12th grade.

Indicator 3-2

Gap Analysis for Underrepresented Minority (URM) <u>SAT II Takers</u>
(CA Public Schools with a 12th Grade)

	2004	2003	2002	2001
URM SAT II Takers (African American, Chicano/Latino, and Native American)				
Actual URM Graduates	149,725	144,827	135,530	129,003
Overall Ratio of SAT II Takers*	18.12%	18.80%	17.81%	17.52%
Predicted URM SAT II Takers	27,130	27,226	24,141	22,598
Actual URM SAT II Takers	12,409	12,013	10,996	10,568
Gap	14,721	15,213	13,145	12,030
URM SAT II Takers if no differences within schools	21,134	21,244	18,679	17,449
Gap Due to Differences within Schools	8,725	9,231	7,683	6,881
Gap Due to Differences between Schools	5,997	5,981	5,463	5,148
Proportion of Gap Due to Differences within Schools	59%	61%	58%	57%
Proportion of Gap Due to Differences between Schools	41%	39%	42%	43%
African American SAT II Takers				
Actual African American Graduates	25,267	24,860	23,453	22,474
Overall Ratio of SAT II Takers*	18.12%	18.80%	17.81%	17.52%
Predicted African American SAT II Takers	4,578	4,673	4,178	3,937
Actual African American SAT II Takers	2,196	2,234	2,111	2,068
Gap	2,382	2,439	2,067	1,869
SAT II Takers if no differences within schools	3,934	4,036	3,563	3,334
Gap Due to Differences within Schools	1,738	1,802	1,452	1,266
Gap Due to Differences between Schools	645	638	614	602
Proportion of Gap Due to Differences within Schools	73%	74%	70%	68%
Proportion of Gap Due to Differences between Schools	27%	26%	30%	32%
Chicano/Latino SAT II Takers				
Actual Chicano/Latino Graduates	121,418	116,847	109,043	103,795
Overall Ratio of SAT II Takers*	18.12%	18.80%	17.81%	17.52%
Predicted Chicano/Latino SAT II Takers	22,001	21,966	19,423	18,182
Actual Chicano/Latino SAT II Takers	9,920	9,505	8,615	8,231
Gap	12,081	12,461	10,808	9,951
SAT II Takers if no differences within schools	16,802	16,777	14,689	13,749
Gap Due to Differences within Schools	6,882	7,272	6,074	5,518
Gap Due to Differences between Schools	5,200	5,189	4,735	4,433
Proportion of Gap Due to Differences within Schools	57%	58%	56%	55%
Proportion of Gap Due to Differences between Schools	43%	42%	44%	45%

* "Overall Ratio of SAT II Takers" was calculated by dividing high school graduates from CA public schools with a 12th grade who took SAT II test by all high school graduates from CA public schools with a 12th grade.

Indicator 3-3

Gap Analysis for Underrepresented Minority (URM) <u>Applicants to UC</u>
(CA Public Schools with a 12th Grade)

	2004	2003	2002	2001
URM Applicants (African American, Chicano/Latino, and Native American)				
Actual URM Graduates	149,725	144,827	135,530	129,003
Overall Application Ratio*	15.28%	16.12%	15.87%	15.63%
Predicted URM Applicants	22,872	23,351	21,506	20,159
Actual URM Applicants	12,149	12,561	11,113	10,204
Gap	10,723	10,790	10,393	9,955
URM Applicants if no differences within schools	16,617	17,715	16,279	15,028
Gap Due to Differences within Schools	4,468	5,154	5,166	4,824
Gap Due to Differences between Schools	6,255	5,636	5,228	5,131
Proportion of Gap Due to Differences within Schools	42%	48%	50%	48%
Proportion of Gap Due to Differences between Schools	58%	52%	50%	52%
African American Applicants				
Actual African American Graduates	25,267	24,860	23,453	22,474
Overall Application Ratio*	15.28%	16.12%	15.87%	15.63%
Predicted African American Applicants	3,860	4,008	3,722	3,512
Actual African American Applicants	2,259	2,506	2,212	2,053
Gap	1,601	1,502	1,510	1,459
Applicants if no differences within schools	3,148	3,426	3,153	2,911
Gap Due to Differences within Schools	889	920	941	858
Gap Due to Differences between Schools	712	583	568	601
Proportion of Gap Due to Differences within Schools	56%	61%	62%	59%
Proportion of Gap Due to Differences between Schools	44%	39%	38%	41%
Chicano/Latino Applicants				
Actual Chicano/Latino Graduates	121,418	116,847	109,043	103,795
Overall Application Ratio*	15.28%	16.12%	15.87%	15.63%
Predicted Chicano/Latino Applicants	18,548	18,840	17,303	16,220
Actual Chicano/Latino Applicants	9,541	9,718	8,551	7,834
Gap	9,007	9,122	8,752	8,386
Applicants if no differences within schools	13,153	13,928	12,756	11,802
Gap Due to Differences within Schools	3,612	4,210	4,205	3,968
Gap Due to Differences between Schools	5,395	4,911	4,547	4,418
Proportion of Gap Due to Differences within Schools	40%	46%	48%	47%
Proportion of Gap Due to Differences between Schools	60%	54%	52%	53%

* "Overall Application Ratio" was calculated by dividing high school graduates from CA public schools with a 12th grade who applied to the University of California by all high school graduates from CA public schools with a 12th grade.

Indicator 3-4

Gap Analysis for Underrepresented Minority (URM) <u>Admits to UC</u>
(CA Public Schools with a 12th Grade)

	2004	2003	2002	2001
URM Admits (African American, Chicano/Latino, and Native American)				
Actual URM Graduates	149,725	144,827	135,530	129,003
Overall Admission Ratio*	12.74%	13.85%	13.60%	13.38%
Predicted URM Admits	19,075	20,059	18,432	17,261
Actual URM Admits	9,106	9,550	8,571	7,889
Gap	9,969	10,509	9,861	9,372
URM Admits if no differences within schools	13,442	14,680	13,559	12,630
Gap Due to Differences within Schools	4,336	5,130	4,988	4,741
Gap Due to Differences between Schools	5,633	5,378	4,873	4,631
Proportion of Gap Due to Differences within Schools	43%	49%	51%	51%
Proportion of Gap Due to Differences between Schools	57%	51%	49%	49%
African American Admits				
Actual African American Graduates	25,267	24,860	23,453	22,474
Overall Admission Ratio*	12.74%	13.85%	13.60%	13.38%
Predicted African American Admits	3,219	3,443	3,190	3,007
Actual African American Admits	1,458	1,695	1,486	1,360
Gap	1,761	1,748	1,704	1,647
Admits if no differences within schools	2,511	2,809	2,581	2,428
Gap Due to Differences within Schools	1,053	1,114	1,095	1,068
Gap Due to Differences between Schools	708	634	609	579
Proportion of Gap Due to Differences within Schools	60%	64%	64%	65%
Proportion of Gap Due to Differences between Schools	40%	36%	36%	35%
Chicano/Latino Admits				
Actual Chicano/Latino Graduates	121,418	116,847	109,043	103,795
Overall Admission Ratio*	12.74%	13.85%	13.60%	13.38%
Predicted Chicano/Latino Admits	15,469	16,183	14,830	13,888
Actual Chicano/Latino Admits	7,377	7,590	6,800	6,263
Gap	8,092	8,593	8,030	7,625
Admits if no differences within schools	10,666	11,556	10,656	9,926
Gap Due to Differences within Schools	3,289	3,966	3,856	3,663
Gap Due to Differences between Schools	4,802	4,627	4,174	3,962
Proportion of Gap Due to Differences within Schools	41%	46%	48%	48%
Proportion of Gap Due to Differences between Schools	59%	54%	52%	52%

* "Overall Admission Ratio" was calculated by dividing high school graduates from CA public schools with a 12th grade who were admitted to the University of California by all high school graduates from CA public schools with a 12th grade.

Indicator 3-5

Gap Analysis for Underrepresented Minority (URM) <u>Enrollees to UC</u>
(CA Public Schools with a 12th Grade)

	2004	2003	2002	2001
URM Enrollees (African American, Chicano/Latino, and Native American)				
Actual URM Graduates	149,725	144,827	135,530	129,003
Overall Enrollment Ratio*	7.50%	7.92%	8.12%	8.09%
Predicted URM Enrollees	11,232	11,464	11,001	10,434
Actual URM Enrollees	4,707	4,941	4,718	4,351
Gap	6,525	6,523	6,283	6,083
URM Enrollees (if no differences within schools)	8,085	8,416	8,159	7,699
Gap Due to Differences within Schools	3,378	3,475	3,441	3,348
Gap Due to Differences between Schools	3,148	3,048	2,842	2,735
Proportion of Gap Due to Differences within Schools	52%	53%	55%	55%
Proportion of Gap Due to Differences between Schools	48%	47%	45%	45%
African American Enrollees				
Actual African American Graduates	25,267	24,860	23,453	22,474
Overall Enrollment Ratio*	7.50%	7.92%	8.12%	8.09%
Predicted African American Enrollees	1,896	1,968	1,904	1,818
Actual African American Enrollees	715	875	809	730
Gap	1,181	1,093	1,095	1,088
Enrollees if no differences within schools	1,537	1,648	1,590	1,510
Gap Due to Differences within Schools	822	773	781	780
Gap Due to Differences between Schools	358	320	314	308
Proportion of Gap Due to Differences within Schools	70%	71%	71%	72%
Proportion of Gap Due to Differences between Schools	30%	29%	29%	28%
Chicano/Latino Enrollees				
Actual Chicano/Latino Graduates	121,418	116,847	109,043	103,795
Overall Enrollment Ratio*	7.50%	7.92%	8.12%	8.09%
Predicted Chicano/Latino Enrollees	9,109	9,249	8,851	8,395
Actual Chicano/Latino Enrollees	3,862	3,947	3,770	3,474
Gap	5,247	5,302	5,081	4,921
Enrollees if no differences within schools	6,387	6,594	6,380	6,026
Gap Due to Differences within Schools	2,525	2,647	2,610	2,552
Gap Due to Differences between Schools	2,722	2,655	2,471	2,369
Proportion of Gap Due to Differences within Schools	48%	50%	51%	52%
Proportion of Gap Due to Differences between Schools	52%	50%	49%	48%

* "Overall Enrollment Ratio" was calculated by dividing high school graduates from CA public schools with a 12th grade who enrolled at the University of California by all high school graduates from CA public schools with a 12th grade.

Indicators 3-1 to 3-5 focus on gaps between the actual and predicted numbers of URM students who pass through five gates leading to enrollment at UC. Each of these indicators shows results for four years, 2001 through 2004. To understand the logic of these calculations, consider indicator 3-4, pertaining to numbers of students who received offers of admission as freshmen. In 2004, the number of URM graduates from California public schools was 149,725. The UC admission ratio for high school graduates from these public schools was 12.74 percent. If 12.74 percent of URM graduates had been admitted to UC, the number of URM admits would have been 19,075. The actual number of URM freshmen admitted from these California schools was 9,106. The "gap" of 9,969 is the difference between 19,075 and 9,106.

If, in each high school, the admission ratio for all racial and ethnic groups were the same, the predicted number of URM admits would have been 13,442. The amount of the under-representation gap due to differences within schools is therefore 13,442 minus 9,106, or 4,336. This is the amount of the gap that would be eliminated by equalizing admission ratios for all racial or ethnic groups within each high school.

The rest of the under-representation gap is due to the fact that some high schools have higher admission ratios than others, and relatively large numbers of URM graduates come from high schools with lower admission ratios. Equalizing admission ratios across high schools would eliminate the remaining 5,633 of the admission gap.

For Chicano and Latino high school graduates, 59 percent of the UC admissions gap in 2004 was due to between-school differences, while for African Americans about 60 percent of the gap arose within schools. For both groups, the between-school component of the admissions gap increased between 2001 and 2004.

Generally, indicators 3-1 through 3-5 show the within-school portion of the gap is greater than the between-school portion for African American graduates, while for Chicano and Latino graduates the two parts of the gap are of about equal size. This suggests that

closing the gaps for African American students will require more within-school strategies, such as deemphasizing admissions policies and practices that reinforce within-school "tracking."

In addition to gender and ethnicity, socioeconomic variables such as students' household income or parents' education are also important dimensions of the "diversity of backgrounds characteristic of California." Data on these come from the annual Current Population Survey of households, conducted by the U.S. Census. Two indicators have been constructed, comparing the self-reported characteristics of California students admitted to UC with the composition of California households who have children age 5-18.

Indicator 4 shows the percentage of households, and of UC students, by income bracket. Overall, for example, 22 percent of California households with school-age children in 2004 had incomes of $100,000 or more, but 32 percent of UC admits from California were in this high-income bracket. Indicator 4 also shows a disproportionate number of UC admits coming from the highest income bracket within major racial or ethnic category. Asians are the only racial or ethnic category in which the proportion of UC admits coming from lower income brackets exceeds the proportion in the California population.

Similarly, indicator 5 shows the percentage of households by the educational level of the head of household, and of UC admitted freshmen by the highest educational level attained by a parent. Again, UC over-represents the socioeconomic high end. For example, only 16 percent of California households with school-age children in 2004 were headed by an adult possessing some post-graduate education, but 39 percent of UC freshman admits from California reported that one or more parents had some post-graduate education. Both URM and non-URM admits to UC have parents with more education than in the population as a whole.

Indicator 4

Household-Based Indicators—California Residents

Household Distributions by Income, 2004--<u>Overall</u>

Legend: UC CA Resident Freshman Admits; Households with Children Age 5-18

X-axis (Household Income): 0-19,999 | 20,000-39,999 | 40,000-59,999 | 60,000-79,999 | 80,000-99,999 | 100,000 or more

Values — UC CA Resident Freshman Admits: 12%, 19%, 13%, 13%, 10%, 32%
Values — Households with Children Age 5-18: 15%, 21%, 17%, 15%, 10%, 22%

Y-axis: Frequency of Observations
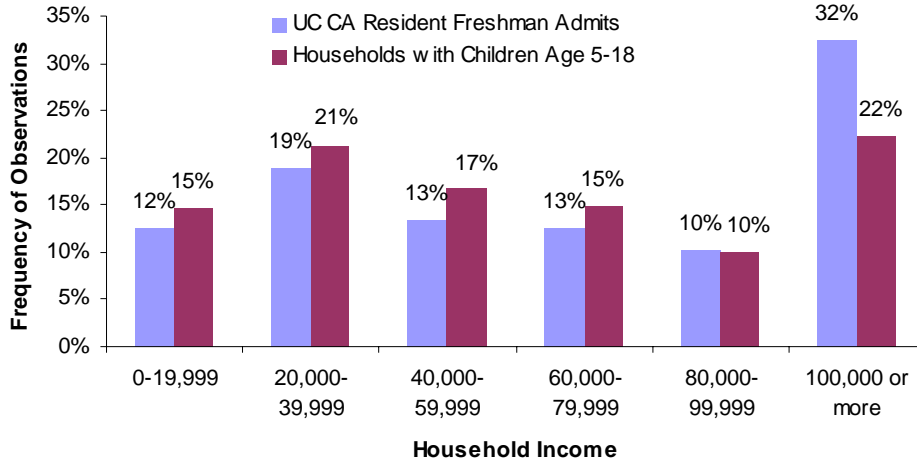
Household Distributions by Income, 2004—<u>African American</u>

Legend: UC CA Resident Freshman Admits; Households with Children Age 5-18

X-axis (Household Income): 0-19,999 | 20,000-39,999 | 40,000-59,999 | 60,000-79,999 | 80,000-99,999 | 100,000 or more

Values — UC CA Resident Freshman Admits: 18%, 24%, 17%, 13%, 9%, 20%
Values — Households with Children Age 5-18: 25%, 26%, 17%, 14%, 7%, 11%

Y-axis: Frequency of Observations
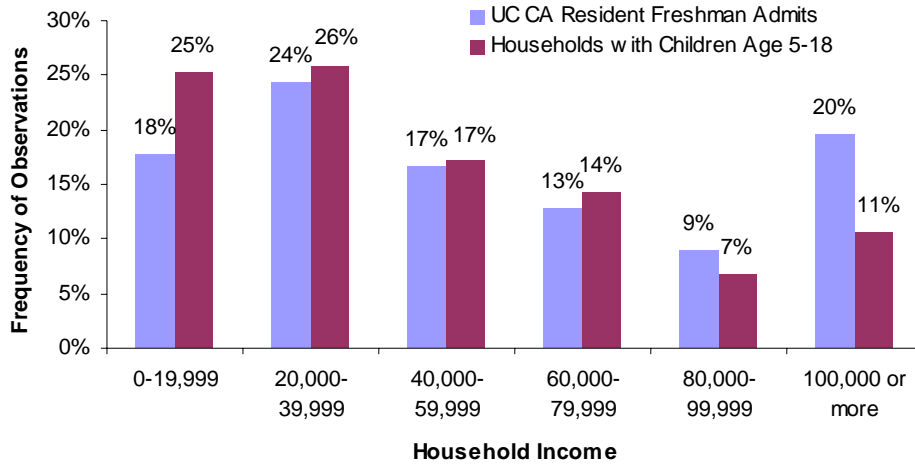
Household Distributions by Income, 2004--<u>Asian</u>

Household Distributions by Income, 2004—Native American
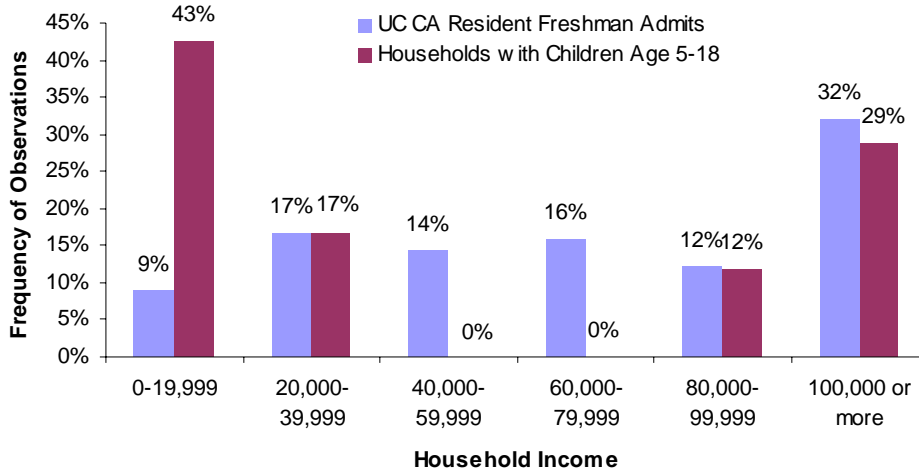
Household Distributions by Income, 2004—Hispanic
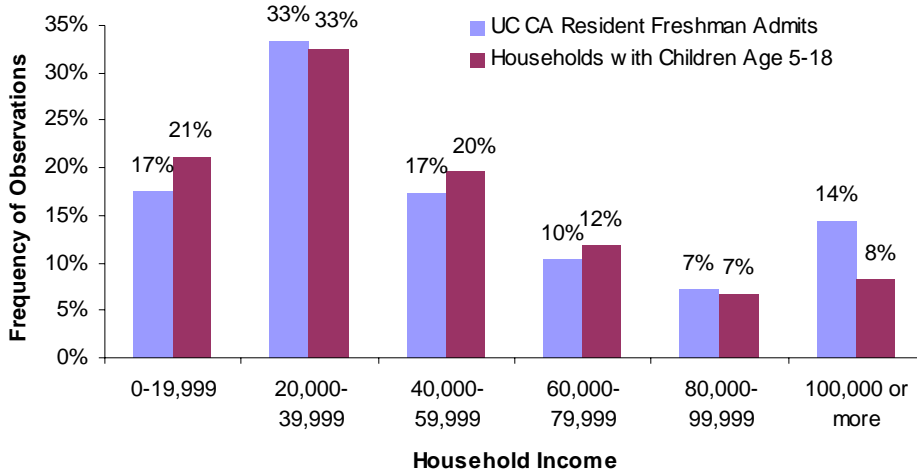
Household Distributions by Income, 2004--_White_
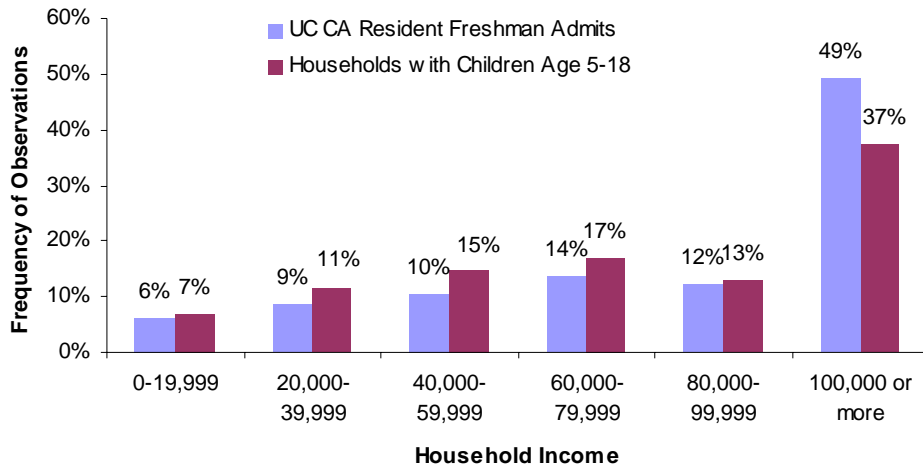
Indicator 5

Household Distributions by Parents' Highest Education, 2004--Overall
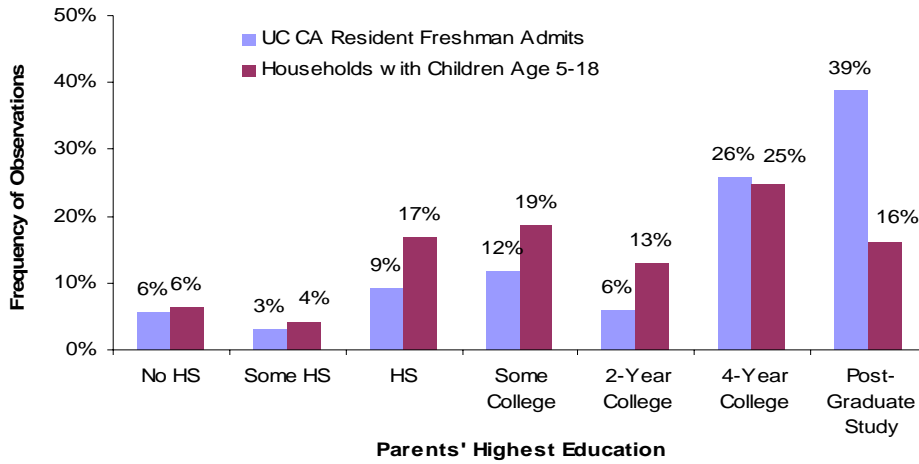
Household Distributions by Parents' Highest Education, 2004--URM
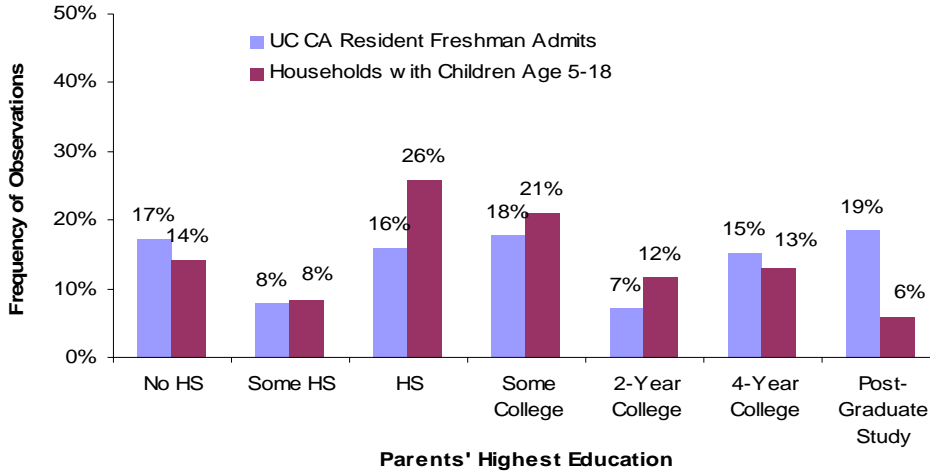
Household Distributions by Parents' Highest Education, 2004—NON-URM
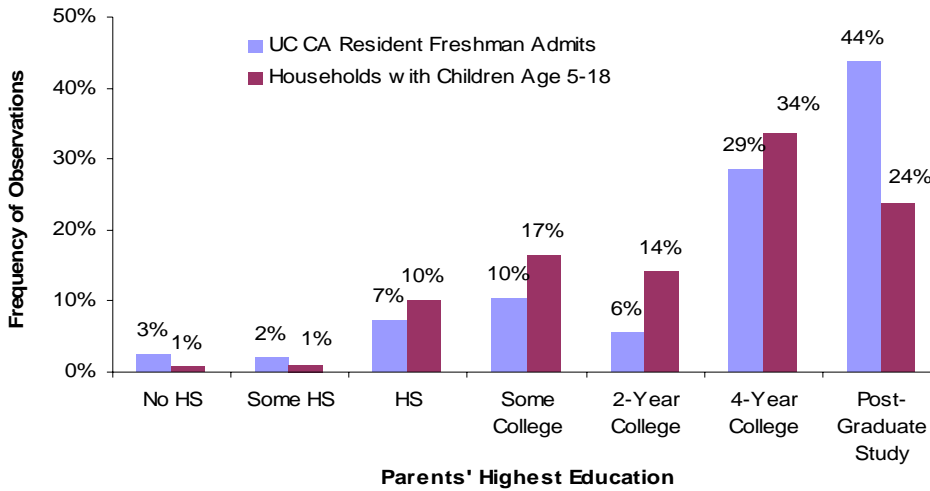
What to Do? A Way Forward

Whether the objective is increased diversity, enhanced access, or more accurate selection of the students who are most likely to do well, it is clear that the University of California can – and should – do better than it does now. In this paper, it has been argued that the key to any such effort is a critical examination, and reconsideration, of the eligibility construct.

Conflicting expectations have arisen about the UC eligibility formula. It is expected to be sufficiently simple so that students, parents, and counselors can apply it themselves with a high degree of accuracy, but we have pointed out that this expectation -- however strongly held -- is not met in reality. At the same time, the eligibility formula must identify the one-eighth portion of California high school graduates who are most deserving of a UC education, but it does so on limited and inaccurate criteria. We assert, therefore, that fully complying with these constraints is essentially impossible: if UC is to do better in its mission to educate its most deserving citizens irrespective of circumstances and background, then the very nature of the eligibility construct must be altered.

In plotting a way forward, it is perhaps worthwhile to reflect on both the positive and negative aspects of the eligibility construct, as it is presently constituted. Though it may be obvious, it is worth noting that the present primary purpose of the eligibility construct is to ration a scarce and highly-valued public commodity – a UC undergraduate education – and to do so in a way that is demonstrably consistent with California's 1960 Master Plan for Higher Education. The Master Plan compels UC to devise a means of partitioning the set of California high school graduates into two subsets: a one-eighth portion of students who are the best, in some sense; and the other seven-eighths. From the beginning, it was seen as desirable, on logical grounds, that the test for membership in the top one-eighth be as broadly applicable as possible. After all, it would be difficult to assert that the policy actually identifies the top one-eighth if only those who, say, took the trouble to fill out a lengthy application are visible under the policy.

UC's eligibility construct does, in fact, consign to the bottom seven-eighths students who fail to undertake certain required behaviors, no matter how capable they might actually be. However, those required behaviors are readily grasped at least, and are certainly widely advertised. UC has long held that the eligibility policy should be so simple that students should be able to accurately

determine their eligibility status themselves, using information readily available to them. In practice, as we pointed out earlier in this paper, the accuracy of do-it-yourself eligibility determination is not assured, e.g. because of incorrect information or assumptions about which of a student's courses are UC-certified. These complications aside, the existing eligibility policy is simple and seemingly transparent enough to give both students and schools direction about what UC considers to be the minimum level of preparation appropriate for freshman admission to UC.

In eligibility's favor, it should be emphasized that it is fundamentally a systemwide notion. (In practice, however, it is the responsibility of the campuses to make the final eligibility determination). It is powerful that the University (almost always) commits to finding a place somewhere in the system (almost always a campus or two with excess capacity) for applicants who satisfy a single set of criteria. This commitment is an important – perhaps critical – thread in the fabric that binds the campuses together as co-equal constituents of a single public institution. Should this fabric unravel, the inevitable and undesirable outcome could be one or two flagship campuses, and a collection of far lesser institutions. Such devolution is not entirely far-fetched, particularly in these difficult budgetary times. A single, overarching admissions pathway affords considerable fiscal as well as public-policy clarity. Those who see the flagship-satellite model as inevitable, or even desirable, for UC would likely be emboldened if a systemwide admissions policy were to vanish.

The existing eligibility policy has the appearance of defensibility, resting, as it does, on two widely accepted metrics of academic achievement: GPA and standardized test scores. What better way to judge readiness to undertake challenging university-level work? Closer scrutiny, however, reveals considerable – and troubling – questions. First, what should the University value, and in what proportion, when identifying California's top high school graduates? Second, how can one account for the undeniable reality that educational opportunities and individual circumstances – both of which strongly influence a student's ability to garner GPA and test score points – vary enormously among individuals?

Elements of both of these questions are present in the issue of standardized admissions tests and their use in the eligibility construct. The testing burden placed on all aspiring UC freshmen is significant: scores for either the ACT or the SAT core exam, along with scores on SAT subject tests in two different a-f subject areas, must be presented. The question of the rightful place of

standardized testing in college admissions is complex; and a full treatment is well beyond the scope of this paper. We do know, with some confidence, that SAT scores add, over and above the high school GPA, only a modest increment of predictive validity with respect to freshman GPA (Geiser and Studley 2002). In this regard, SAT subject tests are rather more effective than the SAT I core exam.

However, the manner in which test scores figure into eligibility is not driven entirely by the objective of increasing confidence that those found eligible will do well as UC freshmen. For example, in the current eligibility formula, students with a GPA above 3.44 must take the required battery of exams, and obtain a composite UC Score of 143 or above. This is so, even for a student with a GPA of 4.0. Does this mean that failure to achieve this very modest test performance, or indeed failure to take the proper exams, significantly changes the picture of how well a 4.0 student is likely to do at UC?

The testing requirement under the ELC program is even more curious. ELC students are those found to be in the top 4 percent of their high school graduating class. These students must also take the required tests to remain eligible. The actual scores, however, are irrelevant insofar as eligibility is concerned. In ELC, therefore, we have a construct that affords a central place in a high-stakes decision not even to test performance, but to mere test-taking — which has no educational or assessment value whatever.

In these cases especially, the only conceivable rationalization for imposing UC's rather burdensome test-taking requirement is that it provides a mechanism by which students can signal their "seriousness" about attending the University. Other institutional goals may be served as well, such as facilitating statistical studies of the educational enterprise. But for these conveniences, rigid application of the testing requirements carries a substantial price, both for the University,for individual students, and for society. To understand the magnitude of the economic and psychological burden inherent in admissions testing, one need look no further than the elaborate and profitable test-preparation industry that is apparently an entrenched element of the nation's educational landscape. And, for many students (and for many reasons), the tests represent not just a burden, but a psychological barrier. Anyone who has been a teacher for any length of time has stories to tell about students who are simply unable, under pressure, to convert their knowledge and skills into commensurate test performance. In the face of this undeniable

reality, it is often argued that test-taking itself is a crucial academic skill; after all, students face exams in college too. However, the stakes and the pressure attending admissions testing are of an altogether different nature.

More insidious is the interrelationship between test performance and the test-taker's concept of self. For example, extant research (Cohen et al. 2000, Steele 1997, 2001; Steele and Aronson 1998) suggests that members of groups stereotyped as having lower intellectual capacity often engage in counterproductive test-taking behaviors, such as second-guessing and changing answers, when they believe that a negative test outcome will serve to confirm the stereotype. Whether this so-called stereotype-threat phenomenon explains a major part of the long-observed racial/ethnic gap in high-stakes standardized test performance is not fully understood. We can, however, assert that test performance is always a product of knowledge and skills *in combination with* complex behavioral, psychological, and sociological issues related to test-taking.

The facts are clear: students in underrepresented racial and ethnic groups are less likely to take the SAT II exams currently required for UC eligibility. Indicator 3-2 above shows about 18 percent of all California public high school graduates took those tests in recent years. But among URM graduates, only about 8 percent did. Whether because they are deterred for psychological reasons, economic reasons, or because their counselors and teachers do not inform them about the requirement, large numbers of URM students are excluded from UC merely because they do not take the required tests.

The GPA-test score eligibility index is sometimes characterized as a "bright line." The very fact that so little of the variance of even the freshman GPA is explained by the ingredients of eligibility, as detailed earlier in this paper, suggests that the "bright line" characterization is inappropriate. There will always be students on either side of the line whose eligibility status is in error. In such a fuzzy and uncertain environment, it seems logical that all available information should be used in the best way possible to render the highest-quality decisions.

In fact, all UC campuses have developed selection processes that are more comprehensive in scope than is the eligibility construct. These selection processes have been carefully crafted not only to reflect raw indicators of academic performance, but also to account for the individual circumstances and context in which they were achieved. The campus-based selection processes

vary considerably in their details, but are bound by a single set of guidelines that govern what factors may be considered. Unfortunately, the comprehensive review processes on each campus generally operate only on the set of eligible applicants who apply to the campus [17]. Each campus has had considerable autonomy in developing a comprehensive review process that honors the campus's values, while reflecting its circumstances of selectivity.

Prior to 1986, each freshman applicant to UC was obliged to indicate his/her first-choice campus on the application. The application was first considered at this campus, and if denied, it was redirected to any other campuses indicated by the applicant as secondary selections. In 1986, UC's current practice of allowing multiple simultaneous filings began. Perhaps because of this change in practice, but probably for other reasons as well, the level of selectivity among UC campuses has diverged widely in the last two decades. Two campuses could now be called "hyperselective," with many of the others finding it necessary to select roughly half or less of their eligible applicants. Two campuses are in a position to admit all, or most, of their UC-eligible applicants. It is to these campuses that eligible applicants who have been denied at all campuses to which they applied are redirected for admission.

As a consequence of these widely divergent levels of selectivity, the practical value of the present eligibility construct varies strongly from campus to campus. At the highly selective campuses, eligibility has little relevance for the large majority of applicants, as their GPA and test scores must exceed, by a large margin, the eligibility threshold in order to be competitive. However, each year these campuses receive applications from students with unusual backgrounds who clearly exhibit great promise, but, for various reasons, are ineligible. In many of these cases, the receiving campus would like to admit them. In order to do so, however, the campus must invoke the Admission by Exception protocol. This program is subject to significant limits on its capacity. There is reason to believe that admissions directors are reluctant to us it for other reasons as well, such as the public misperception that the eligibility construct defines the entire universe of qualified students.

At the other end of the selectivity spectrum, eligibility constitutes a de facto admissions policy. At these campuses, a great many applicants and enrollees are near to the eligibility threshold (the

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[17] Some campuses now review all applications, regardless of their eligibility status. The stated intention is to invoke the Admission by Exception mechanism to admit highly desirable applicants who are later found to be ineligible.

"bright line"). It is almost certain that a great many more students who are just below the threshold – some of whom apply but most of whom do not, due to counselor discouragement or their own knowledge that they are ineligible – would be found worthy of admission, were the campus able to conduct a comprehensive review.

In short, at some campuses the requirement that admits be UC eligible represents a bureaucratic formality, while at some other campuses, the eligibility requirement prevents a more comprehensive and fair assessment of viable applicants. The overall picture that emerges is of two policy instruments, eligibility and campus admissions via comprehensive review, that are in many respects rather badly misaligned. A consequence of this misalignment is that some students are denied consideration even though they would probably be more successful at UC than some of their admitted peers. A further consequence is that UC's mission to educate the most deserving and capable from across the broad diversity of California's citizens is sub-optimally realized.

The existing notion of eligibility also raises concerns of a more practical nature as well. We mention specifically that the eligibility index must remain fixed for long time intervals, with adjustments coming only after lengthy transition periods. Consequently, making decisions about how and when the index should be adjusted becomes a giant, expensive, and time-consuming process. This process necessarily involves after-the-fact surveys to determine the actual percentage of high school graduates made eligible, and elaborate extrapolation/prediction exercises to forecast the future percentage. It is a very different process than what goes on at virtually every other selective college or university in the country, and indeed at the individual UC campuses themselves: applicants are rank-ordered by desirability, and are then admitted in order until capacity is reached.

At the root of this rather awkward state of affairs is the insistence that the determination of eligibility be understandable to the public. The implication is that of a publicly-proclaimed guarantee: achieve a prescribed combination of GPA and test scores, and UC guarantees to admit you. To make the required standard of performance a moving target would, for some students anyway – as painfully occurred in 2004 — have the feel of reneging on a promise made. That, in turn, appears to us to be bad public policy.

It seems clear that UC, many California students, and California as a whole pay dearly for adherence to the illusory principle that eligibility must be an accurately do-it-yourself affair. For it, we must live with a simplistic gatekeeper that does not serve the interests of campuses at either end of the selectivity spectrum; and that, in many cases, clashes with the nuanced judgments of the campus-based comprehensive review processes. And we are subjected to the unpleasant, draining, and expensive practice of periodic eligibility studies.

For all this pain, the practical gain is to refer denied, but UC-eligible, applicants to a campus to which they did not apply, and admit them there. This technically fulfills the guarantee which is touted as so very important, but which does not result in very many UC-educated Californians: the yield rate from the pool of referred students is typically less than 8 percent.

Thus, the current versions of eligibility and comprehensive review represent temporally parallel, but conceptually disjointed, evolutionary tracks in UC admissions policy. They have been driven by rather distinct motives and principles: eligibility is responsible for rationing access to the UC as a whole, whereas comprehensive review is intended to embody the University's values and mission as they relate to the selection of its undergraduate students. The former policy is severely constrained by an artificial requirement that it be extremely simple in form. The latter is restricted only by regentally approved guidelines delineating the admissions factors, in quite general terms, that are allowable. Under comprehensive review, the campuses have been free to create nuanced procedures that capture the many elements of a young person's background that speak to promise at the University. Eligibility, while undeniably effective at restricting access to the University, could not be said to accomplish this function, as we have seen.

The UC admissions landscape is thus defined by two looming pillars that stand, in succession, between aspiring young people and a UC education. They have been built over time but hardly synchronously, and for quite different reasons. It is natural to ask if we would construct these pillars today in precisely their current form if we had to do it from scratch. For us, the answer is: definitely not.

What, then, should the policies look like? A revised policy along these lines might take the following form. The existing eligibility apparatus could be used to identify not the top one-eighth, but a smaller proportion; say, the top 5 or 6 percent of high school graduating seniors. To

these students a guarantee of admission somewhere in the system would be extended, just as it is now. The statewide eligibility index would, of course, have to be tightened considerably to capture only a 5 or 6 percent share of graduates. The ELC construct, on the other hand, could continue virtually without modification. The current practice of maintaining a referral pool would continue. However, the referral pool would be much smaller than it is currently, for two reasons: first, the 5 or 6 percent eligible pool would obviously be much smaller than the 12.5 percent pool; and second, the grades and test scores of the 5 or 6 percent pool would be higher, in aggregate, than those of the 12.5 percent pool, so that the students in this smaller group would generally be more likely to be admitted at the campuses to which they applied. This would keep the great majority out of the virtually useless referral pool altogether.

The remaining 6.5 or 7.5 percent, or whatever percent is necessary to ensure the historically funded enrollment rate, and to which the University has historically (and theoretically) promised admission, would be determined not by a simplistic statewide eligibility construct as now, but instead by comprehensive review. Students in this group would be applying to UC without the benefit of a guarantee of admission somewhere in the system. (As explained above, this guarantee is of little functional significance anyway.) The number of applications would be limited by a simple achievement threshold that does not require the contrived use of standardized tests. A possible criterion for this eligible-to-apply group would be the projected completion of the a-g curriculum with a GPA above a prescribed value, perhaps something like 2.6.

The existing eligibility construct would thus be replaced by a two-banded system, whereby high-achieving students with strong traditional indicators of academic promise would still be extended a guarantee of admission. A great many more students would be offered at least the benefit of a careful, comprehensive review. With the exception of those few students in the top "guaranteed admit" band who end up in the referral pool, all students would still be subject to comprehensive review at their campuses of application, just as they are now.

This proposed system would preserve many desirable features of existing policy that attend the guarantee of admission, including the signal to students and schools about how to prepare for the University. It would also promote tighter integration of admissions practices across the system, because it would elicit a larger number of applications to UC. In this connection, it might be said that the University has "benefited" from self-selection (really self-"de-selection") by students, on

the basis of certain knowledge that they do not meet the eligibility standard. This hardly can be viewed as a true benefit, however: any effective self-selection tool must necessarily be so simple that it cannot possibly be expected to render educationally sound decisions about who should be admitted.

In short, if a more accurate and inclusive admissions process is the goal, then many more applications must be read compehensively than there are seats at the institution. To do this would increase admissions processing expenses but it hardly represents an intolerable burden for UC. In the larger fiscal picture, admissions processing represents a tiny share of UC's budget. At present, approximately half of all high school students who complete the a-g course pattern apply to UC. Therefore, an upper bound on the increase in the volume of applications is roughly a doubling. UC's extraordinary and dedicated admissions directors and staff across the system have shown great initiative and creativity in the past when faced with the challenge of policy changes, particularly when properly supported. The transition to comprehensive review five years ago provides an excellent example. Proposition 209-mandated changes are another. There is no reason to believe that this new challenge could not be similarly tackled, particularly with a modest increase in resources. The importance of the task demands it.

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APPENDIX I

A Comparison of Measures Included in the UC Eligibility Construct with School Percentile Ranks in the Prediction of UC GPA

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The analyses in this summary, requested by BOARS, are part of an effort to determine what factors from the UC application, beyond those currently used in determining eligibility, improve the prediction of students' success at the University of California. This report examines the contribution of Percentile Ranks within School to the prediction of first-year UC GPA.

Data Set:
Data from two cohorts of freshman entrants to the University of California, 2003 and 2004, were used in this report. In addition to the grades and test scores used in determining UC eligibility, Percentile Ranks within High School (statistics akin to "*class ranks*") were calculated for SAT scores, high school GPA, and number of college preparatory and honors courses taken. The Percentile Ranks were calculated based on three years of applicants to UC from the same school. Percentile Ranks within School were NOT calculated for schools with fewer than 20 applicants to UC over the three-year period. Instead, the Percentile Rank within three years of UC applicants (Pool Percentile Ranks) was used in these cases where the School Percentile Rank was not available. A dummy variable was included in the analysis to represent this replacement of Pool Percentile Rank for School Percentile Rank. Additionally, a school's Academic Performance Index (API) was obtained from the California Department of Education. Schools with no API score, such as private and out-of-state schools, were assigned an API score equivalent the mean score of schools in the 9th decile for that year, and a dummy variable indicating this replacement was included. The outcome variable analyzed for this report was UC GPA after one year.

Analyses:
Multiple regression was employed to predict the first-year GPA.

Results:
Tables 1a – 9b show the results of these analyses, first for the UC system and then broken down by the eight undergraduate campuses that accepted freshman in 2003 and 2004 (UC Merced was not yet enrolling students). The "a" tables show results for the 2003 cohort, and "b" tables are for 2004.

Variables were grouped into "sets" with Model 1 and Model 1a representing the measures used in determining UC eligibility (high school GPA and SAT scores). Model 1a differs from Model 1 in that the SAT I and SAT II scores are separated into components. Model 2 contains Within School Percentile Rank (HS rank) variables, and API; Model 2a is identical except that it does not include school API score. Model 4[18] combines the variables in Model 1a and Model 2, and 4a is identical to 4 except that it does not include school API.

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[18] There is no Model 3. The model numbering mirrors that used in a parallel analysis of the 1999 Berkeley freshman cohort. Model 3, which includes scores on AP exams, has not yet been conducted for the 2003 and 2004 systemwide cohorts.

TABLE 1a: Outcome: First-year GPA   30,696 cases used
UC Systemwide 2003 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.2463			.2603			.2413			.1876			.2882			.2881		
AdjRsq	.2463			.2602			.2410			.1873			.2877			.2877		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-.578	-16.31	.00	-.504	-14.09	.00	.946	31.64	.00	2.220	180.62	.00	-.192	-2.20	.03	-.165	-1.93	.05
Weighted HS GPA (capped)	.540	56.60	.00	.535	56.26	.00							.243	8.65	.00	.237	8.54	.00
SAT 1 composite	.001	18.05	.00															
SAT2 composite	.000	14.10	.00															
SAT1 verbal				.001	13.39	.00							.001	9.36	.00	.001	9.60	.00
SAT1 math				.000	-0.85	.39							.001	3.78	.00	.001	4.03	.00
SAT2 writing				.001	21.41	.00							.001	9.66	.00	.002	10.04	.00
SAT2 math				.000	4.32	.00							.000	2.40	.02	.000	2.53	.01
SAT2 other				.000	2.75	.01							.000	-3.78	.00	.000	-3.81	.00
HS rank: capped GPA							.009	59.14	.00	.009	54.64	.00	.006	15.28	.00	.006	15.61	.00
HS rank: SAT1 verbal							.002	9.84	.00	.002	8.32	.00	-.002	-5.20	.00	-.003	-5.40	.00
HS rank: SAT1 math							-.001	-5.30	.00	-.001	-5.87	.00	-.003	-5.77	.00	-.003	-6.03	.00
HS rank: SAT2 writing							.003	15.98	.00	.003	16.69	.00	-.002	-3.50	.00	-.002	-3.78	.00
HS rank: SAT2 math							.000	0.22	.82	.000	1.99	.05	-.001	-2.63	.01	-.001	-2.75	.01
HS rank: SAT2 other							.001	5.52	.00	.001	5.40	.00	.002	5.89	.00	.002	5.92	.00
HS rank: A-F courses							.000	-1.57	.12	.000	-1.16	.25	.000	-1.22	.22	.000	-1.21	.23
HS rank: junior & soph. honors							-.001	-6.14	.00	-.001	-6.25	.00	-.001	-6.44	.00	-.001	-6.42	.00
HS rank: senior honors							.000	-0.77	.44	.000	-2.09	.04	.000	-0.45	.65	.000	-0.46	.65
missing at least 1 HS rank variable							-.008	-0.42	.67	.006	0.35	.73	-.046	-2.59	.01	-.045	-2.71	.01
API (2003)-with replacement							.002	46.13	.00				.000	1.45	.15			
missing API							-.016	-1.71	.09				.001	0.13	.90			

TABLE 1b: Outcome: First-year GPA   28,594 cases used
UC Systemwide 2004 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.2650			.2756			.2598			.2132			.2990			.2988		
AdjRsq	.2650			.2754			.2595			.2129			.2985			.2984		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-.853	-22.73	.00	-.784	-20.63	.00	.891	28.05	.00	2.132	#####	.00	-.033	-0.36	.72	-.031	-0.34	.73
Weighted HS GPA (capped)	.610	60.77	.00	.602	60.02	.00							.172	5.75	.00	.175	5.92	.00
SAT 1 composite	.001	17.32	.00															
SAT2 composite	.000	13.09	.00															
SAT1 verbal				.001	13.12	.00							.002	9.37	.00	.001	9.18	.00
SAT1 math				.000	1.16	.25							.001	5.13	.00	.001	5.25	.00
SAT2 writing				.001	17.50	.00							.001	5.61	.00	.001	5.66	.00
SAT2 math				.000	2.73	.01							.000	1.36	.17	.000	1.89	.06
SAT2 other				.000	4.80	.00							.000	-0.29	.77	.000	-0.22	.82
HS rank: capped GPA							.010	61.81	.00	.010	58.27	.00	.008	18.52	.00	.008	18.62	.00
HS rank: SAT1 verbal							.002	11.17	.00	.002	10.62	.00	-.002	-4.68	.00	-.002	-4.46	.00
HS rank: SAT1 math							-.001	-4.40	.00	-.001	-4.04	.00	-.004	-6.43	.00	-.004	-6.57	.00
HS rank: SAT2 writing							.003	13.26	.00	.003	13.40	.00	.000	-0.54	.59	.000	-0.51	.61
HS rank: SAT2 math							.000	-0.64	.52	.000	-0.14	.89	-.001	-1.89	.06	-.001	-2.39	.02
HS rank: SAT2 other							.001	4.90	.00	.001	5.42	.00	.001	2.48	.01	.001	2.40	.02
HS rank: A-F courses							.000	-1.39	.16	.000	-2.07	.04	.000	-1.47	.14	.000	-1.52	.13
HS rank: junior & soph. honors							-.001	-5.51	.00	-.001	-6.35	.00	-.001	-5.92	.00	-.001	-5.89	.00
HS rank: senior honors							.000	1.47	.14	.000	-0.06	.96	.000	1.99	.05	.000	1.96	.05
missing at least 1 HS rank variable							.056	2.94	.00	.054	2.92	.00	.010	0.53	.60	-.006	-0.33	.74
API (2003)-with replacement							.002	42.32	.00				.000	0.98	.33			
missing API							-.039	-4.23	.00				-.024	-2.54	.01			

TABLE 2a: Outcome: First-year GPA   3530 cases used
Berkeley 2003 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.1800			.1905			.1707			.1168			.2168			.2161		
AdjRsq	.1793			.1891			.1679			.1143			.2128			.2126		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	.098	0.66	.51	.131	0.87	.38	1.257	14.19	.00	2.331	42.72	.00	.681	2.20	.03	.809	2.69	.01
Weighted HS GPA (capped)	.321	8.21	.00	.324	8.33	.00							.061	0.60	.55	.029	0.29	.77
SAT 1 composite	.000	4.20	.00															
SAT2 composite	.001	7.49	.00															
SAT1 verbal				.001	3.15	.00							.001	2.41	.02	.001	2.60	.01
SAT1 math				.000	0.75	.45							.000	-0.03	.98	.000	0.28	.78
SAT2 writing				.001	7.84	.00							.002	4.21	.00	.002	4.54	.00
SAT2 math				.000	0.73	.47							.001	1.84	.07	.001	1.83	.07
SAT2 other				.000	3.84	.00							.000	-0.94	.35	.000	-0.96	.34
HS rank: capped GPA							.007	10.29	.00	.006	8.87	.00	.007	4.55	.00	.007	4.90	.00
HS rank: SAT1 verbal							.001	2.08	.04	.001	1.61	.11	-.002	-1.51	.13	-.002	-1.70	.09
HS rank: SAT1 math							.000	0.47	.64	.000	-0.37	.71	.000	0.07	.94	.000	-0.27	.79
HS rank: SAT2 writing							.003	5.61	.00	.004	5.92	.00	-.002	-1.46	.14	-.002	-1.72	.09
HS rank: SAT2 math							-.001	-1.32	.19	.000	0.30	.76	-.004	-2.34	.02	-.003	-2.28	.02
HS rank: SAT2 other							.003	6.10	.00	.004	6.77	.00	.003	3.32	.00	.003	3.33	.00
HS rank: A-F courses							.001	1.46	.15	.001	1.86	.06	.001	1.35	.18	.001	1.37	.17
HS rank: junior & soph. honors							-.001	-2.62	.01	-.001	-2.21	.03	-.001	-2.25	.02	-.001	-2.16	.03
HS rank: senior honors							-.002	-4.12	.00	-.002	-4.31	.00	-.002	-3.64	.00	-.002	-3.62	.00
missing at least 1 HS rank variable							-.006	-0.14	.89	.027	0.68	.50	-.036	-0.87	.39	-.029	-0.78	.44
API (2003)-with replacement							.002	14.81	.00				.000	1.61	.11			
missing API							.013	0.52	.61				.010	0.42	.67			

TABLE 2b: Outcome: First-year GPA   3516 cases used
Berkeley 2004 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.1726			.1797			.1665			.1271			.2032			.2030		
AdjRsq	.1719			.1783			.1637			.1247			.1991			.1994		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	.058	0.43	.67	.074	0.54	.59	1.427	16.23	.00	2.373	48.30	.00	.833	3.10	.00	.873	3.35	.00
Weighted HS GPA (capped)	.388	11.26	.00	.392	11.41	.00							.027	0.31	.76	.018	0.20	.84
SAT 1 composite	.000	3.56	.00															
SAT2 composite	.001	6.56	.00															
SAT1 verbal				.001	4.25	.00							.001	3.26	.00	.001	3.45	.00
SAT1 math				.000	-0.53	.60							.000	0.98	.33	.000	1.06	.29
SAT2 writing				.001	5.03	.00							.001	1.90	.06	.001	2.01	.04
SAT2 math				.000	1.94	.05							.000	1.00	.32	.000	0.98	.33
SAT2 other				.001	4.44	.00							.000	1.46	.15	.000	1.46	.14
HS rank: capped GPA							.008	12.83	.00	.007	11.48	.00	.008	6.15	.00	.008	6.32	.00
HS rank: SAT1 verbal							.002	3.25	.00	.002	3.04	.00	-.002	-1.57	.12	-.002	-1.73	.08
HS rank: SAT1 math							-.001	-1.70	.09	-.002	-2.40	.02	-.002	-1.61	.11	-.002	-1.70	.09
HS rank: SAT2 writing							.002	3.92	.00	.002	4.05	.00	.000	0.02	.98	.000	-0.07	.94
HS rank: SAT2 math							.001	1.64	.10	.002	2.52	.01	-.001	-0.40	.69	.000	-0.36	.72
HS rank: SAT2 other							.002	4.70	.00	.003	5.67	.00	.001	0.76	.45	.001	0.76	.45
HS rank: A-F courses							.000	-0.79	.43	.000	-1.12	.26	.000	-0.56	.57	.000	-0.57	.57
HS rank: junior & soph. honors							-.002	-4.49	.00	-.002	-4.20	.00	-.003	-4.96	.00	-.003	-4.96	.00
HS rank: senior honors							.000	-0.32	.75	.000	-0.61	.54	.000	0.20	.84	.000	0.23	.82
missing at least 1 HS rank variable							.058	1.45	.15	.086	2.28	.02	.035	0.89	.37	.045	1.25	.21
API (2003)-with replacement							.001	12.62	.00				.000	0.51	.61			
missing API							.021	0.93	.35				.016	0.68	.50			

TABLE 3a: Outcome: First-year GPA

4566 cases used

Davis 2003 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.2520			.2583			.2470			.2024			.2905			.2904		
AdjRsq	.2515			.2573			.2451			.2007			.2877			.2879		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-1.619	-14.26	.00	-1.570	-13.68	.00	.830	10.20	.00	2.018	52.80	.00	-.368	-1.51	.13	-.417	-1.79	.07
Weighted HS GPA (capped)	.775	29.06	.00	.770	28.82	.00							.170	2.21	.03	.184	2.47	.01
SAT 1 composite	.000	1.66	.10															
SAT2 composite	.001	11.42	.00															
SAT1 verbal				.000	1.15	.25							.001	2.74	.01	.001	2.72	.01
SAT1 math				.000	-0.01	.99							.001	1.07	.29	.000	0.96	.34
SAT2 writing				.001	8.96	.00							.001	2.34	.02	.001	2.28	.02
SAT2 math				.000	1.70	.09							.001	2.30	.02	.001	2.24	.02
SAT2 other				.001	7.92	.00							.000	2.08	.04	.000	2.11	.03
HS rank: capped GPA							.012	28.66	.00	.011	27.02	.00	.010	9.38	.00	.010	9.54	.00
HS rank: SAT1 verbal							.000	0.20	.84	.000	-0.38	.70	-.003	-2.41	.02	-.003	-2.38	.02
HS rank: SAT1 math							-.001	-1.37	.17	-.001	-1.92	.05	-.002	-1.55	.12	-.002	-1.45	.15
HS rank: SAT2 writing							.003	6.95	.00	.003	7.16	.00	.000	0.00	1.00	.000	0.10	.92
HS rank: SAT2 math							.000	-0.84	.40	.000	-0.40	.69	-.004	-2.56	.01	-.004	-2.51	.01
HS rank: SAT2 other							.002	6.11	.00	.002	6.07	.00	.001	0.71	.48	.001	0.69	.49
HS rank: A-F courses							.000	-0.81	.42	.000	-0.48	.63	.000	-0.41	.68	.000	-0.43	.67
HS rank: junior & soph. honors							-.001	-1.37	.17	-.001	-1.66	.10	-.001	-1.61	.11	-.001	-1.61	.11
HS rank: senior honors							.000	0.80	.43	.000	0.07	.95	.001	1.32	.19	.001	1.32	.19
missing at least 1 HS rank variable							-.038	-0.73	.47	-.069	-1.32	.19	-.097	-1.88	.06	-.095	-1.89	.06
API (2003)-with replacement							.002	16.36	.00				.000	-0.74	.46			
missing API							-.023	-0.97	.33				.002	0.10	.92			

TABLE 3b: Outcome: First-year GPA   4109 cases used
Davis 2004 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.2577			.2651			.2568			.1983			.3001			.2998		
AdjRsq	.2572			.2640			.2546			.1963			.2970			.2971		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-1.506	-13.09	.00	-1.428	-12.24	.00	.718	8.64	.00	2.059	54.73	.00	-.339	-1.32	.19	-.284	-1.15	.25
Weighted HS GPA (capped)	.717	25.90	.00	.710	25.48	.00							.147	1.79	.07	.132	1.67	.10
SAT 1 composite	.000	4.77	.00															
SAT2 composite	.001	9.10	.00															
SAT1 verbal				.001	3.65	.00							.001	1.71	.09	.001	1.72	.08
SAT1 math				.000	0.60	.55							.001	1.85	.06	.001	1.98	.05
SAT2 writing				.001	7.25	.00							.002	4.12	.00	.002	4.24	.00
SAT2 math				.000	1.51	.13							.000	-0.35	.72	.000	-0.09	.93
SAT2 other				.001	6.28	.00							.001	2.58	.01	.001	2.67	.01
HS rank: capped GPA							.012	27.16	.00	.011	25.00	.00	.010	8.77	.00	.010	9.15	.00
HS rank: SAT1 verbal							.002	3.92	.00	.002	3.66	.00	.000	-0.23	.82	.000	-0.24	.81
HS rank: SAT1 math							-.001	-1.91	.06	-.001	-1.22	.22	-.004	-2.39	.02	-.004	-2.53	.01
HS rank: SAT2 writing							.002	4.86	.00	.002	4.72	.00	-.003	-2.33	.02	-.003	-2.43	.02
HS rank: SAT2 math							.000	0.36	.72	.000	0.07	.95	.001	0.53	.59	.000	0.28	.78
HS rank: SAT2 other							.002	4.61	.00	.002	4.01	.00	.000	-0.36	.72	.000	-0.44	.66
HS rank: A-F courses							.000	0.45	.65	.000	0.42	.68	.000	0.50	.62	.000	0.48	.63
HS rank: junior & soph. honors							-.002	-4.75	.00	-.002	-5.38	.00	-.002	-4.70	.00	-.002	-4.68	.00
HS rank: senior honors							.000	0.62	.53	.000	0.03	.98	.000	0.92	.36	.000	0.93	.35
missing at least 1 HS rank variable							-.047	-0.90	.37	-.057	-1.10	.27	-.109	-2.12	.03	-.123	-2.50	.01
API (2003)-with replacement							.002	17.89	.00				.000	1.12	.26			
missing API							-.033	-1.36	.17				-.022	-0.90	.37			

TABLE 4a: Outcome: First-year GPA 3984 cases used
Irvine 2003 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.2052			.2204			.2046			.1506			.2617			.2610		
AdjRsq	.2046			.2193			.2022			.1485			.2584			.2581		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-1.095	-8.71	.00	-1.041	-8.32	.00	.801	8.92	.00	2.155	59.05	.00	-.040	-0.17	.87	-.100	-0.42	.68
Weighted HS GPA (capped)	.627	21.21	.00	.621	21.17	.00							.096	1.26	.21	.110	1.45	.15
SAT 1 composite	.001	5.91	.00															
SAT2 composite	.000	6.62	.00															
SAT1 verbal				.001	6.96	.00							.002	5.10	.00	.002	4.91	.00
SAT1 math				.000	-1.54	.12							.001	1.16	.25	.001	0.96	.34
SAT2 writing				.001	6.59	.00							.001	2.86	.00	.001	2.58	.01
SAT2 math				.001	2.97	.00							.001	2.21	.03	.001	2.18	.03
SAT2 other				.000	2.94	.00							-.001	-3.99	.00	-.001	-4.05	.00
HS rank: capped GPA							.010	21.83	.00	.009	18.76	.00	.009	8.64	.00	.009	8.55	.00
HS rank: SAT1 verbal							.002	4.01	.00	.002	3.48	.00	-.004	-3.04	.00	-.004	-2.83	.00
HS rank: SAT1 math							-.002	-3.13	.00	-.002	-3.54	.00	-.003	-2.16	.03	-.003	-1.97	.05
HS rank: SAT2 writing							.002	4.97	.00	.002	4.72	.00	-.002	-1.30	.19	-.001	-0.99	.32
HS rank: SAT2 math							.000	0.48	.63	.000	0.50	.62	-.003	-2.00	.05	-.003	-1.97	.05
HS rank: SAT2 other							.002	5.68	.00	.002	6.17	.00	.005	5.69	.00	.006	5.75	.00
HS rank: A-F courses							.000	0.95	.34	.000	1.13	.26	.000	1.29	.20	.000	1.24	.22
HS rank: junior & soph. honors							-.001	-2.37	.02	-.001	-2.63	.01	-.001	-2.68	.01	-.001	-2.65	.01
HS rank: senior honors							.000	0.95	.34	.000	0.71	.48	.000	1.09	.28	.000	1.07	.29
missing at least 1 HS rank variable							.034	0.55	.58	.033	0.54	.59	-.019	-0.31	.76	-.025	-0.44	.66
API (2003)-with replacement							.002	16.41	.00				.000	-1.77	.08			
missing API							-.045	-1.75	.08				-.007	-0.26	.79			

TABLE 4b: Outcome: First-year GPA   3583 cases used
Irvine 2004 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.1745			.1919			.1675			.1260			.2134			.2122		
AdjRsq	.1738			.1905			.1647			.1236			.2094			.2087		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-1.058	-7.35	.00	-1.056	-7.39	.00	.989	9.39	.00	2.283	56.98	.00	-.848	-2.99	.00	-.928	-3.30	.00
Weighted HS GPA (capped)	.637	20.27	.00	.638	20.48	.00							.392	4.54	.00	.413	4.80	.00
SAT 1 composite	.001	5.85	.00															
SAT2 composite	.000	4.71	.00															
SAT1 verbal				.001	6.59	.00							.003	5.47	.00	.003	5.15	.00
SAT1 math				.000	0.39	.70							.000	0.61	.54	.000	0.55	.58
SAT2 writing				.001	6.32	.00							.000	0.59	.56	.000	0.27	.79
SAT2 math				.000	-0.11	.91							.001	0.93	.35	.001	1.18	.24
SAT2 other				.000	1.99	.05							.000	0.83	.41	.000	0.95	.34
HS rank: capped GPA							.009	18.98	.00	.008	16.40	.00	.005	4.04	.00	.005	3.82	.00
HS rank: SAT1 verbal							.003	4.64	.00	.002	3.67	.00	-.005	-3.26	.00	-.004	-2.91	.00
HS rank: SAT1 math							-.001	-0.93	.35	-.001	-1.41	.16	-.001	-0.81	.42	-.001	-0.77	.44
HS rank: SAT2 writing							.003	4.73	.00	.003	5.00	.00	.002	1.09	.28	.002	1.42	.16
HS rank: SAT2 math							-.001	-1.74	.08	-.001	-1.84	.07	-.002	-1.49	.14	-.003	-1.75	.08
HS rank: SAT2 other							.001	2.95	.00	.002	3.34	.00	.000	0.18	.86	.000	0.07	.95
HS rank: A-F courses							-.001	-1.52	.13	-.001	-1.82	.07	-.001	-1.46	.14	-.001	-1.51	.13
HS rank: junior & soph. honors							.000	-0.59	.56	.000	-0.88	.38	.000	-0.61	.54	.000	-0.62	.54
HS rank: senior honors							.000	-0.47	.64	-.001	-1.08	.28	.000	-0.33	.74	.000	-0.32	.75
missing at least 1 HS rank variable							.024	0.34	.73	-.010	-0.15	.88	-.018	-0.26	.80	-.056	-0.84	.40
API (2003)-with replacement							.002	13.29	.00				.000	-0.81	.42			
missing API							-.070	-2.63	.01				-.056	-1.99	.05			

TABLE 5a: Outcome: First-year GPA　　　　　　　　　　　　　　　　　4192 cases used
Los Angeles 2003 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.2086			.2278			.2104			.1311			.2652			.2648		
AdjRsq	.2080			.2267			.2082			.1290			.2620			.2620		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-.215	-1.89	.06	-.102	-0.90	.37	1.120	16.00	.00	2.268	52.76	.00	.639	2.87	.00	.689	3.14	.00
Weighted HS GPA (capped)	.474	15.36	.00	.467	15.28	.00							.085	1.18	.24	.074	1.02	.31
SAT 1 composite	.001	5.47	.00															
SAT2 composite	.000	6.29	.00															
SAT1 verbal				.001	4.73	.00							.001	2.82	.00	.001	3.11	.00
SAT1 math				.000	-2.06	.04							.000	0.66	.51	.000	0.79	.43
SAT2 writing				.001	9.52	.00							.002	5.82	.00	.002	6.18	.00
SAT2 math				.001	3.13	.00							.000	0.87	.39	.000	0.82	.41
SAT2 other				.000	-0.21	.83							.000	-2.22	.03	.000	-2.25	.02
HS rank: capped GPA							.009	17.93	.00	.008	15.86	.00	.008	7.85	.00	.008	8.01	.00
HS rank: SAT1 verbal							.001	2.11	.04	.000	0.76	.45	-.002	-1.55	.12	-.002	-1.81	.07
HS rank: SAT1 math							-.002	-3.69	.00	-.002	-3.52	.00	-.003	-2.33	.02	-.003	-2.45	.01
HS rank: SAT2 writing							.003	5.25	.00	.003	6.06	.00	-.004	-3.22	.00	-.004	-3.50	.00
HS rank: SAT2 math							.000	0.53	.60	.001	1.19	.23	-.001	-0.79	.43	-.001	-0.74	.46
HS rank: SAT2 other							.001	2.69	.01	.001	3.29	.00	.002	2.62	.01	.002	2.64	.01
HS rank: A-F courses							.001	2.53	.01	.001	1.69	.09	.001	2.61	.01	.001	2.57	.01
HS rank: junior & soph. honors							-.001	-1.88	.06	-.001	-1.21	.23	-.001	-1.48	.14	-.001	-1.43	.15
HS rank: senior honors							.000	0.04	.97	.000	0.04	.97	.000	-0.29	.77	.000	-0.30	.77
missing at least 1 HS rank variable							-.030	-0.66	.51	.031	0.68	.50	-.060	-1.35	.18	-.047	-1.12	.26
API (2003)-with replacement							.002	19.93	.00				.000	1.07	.28			
missing API							.024	1.13	.26				.018	0.86	.39			

TABLE 5b: Outcome: First-year GPA   3641 cases used
Los Angeles 2004 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.1975			.2239			.2156			.1736			.2776			.2763		
AdjRsq	.1968			.2226			.2130			.1714			.2740			.2731		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-.198	-1.65	.10	-.246	-2.05	.04	1.372	17.12	.00	2.330	55.32	.00	1.196	4.80	.00	1.050	4.34	.00
Weighted HS GPA (capped)	.537	16.07	.00	.534	16.20	.00							-.097	-1.20	.23	-.066	-0.84	.40
SAT 1 composite	.000	4.24	.00															
SAT2 composite	.000	4.56	.00															
SAT1 verbal				.001	5.67	.00							.002	4.14	.00	.001	4.03	.00
SAT1 math				.000	0.18	.85							.001	2.31	.02	.001	2.09	.04
SAT2 writing				.001	7.38	.00							.001	3.86	.00	.001	3.46	.00
SAT2 math				-.001	-2.86	.00							.000	-0.34	.74	.000	-0.53	.60
SAT2 other				.000	3.41	.00							.000	-0.25	.80	.000	-0.35	.73
HS rank: capped GPA							.011	20.66	.00	.011	19.70	.00	.012	10.63	.00	.012	10.42	.00
HS rank: SAT1 verbal							.002	3.00	.00	.001	2.52	.01	-.003	-2.38	.02	-.003	-2.25	.02
HS rank: SAT1 math							-.002	-2.63	.01	-.002	-2.52	.01	-.004	-3.09	.00	-.004	-2.92	.00
HS rank: SAT2 writing							.002	3.58	.00	.002	3.03	.00	-.002	-1.49	.14	-.001	-1.11	.27
HS rank: SAT2 math							-.003	-4.44	.00	-.002	-3.60	.00	-.003	-1.98	.05	-.002	-1.85	.06
HS rank: SAT2 other							.002	4.93	.00	.002	5.94	.00	.002	2.08	.04	.002	2.15	.03
HS rank: A-F courses							.001	3.48	.00	.001	2.45	.01	.001	3.78	.00	.001	3.86	.00
HS rank: junior & soph. honors							-.002	-3.18	.00	-.002	-3.26	.00	-.001	-2.60	.01	-.001	-2.66	.01
HS rank: senior honors							.000	-0.31	.75	.000	-0.63	.53	.000	-0.32	.75	.000	-0.28	.78
missing at least 1 HS rank variable							.121	2.60	.01	.150	3.32	.00	.090	1.98	.05	.087	2.05	.04
API (2003)-with replacement							.001	13.80	.00				.000	-2.42	.02			
missing API							.001	0.07	.95				-.003	-0.13	.90			

TABLE 6a: Outcome: First-year GPA 3589 cases used
Riverside 2003 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.1800			.1967			.1650			.1122			.2305			.2291		
AdjRsq	.1793			.1954			.1622			.1097			.2266			.2257		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-1.434	-9.94	.00	-1.443	-10.03	.00	.538	4.85	.00	2.104	53.63	.00	-1.548	-5.76	.00	-1.563	-5.85	.00
Weighted HS GPA (capped)	.726	22.97	.00	.715	22.78	.00							.530	6.26	.00	.519	6.15	.00
SAT 1 composite	.001	11.33	.00															
SAT2 composite	.000	0.86	.39															
SAT1 verbal				.001	6.27	.00							.002	4.41	.00	.002	4.46	.00
SAT1 math				.000	-0.46	.65							.001	2.25	.02	.001	1.94	.05
SAT2 writing				.001	5.65	.00							.001	1.40	.16	.001	1.20	.23
SAT2 math				.001	3.79	.00							.001	2.41	.02	.001	1.97	.05
SAT2 other				.000	-2.96	.00							-.001	-1.78	.08	-.001	-1.86	.06
HS rank: capped GPA							.012	20.49	.00	.010	17.06	.00	.005	3.35	.00	.005	3.51	.00
HS rank: SAT1 verbal							.003	4.24	.00	.002	3.41	.00	-.004	-2.48	.01	-.004	-2.50	.01
HS rank: SAT1 math							-.002	-2.79	.01	-.002	-2.71	.01	-.006	-3.31	.00	-.005	-2.98	.00
HS rank: SAT2 writing							.003	4.14	.00	.003	3.79	.00	.001	0.52	.60	.001	0.73	.47
HS rank: SAT2 math							.002	2.04	.04	.002	2.46	.01	-.003	-1.65	.10	-.002	-1.24	.22
HS rank: SAT2 other							-.001	-3.27	.00	-.002	-4.45	.00	.002	1.17	.24	.002	1.25	.21
HS rank: A-F courses							-.001	-2.82	.00	-.001	-2.92	.00	-.001	-2.66	.01	-.001	-2.61	.01
HS rank: junior & soph. honors							.000	0.05	.96	.000	-0.30	.76	.000	0.10	.92	.000	0.05	.96
HS rank: senior honors							.000	0.70	.49	.000	-0.02	.98	.001	1.05	.30	.001	1.08	.28
missing at least 1 HS rank variable							.001	0.01	.99	-.039	-0.52	.60	-.187	-2.49	.01	-.133	-1.89	.06
API (2003)-with replacement							.002	15.04	.00				.000	-2.19	.03			
missing API							-.131	-3.65	.00				.082	2.09	.04			

TABLE 6b: Outcome: First-year GPA   3243 cases used
Riverside 2004 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.1531			.1678			.1579			.1249			.1907			.1904		
AdjRsq	.1523			.1663			.1548			.1222			.1862			.1864		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-1.016	-6.72	.00	-1.061	-7.05	.00	.823	6.80	.00	2.105	54.03	.00	-.050	-0.16	.87	-.111	-0.37	.71
Weighted HS GPA (capped)	.668	19.67	.00	.663	19.64	.00							.146	1.50	.13	.159	1.65	.10
SAT 1 composite	.001	8.98	.00															
SAT2 composite	.000	0.93	.35															
SAT1 verbal				.001	6.59	.00							.002	4.21	.00	.002	4.10	.00
SAT1 math				.000	0.39	.70							.001	1.59	.11	.001	1.51	.13
SAT2 writing				.001	4.10	.00							.000	0.59	.55	.000	0.43	.67
SAT2 math				.000	0.79	.43							.000	0.72	.47	.001	0.81	.42
SAT2 other				.000	-0.46	.65							.000	-0.83	.40	.000	-0.81	.42
HS rank: capped GPA							.011	19.24	.00	.010	16.99	.00	.010	6.38	.00	.010	6.30	.00
HS rank: SAT1 verbal							.004	6.31	.00	.004	5.76	.00	-.003	-1.74	.08	-.003	-1.60	.11
HS rank: SAT1 math							-.001	-1.92	.06	-.001	-1.04	.30	-.004	-2.25	.02	-.004	-2.19	.03
HS rank: SAT2 writing							.002	3.03	.00	.002	2.74	.01	.001	0.64	.52	.001	0.81	.42
HS rank: SAT2 math							.000	-0.05	.96	.000	-0.61	.54	-.002	-0.79	.43	-.002	-0.86	.39
HS rank: SAT2 other							-.001	-1.27	.21	-.001	-1.81	.07	.001	0.72	.47	.001	0.69	.49
HS rank: A-F courses							-.001	-1.30	.19	-.001	-1.99	.05	-.001	-1.47	.14	-.001	-1.46	.14
HS rank: junior & soph. honors							-.001	-1.83	.07	-.001	-2.30	.02	-.001	-1.66	.10	-.001	-1.64	.10
HS rank: senior honors							.001	1.66	.10	.000	0.79	.43	.001	2.12	.03	.001	2.14	.03
missing at least 1 HS rank variable							-.061	-0.65	.51	-.094	-1.02	.31	-.145	-1.57	.12	-.166	-1.87	.06
API (2003)-with replacement							.002	11.22	.00				.000	-0.59	.56			
missing API							-.120	-3.36	.00				-.026	-0.65	.52			

TABLE 7a: Outcome: First-year GPA — 3728 cases used
San Diego 2003 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.2579			.2646			.2351			.1532			.3022			.3019		
AdjRsq	.2573			.2634			.2326			.1510			.2989			.2989		

	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-1.937	-13.44	.00	-1.825	-12.55	.00	.571	6.64	.00	1.980	38.92	.00	-.577	-2.12	.03	-.620	-2.30	.02
Weighted HS GPA (capped)	.737	22.74	.00	.724	22.32	.00							.154	1.84	.07	.162	1.95	.05
SAT 1 composite	.001	5.52	.00															
SAT2 composite	.001	10.77	.00															
SAT1 verbal				.000	1.61	.11							.000	0.70	.48	.000	0.68	.50
SAT1 math				.000	1.62	.11							.001	2.20	.03	.001	2.04	.04
SAT2 writing				.001	9.61	.00							.002	5.59	.00	.002	5.49	.00
SAT2 math				.001	3.98	.00							.001	2.92	.00	.001	2.76	.01
SAT2 other				.000	4.30	.00							.000	-0.37	.71	.000	-0.33	.74
HS rank: capped GPA							.011	22.50	.00	.010	19.50	.00	.010	8.55	.00	.010	8.49	.00
HS rank: SAT1 verbal							.001	2.18	.03	.001	1.24	.22	.000	-0.04	.96	.000	0.01	.99
HS rank: SAT1 math							.000	0.75	.45	.000	0.35	.73	-.003	-2.07	.04	-.003	-1.90	.06
HS rank: SAT2 writing							.003	6.29	.00	.004	7.10	.00	-.003	-2.84	.00	-.003	-2.71	.01
HS rank: SAT2 math							.001	0.91	.37	.001	1.60	.11	-.003	-2.42	.02	-.003	-2.27	.02
HS rank: SAT2 other							.001	2.77	.01	.001	3.68	.00	.001	1.66	.10	.001	1.60	.11
HS rank: A-F courses							.000	0.76	.45	.000	0.56	.58	.001	1.74	.08	.001	1.73	.08
HS rank: junior & soph. honors							-.001	-3.25	.00	-.001	-2.64	.01	-.001	-2.72	.01	-.001	-2.78	.01
HS rank: senior honors							.000	-0.56	.58	-.001	-1.41	.16	.000	-0.53	.59	.000	-0.51	.61
missing at least 1 HS rank variable							-.030	-0.58	.56	.002	0.05	.96	-.071	-1.46	.15	-.061	-1.35	.18
API (2003)-with replacement							.002	19.78	.00				.000	-1.23	.22			
missing API							-.016	-0.68	.50				.015	0.62	.54			

TABLE 7b: Outcome: First-year GPA   3812 cases used
San Diego 2004 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.2024			.2083			.1934			.1233			.2527			.2516		
AdjRsq	.2018			.2071			.1909			.1210			.2491			.2485		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-1.472	-9.81	.00	-1.364	-9.02	.00	.780	8.99	.00	2.095	42.23	.00	.396	1.48	.14	.308	1.16	.25
Weighted HS GPA (capped)	.695	20.70	.00	.683	20.32	.00							-.037	-0.46	.65	-.014	-0.17	.86
SAT 1 composite	.000	4.79	.00															
SAT2 composite	.001	9.04	.00															
SAT1 verbal				.000	2.81	.00							.001	2.42	.02	.001	2.26	.02
SAT1 math				.000	-0.31	.76							.000	0.07	.95	.000	-0.17	.86
SAT2 writing				.001	7.24	.00							.002	4.08	.00	.001	3.73	.00
SAT2 math				.001	4.77	.00							.002	4.44	.00	.002	4.41	.00
SAT2 other				.000	3.75	.00							.000	-1.38	.17	.000	-1.43	.15
HS rank: capped GPA							.010	20.87	.00	.009	18.29	.00	.012	10.59	.00	.011	10.37	.00
HS rank: SAT1 verbal							.001	2.10	.04	.001	1.62	.10	-.002	-1.43	.15	-.002	-1.26	.21
HS rank: SAT1 math							-.001	-1.60	.11	-.001	-1.41	.16	-.001	-0.74	.46	-.001	-0.53	.60
HS rank: SAT2 writing							.002	4.87	.00	.003	5.34	.00	-.003	-2.38	.02	-.003	-2.01	.04
HS rank: SAT2 math							.001	1.24	.21	.001	0.91	.36	-.005	-3.69	.00	-.005	-3.61	.00
HS rank: SAT2 other							.001	3.08	.00	.001	3.81	.00	.002	2.69	.01	.002	2.70	.01
HS rank: A-F courses							.000	-0.03	.97	.000	-0.23	.81	.000	0.37	.71	.000	0.34	.73
HS rank: junior & soph. honors							-.001	-1.23	.22	-.001	-1.51	.13	.000	-1.13	.26	-.001	-1.15	.25
HS rank: senior honors							.000	0.00	1.00	.000	-0.19	.85	.000	-0.01	.99	.000	-0.02	.99
missing at least 1 HS rank variable							.021	0.40	.69	.008	0.15	.88	-.040	-0.80	.42	-.051	-1.08	.28
API (2003)-with replacement							.002	18.15	.00				.000	-1.94	.05			
missing API							-.047	-1.94	.05				-.020	-0.82	.41			

TABLE 8a: Outcome: First-year GPA   3877 cases used
Santa Barbara 2003 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.2452			.2537			.2296			.1766			.2755			.2737		
AdjRsq	.2446			.2526			.2272			.1745			.2721			.2707		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-1.401	-11.45	.00	-1.337	-10.82	.00	.808	8.99	.00	2.155	58.99	.00	-.726	-2.99	.00	-.656	-2.76	.01
Weighted HS GPA (capped)	.730	25.85	.00	.726	25.68	.00							.343	4.72	.00	.345	4.79	.00
SAT 1 composite	.001	8.40	.00															
SAT2 composite	.000	5.32	.00															
SAT1 verbal				.001	5.76	.00							.002	3.32	.00	.001	3.19	.00
SAT1 math				.000	1.40	.16							.000	0.74	.46	.001	1.04	.30
SAT2 writing				.001	6.57	.00							.001	3.05	.00	.001	3.12	.00
SAT2 math				.000	1.84	.07							.000	0.97	.33	.001	1.47	.14
SAT2 other				.000	1.15	.25							.000	-0.97	.33	.000	-1.14	.25
HS rank: capped GPA							.010	24.08	.00	.010	23.39	.00	.006	6.09	.00	.006	6.16	.00
HS rank: SAT1 verbal							.002	4.92	.00	.002	4.32	.00	-.002	-1.40	.16	-.002	-1.30	.19
HS rank: SAT1 math							.000	-0.20	.84	.000	-0.34	.73	-.001	-0.67	.50	-.001	-0.93	.35
HS rank: SAT2 writing							.002	4.17	.00	.002	4.25	.00	-.002	-1.45	.15	-.002	-1.48	.14
HS rank: SAT2 math							.000	0.47	.64	.000	0.82	.41	-.001	-0.87	.38	-.002	-1.34	.18
HS rank: SAT2 other							.001	1.44	.15	.000	0.33	.74	.002	1.68	.09	.002	1.77	.08
HS rank: A-F courses							.000	0.38	.70	.000	-0.13	.89	.000	0.60	.55	.000	0.48	.63
HS rank: junior & soph. honors							-.001	-2.06	.04	-.001	-2.81	.01	-.001	-2.19	.03	-.001	-2.26	.02
HS rank: senior honors							.001	2.11	.03	.001	1.75	.08	.001	2.12	.03	.001	2.16	.03
missing at least 1 HS rank variable							-.012	-0.27	.78	-.033	-0.79	.43	-.021	-0.50	.62	-.063	-1.61	.11
API (2003)-with replacement							.002	16.29	.00				.000	2.01	.04			
missing API							-.077	-3.16	.00				-.066	-2.70	.01			

TABLE 8b: Outcome: First-year GPA 3793 cases used
Santa Barbara 2004 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.2686			.2774			.2532			.1739			.3042			.3036		
AdjRsq	.2681			.2762			.2508			.1718			.3009			.3006		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-1.879	-14.31	.00	-1.775	-13.42	.00	.361	3.87	.00	2.048	48.78	.00	-.936	-3.61	.00	-.868	-3.41	.00
Weighted HS GPA (capped)	.800	25.19	.00	.786	24.75	.00							.340	4.20	.00	.339	4.21	.00
SAT 1 composite	.001	7.94	.00															
SAT2 composite	.000	6.34	.00															
SAT1 verbal				.001	3.13	.00							.000	0.82	.41	.000	0.71	.48
SAT1 math				.000	1.59	.11							.002	4.04	.00	.003	4.30	.00
SAT2 writing				.001	8.01	.00							.001	2.16	.03	.001	2.38	.02
SAT2 math				.001	3.01	.00							.000	0.58	.56	.000	0.91	.36
SAT2 other				.000	1.21	.23							.000	-1.52	.13	.000	-1.62	.10
HS rank: capped GPA							.011	22.37	.00	.011	23.12	.00	.007	5.88	.00	.007	6.01	.00
HS rank: SAT1 verbal							.001	2.35	.02	.002	3.20	.00	.000	0.00	1.00	.000	0.12	.90
HS rank: SAT1 math							-.001	-0.94	.35	-.001	-1.44	.15	-.007	-4.17	.00	-.007	-4.45	.00
HS rank: SAT2 writing							.003	5.71	.00	.003	5.44	.00	.000	-0.02	.98	.000	-0.20	.84
HS rank: SAT2 math							.001	1.28	.20	.001	1.91	.06	.000	-0.28	.78	-.001	-0.58	.56
HS rank: SAT2 other							.001	1.71	.09	.001	1.23	.22	.002	2.18	.03	.002	2.26	.02
HS rank: A-F courses							-.001	-1.38	.17	-.001	-1.63	.10	.000	-1.05	.29	.000	-1.08	.28
HS rank: junior & soph. honors							.000	0.30	.77	.000	-0.88	.38	.000	0.19	.85	.000	0.15	.88
HS rank: senior honors							.000	0.88	.38	.000	-0.45	.65	.000	1.04	.30	.000	0.97	.33
missing at least 1 HS rank variable							.064	1.33	.18	.048	1.02	.31	.007	0.14	.89	-.012	-0.28	.78
API (2003)-with replacement							.002	19.97	.00				.000	1.63	.10			
missing API							-.095	-3.67	.00				-.034	-1.30	.19			

TABLE 9a: Outcome: First-year GPA   3230 cases used
Santa Cruz 2003 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.1355			.1484			.1376			.1002			.1746			.1733		
AdjRsq	.1347			.1468			.1343			.0974			.1700			.1692		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	.061	0.47	.64	.153	1.17	.24	1.415	13.40	.00	2.601	79.23	.00	-.084	-0.31	.76	.042	0.16	.87
Weighted HS GPA (capped)	.480	15.11	.00	.470	14.86	.00							.297	3.58	.00	.280	3.51	.00
SAT 1 composite	.000	3.70	.00															
SAT2 composite	.000	5.78	.00															
SAT1 verbal				.000	2.16	.03							.000	0.68	.50	.000	0.68	.50
SAT1 math				.000	1.05	.29							.001	1.48	.14	.001	1.80	.07
SAT2 writing				.001	7.35	.00							.002	3.65	.00	.002	3.79	.00
SAT2 math				.000	-0.52	.60							.000	-0.49	.63	.000	-0.08	.93
SAT2 other				.000	2.49	.01							.001	1.80	.07	.000	1.66	.10
HS rank: capped GPA							.008	15.25	.00	.007	13.89	.00	.004	3.35	.00	.005	3.64	.00
HS rank: SAT1 verbal							.002	2.78	.01	.002	3.19	.00	.000	0.14	.89	.000	0.12	.90
HS rank: SAT1 math							.000	-0.59	.55	-.001	-0.77	.44	-.003	-1.53	.13	-.003	-1.85	.06
HS rank: SAT2 writing							.003	5.49	.00	.003	5.39	.00	-.002	-1.58	.11	-.003	-1.71	.09
HS rank: SAT2 math							-.001	-1.56	.12	-.001	-1.58	.11	.000	-0.06	.95	-.001	-0.46	.64
HS rank: SAT2 other							.001	1.86	.06	.001	1.10	.27	-.001	-0.60	.55	-.001	-0.48	.63
HS rank: A-F courses							.000	0.81	.42	.000	0.65	.52	.000	0.85	.39	.000	0.87	.39
HS rank: junior & soph. honors							-.001	-2.67	.01	-.002	-3.44	.00	-.001	-2.37	.02	-.001	-2.46	.01
HS rank: senior honors							.000	0.54	.59	.000	-0.37	.71	.000	1.05	.29	.000	1.04	.30
missing at least 1 HS rank variable							-.132	-2.88	.00	-.137	-3.07	.00	-.144	-3.17	.00	-.161	-3.74	.00
API (2003)-with replacement							.002	11.77	.00				.000	2.02	.04			
missing API							-.029	-1.15	.25				-.033	-1.25	.21			

TABLE 9b: Outcome: First-year GPA   2897 cases used
Santa Cruz 2004 fall freshman entrants

	Model 1			Model 1a			Model 2			Model 2a			Model 4			Model 4a		
Parameters	4			7			13			11			19			17		
Rsq	.1232			.1357			.1332			.0876			.1638			.1593		
AdjRsq	.1223			.1339			.1296			.0844			.1586			.1546		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-.472	-2.88	.00	-.354	-2.15	.03	.915	7.25	.00	2.360	55.82	.00	-.464	-1.41	.16	-.285	-0.91	.36
Weighted HS GPA (capped)	.559	15.04	.00	.542	14.63	.00							.291	2.98	.00	.273	2.87	.00
SAT 1 composite	.001	6.64	.00															
SAT2 composite	.000	1.31	.19															
SAT1 verbal				.001	3.03	.00							.001	2.12	.03	.001	1.79	.07
SAT1 math				.000	1.45	.15							.001	1.26	.21	.001	1.63	.10
SAT2 writing				.001	5.44	.00							.000	0.59	.55	.000	0.80	.42
SAT2 math				.000	0.57	.57							.001	1.03	.30	.001	1.92	.05
SAT2 other				.000	-2.15	.03							.000	-0.51	.61	.000	-0.43	.67
HS rank: capped GPA							.008	13.78	.00	.007	12.01	.00	.005	3.30	.00	.005	3.54	.00
HS rank: SAT1 verbal							.002	3.32	.00	.002	3.29	.00	-.002	-0.92	.36	-.001	-0.63	.53
HS rank: SAT1 math							.000	-0.23	.82	.000	-0.32	.75	-.002	-1.21	.22	-.003	-1.57	.12
HS rank: SAT2 writing							.003	4.31	.00	.003	4.21	.00	.002	0.91	.37	.001	0.76	.45
HS rank: SAT2 math							-.001	-1.10	.27	-.001	-1.35	.18	-.003	-1.35	.18	-.004	-2.21	.03
HS rank: SAT2 other							-.001	-2.89	.00	-.002	-3.15	.00	.000	-0.38	.70	-.001	-0.51	.61
HS rank: A-F courses							-.001	-1.11	.27	-.001	-1.74	.08	.000	-0.87	.39	.000	-0.98	.33
HS rank: junior & soph. honors							.000	0.46	.64	.000	0.07	.95	.000	0.60	.55	.000	0.68	.50
HS rank: senior honors							.001	1.61	.11	.000	0.83	.40	.001	2.12	.03	.001	2.13	.03
missing at least 1 HS rank variable							.052	0.92	.36	.020	0.37	.71	.021	0.38	.70	-.036	-0.68	.50
API (2003)-with replacement							.002	12.21	.00				.001	2.99	.00			
missing API							-.099	-3.41	.00				-.090	-2.98	.00			

APPENDIX II

A Comparison of Measures Included in the UC Eligibility Construct with Other Variable Sets in the Prediction of UC Berkeley Outcomes

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Purpose:

The analyses in this report, requested by BOARS, are the first steps in:

> *Measuring the gain in predictive accuracy from considering information that is included on the UC application but not included in the current eligibility formula. Many other factors are likely to contribute to and predict students' success at UC. These include, but are not limited to, rank within their high school class, a pattern of improved performance as they progress through high school, extracurricular activities, difficulty of chosen curriculum, etc. The first phase of the proposed research will look at detailed data from various sources (UC's "Pathways" application data, special data sets collected from some UC campuses, etc.) to demonstrate that other criteria, beyond the limited set currently used in the UC Eligibility Index, can be used to predict success at UC. If this hypothesis is validated, it will suggest that the current eligibility construct cannot claim to capture the "top 12.5%" of California's public high school graduates.*

Data Set:

In this report the data set employed was for a cohort of freshmen first enrolling at Berkeley in Fall term 1999 or Spring term 2000. This 1999-00 data file is a "super file" as it contains many more admission input and outcome measures than is usual for studies of this type. In addition to the typical demographic variables, grades in high school and test scores, the file contains a number of other variables, used in the Berkeley admission process, that were also included in these analyses: Percentile Ranks within High School (statistics akin to "*class ranks*") on SAT, high school GPA, and courses taken; AP Test scores; a school's Academic Performance Index (API), and factor scores from "Previously Unrecorded Variables" (PUVs), qualitative data on the UC Admission application that is not typically quantified, including information from the admission essay, academic honors and awards, and work experience (see Appendix A and Appendix B).

The outcome variables analyzed from this file for this report were UCB GPA after one year, UCB GPA at graduation (or last term attended), graduation/retention in 5 years, leadership as measured by accepting responsibility for organizing campus student groups (from Berkeley's Dean of Students data base), and a number of factor scores from the 2003 University of California Undergraduate Experience Survey (UCUES). The UCUES variables employed in these analyses are factor scores measuring engagement in research, course disengagement, academic skills acquisition, career engagement/preparation, and community service/leadership (see Appendix C for description of the items in each of the factor scores).

Analyses:
Multiple regression was employed to predict the outcomes described above, save for the dichotomous graduation outcome where logistic regression was utilized.

Results:
Tables 1 – 9 show the results of these analyses. Variables were grouped into "sets" with Model 1 and Model 1a representing the measures used in determining UC eligibility (high school GPA and SAT scores). Model 1a differs from Model 1 in that it separates the SAT I and SAT II scores into components. Model 2 contains Within School Percentile Rank (HS rank), and API. Model 3 adds AP scores to the variables in Model 2. Model 7 shows the contribution of the PUVs alone.

Models 4, 5, and 6 combine the variables in the other Models: Model 4 combines the variables in Model 1a and Model 2. Model 5 combines the variables in Model 1a and Model 3. Model 6 shows all the variables, combining the variables in Models 1a, 3, and 7.

Comparing the multiple R-square (Rsq) in Model 1 or Model 1a with the R-square in Model 2 or Model 3 allows one to judge how well the UC eligibility variables compare with the Within School Percentile Ranks (HS Rank), API, and AP scores (Model 3) alternatives. **Undertaking these comparisons, the results of the analyses show that the HS Rank Variables and API variables (Model 2) predict GPA 1-Year, GPA at Graduation, and Graduation itself a little better than the UC eligibility variables (Models 1 or 1a, see Tables 1, 2, 3).** A similar pattern of results are found for UCUES factors Course Disengagement, Engagement in Research, and Community Service/Leadership (see Tables 4, 5 and 8). However, UCUES factors Skill Acquisition and Career Acquisition are a little bit better predicted by the standard eligibility variables (see Tables 6 and 7).

The PUVs add very little to the prediction of GPAs and graduation, but they do seem to matter more than the all of the academic variables in the prediction of Community/Service Leadership (UCUES factor) and Leadership as assessed in Berkeley's Dean of Student's data base (see Tables 8 and 9). The overall R-square in these models, however, is very low.

Next Steps:
Similar analyses will be conducted on the entire UC data base (all campuses), focused primarily on predicting 1-Year UC GPA comparing the variables shown in Model 1 or Model 1a with those shown in Model 2 (Percentile Ranks and API), or Model 3 (adds AP scores). The PUV predictor variables and later year UC GPA, graduation, and UCUES outcome measures are not readily available in the UCOP data bases.

TABLE 1: Outcome: First-year GPA   4414 observations used

	Model 1			Model 1a			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7		
Parameters	4			7			13			15			19			21			25			5		
Rsq	.1383			.1514			.1598			.1781			.1964			.2033			.2079			.0372		
AdjRsq	.1377			.1502			.1575			.1755			.1931			.1996			.2035			.0363		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	1.203	13.50	.00	.821	8.60	.00	1.902	28.66	.000	2.032	29.97	.00	.873	5.34	.00	1.00	5.81	.00	1.089	6.14	.00	3.112	365.46	.00
Weighted HS GPA	.248	10.36	.00	.257	10.78	.00							.098	1.99	.05	.10	2.01	.04	.097	1.96	.05			
SAT 1 Composite	.001	0.90	.37																					
SAT2 Composite	.006	8.90	.00																					
SAT1V				.000	1.60	.11							.000	1.08	.28	.00	.99	.32	.000	0.84	.40			
SAT1M				.000	-0.88	.38							.000	1.10	.27	.00	1.37	.17	.000	1.26	.21			
SAT2W				.001	8.72	.00							.002	5.32	.00	.00	4.86	.00	.001	4.60	.00			
SAT2M				.000	0.35	.72							.000	-1.06	.29	.00	-1.30	.19	.000	-1.11	.27			
SAT2OTH				.001	5.77	.00							.001	5.18	.00	.00	3.58	.00	.000	3.80	.00			
HS rank: weighted GPA							.008	18.26	.000	.007	16.91	.00	.007	8.88	.00	.01	8.49	.00	.006	8.41	.00			
Missing HS rank							-.263	-5.13	.000	-.309	-6.05	.00	-.381	-7.21	.00	-.39	-7.48	.00	-.405	-7.69	.00			
HS rank: SAT1 verbal							.001	3.42	.001	.001	1.52	.13	.000	-0.17	.86	.00	-.36	.72	.000	-0.21	.83			
HS rank: SAT1 math							-.001	-2.63	.009	-.001	-3.68	.00	-.002	-2.18	.03	.00	-2.47	.01	-.002	-2.40	.02			
HS rank: SAT2 writing							.003	6.52	.000	.003	5.87	.00	-.002	-2.31	.02	.00	-2.01	.04	-.002	-1.97	.05			
HS rank: A-F courses							.000	0.68	.494	.000	0.82	.41	.000	1.23	.22	.00	1.28	.20	.000	1.12	.26			
HS rank: junior honors							-.004	-8.80	.000	-.003	-8.30	.00	-.003	-8.84	.00	.00	-8.26	.00	-.003	-8.58	.00			
HS rank: senior honors							-.001	-2.48	.013	-.001	-3.21	.00	-.001	-2.42	.02	.00	-2.38	.02	-.001	-2.63	.01			
Missing junior honors rank							.211	4.27	.000	.210	4.29	.00	.243	4.97	.00	.24	4.87	.00	.246	5.04	.00			
Missing senior honors rank							.063	1.20	.229	.112	2.16	.03	.106	2.06	.04	.13	2.43	.02	.123	2.39	.02			
API (2000)							.001	11.83	.000	.001	9.67	.00	.000	1.58	.11	.00	1.53	.13	.000	1.56	.12			
Missing API							.055	2.71	.007	.064	3.17	.00	.026	1.29	.20	.03	1.51	.13	.035	1.72	.09			
# of AP exams scored 3+										.008	1.99	.05				.00	-1.06	.29	-.006	-1.32	.19			
% of AP exams scored 4 or 5										.200	7.90	.00				.15	6.02	.00	.159	6.20	.00			
Spark-Passion-Maturity																			.015	1.87	.06	.022	2.54	.01
Activities and Leadership																			.034	4.36	.00	.043	5.05	.00
Obstacles																			-.017	-1.88	.06	-.100	-11.78	.00
Other Academic																			.000	-0.05	.96	-.001	-0.10	.92

TABLE 2: Outcome: Latest Cumulative GPA (GPA at Graduation)   4455 observations used

	Model 1			Model 1a			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7		
Parameters	4			7			13			15			19			21			25			5		
Rsq	.1533			.1846			.1908			.2085			.2328			.2412			.2481			.0409		
AdjRsq	.1527			.1835			.1886			.2060			.2297			.2378			.2440			.0400		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	1.296	16.74	.00	.984	11.98	.00	2.096	36.50	.000	2.197	37.44	.00	.987	7.03	.00	1.06	7.16	.00	1.092	7.19	.00	3.201	426.80	.00
Weighted HS GPA	.287	13.80	.00	.299	14.59	.00							.156	3.67	.00	.16	3.83	.00	.163	3.83	.00			
SAT 1 Composite	.001	1.20	.23																					
SAT2 Composite	.005	7.91	.00																					
SAT1V				.000	1.45	.15							.000	1.07	.29	.00	1.03	.30	.000	1.04	.30			
SAT1M				.000	-0.29	.77							.001	2.62	.01	.00	2.96	.00	.001	2.84	.00			
SAT2W				.001	11.45	.00							.002	5.82	.00	.00	5.37	.00	.001	5.08	.00			
SAT2M				.000	-2.82	.00							-.001	-4.57	.00	.00	-4.78	.00	-.001	-4.45	.00			
SAT2OTH				.000	5.37	.00							.000	4.54	.00	.00	2.96	.00	.000	3.12	.00			
HS rank: weighted GPA							.008	20.71	.000	.007	19.38	.00	.006	9.34	.00	.01	8.84	.00	.006	8.72	.00			
Missing HS rank							-.172	-3.87	.000	-.208	-4.71	.00	-.304	-6.68	.00	-.32	-6.95	.00	-.326	-7.20	.00			
HS rank: SAT1 verbal							.001	3.13	.002	.001	1.35	.18	.000	-0.21	.83	.00	-.42	.67	.000	-0.32	.75			
HS rank: SAT1 math							-.002	-6.15	.000	-.002	-7.15	.00	-.002	-3.74	.00	.00	-4.08	.00	-.003	-3.96	.00			
HS rank: SAT2 writing							.003	8.74	.000	.003	8.15	.00	-.002	-1.69	.09	.00	-1.39	.17	-.001	-1.32	.19			
HS rank: A-F courses							.000	1.33	.184	.000	1.48	.14	.001	2.12	.03	.00	2.18	.03	.001	1.95	.05			
HS rank: junior honors							-.004	-10.29	.000	-.003	-9.62	.00	-.004	####	.00	.00	-9.97	.00	-.004	####	.00			
HS rank: senior honors							.000	-1.11	.266	-.001	-1.65	.10	.000	-0.85	.40	.00	-.61	.54	.000	-0.76	.45			
Missing junior honors rank							.152	3.57	.000	.150	3.56	.00	.204	4.84	.00	.20	4.72	.00	.206	4.93	.00			
Missing senior honors rank							.027	0.61	.544	.067	1.49	.14	.065	1.47	.14	.08	1.80	.07	.080	1.82	.07			
API (2000)							.001	11.93	.000	.001	9.89	.00	.000	1.82	.07	.00	1.74	.08	.000	1.85	.06			
Missing API							.049	2.77	.006	.055	3.14	.00	.022	1.24	.21	.02	1.36	.17	.029	1.67	.10			
# of AP exams scored 3+										.003	0.78	.44				-.01	-2.42	.02	-.010	-2.76	.01			
% of AP exams scored 4 or 5										.189	8.62	.00				.16	7.01	.00	.160	7.24	.00			
Spark-Passion-Maturity																			.025	3.69	.00	.031	4.16	.00
Activities and Leadership																			.034	4.97	.00	.047	6.24	.00
Obstacles																			-.005	-0.63	.53	-.085	-11.42	.00
Other Academic																			-.010	-1.50	.13	-.014	-1.82	.07

TABLE 3: Outcome: Graduation in Five Years 4483 observations used

	Model 1			Model 1a			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7		
Rescaled R squared	.088			.096			.111			.118			.124			.128			.133			.028		
Likelihood Ratio (Overall model)	233.0			254.5			295.8			314.1			331.9			341.9			356.1			72.4		
DF	3			6			12			14			18			20			24			4		
Pr	.0000			.0000			.0000			.0000			.0000			.0000			.0000			.0000		
	coef	pr	odds	coef	pr	odds	coef	pr	odds	coef	pr	odds	coef	pr	odds	coef	pr	odds	coef	pr	odds	coef	pr	odds
Intercept	-4.383	.00		-4.762	.00		-1.833	.00		-1.516	.00		-4.796	.00		-4.173	.00		-3.731	.00		1.757	.00	
Weighted HS GPA	1.232	.00	3.43	1.223	.00	3.40							.567	.03	1.76	.543	.04	1.72	.517	.05	1.68			
SAT 1 Composite	-.007	.20	0.99																					
SAT2 Composite	.013	.00	1.01																					
SAT1V				-.003	.00	1.00							-.002	.26	1.00	-.002	.21	1.00	-.003	.16	1.00			
SAT1M				.001	.41	1.00							.005	.00	1.00	.005	.00	1.01	.005	.00	1.00			
SAT2W				.004	.00	1.00							.003	.05	1.00	.003	.09	1.00	.003	.14	1.00			
SAT2M				.000	.82	1.00							-.001	.21	1.00	-.001	.14	1.00	-.001	.21	1.00			
SAT2OTH				.000	.58	1.00							.000	.83	1.00	.000	.50	1.00	.000	.71	1.00			
HS rank: weighted GPA							.025	.00	1.03	.024	.00	1.02	.018	.00	1.02	.017	.00	1.02	.017	.00	1.02			
Missing HS rank							-.205	.39	0.81	-.312	.19	0.73	-.567	.03	0.57	-.594	.02	0.55	-.622	.02	0.54			
HS rank: SAT1 verbal							-.007	.00	0.99	-.009	.00	0.99	-.002	.74	1.00	-.002	.70	1.00	-.001	.82	1.00			
HS rank: SAT1 math							-.005	.01	0.99	-.006	.00	0.99	-.015	.00	0.98	-.016	.00	0.98	-.016	.00	0.98			
HS rank: SAT2 writing							.010	.00	1.01	.010	.00	1.01	.000	.97	1.00	.001	.82	1.00	.002	.76	1.00			
HS rank: A-F courses							.001	.68	1.00	.001	.60	1.00	.001	.57	1.00	.001	.52	1.00	.001	.57	1.00			
HS rank: junior honors							-.006	.01	0.99	-.005	.01	0.99	-.006	.01	0.99	-.005	.01	0.99	-.006	.00	0.99			
HS rank: senior honors							.004	.04	1.00	.003	.13	1.00	.004	.02	1.00	.004	.05	1.00	.003	.08	1.00			
Missing junior honors rank							.277	.22	1.32	.277	.22	1.32	.387	.09	1.47	.373	.10	1.45	.405	.08	1.50			
Missing senior honors rank							-.223	.35	0.80	-.099	.68	0.91	-.121	.61	0.89	-.059	.81	0.94	-.071	.77	0.93			
API (2000)							.003	.00	1.00	.003	.00	1.00	.001	.05	1.00	.001	.04	1.00	.001	.05	1.00			
Missing API							-.226	.04	0.80	-.201	.07	0.82	-.225	.05	0.80	-.195	.09	0.82	-.183	.11	0.83			
# of AP exams scored 3+										.040	.09	1.04				.017	.50	1.02	.013	.62	1.01			
% of AP exams scored 4 or 5										.374	.01	1.45				.370	.01	1.45	.384	.01	1.47			
Spark-Passion-Maturity																			.069	.11	1.07	.082	.05	1.09
Activities and Leadership																			.132	.00	1.14	.197	.00	1.22
Obstacles																			-.083	.08	0.92	-.273	.00	0.76
Other Academic																			-.044	.32	0.96	-.058	.15	0.94

TABLE 4: Outcome: Course disengagement (UCUES 2003)   1619 observations used

	Model 1			Model 1a			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7		
Parameters	4			7			13			15			19			21			25			5		
Rsq	.0204			.0317			.0471			.0477			.0526			.0527			.0614			.0096		
AdjRsq	.0186			.0281			.0400			.0394			.0419			.0409			.0473			.0071		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	1.417	4.91	.00	1.339	4.27	.00	.580	2.76	.006	.529	2.43	.02	1.440	2.76	.01	1.42	2.51	.01	.975	1.68	.09	.009	0.36	.72
Weighted HS GPA	-.397	-5.24	.00	-.422	-5.57	.00							-.244	-1.57	.12	-.25	-1.56	.12	-.209	-1.33	.18			
SAT 1 Composite	.007	2.38	.02																					
SAT2 Composite	-.003	-1.57	.12																					
SAT1V				.000	0.61	.54							.001	0.48	.63	.00	.48	.63	.001	0.66	.51			
SAT1M				.001	2.27	.02							.000	0.11	.91	.00	.08	.94	.000	-0.01	.99			
SAT2W				-.001	-2.41	.02							-.001	-1.34	.18	.00	-1.30	.19	-.001	-1.01	.31			
SAT2M				.001	1.07	.29							.001	1.51	.13	.00	1.52	.13	.001	1.71	.09			
SAT2OTH				-.001	-1.60	.11							.000	-1.24	.22	.00	-1.06	.29	.000	-1.27	.21			
HS rank: weighted GPA							-.009	-6.65	.000	-.009	-6.39	.00	-.007	-2.83	.00	-.01	-2.79	.01	-.007	-2.88	.00			
Missing HS rank							.181	1.00	.317	.202	1.11	.27	.292	1.56	.12	.30	1.57	.12	.255	1.35	.18			
HS rank: SAT1 verbal							.000	-0.09	.925	.000	0.11	.91	-.001	-0.31	.76	.00	-.30	.77	-.001	-0.33	.74			
HS rank: SAT1 math							.005	5.01	.000	.006	5.06	.00	.004	1.67	.10	.00	1.70	.09	.004	1.90	.06			
HS rank: SAT2 writing							-.003	-1.92	.055	-.003	-1.80	.07	.001	0.37	.71	.00	.35	.73	.000	0.08	.93			
HS rank: A-F courses							-.001	-0.87	.385	-.001	-0.89	.37	-.001	-1.03	.31	.00	-1.04	.30	-.001	-0.96	.34			
HS rank: junior honors							.003	2.69	.007	.003	2.62	.01	.004	2.84	.00	.00	2.77	.01	.003	2.66	.01			
HS rank: senior honors							-.001	-0.66	.510	-.001	-0.62	.53	-.001	-0.63	.53	.00	-.66	.51	-.001	-0.67	.50			
Missing junior honors rank							-.505	-3.14	.002	-.504	-3.13	.00	-.576	-3.49	.00	-.57	-3.47	.00	-.565	-3.42	.00			
Missing senior honors rank							.146	0.82	.413	.125	0.70	.49	.124	0.69	.49	.12	.67	.51	.149	0.83	.41			
API (2000)							.000	-0.97	.333	.000	-0.68	.50	.000	-0.53	.59	.00	-.50	.62	.000	-0.18	.86			
Missing API							.086	1.34	.179	.083	1.29	.20	.101	1.55	.12	.10	1.53	.13	.112	1.70	.09			
# of AP exams scored 3+										-.002	-0.12	.90				.00	.24	.81	.002	0.11	.91			
% of AP exams scored 4 or 5										-.072	-0.90	.37				-.04	-.52	.60	-.039	-0.46	.65			
Spark-Passion-Maturity																			-.012	-0.50	.62	-.016	-0.65	.52
Activities and Leadership																			.053	2.14	.03	.036	1.46	.14
Obstacles																			.084	2.91	.00	.089	3.46	.00
Other Academic																			-.016	-0.64	.52	-.017	-0.70	.49

TABLE 5: Outcome: Engagement in Research and Creative Projects (UCUES 2003)   1619 observations used

	Model 1			Model 1a			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7		
Parameters	4			7			13			15			19			21			25			5		
Rsq	.0043			.0045			.0138			.0156			.0172			.0186			.0258			.0081		
AdjRsq	.0024			.0008			.0064			.0070			.0061			.0063			.0112			.0057		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-.072	-0.25	.81	.021	0.07	.95	.002	0.01	.992	.093	0.42	.68	-.463	-0.87	.38	-.20	-.35	.73	-.158	-0.27	.79	-.002	-0.08	.94
Weighted HS GPA	.057	0.74	.46	.058	0.76	.45							.217	1.37	.17	.20	1.23	.22	.208	1.30	.19			
SAT 1 Composite	-.008	-2.59	.01																					
SAT2 Composite	.004	2.06	.04																					
SAT1V				-.001	-1.71	.09							-.002	-1.59	.11	.00	-1.67	.09	-.002	-1.74	.08			
SAT1M				-.001	-1.73	.08							-.001	-0.64	.52	.00	-.58	.56	-.001	-0.63	.53			
SAT2W				.001	1.27	.21							.001	0.97	.33	.00	.87	.38	.001	0.95	.34			
SAT2M				.000	0.91	.36							.000	0.77	.44	.00	.64	.52	.000	0.61	.54			
SAT2OTH				.000	1.03	.30							.000	0.82	.41	.00	.31	.75	.000	0.15	.88			
HS rank: weighted GPA							.001	0.97	.331	.001	0.67	.50	-.002	-0.66	.51	.00	-.70	.48	-.002	-0.72	.47			
Missing HS rank							-.177	-0.97	.335	-.215	-1.16	.25	-.233	-1.22	.22	-.25	-1.32	.19	-.278	-1.45	.15			
HS rank: SAT1 verbal							-.002	-1.17	.242	-.002	-1.49	.14	.003	0.89	.37	.00	.89	.38	.003	0.96	.34			
HS rank: SAT1 math							-.002	-1.84	.066	-.002	-1.96	.05	-.002	-0.66	.51	.00	-.69	.49	-.001	-0.57	.57			
HS rank: SAT2 writing							.001	0.92	.356	.001	0.75	.46	-.002	-0.50	.62	.00	-.46	.65	-.002	-0.63	.53			
HS rank: A-F courses							.002	1.87	.062	.002	1.90	.06	.002	1.86	.06	.00	1.88	.06	.002	1.62	.11			
HS rank: junior honors							-.002	-1.24	.216	-.002	-1.17	.24	-.002	-1.23	.22	.00	-1.18	.24	-.002	-1.19	.23			
HS rank: senior honors							.002	1.84	.066	.002	1.74	.08	.002	1.73	.08	.00	1.65	.10	.002	1.44	.15			
Missing junior honors rank							.493	3.02	.003	.493	3.01	.00	.513	3.06	.00	.50	3.00	.00	.508	3.02	.00			
Missing senior honors rank							-.385	-2.12	.034	-.348	-1.91	.06	-.343	-1.88	.06	-.31	-1.70	.09	-.313	-1.70	.09			
API (2000)							.000	-0.74	.460	.000	-1.15	.25	.000	-0.10	.92	.00	-.16	.87	.000	-0.04	.97			
Missing API							.103	1.59	.113	.110	1.68	.09	.110	1.66	.10	.12	1.80	.07	.132	1.97	.05			
# of AP exams scored 3+										.005	0.41	.68				.01	.39	.69	.003	0.24	.81			
% of AP exams scored 4 or 5										.111	1.36	.18				.11	1.25	.21	.122	1.42	.16			
Spark-Passion-Maturity																			.042	1.73	.08	.044	1.79	.07
Activities and Leadership																			.053	2.11	.04	.049	1.97	.05
Obstacles																			-.006	-0.21	.83	.007	0.27	.79
Other Academic																			.052	2.10	.04	.060	2.46	.01

TABLE 6: Outcome: Skill Acquisition (UCUES 2003)   1619 observations used

	Model 1			Model 1a			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7		
Parameters	4			7			13			15			19			21			25			5		
Rsq	.0221			.0741			.0628			.0642			.0827			.0837			.0862			.0056		
AdjRsq	.0203			.0706			.0558			.0560			.0723			.0723			.0725			.0031		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	.961	3.33	.00	1.472	4.80	.00	.721	3.45	.001	.671	3.11	.00	.771	1.50	.13	.75	1.36	.17	.787	1.37	.17	.005	0.22	.83
Weighted HS GPA	.005	0.06	.95	.048	0.65	.51							.178	1.16	.24	.19	1.23	.22	.185	1.19	.23			
SAT 1 Composite	-.008	-2.43	.02																					
SAT2 Composite	-.002	-0.96	.34																					
SAT1V				.000	-0.75	.45							-.001	-0.79	.43	.00	-.77	.44	-.001	-0.80	.42			
SAT1M				-.002	-3.74	.00							-.001	-0.99	.32	.00	-.89	.37	-.001	-0.98	.33			
SAT2W				.002	5.21	.00							.003	2.76	.01	.00	2.68	.01	.003	2.63	.01			
SAT2M				-.002	-2.91	.00							-.002	-3.22	.00	.00	-3.22	.00	-.002	-3.06	.00			
SAT2OTH				-.001	-1.88	.06							-.001	-2.12	.03	.00	-2.23	.03	-.001	-2.09	.04			
HS rank: weighted GPA							.000	0.17	.868	.000	0.27	.79	.000	-0.17	.87	.00	-.27	.79	-.001	-0.26	.80			
Missing HS rank							-.203	-1.14	.256	-.180	-1.00	.32	-.279	-1.51	.13	-.29	-1.54	.12	-.285	-1.53	.13			
HS rank: SAT1 verbal							-.001	-0.86	.392	-.001	-0.71	.48	.002	0.49	.62	.00	.45	.65	.002	0.48	.63			
HS rank: SAT1 math							-.010	-8.96	.000	-.010	-8.89	.00	-.004	-1.65	.10	.00	-1.73	.08	-.004	-1.67	.10			
HS rank: SAT2 writing							.005	3.84	.000	.006	3.86	.00	-.002	-0.65	.52	.00	-.60	.55	-.002	-0.59	.55			
HS rank: A-F courses							.001	1.28	.202	.001	1.30	.19	.001	1.55	.12	.00	1.59	.11	.002	1.62	.10			
HS rank: junior honors							-.001	-0.59	.554	-.001	-0.41	.68	-.001	-0.95	.34	.00	-.79	.43	-.001	-0.93	.35			
HS rank: senior honors							.000	-0.32	.749	.000	-0.07	.94	.000	-0.21	.83	.00	-.05	.96	.000	0.04	.97			
Missing junior honors rank							.223	1.40	.162	.211	1.32	.19	.312	1.92	.05	.31	1.88	.06	.319	1.96	.05			
Missing senior honors rank							-.152	-0.86	.391	-.172	-0.97	.33	-.181	-1.03	.31	-.18	-1.00	.32	-.186	-1.05	.30			
API (2000)							-.001	-2.23	.026	-.001	-2.02	.04	.000	-0.59	.55	.00	-.68	.50	.000	-0.66	.51			
Missing API							.003	0.05	.958	-.004	-0.07	.94	-.022	-0.34	.73	-.02	-.36	.72	-.015	-0.24	.81			
# of AP exams scored 3+										-.019	-1.51	.13				-.01	-.92	.36	-.013	-1.00	.32			
% of AP exams scored 4 or 5										.053	0.67	.51				.10	1.26	.21	.105	1.26	.21			
Spark-Passion-Maturity																			.012	0.49	.62	.011	0.45	.65
Activities and Leadership																			.016	0.66	.51	.026	1.04	.30
Obstacles																			-.005	-0.16	.87	.031	1.21	.23
Other Academic																			-.046	-1.91	.06	-.060	-2.46	.01

TABLE 7: Outcome: Career Engagement and Preparation (UCUES 2003)   1619 observations used

	Model 1			Model 1a			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7		
Parameters	4			7			13			15			19			21			25			5		
Rsq	.0389			.1228			.0986			.1023			.1309			.1325			.1385			.0104		
AdjRsq	.0371			.1196			.0918			.0944			.1211			.1216			.1256			.0079		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-2.011	-7.06	.00	-2.219	-7.47	.00	-1.150	-5.65	.000	-1.013	-4.81	.00	-1.687	-3.39	.00	-1.34	-2.50	.01	-1.415	-2.55	.01	-.008	-0.34	.74
Weighted HS GPA	.302	4.03	.00	.233	3.24	.00							.085	0.57	.57	.05	.34	.73	.057	0.38	.70			
SAT 1 Composite	-.001	-0.48	.63																					
SAT2 Composite	.006	3.14	.00																					
SAT1V				-.001	-3.40	.00							-.001	-0.77	.44	.00	-.90	.37	-.001	-0.77	.44			
SAT1M				.001	2.08	.04							.000	0.05	.96	.00	.05	.96	.000	0.21	.83			
SAT2W				-.001	-2.94	.00							-.002	-1.69	.09	.00	-1.76	.08	-.002	-1.69	.09			
SAT2M				.003	6.55	.00							.003	6.44	.00	.00	6.26	.00	.003	6.01	.00			
SAT2OTH				.000	-0.28	.78							.000	-0.31	.76	.00	-.75	.45	.000	-1.03	.30			
HS rank: weighted GPA							.006	4.33	.000	.005	3.88	.00	.003	1.31	.19	.00	1.33	.18	.003	1.36	.17			
Missing HS rank							-.247	-1.41	.158	-.306	-1.74	.08	-.255	-1.43	.15	-.28	-1.54	.12	-.249	-1.39	.17			
HS rank: SAT1 verbal							-.004	-3.01	.003	-.004	-3.44	.00	-.002	-0.53	.60	.00	-.50	.61	-.002	-0.60	.55			
HS rank: SAT1 math							.009	8.86	.000	.009	8.68	.00	.003	1.37	.17	.00	1.40	.16	.003	1.30	.20			
HS rank: SAT2 writing							-.003	-1.95	.052	-.003	-2.16	.03	.002	0.50	.62	.00	.51	.61	.002	0.50	.61			
HS rank: A-F courses							.000	-0.35	.726	.000	-0.34	.74	-.001	-0.73	.46	.00	-.73	.47	-.001	-0.89	.37			
HS rank: junior honors							.000	-0.15	.882	.000	-0.27	.79	.000	0.10	.92	.00	.04	.97	.000	0.34	.73			
HS rank: senior honors							.002	1.37	.170	.001	1.04	.30	.001	1.19	.24	.00	.97	.33	.001	0.91	.36			
Missing junior honors rank							.297	1.91	.057	.308	1.98	.05	.256	1.63	.10	.25	1.60	.11	.218	1.38	.17			
Missing senior honors rank							-.010	-0.06	.952	.046	0.26	.79	.049	0.29	.78	.08	.49	.63	.087	0.51	.61			
API (2000)							.001	2.76	.006	.001	2.08	.04	.000	1.03	.30	.00	1.02	.31	.000	0.97	.33			
Missing API							-.051	-0.83	.409	-.037	-0.60	.55	-.019	-0.30	.76	.00	-.08	.94	-.007	-0.12	.91			
# of AP exams scored 3+										.023	1.92	.06				.02	1.27	.21	.017	1.37	.17			
% of AP exams scored 4 or 5										.058	0.75	.45				.05	.68	.50	.054	0.67	.50			
Spark-Passion-Maturity																			.031	1.35	.18	.034	1.42	.15
Activities and Leadership																			-.039	-1.63	.10	-.047	-1.93	.05
Obstacles																			.017	0.62	.54	-.034	-1.31	.19
Other Academic																			.059	2.54	.01	.072	2.97	.00

TABLE 8: Outcome: Community Service-Leadership (UCUES 2003)   1619 observations used

	Model 1			Model 1a			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7		
Parameters	4			7			13			15			19			21			25			5		
Rsq	.0058			.0081			.0157			.0183			.0225			.0262			.0562			.0352		
AdjRsq	.0040			.0044			.0084			.0097			.0115			.0140			.0420			.0328		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	.118	0.40	.69	.324	1.02	.31	-.049	-0.23	.818	-.045	-0.20	.84	.247	0.47	.64	.63	1.10	.27	.538	0.92	.36	-.005	-0.20	.84
Weighted HS GPA	.105	1.37	.17	.108	1.41	.16							.072	0.46	.65	.02	.12	.90	.045	0.29	.78			
SAT 1 Composite	-.003	-0.91	.36																					
SAT2 Composite	-.002	-1.01	.31																					
SAT1V				-.001	-1.81	.07							.000	-0.19	.85	.00	-.34	.74	-.001	-0.49	.63			
SAT1M				.000	0.79	.43							.000	0.24	.81	.00	.12	.90	.000	-0.24	.81			
SAT2W				.000	0.77	.44							-.001	-0.61	.54	.00	-.59	.55	.000	-0.38	.70			
SAT2M				-.001	-1.69	.09							-.001	-2.05	.04	.00	-2.18	.03	-.001	-1.80	.07			
SAT2OTH				.000	-0.77	.44							.000	-0.81	.42	.00	-.94	.35	.000	-0.99	.32			
HS rank: weighted GPA							.001	0.48	.629	.001	0.53	.60	.000	0.14	.89	.00	.31	.76	.001	0.23	.82			
Missing HS rank							.333	1.81	.070	.327	1.77	.08	.363	1.90	.06	.35	1.83	.07	.266	1.41	.16			
HS rank: SAT1 verbal							-.003	-1.89	.059	-.002	-1.79	.07	-.002	-0.49	.63	.00	-.41	.68	-.001	-0.20	.84			
HS rank: SAT1 math							-.001	-1.31	.191	-.001	-1.29	.20	.000	0.03	.97	.00	.17	.86	.001	0.63	.53			
HS rank: SAT2 writing							.001	0.55	.584	.001	0.61	.54	.003	0.91	.36	.00	.87	.38	.002	0.47	.64			
HS rank: A-F courses							.001	1.14	.253	.001	1.09	.27	.001	1.22	.22	.00	1.18	.24	.001	0.97	.33			
HS rank: junior honors							.000	-0.06	.951	.000	-0.33	.74	.000	-0.21	.83	.00	-.48	.63	-.001	-0.94	.35			
HS rank: senior honors							.000	0.16	.874	.000	-0.11	.91	.000	0.22	.83	.00	-.19	.85	.000	-0.39	.69			
Missing junior honors rank							-.234	-1.43	.152	-.218	-1.33	.18	-.238	-1.42	.15	-.23	-1.40	.16	-.183	-1.11	.27			
Missing senior honors rank							-.078	-0.43	.665	-.076	-0.42	.68	-.091	-0.50	.62	-.06	-.33	.74	-.056	-0.31	.76			
API (2000)							.000	0.96	.338	.000	1.05	.29	.001	2.34	.02	.00	2.45	.01	.001	2.92	.00			
Missing API							-.199	-3.06	.002	-.193	-2.96	.00	-.187	-2.83	.00	-.17	-2.56	.01	-.133	-2.02	.04			
# of AP exams scored 3+										.021	1.68	.09				.03	2.46	.01	.026	2.00	.05			
% of AP exams scored 4 or 5										-.147	-1.79	.07				-.09	-1.02	.31	-.059	-0.70	.48			
Spark-Passion-Maturity																			.053	2.20	.03	.058	2.40	.02
Activities and Leadership																			.166	6.65	.00	.170	6.97	.00
Obstacles																			.019	0.66	.51	.039	1.54	.12
Other Academic																			-.023	-0.94	.35	-.032	-1.31	.19

TABLE 9: Outcome: Number of Semesters Responsible for Organizing Student Groups - from Dean of Students Data Base   4483 observations used

	Model 1			Model 1a			Model 2			Model 3			Model 4			Model 5			Model 6			Model 7		
Parameters	4			7			13			15			19			21			25			5		
Rsq	.0068			.0114			.0091			.0129			.0182			.0199			.0330			.0162		
AdjRsq	.0062			.0101			.0065			.0098			.0142			.0156			.0277			.0153		
	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p	est.	t	p
Intercept	-.027	-0.12	.90	-.231	-0.98	.33	.438	2.63	.008	.611	3.57	.00	-.133	-0.32	.75	.28	.63	.53	.260	0.58	.57	.662	33.24	.00
Weighted HS GPA	.102	1.72	.09	.121	2.04	.04							.159	1.26	.21	.12	.97	.33	.137	1.08	.28			
SAT 1 Composite	-.008	-3.22	.00																					
SAT2 Composite	.007	4.46	.00																					
SAT1V				-.001	-1.74	.08							-.001	-1.41	.16	.00	-1.59	.11	-.001	-1.44	.15			
SAT1M				-.001	-1.19	.24							-.002	-2.39	.02	.00	-2.39	.02	-.002	-2.49	.01			
SAT2W				.001	3.61	.00							.003	3.63	.00	.00	3.43	.00	.003	3.18	.00			
SAT2M				-.001	-1.38	.17							-.001	-1.21	.23	.00	-1.40	.16	.000	-1.12	.26			
SAT2OTH				.001	4.48	.00							.001	4.26	.00	.00	3.47	.00	.001	3.35	.00			
HS rank: weighted GPA							.002	1.38	.168	.001	0.86	.39	.000	-0.24	.81	.00	-.15	.88	-.001	-0.34	.74			
Missing HS rank							-.121	-0.94	.347	-.183	-1.41	.16	-.182	-1.35	.18	-.20	-1.49	.14	-.258	-1.92	.05			
HS rank: SAT1 verbal							.000	-0.09	.928	-.001	-0.91	.36	.002	0.90	.37	.00	.87	.38	.002	0.93	.35			
HS rank: SAT1 math							-.001	-0.97	.330	-.001	-1.45	.15	.004	2.24	.03	.00	2.22	.03	.005	2.39	.02			
HS rank: SAT2 writing							.003	2.67	.008	.003	2.41	.02	-.006	-2.28	.02	-.01	-2.14	.03	-.006	-2.13	.03			
HS rank: A-F courses							.001	0.68	.498	.001	0.75	.45	.001	0.82	.41	.00	.86	.39	.000	0.52	.60			
HS rank: junior honors							-.002	-1.69	.091	-.002	-1.79	.07	-.002	-1.60	.11	.00	-1.77	.08	-.002	-2.18	.03			
HS rank: senior honors							.003	3.16	.002	.002	2.50	.01	.003	3.04	.00	.00	2.49	.01	.002	2.22	.03			
Missing junior honors rank							.053	0.43	.667	.066	0.54	.59	.081	0.65	.52	.09	.70	.49	.118	0.95	.34			
Missing senior honors rank							.055	0.42	.673	.113	0.86	.39	.096	0.74	.46	.13	.96	.34	.134	1.03	.31			
API (2000)							.000	-0.80	.421	.000	-1.70	.09	.000	-0.90	.37	.00	-.84	.40	.000	-0.58	.56			
Missing API							-.087	-1.71	.088	-.071	-1.39	.16	-.120	-2.32	.02	-.10	-1.96	.05	-.082	-1.57	.12			
# of AP exams scored 3+										.028	2.68	.01				.02	2.28	.02	.020	1.88	.06			
% of AP exams scored 4 or 5										.108	1.69	.09				.05	.77	.44	.068	1.04	.30			
Spark-Passion-Maturity																			.058	2.95	.00	.067	3.40	.00
Activities and Leadership																			.141	7.01	.00	.153	7.69	.00
Obstacles																			.009	0.39	.70	-.008	-0.40	.69
Other Academic																			.026	1.31	.19	.034	1.71	.09