



Determined to Succeed

Realizing the College Dream in California

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**DETERMINED TO SUCCEED:
REALIZING THE COLLEGE DREAM IN CALIFORNIA
2004 Report**

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OVERVIEW

Students who enroll in higher education in California are far more persistent about continuing with their studies than past research has indicated—and a key factor in their ability to remain in school is receiving a Cal Grant. These two findings stand out when the longitudinal experience of the 1998 cohort of financial aid applicants in California is closely examined. By studying what happened to the 100,000 students in the cohort and what differences in their circumstances appear to be linked to outcomes, a picture emerges of a population that is determined to succeed and realize their college dream despite obstacles.

The most clear-cut finding from the study is that persistence—the act of re-enrolling in college each year—is high. Looking at one cohort of students who originally entered four-year institutions, 73 percent were enrolled continuously at those institutions over a four-year period and 85 percent were still enrolled somewhere within the higher education system.

The study also demonstrates that receiving a Cal Grant stands out as a factor in a student's ability to persist, regardless of other factors that may influence a student's progress toward education goals, such as family background or prior academic achievement. More than 96 percent of Cal Grant A recipients re-enrolled after their first year of study—the highest rate of any group in the cohort. In addition, receiving a Cal Grant was found to be significant in determining whether students enrolled immediately in the first year, stayed at the same institution all four years, or remained enrolled somewhere for four years.

These findings are important from a policy perspective, not only in the short term as politicians struggle with constrained budget choices, but also in the long term as the state weighs how to invest its resources in the most effective manner. Since all public higher education is heavily subsidized (through direct funding to institutions and student grants) and even private education is subsidized to some degree (through student grants), it is important for policy-makers to know that their investment is more effective than previous studies may suggest.

Persistence

The rate at which students leave the K-12 system and enter some segment of higher education is often viewed as an indicator of society's success in shaping an educated, productive citizenry. But it has not escaped researchers' notice that the rate at which these same students complete their higher education objectives is perhaps a more meaningful measure. Thus, persistence studies have been undertaken to review what happens to students after they enroll and how many emerge at some later point with a degree or certification.

The results have been discouraging up until now, largely because most studies tend to take measurements at single institutions or segments (such as the California State University system). Since students may enroll in a single institution or single segment and then leave

without explanation in following years, such studies only reflect persistence with the initial choice of institution or higher education segment. For example, California State University (CSU) tracked first-time freshmen in 1988 and found that only 60 percent had graduated or were still enrolled at a CSU campus four years later.

In this comprehensive examination of California data for more than 100,000 potential students who applied for aid for the 1998-99 academic year, a more complex picture emerges. Students are far more persistent than previous studies show—in fact, many display what could only be called dogged determination, staying at their initial institution or switching from one institution to another, one or more times, to find a fit for their needs, aspirations and budgets.

Overall, the study found that at the end of four years, 50 percent of the students in the cohort were still enrolled in their original school, a measurement that is analogous to the findings of single-institution persistence studies. Another 19 percent were still enrolled, but at a different institution—students who might be missed in a single-institution study.

Even the finding that 31 percent of those who entered higher education institutions were no longer enrolled after four years does not conclusively point to failed persistence. It is likely that some unknown proportion of the 31 percent already reached their original objective: On the aid applications from this cohort, 15 percent indicated a desire for an associate of arts degree and 11 percent sought vocational or technical certification, both typically obtained in far less than four years. Still others in that group may yet re-enroll at a later date.

Data from the cohort show that there were several patterns of movement among those who persisted in other than their original settings. There were students who followed a traditional route of enrolling at a community college and then transferring to a four-year institution. However, it was more common for someone enrolled originally at a four-year institution to transfer to a two-year institution. Others began at one four-year institution and transferred to another. Still others were four-year college students who transferred once to rehabilitate themselves academically at a community college and then transferred back to a four-year campus. Some of the movement reflected progress, some involved setbacks—but all of it revealed a tremendous perseverance by aid applicants who were trying to complete their education.

Cal Grants

The data indicate that being offered a Cal Grant award had a powerful, positive impact on persistence at both two-year and four-year institutions. In fact, at 96.5 percent, Cal Grant A recipients had the highest second-year enrollment rate of any group of aid applicants in the cohort. Even Cal Grant B recipients, those from the very poorest families with the most limited

resources and the highest financial barriers to success, had a second-year re-enrollment rate of 93 percent.

Cal Grants also played a significant role in promoting successful transfer from community colleges to four-year institutions. For example, when all community college students with aspirations for a bachelor's degree in this cohort were compared, those provided Cal Grant A awards were twice as likely to transfer to and remain enrolled at four-year institutions by their third and fourth year as their non-grant counterparts.

Regression analysis indicates that even when controlling for family income and assets, grade point average in high school, and the educational background of parents, the receipt of a Cal Grant significantly increased a student's likelihood of persisting in school for four years.

What the data from this cohort show is that providing aid to students who could not otherwise afford higher education, or who would have to work more and study less without assistance, is an investment that pays off in terms of increased persistence.

Conclusion

Many other specific findings can be drawn from the data in this report. For example, four-year college students who changed to different four-year institutions generally moved to less expensive four-year public institutions closer to home. And aid applicants who delayed enrolling after initially applying for financial assistance were two-and-a-half times more likely to drop out by their second year than those who enrolled immediately.

Other pieces of the puzzle, however, cannot be assessed from these data. For example, while the overwhelming proportion of students persist, is the failure of the much smaller, but still significant, proportion who drop out linked to financial problems, unexpected tuition increases, inadequate articulation of coursework between two- and four-year institutions, unavailability of required courses at convenient times, inadequate counseling or some other factors? While many institutions of higher education spend considerable resources attracting students, far fewer appear to focus on retention once the students are in the door—and nothing in this study indicates what problems institutions need to address specifically to increase persistence.

The value of the close examination of this single cohort of 100,000 aid applicants is not in providing a road map to circumvent all of the detours and unexpected pit stops that students make in pursuit of a higher education. Instead, it is in demonstrating to policy-makers that students are far more persistent than they are normally given credit for once they are in college, and that Cal Grants make a significant difference in getting them in the door and helping them stay there.

INTRODUCTION

Background

With the number of high school graduates expected to increase 19 percent by 2012,¹ California faces an extraordinary increase in potential college enrollment over the next decade. The extent of college participation, while critically important to the millions of individuals involved, also determines the future strength and vitality of California's economy. The considerable skills, knowledge, and capacity for innovation of its adult labor force will drive the future of California's economic growth. The most rewarding new jobs require, at a minimum, education beyond high school, and individuals without any college education will continue to face formidable challenges in finding employment that earns them a living wage. Indeed, a recently released report on the California economy concluded that gains in family income in the past decade primarily benefited the better-educated workers in the high-wage, high-technology sector.²

This study is designed to provide answers to key questions about college participation and performance in California by examining the experiences of the cohort of high school graduates who applied for financial aid in 1998 to begin college as first-time freshmen. The study examines which first-time freshmen persisted with their higher education studies and assesses the influence on persistence of family and personal financial resources, prior academic achievement, enrollment intensity, and state grant aid.

The sections that follow describe the characteristics of the aid applicants in this cohort, as well as their education experience in the following four years.

Study Design

The challenge of paying for college can be daunting for many students and their families. Earlier studies have found that college-going rates differ markedly among high school graduates from high-, middle-, and particularly low-income families. Because those with limited financial resources are projected to make up a considerably larger portion of the future pool of potential college students, this study focuses on the college enrollment and persistence patterns of California residents who applied for financial aid through the Free Application for Federal Student Aid (FAFSA) in 1998 but who had not previously attended college. Most had earned a high school degree or a GED equivalent and were between the ages of 17 and 20.

The demographic and financial data for each FAFSA applicant were matched with an enrollment database to determine which aid applicants enrolled in college in 1998-99 and in each of the subsequent four years.³ They were also matched with the 1998 Cal Grant applicant and recipient files.

Profile of the Cohort

In all, 100,294 California residents who had not yet attended college applied for financial aid for 1998-99. They were predominantly female (58 percent), considered dependent on their parents for financial aid purposes (93 percent), and single (99 percent). About half (49 percent) came from families with incomes of less than \$30,000. The median family income, which included student income, was \$42,000. More than 62 percent planned on earning at least a bachelor's degree; 15 percent wanted an associate degree; 11 percent sought vocational or technical certificates; and 12 percent were still undecided about their degree objectives.

Obviously, aid applicants are not representative of all college aspirants. Of the 312,000 students who graduated in 1998 from California's public and private high schools, 56 percent enrolled that fall at a postsecondary institution. Only 29 percent enrolled in a four-year college or university. In contrast, 64 percent of aid applicants enrolled in higher education in the fall, with 37 percent enrolling at four-year institutions.

A larger proportion of the aid applicants aspired to more expensive schools, both four-year and private, than did all college freshmen. While only 24 percent of those who enrolled as first-time freshmen at California Community Colleges were aid applicants, 55 percent of University of California new enrollees and 78 percent of new students at California independent four-year institutions were financial aid applicants (*see Table 10 in the Appendix*). This group represents students who are both qualified and ambitious to attend college but who find it an economic hardship. While there is enormous diversity in both the qualifications and financial resources of this group, they have already leaped the academic hurdles of high school and are aware of the existence of financial aid.

While some proportion of this cohort delayed entering college immediately after applying for aid, more than 81 percent of them ultimately enrolled. Measures of college participation that focus only on those enrolling within a year of high school graduation or immediately after first applying for financial aid miss this significant added dimension of overall college participation.

FINDINGS

THOSE WHO DELAYED ENROLLMENT WERE DIFFERENT

Out of the 100,000-plus applicants for financial aid who had never previously attended college, 64 percent went immediately on to college. Another 17 percent delayed enrolling by one or more years but did eventually enroll. Finally, 19 percent never showed up at any college.

Frequently, the perception is that the act of delaying is in and of itself a major factor behind the eventual higher attrition and lower graduation rates of those who postpone going to college. What is now clear from looking at this cohort, however, is that those who delayed their initial enrollment were not simply older than those who enrolled immediately; they were also fundamentally different in other important ways even before enrollment. Table 1 on page 7 profiles the different characteristics of the three groups of applicants.

Aid applicants who demonstrated high levels of academic achievement in high school were much more likely to enroll immediately and more likely to enroll overall than were applicants with weaker high school records. More than 87 percent of those with reported high school GPAs of 3.0 or higher enrolled immediately compared to 53 percent of those with GPAs below 3.0. Applicants who enrolled immediately were much more likely to report their GPAs, which is required to be considered for a Cal Grant. While most applicants had graduated from high school, the percentage who had a high school degree was higher among those who enrolled immediately.

Consistent with the findings in other studies, enrollment rates increased and the percentage not enrolling decreased as the family's financial position rose.⁴ The median parent's income for dependents who enrolled was \$42,000, for those who delayed it was \$32,000, and for those who never enrolled it was \$26,000. (Dependent aid applicants provide financial information from their parents.) The mean net worth of families (the current value of investments minus debt) from the three groups differed even more dramatically. Those who enrolled had an average net worth of \$26,000, those who delayed had a net worth of just over half of that, and those who never enrolled had an average of just \$7,000 (see Table 1, page 7).

A college education increases not only the average lifetime earnings of individuals but also the likelihood their children will attend college.⁵ Applicants whose parents attended college were more likely to enroll immediately. Students who went directly to college were also more likely to have two parents in the home.

Less than five percent of the financial aid applicants in the cohort who enrolled in college were older, independent students. This small percentage suggests either that most non-traditional students did not apply for financial aid or that many of them had enrolled in college sometime earlier in their lives. The independent students who delayed or never attended college had a

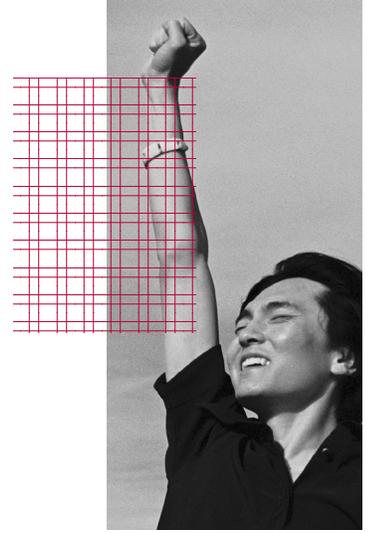


TABLE 1:
Selected Characteristics of Those Who Enrolled Immediately and Those Who Delayed Enrolling for One or Two More Years

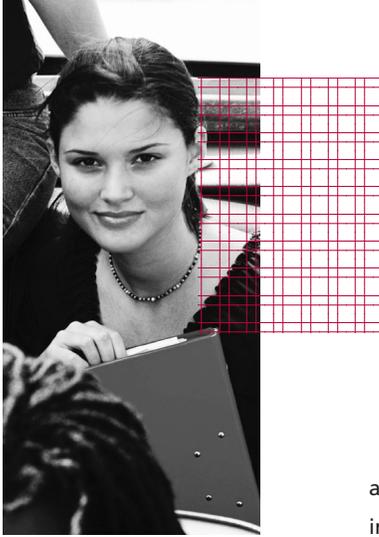
CHARACTERISTICS	ENROLLED IMMEDIATELY	DELAYED ENROLLING	NEVER ENROLLED
Total applicants	64%	17.4%	18.5%
Average age	18	19	20
Independent*	4.1%	7.1%	15%
Not high school graduate	2.1%	4.6%	9%
No high school GPA reported	42%	58%	77%
Average GPA	3.24	2.98	2.74
Median parents income**	\$42,266	\$31,531	\$25,900
Mean family net worth**	\$26,220	\$14,860	\$6,860
Father attended college	46%	33%	22%
Parents are married	67%	59%	51%
Offered Cal Grant	18%	13%	5%
Median independent student income	\$2,136	\$4,379	\$5,213
Initial Institution			
Community college	40.3%	74.5%	
Four-year institution	58.8%	22.8%	
Degree Objective			
Voc/Tech Certificate or AA	15.0%	36.9%	56%
Bachelor's Degree	73.6%	53.3%	34%

* Age and dependency status in 1998-99 at the time they first applied for financial aid.

** For dependent students only.

higher median income than those who enrolled directly, possibly because they had full-time employment. But very few of them actually earned very much, with just 11 percent reporting earning \$10,000 or more, except at proprietary schools where it was over 20 percent (see Table 13 in the Appendix). More than 80 percent of all independent first-time freshmen enrolled in community colleges. Proprietary schools and the California State University were the only other segments that had five percent or more of the independent cohort members enrolling that year. Cost was no doubt a factor in these choices, but so too was the possibility of part-time study, convenient class schedules, and proximity to home or work.

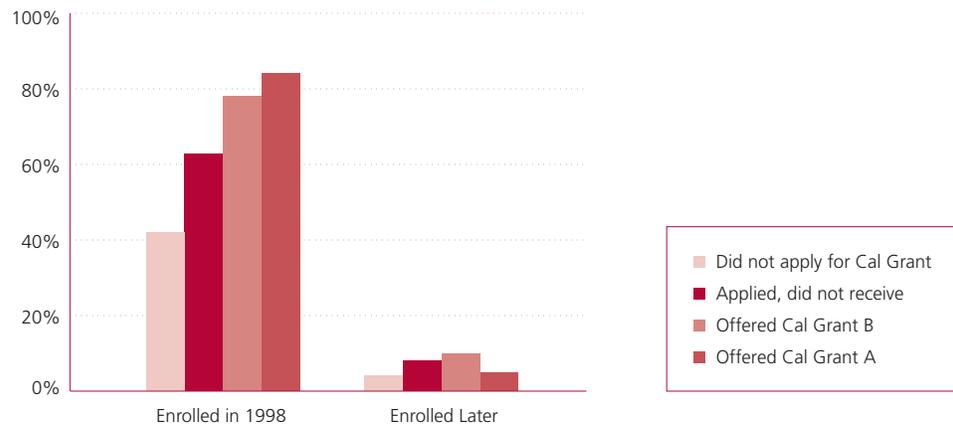
Those who enrolled immediately were far more likely to plan on earning a bachelor's degree and considerably less interested in vocational certificates than those who delayed enrolling or never enrolled at all. Roughly 70 percent of those who enrolled immediately planned on obtaining a bachelor's degree, while only half of those who delayed enrolling had such



aspirations (see Table 1 on page 7). Because jobs were plentiful until the California economy fell into recession at the turn of the century, perhaps it is not surprising that aid applicants with vocational training goals often postponed enrolling until 1999-2000 or later, if they enrolled at all. More than half of those who delayed enrolling but aspired to earn bachelor's degrees began at community colleges and would need to transfer to four-year institutions to do so.

The largest source of grant aid available to lower-income financial aid recipients is the federal Pell Grant program, but California's Cal Grant A and B Programs also provide important grant aid for those low- and middle-income undergraduates who receive awards. In 1998-99, new Cal Grant A recipients included high-achieving, financially needy freshmen, sophomores and juniors with high school GPAs above 3.1. The Cal Grant B Program was targeted at disadvantaged students who had not yet completed more than 16 units of college level work. As shown in Figure 1, the percentage of applicants who enrolled immediately was much higher for those who were offered Cal Grant awards than for those who did not apply for a Cal Grant or for those who applied for but did not receive an award.

FIGURE 1:
Percent of 1998 Aid Applicants Who Applied and Who Were Offered Cal Grants



FAMILY BACKGROUND AFFECTED CHOICE OF INITIAL INSTITUTION

Parents' education levels and other background variables affected not only the probability their children would enroll immediately but also the types of institutions at which they first enrolled. The percentage of first-generation college students in 1998-99 was highest among freshmen aid applicants at proprietary schools, community colleges and private two-year institutions. Only 18 to 27 percent of freshmen at these schools reported fathers who had

attended college, although the percentages for mothers were slightly higher. At four-year institutions, the percentage who reported college-educated fathers ranged from 67 percent at the University of California and independent four-year institutions, to 44 percent at the California State University.

Family financial resources of dependent aid applicants also had a major impact on the type of institution at which they enrolled initially. As expected, students from low-income families were most likely to enroll at community colleges and proprietary schools and least likely to enroll at four-year institutions. Table 2 shows the median or mean values of several financial variables for students at some of the different institution types.

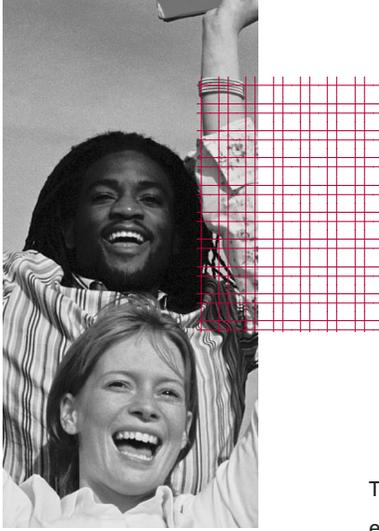
TABLE 2:
Average Family Financial Variables by School Segment

	UNIVERSITY OF CALIFORNIA	CALIFORNIA STATE UNIVERSITY	INDEPENDENT COLLEGE	PUBLIC TWO-YEAR COLLEGES
Parents' Income (median)	\$60,900	\$44,662	\$58,565	\$28,000
Family Net Worth (mean)	\$52,690	\$20,620	\$50,830	\$7,270
Parents' Savings (mean)	\$13,166	\$5,934	\$10,782	\$2,829

Among dependent aid applicants who enrolled in 1998-99, low-income students from families with incomes under \$30,000 accounted for 61 percent of those who enrolled in community colleges, 60 percent of those attending California proprietary schools, 39 percent of those who enrolled at the California State University, and just 27 percent of those at other four-year colleges and universities (see Table 12 in the Appendix).

COLLEGE PERSISTENCE OFTEN INVOLVED TRANSFERRING

Many studies of student persistence and graduation have taken a single-institution perspective. That is, the studies do not adequately consider the students who leave one type of institution but continue and/or complete their education at another. The United States Department of Education's three- and six-year graduation rates, the National Collegiate Athletic Association's graduation rates for varsity athletes and all students, and earlier segment-based studies are all examples of persistence and graduation rate studies from a single-institution (or single-segment) perspective. A fuller, more realistic perspective is provided by studies that use longitudinal samples to track students wherever they enroll.⁶ The current study provides a broad perspective on persistence by analyzing the entire cohort of 1998 California financial aid applicants who became first-time freshmen. It examines some attributes that differentiate those who persisted from those who did not.

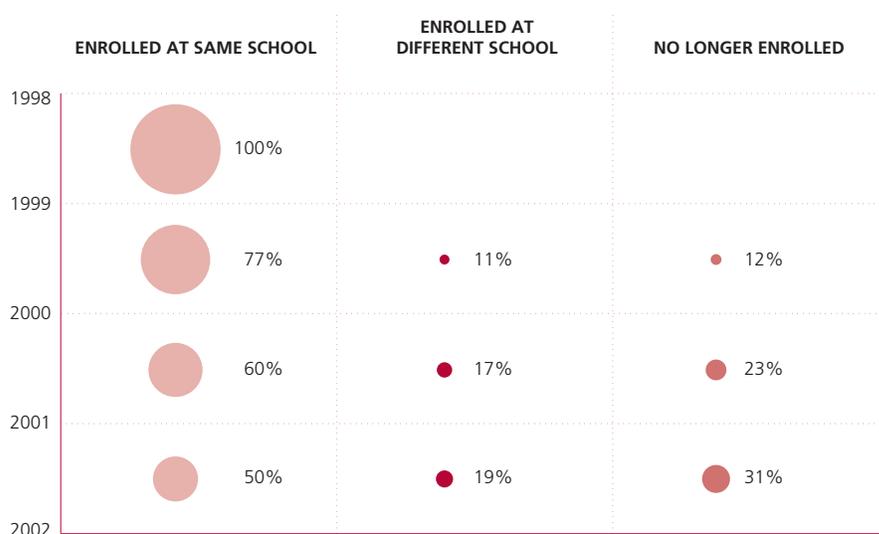


The proportion of aid applicants in the cohort who first enrolled in 1998-99 and then re-enrolled at the same institution for one to three more years is displayed in Figure 2. It is important to note that the persistence rates include students enrolled at community colleges and proprietary schools. The presence of these students in some ways skews the overall results—making persistence rates artificially lower—because these students were never expected to remain for three or four years since most of them enrolled in short-term vocational programs or planned to transfer to four-year institutions to complete a bachelor’s degree.

The single-institution persistence rates (the first column in Figure 2) if read without the context of the other columns, would leave the impression that nearly one-fourth of all freshmen aid applicants did not re-enroll for a second year; that 40 percent did not remain for a third year; and that half were gone before their fourth year. However, in addition to those who persisted at their original institutions, there were significant numbers who re-enrolled at different institutions. Even after four years, nearly 70 percent of freshmen aid applicants were still enrolled in college trying to finish their education; they simply did not necessarily remain enrolled at their original college.

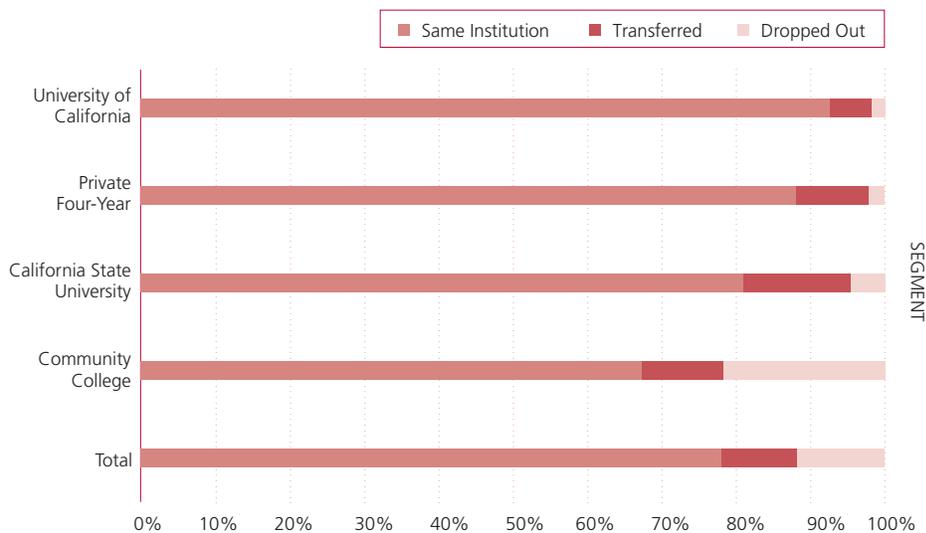
For those attending college, the greatest attrition generally occurs during or immediately after the freshman year. Those considered the most at risk include low-income students; those from ethnic minority backgrounds; those who are the first in their family to attend college; those with weak academic preparation in high school; those who enroll part-time; and older, non-traditional students.

FIGURE 2:
Persistence Rates of 1998 First-Time Freshmen Aid Applicants



The biggest differences in second-year persistence rates were between four-year institutions and those offering certificate or associate degree programs. The four-year schools had an 80 percent or better re-enrollment rate while California Community Colleges had 67 percent of freshmen aid applicants return to the same college their second year. Just 20 percent of freshmen at California private two-year institutions and only six percent of those at proprietary institutions re-enrolled at the same school, although 16 to 18 percent more changed schools their second year. The second-year persistence rates by school type are shown in Figure 3.

FIGURE 3:
Second-Year Persistence Based on Type of Institution First Attended

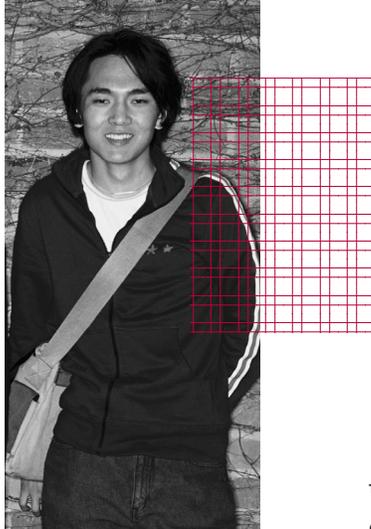


Only 12 percent of all freshmen in the cohort did not re-enroll somewhere in 1999-2000. This represents a dropout rate that is barely half the rate assumed when first-to-second-year persistence is measured only from a single-institution perspective (23 percent).

Although the dominant theme in the transition from the first to second year in college was one of stability, there were four patterns of movement for those who changed schools:

- * Freshmen from four-year institutions who switched to different four-year institutions;
- * Community college freshmen who enrolled at different community colleges;
- * Community college freshmen who transferred to four-year institutions; and
- * Freshmen at four-year institutions who moved to community colleges instead.

Only a quarter of the freshmen applicants at independent four-year institutions and the University of California who changed segments their second year moved to four-year institu-



tions in different segments. Most of those who switched segments, except at the University of California, changed to less expensive California public-four year institutions. Cost considerations appear to have been a major factor behind such moves.

There were recurring characteristics that differentiated freshmen at four-year institutions who changed schools their second year from other freshmen who remained at their original institution. Those who switched were far more likely than their counterparts to have been enrolled part-time as freshmen, to come from lower-income families with fewer assets, to be the first of their generation to attend college, and to have lower high school GPAs. Most, but not all, moved to less expensive institutions. Strikingly, except for University of California students, those who remained enrolled at the same school were more likely to have received a Cal Grant. As Tables 3 through 5 show, these patterns applied with minor variations whether the movement involved freshmen at four-year public or private institutions who enrolled at community colleges instead or shifted to other four-year institutions.

TABLE 3:
Characteristics of California State University Students and Those Changing Schools

CHARACTERISTICS	REMAINED ENROLLED	TRANSFERRED SCHOOLS
High School GPA (mean)	3.17	3.01
Parents' Income (median)	\$44,662	\$40,553
Family Net Worth (mean)	\$20,620	\$13,810
Part-Time	19%	44%
Father Attended College	44%	41%
Received Cal Grant	23%	18%
Number	13,896	1,739

TABLE 4:
Characteristics of University of California Students and Those Changing Schools

CHARACTERISTICS	REMAINED ENROLLED	TRANSFERRED SCHOOLS
High School GPA (mean)	3.60	3.48
Parents' Income (median)	\$60,900	\$52,238
Family Net Worth (mean)	\$52,690	\$27,920
Part-Time	12%	32%
Father Attended College	67%	59%
Received Cal Grant	30%	32%
Number	12,413	634

TABLE 5:
Characteristics of Private Four-Year Students and Those Changing Schools

CHARACTERISTICS	REMAINED ENROLLED	TRANSFERRED SCHOOLS
High School GPA (mean)	3.47	3.24
Parents' Income (median)	\$58,565	\$55,941
Family Net Worth (mean)	\$50,830	\$31,890
Part-Time	8%	31%
Father Attended College	66%	61%
Received Cal Grant	20%	13%
Number	9,114	771

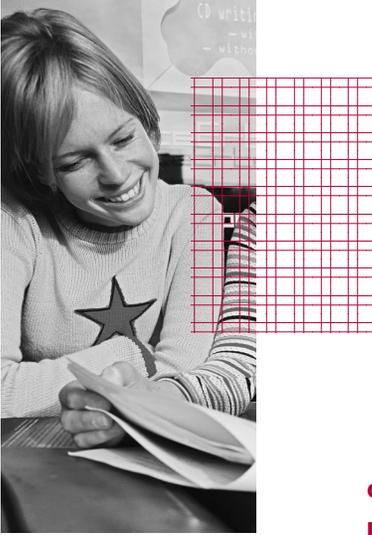
COMMUNITY COLLEGE PERSISTENCE IS RELATED TO STUDENT GOALS

Historically, the California Community Colleges have provided: (1) vocational and technical education; (2) associate degree programs; (3) lower-division instruction for those who want to then transfer to four-year institutions to complete a bachelor's degree; and (4) personal enrichment, retraining and other lifetime-learning opportunities.

Just how well colleges succeed in fulfilling these roles is often difficult to gauge because of uncertainty about how many of their students are trying to achieve which goals and how many do so. Calculating meaningful persistence rates for California Community College freshmen aid applicants must take into account their initial degree objectives. The rate of persistence for those who stated that they wanted a bachelor's degree was 71 percent. The lowest second-year persistence rates occurred among those in certificate programs, where the persistence rate into the second year was 47 percent.

The 16 percent second-year attrition rate among community college aid applicants who aspired to bachelor's degrees was considerably lower than for any other group of community college freshmen, but it was still at least double the rate for freshmen aid applicants at four-year institutions. Community college freshmen, however, were more likely to be first-generation college students, to come from low-income families and to have lower GPAs.

At least 10 percent of community college freshmen who persisted for a second year enrolled at different community colleges. Those who changed colleges were more likely to have enrolled fulltime as freshmen and to come from families with incomes above \$30,000.

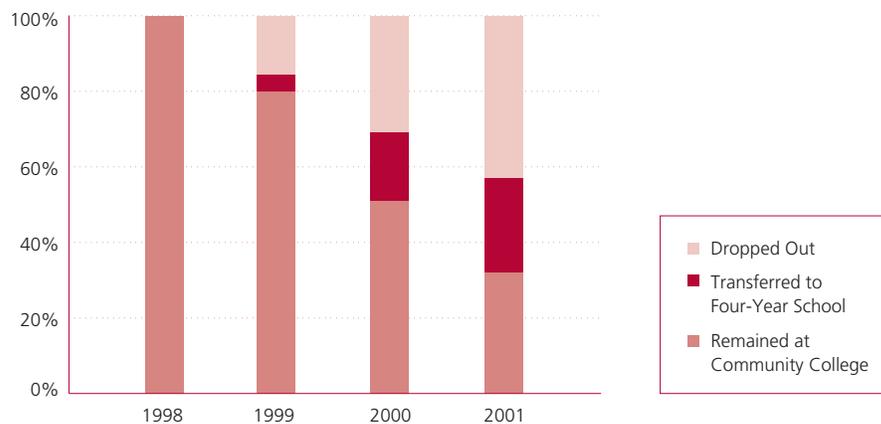


COMMUNITY COLLEGE TRANSFERS WITH FOUR-YEAR SCHOOLS GO IN BOTH DIRECTIONS

The community college transfer function is really a dual function that involves: (1) providing lower-division courses to prepare their students to transfer to four-year schools; and (2) rehabilitating four-year college freshmen who shifted to community colleges to improve their grades and/or strengthen their financial position so they could eventually return to complete their bachelor's degrees.

For many community college aid applicants whose announced goal was a bachelor's degree, preparing to transfer took longer than two years or never occurred. While four percent of all freshmen aid applicants with a bachelor's degree goal transferred to four-year institutions after one year, only 16 percent more transferred after two years. And by 2001-02, merely 25 percent of community college freshmen aid applicants who wanted a bachelor's degree had transferred and were still enrolled at four-year institutions. Figure 4 shows the proportion of community college freshmen aid applicants aspiring to get a bachelor's degree who transferred or dropped out after one to three years.

FIGURE 4:
Four-Year College Transfer Rates for Community College Students with a BA Goal



One-third of the bachelor-degree aspirants were still enrolled at community colleges their fourth year and 42 percent were no longer enrolled anywhere. Overall, more students dropped out in the short-term than successfully transferred to a four-year institution.

Those students who successfully transferred to a four-year school differed from those who remained at community colleges or left school. Comparing only those who had indicated an

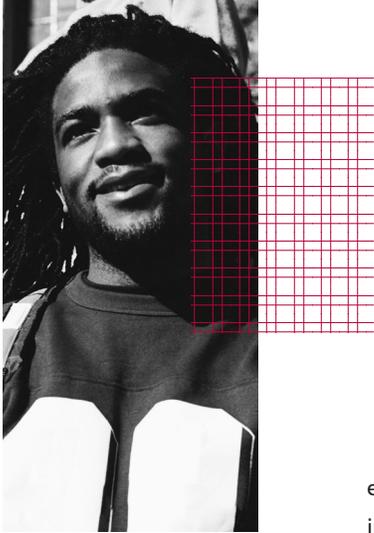
objective of a bachelor’s degree, the successful transfers came from better financial backgrounds, attended principally full time and were more successful academically (see Table 6). Those who remained enrolled appear to be working as well as going to school part time; of the one-third of bachelor-degree aspirants still enrolled at community colleges in their fourth year, 59 percent were enrolled part time.

TABLE 6:
Characteristics of Two-Year Public Students With BA Goal Who Transferred and Those Who Remained at Two-Year Public Schools for Four Years

CHARACTERISTICS	TRANSFERRED TO 4-YEAR SCHOOLS	REMAINED AT 2-YEAR PUBLIC
High School GPA (mean)	3.14	2.86
Parents’ Income (median)	\$43,613	\$33,584
Family Net Worth (mean)	\$19,290	\$11,910
Part-Time	13%	59%
Father Attended College	48%	34%
Received Cal Grant	15%	14%
Number	4,964	14,247

According to a report by the California Postsecondary Education Commission, there were 47,356 community college transfers to four-year institutions in 2000-01. That report found that only 2,308 of them were first-time freshmen aid applicants two years earlier.⁷ Community college aid applicants probably made up such a small fraction of the total number of transfer students because many of them did not apply for financial aid prior to becoming first-time freshmen. It is also apparent that many transfer students take much more than two years in the community colleges before they transfer. It is also quite likely that many of those who transferred in 2000-01 were older students who had already attended college at some point prior to enrolling in the community colleges. In any event, 1998 high school graduates who applied for financial aid before attending college for the first-time in 1998-99 constituted just five percent of the total group of community college students who transferred to California four-year institutions two years later.

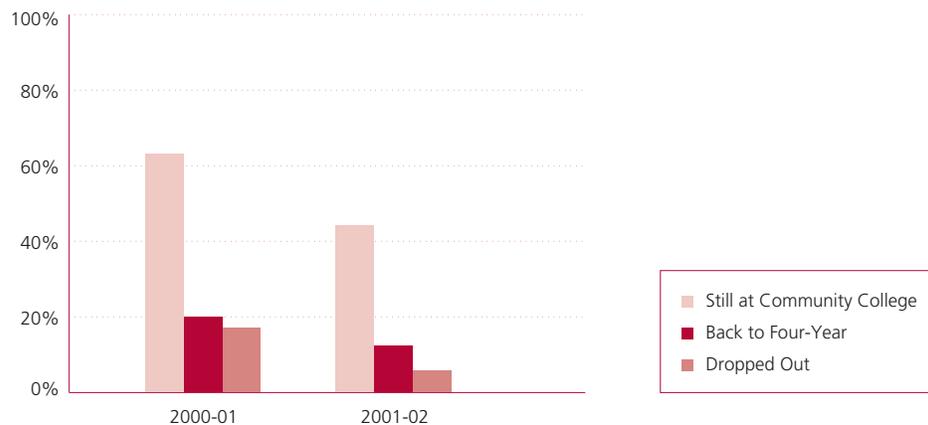
The community colleges also fulfill the important function of trying to assist four-year college students who encounter academic and financial difficulties to get back on the bachelor’s degree track. The largest movement of students in the second year, aside from dropping out, was four-year students moving to community colleges. Eleven percent of first-time freshmen aid applicants in the California State University enrolled at community colleges their second year. In fact, there were more than six times as many State University freshmen in 1998-99 who



enrolled at community colleges their second year as there were community college freshmen in 1998 who transferred to the State University in 1999-2000 (1,591 versus 252). Overall, at least 2,840 first-time freshmen at four-year institutions made a similar move.

Figure 5 shows the persistence and subsequent performance of the 2,840 four-year college freshmen aid applicants who moved to community colleges their second year (1999-2000). More than 20 percent of them transferred back to four-year institutions after just one year. Simultaneously, an additional 2,029 four-year college students moved to the community colleges for their third year and joined the 1,295 who remained enrolled there after making the same academic migration the year before. By 2001-02, one-third of the original group had transferred back to four-year institutions and half were still enrolled at community colleges. Altogether, 15 percent of the original group dropped out during or after their first year in community college and a total of 22 percent of them were not enrolled there or elsewhere the following year.

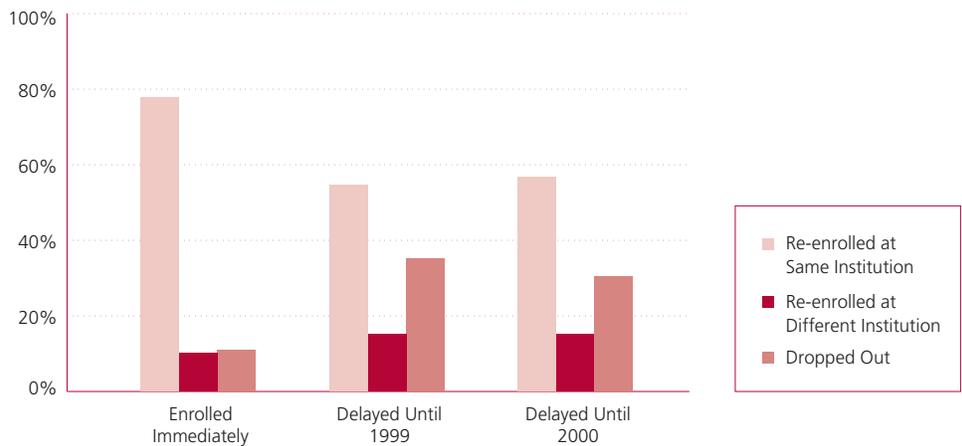
FIGURE 5:
Status in Years Three and Four for Four-Year College Freshmen Who Moved to Community Colleges in 1999-2000



DELAY OFTEN PROVED FATAL TO COLLEGE DREAMS

Most studies of college persistence found that those who delayed enrolling in college for a year or more after completing high school had lower persistence rates and reduced chances of graduating from college.⁸ Figure 6 on page 17 shows that those who delayed enrolling were considerably less likely to remain enrolled at the same institution their second year, more likely to switch to different institutions, and much more likely to drop out.

FIGURE 6:
Second-Year Enrollment Patterns Among Those Who Enrolled Immediately and Those Who Delayed Enrolling for One or Two Years



DROPPING OUT WASN'T ALWAYS PERMANENT

Only 12 percent of the financial aid applicants who enrolled as freshmen in 1998-99 did not re-enroll the next year. Three-fourths of these dropouts spent their first year at community colleges, 20 percent began at four-year institutions, and the remainder initially enrolled at private two-year or proprietary institutions. Not surprisingly, the most selective institutions and those with bachelor's degree programs had the lowest dropout rates. Only in the four-year private and two-year public institutions did those who dropped out have significantly lower-income backgrounds than those who stayed or transferred.

As displayed in Table 7 on page 18, community college dropouts were less likely than others in their schools to have enrolled full time as freshmen, had lower GPAs, came from low-income backgrounds and were more likely to be older, independent students. Some of these characteristics were also true of dropouts from other segments but there were far fewer of them and these traits were less pronounced.

Nearly one-fourth of those who dropped out before their second year were actually “stop-outs” who interrupted their college education only to re-enroll again the following year. More than 71 percent of this returning group enrolled at community colleges. Those most likely to return in 2000-01 were stopouts from four-year institutions. Furthermore, nearly two-thirds of the stopouts who re-enrolled after a year's hiatus re-enrolled again for a second straight year.



TABLE 7:
Characteristics of All Two-Year Public Students and Dropouts

CHARACTERISTICS	ENROLLED	DROPPED OUT
High School GPA (mean)	2.79	2.62
Parents' Income (median)	\$28,000	\$22,500
Family Net Worth (mean)	\$7,270	\$3,580
Part-Time	54%	66%
Father Attended College	28%	21%
Proportion Independent	9%	15%
Number	26,303	5,955

One-third of those aid applicants who enrolled continuously their first two years but did not re-enroll their third year enrolled again in 2001-02. Their higher re-enrollment rate may have stemmed from the longer investment these stop outs had already made in their college education than those who stopped out after their freshman year. It is not yet possible to determine how many stop outs remained enrolled and how many will eventually complete their degrees.

Being offered a Cal Grant award had a major, positive impact on the likelihood first-time freshmen would re-enroll for their second year. Those offered Cal Grant A awards had the highest second-year re-enrollment rates of any group of aid applicants in the cohort. Their 96.5 percent re-enrollment rate was nearly identical to the percent rate among all first-time freshmen aid applicants with GPAs of 3.0 or higher even though the family incomes of those offered Cal Grant A awards were lower on average than those of all first-time freshmen with comparable high school GPAs. The 93 percent re-enrollment rate among those offered Cal Grant B awards was extremely impressive given the very low family incomes of those in this group and the fact that 42 percent of them began in community colleges where attrition rates were generally much higher. The re-enrollment rates of first-time freshmen who did or did not receive Cal Grants by segment are shown in Figure 7 on page 19.

PERSISTENCE OF STUDENTS AT FOUR-YEAR COLLEGES WAS HIGH

As noted earlier, the attrition rates among first-time freshmen aid applicants at four-year institutions were especially low, as shown in Table 8 on page 19. Nearly 73 percent of these freshmen aid applicants enrolled continuously at four-year institutions for four years and 85 percent were still enrolled somewhere.

FIGURE 7:
Second-Year Re-Enrollment Rates by Cal Grant Award Status and Initial School Segment

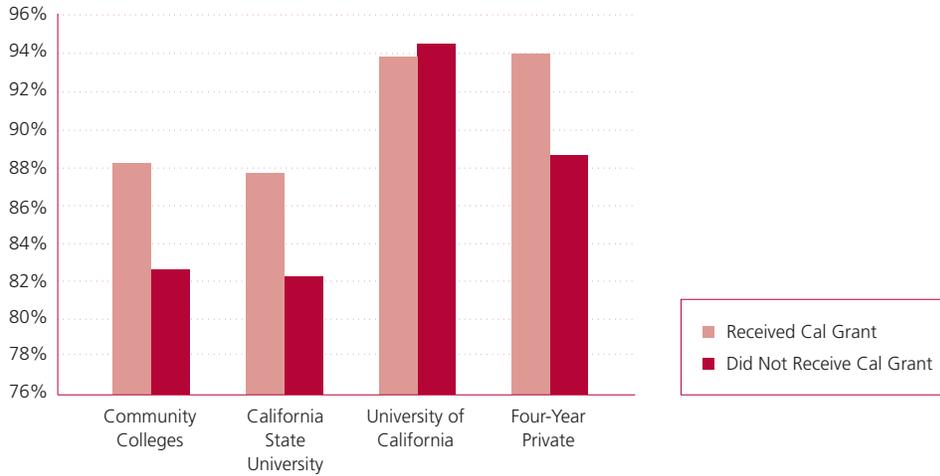


TABLE 8:
Persistence Among Freshmen Who Started at Four-Year Institutions

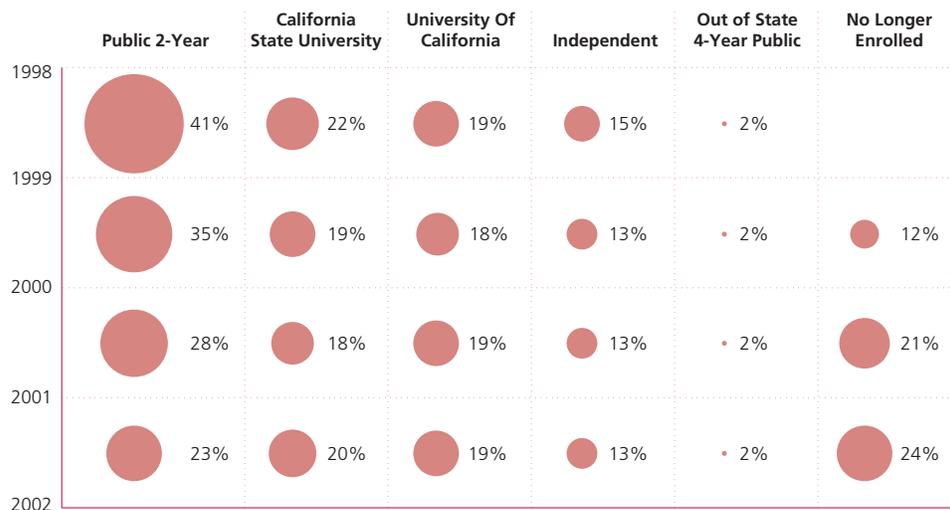
ENROLLED	4-YR INST.	% OF '98	ANY INST.	% OF '98
1998	38,693	100.0%	38,693	100.0%
1999	33,697	87.1%	37,131	96.0%
2000	30,283	78.3%	34,863	90.1%
2001	28,168	72.8%	32,886	85.0%

The lowest continuous four-year enrollment rate within the same segment was 65 percent among California State University freshmen aid applicants (80 percent were still enrolled in college somewhere in 2001-02). The highest rate was 84 percent for University of California freshmen (91 percent overall).

Figure 8 on page 20 illustrates the overall distribution of the cohort of aid applicants who became first-time freshmen in 1998-99 and where they ended up each year for four years, by school type. The distribution across each year equals 100 percent. While this view cannot represent the amount and direction of switching between school types that occurred each year, nor the success of each student in achieving a degree or certificate, it does underscore the stability of the four-year sector and the fluidity and size of the two-year sector student population. By the fourth year, 24 percent of the entire group was no longer enrolled, and 23 percent were still pursuing education at a two-year school.



FIGURE 8:
Enrollment Distribution for Four Years by Type of School of Aid Applicants Who Started as Freshmen in 1998

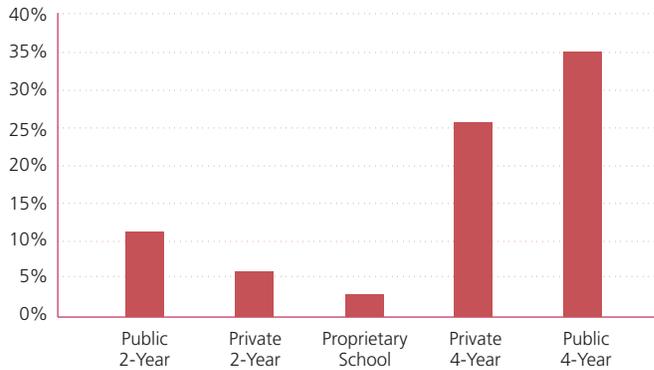


LENGTH OF PERSISTENCE IS NOTABLE

Another striking finding of this study is the length of time that students persist. A further enrollment match was done for the 2002-03 academic year, which was the fifth year out from high school for this cohort. In this fifth year, 15,000 students (15 percent) were still enrolled, which was about a quarter of the size of the 65,000 who enrolled immediately in 1998. Figure 9 on page 21 displays fifth-year enrollment as a proportion of first-year enrollment by school type. Of course, not all of these students are from the original enrolled group; some delayed entering school for a year or two. Others began, but stopped temporarily. Most of the fifth-year students attended four-year schools: 64 percent at public and 16 percent at private institutions. One-fifth of those attending school five years past high school were enrolled at public two-year colleges. Undoubtedly the high proportion (54 percent) of students at community colleges who are part-time make up many of them. Sixteen percent of public four-year students also attend part time.

These findings, plus the community college transfer data, suggest that students take a long time to move through college, even in a short program. It is clear that the students coming from worse financial backgrounds are more likely to take longer to complete their degree, delay entry, stop out, or drop down to part time. Probably much of this is to accommodate employment and financial needs.

FIGURE 9:
Fifth-Year Enrollment as a Percentage of First-Year Enrollment



TRANSFER AND PERSISTENCE RATES HIGH AMONG CAL GRANT RECIPIENTS

Being offered a Cal Grant award had a powerful, positive impact on promoting successful transfer from community colleges to four-year institutions and on persistence at both two- and four-year institutions.

Figure 10 on page 22 compares the persistence and transfer rates of those offered Cal Grant awards to those for all 1998-99 freshmen aid applicants in the community colleges who aspired to bachelor's degrees. Those offered Cal Grants performed consistently better than all applicants with a bachelor-degree goal. They were much less likely to drop out before their second year and more likely to remain enrolled in college for a third and fourth year. Those offered Cal Grant A awards were twice as likely to transfer and remain enrolled at four-year institutions by their third and fourth years as other community college bachelor-degree aspirants. Those offered Cal Grant B awards were slightly more likely than all freshmen aid applicants to have transferred and enrolled at four-year institutions by their fourth year.

Overall, receiving a Cal Grant was a very strong determinant of persistence at all types of schools. Receiving a Cal Grant was found to be significant in determining whether students enrolled immediately in the first year, re-enrolled in the second year, stayed at the same institution all four years, or remained enrolled anywhere for four years. Table 9 on page 22 displays the variables in a regression examining four-year persistence at any school. The dependent variable is defined as being enrolled for four years. It indicates that even controlling for family income and assets, grade point average and the educational background of the parents, the receipt of a Cal Grant significantly increased an aid applicant's likelihood of persisting in school for four years.



FIGURE 10:
College Persistence and Transfer Rates of All Community College Freshmen Aid Applicants with BA Goals and Those Who Were Cal Grant Recipients

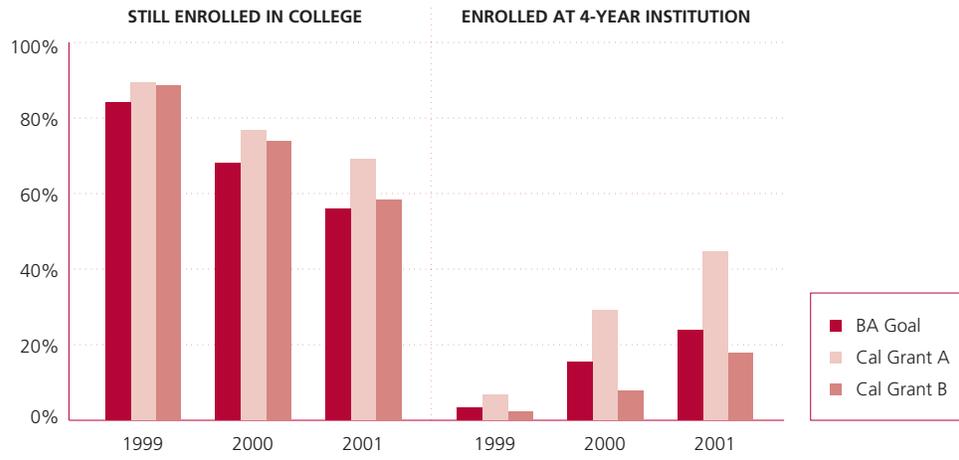


TABLE 9:
Variables Significantly Affecting Four-Year Persistence

	MEAN	PARAMETER	Pr > CHI SQ	ODDS RATIO
1. Attended public four-year	38.0%	2.17	< .0001	8.739
2. Attended private four-year	13.6%	2.57	< .0001	13.082
3. Grade Point Average	3.24	0.004	< .0001	1.004
4. Family Income	\$51,001	0.002	< .0001	1.002
5. Female	42.9%	0.13	< .0001	0.876
6. Parents are Married	70.0%	0.15	< .0001	1.167
7. Received Cal Grant	18.8%	0.15	< .0001	1.163
8. Age	18.1	-0.08	0.0001	0.92
9. Mother Attended College	48.3%	0.11	0.0012	1.116
10. Father Attended College	49.0%	0.11	0.0023	1.111

Sample = all financial aid applicants. N = 35,098. Chi-Square Likelihood Ratio = 10,240 Pr < .0001.

CONCLUSION

In the short run, it is difficult to influence some of the basic factors that dramatically affect both college participation and persistence—high school preparation and performance levels, disparities in family income, or differences in parental support—but over the long term, public policy-makers can create positive change. The context for higher education currently is challenging: Tuition and fees are beginning to increase sharply, state support levels for public higher education are endangered, and most public institutions are at or near full capacity at the very time that the number of low-income and ethnic-minority high school graduates is increasing rapidly. All of this means that future cohorts of financially needy California aid applicants could have fewer college opportunities than did those in the 1998 cohort.

However, this study provides two major findings—in addition to many others—that policy-makers can consider when making choices to improve the college opportunities for students in California. First, once students make it into college, they show a high degree of persistence in continuing to pursue a degree or certification. Second, Cal Grants make a significant difference in a student's ability to persist with higher education.

The inferences that can be drawn from these findings are that 1) investing in helping students attend college is beneficial and 2) to further increase college participation, persistence, and ultimately graduation rates, more adequate financial aid will be crucial. Financial aid will be needed not only to offset higher college costs so that those least able to pay can also enroll promptly and remain enrolled, but also to provide financial aid packages that permit more students to enroll full time. When work demands during the school term necessitate students enrolling part time, the consequences include lengthening the time it takes to earn a degree and increasing the odds of dropping out before finishing. In addition, both of these add to the costs borne not only by students and their families but also by taxpayers through their support of higher education in California.

APPENDIX

TABLE 10:
Financial Aid Cohort Members Who Enrolled as First-Time Freshmen in 1998 as a Percent of All 1998 California First-Time Freshmen

SEGMENT OR SECTOR TYPE	AID COHORT WHO ARE FRESHMEN	ALL CALIFORNIA FIRST-TIME FRESHMEN	% OF CALIFORNIA FIRST-TIME FRESHMEN
California State University	14,219	30,320	46.9%
University of California	13,022	23,632	55.1%
California Community Colleges	25,144	104,254	24.1%
California Independent 4-Year	6,508	8,289	78.5%
Other California Institutions	1,843	n/a	n/a
Out-of-State*	5,314	8,315	63.9%
Total Freshmen	66,050	174,810	37.8%

* More than 95 percent of recent California high school graduates enrolling at out-of-state institutions attend four-year colleges and universities, the rest enroll at out-of-state community colleges and proprietary schools.

TABLE 11:
Timing of First Enrollment and Enrollment Rates By Age of the 1998 Financial Aid Cohort

FIRST ENROLLED	19 YEARS & YOUNGER		20 YEARS & OLDER		ALL AID APPLICANTS*	
	NUMBER	PERCENT	NUMBER	PERCENT	NUMBER	PERCENT
1998	66,050	74.1%	5,213	48.4%	71,466	71.2%
1999	6,578	7.4%	971	8.7%	7,549	7.5%
2000	3,939	4.4%	627	5.6%	4,566	4.6%
2001	3,178	3.6%	613	5.5%	3,791	3.8%
Total Enrolled	79,745	89.4%	7,424	68.2%	87,372	87.1%
Did Not Enroll	9,406	10.6%	3,428	31.8%	12,922	12.9%

* Includes 373 whose age was not known but whose enrollment status was determined.

TABLE 12:
Percentage Distribution of Dependent Students in Each School Type By Family Income Level

FAMILY INCOME	CSU	UC	PRIVATE 2-YEAR	PRIVATE 4-YEAR	PROP	CCC	OUT OF STATE
< \$30,000	39.4%	27.5%	54.3%	27.8%	59.7%	61.0%	25.9%
\$30K - \$59,999	29.4%	26.2%	26.3%	30.0%	28.2%	25.4%	27.3%
\$60K - \$89,999	18.5%	21.5%	12.0%	20.4%	8.3%	9.6%	20.6%
\$90,000+	12.6%	24.7%	8.6%	21.8%	3.9%	3.8%	26.2%
Total	100%	100%	100%	100%	100%	100%	100%
Number	14,223	13,017	400	6,562	2,035	26,546	5,380

CSU = California State University UC = University of California
PROP = Proprietary Schools CCC = California Community College

TABLE 13:
Percentage Distribution of Independent Students in Each School Type by Student's Income Level

STUDENT INCOME	CSU	UC	PRIVATE 4-YR	OTHER	CCC	OUT OF STATE
None	50.8%	58.5%	53.0%	50.7%	59.2%	61.5%
< \$5,000	32.5%	36.6%	33.3%	16.7%	20.1%	22.0%
\$5K - \$9,999	7.1%	4.9%	3.0%	11.0%	9.7%	7.7%
\$10,000+	9.6%	0.0%	10.6%	21.6%	11.0%	8.8%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Number	197	82	61	217	2,650	91

CSU = California State University UC = University of California
 OTHER = Proprietary Schools and Private 2-Year CCC = California Community College

TABLE 14:
Enrollment Patterns of 1998 Financial Aid Cohort by Cal Grant Application Status

STATUS	DID NOT APPLY FOR CAL GRANT	APPLIED, NO CAL GRANT AWARD	RECEIVED A CAL GRANT A	RECEIVED A CAL GRANT B	TOTAL
1998 Cohort	35,287	50,236	7,725	7,046	100,294
Enrolled in 1998	16,758	36,877	6,844	5,390	65,869
% Enrolled 1998	47.5%	73.4%	88.6%	76.5%	65.7%
Re-enrolled in 1999	12,443	33,911	6,608	5,010	57,972
% Re-enrolled in 1999	74.3%	92.0%	96.5%	93.0%	88.0%

TABLE 15:
Same School Persistence of 1998 First-Time Freshmen Aid Cohort

ENROLLED*	# AT SAME SCHOOL	PERCENT REMAINING	# AT SAME 4-YEAR	PERCENT REMAINING	# AT SAME 2-YEAR OR LESS	PERCENT REMAINING
1998	65,869	100.0%	38,693	100.0%	27,176	100.0%
1999	50,989	77.4%	33,136	85.6%	17,853	65.7%
2000	39,874	60.5%	29,173	75.4%	10,701	39.4%
2001	32,818	49.8%	26,784	69.2%	6,034	22.2%

* Includes those students who were continuously enrolled for up to four years at the same institution

APPENDIX

TABLE 16:
Overall Persistence of 1998 First-Time Freshmen Aid Cohort

ENROLLED*	# AT SAME OR DIFFERENT SCHOOL*	PERCENT REMAINING	# NO LONGER ENROLLED	PERCENT GONE
1998	65,869	100.0%	0	100.0%
1999	57,972	88.0%	7,897	12.0%
2000	50,826	77.2%	15,043	22.8%
2001	45,367	68.9%	20,502	31.1%

* Includes those students who were enrolled continuously for up to four years

TABLE 17:
Second-Year Persistence Based on Segment First Attended

1999-2000

ENROLLMENT STATUS	CSU	UC	PRIVATE 4-YR	OTHER*	CCC	OUT OF STATE	TOTAL
Same Inst.	80.7%	92.6%	87.4%	15.0%	66.9%	79.5%	77.4%
Ds, Sseg	1.8%	0.5%	1.0%	2.6%	7.8%	3.3%	4.0%
Ds, Dseg	12.5%	4.8%	8.8%	13.9%	3.0%	9.4%	6.6%
Dropped Out	4.9%	2.1%	2.7%	68.5%	22.2%	7.9%	12.0%
Total	100%	100%	100%	100%	100%	100%	100%
Number	13,896	13,099	6,227	655	26,521	5,471	65,869

Note: Same Inst. = Same Institution; Ds, Sseg = Different School, Same Segment; Ds, Dseg = Different School, Different Segment; and Dropped Out, CSU = California State University, UC = University of California OTHER = Proprietary Schools and Private 2-Year, CCC = California Community College

TABLE 18:
Second-Year Enrollment Status of California Community College Freshmen by Degree Objective

1999 ENROLLMENT STATUS	< 2-YEAR CERTIFICATE	> 2-YEAR CERTIFICATE	ASSOCIATE DEGREE	BACHELOR'S DEGREE	UNDECIDED	TOTAL
Same CCC	46.5%	58.5%	64.3%	71.1%	65.7%	66.9%
Other CCC	7.2%	5.8%	7.2%	8.7%	7.2%	7.8%
Transfer*	1.9%	0.7%	1.2%	4.4%	2.5%	3.0%
Not Enrolled	44.4%	35.0%	27.3%	15.8%	24.6%	22.2%
Total	100%	100%	100%	100%	100%	100%
Number	913	1,473	6,611	13,113	4,411	26,521

* 89 percent of all these early "transfers" were community college freshmen moving to a four-year college or university, including over 93 percent of those in the group who planned to earn a bachelor's degree. The next largest group of early transfers to four-year institutions came from the ranks of those who were initially undecided about their degree objectives and some who planned originally to earn an associate degree.

TABLE 19:
Persistence of California Community College (CCC) Transfers to Four-Year Institutions

CCC TO FOUR-YEAR	STILL AT 4-YR NEXT YEAR	BACK TO CCC NEXT YEAR	NOT ENROLLED NEXT YEAR	STILL AT 4-YR YEAR 4	BACK TO CCC YEAR 4	NOT ENROLLED YEAR 4
Year Two Transfers						
709	541	101	67	474	126	91
	76.3%	14.2%	9.4%	66.8%	17.8%	12.8%
Year Three Transfers						
2,090	1,905	102	83	n/a	n/a	n/a
	91.1%	4.9%	4.0%			

TABLE 20:
Four-Year College Freshmen Moving to California Community Colleges (CCC)

4-YR TO CCC IN YEAR TWO	STILL AT CCC NEXT YEAR	BACK TO 4-YR NEXT YEAR	NOT ENROLLED NEXT YEAR	STILL AT CCC ENROLLED YEAR 4	BACK TO 4-YR YEAR 4	NOT ENROLLED YEAR 4
2,840	1,825	576	434	1,295	346	184
	64.3%	20.3%	15.3%	45.6%	12.2%	6.5%

TABLE 21:
Persistence Rates of University of California (UC) Freshmen Aid Applicants and Those Offered Cal Grants

UC AID APPLICANTS	1998			1999			OTHER 4-YR	%	2-YEAR	%	DROP OUT	%
	UC	UC	%	UC	UC	%						
All Applicants	13,099	12,184	93.0	162	1.2	469	3.6	281	2.1			
Cal Grant A	2,715	2,527	93.1	28	1.0	98	3.6	61	2.2			
Cal Grant B	1,331	1,229	92.3	12	0.9	63	4.7	27	2.0			

UC AID APPLICANTS	2000		OTHER 4-YR	%	2-YR	%	DROP OUT	%
	UC	%						
All Applicants	11,571	88.3	323	2.5	559	3.9	645	4.9
Cal Grant A	2,405	88.6	72	2.6	101	3.7	136	5.0
Cal Grant B	1,178	88.5	30	2.2	66	5.0	57	4.3

UC AID APPLICANTS	2001		OTHER 4-YR	%	2-YR	%	DROP OUT	%
	UC	%						
All Applicants	10,942	83.6	447	3.4	533	4.1	924	7.0
Cal Grant A	2,234	82.3	101	3.7	117	4.3	262	9.6
Cal Grant B	1,116	83.8	45	3.4	59	4.4	111	8.3

APPENDIX

TABLE 22:
Persistence Rates of California State University (CSU) Freshmen Aid Applicants and Those Offered Cal Grants

CSU AID APPLICANTS	1998		1999		OTHER 4-YEAR		2-YEAR		DROP OUT	
	CSU	CSU	%		%		%		%	
All Applicants	13,896	11,478	82.6	136	1.0	1,591	11.4	679	4.9	
Cal Grant A	1,579	1,387	87.8	23	1.4	112	7.1	56	3.5	
Cal Grant B	1,663	1,423	85.6	9	0.5	162	9.7	68	4.1	

CSU AID APPLICANTS	2000		OTHER 4-YEAR		2-YR		DROP OUT	
	CSU	%	%		%		%	
All Applicants	9,760	70.2	340	2.4	1,874	13.5	1,906	13.7
Cal Grant A	1,214	76.9	45	2.8	135	8.5	184	11.6
Cal Grant B	1,193	71.7	22	1.3	198	11.9	249	15.0

CSU AID APPLICANTS	2001		OTHER 4-YEAR		2-YR		DROP OUT	
	CSU	%	%		%		%	
All Applicants	9,043	65.1	458	3.3	576	4.1	2,765	19.9
Cal Grant A	1,129	71.5	57	3.6	109	6.9	284	18.0
Cal Grant B	1,102	66.3	27	1.6	195	11.7	337	20.3

TABLE 23:
College Persistence and Transfer Rates of All California Community College (CCC) Freshmen Aid Applicants, Those with BA Goals, and Those Offered Cal Grants

CCC AID APPLICANTS	1998		1999		4-YEAR	%	DROP OUT	PERCENT
	CCC	CCC	%					
All Applicants	26,521	19,835	74.8		709	2.7	5,886	22.2
With BA Goal	13,113	10,455	79.7		544	4.1	2,076	15.8
Cal Grant A	663	544	82.0		43	6.5	74	10.7
Cal Grant B	2,273	1,975	86.9		31	1.4	262	11.5

2000

CCC AID APPLICANTS	CCC	%	4-YEAR	%	DROP OUT	%
All Applicants	13,138	49.5	2,631	9.9	10,673	40.2
With BA Goal	6,980	53.2	2,018	15.4	4,077	31.9
Cal Grant A	312	53.0	197	29.7	153	23.1
Cal Grant B	1,427	62.7	201	8.8	635	27.9

2001

CCC AID APPLICANTS	CCC	%	4-YEAR	%	DROP OUT	%
All Applicants	8,281	31.2	4,500	17.0	13,672	51.6
With BA Goal	4,309	32.9	3,273	25.0	5,496	41.9
Cal Grant A	157	23.7	294	44.3	211	31.8
Cal Grant B	905	39.8	412	18.1	945	41.6

ENDNOTES

- 1 State of California, Department of Finance, *California Public K-12 Enrollment and High School Graduate Projections by County, 2003 Series*, Sacramento, California, October 2003 (<http://www.dof.ca.gov/html/demograp/k12g.htm>)
- 2 California Budget Project, "Boom, Bust, and Beyond: The State of Working California," February 2003.
- 3 The enrollment database used for this study was from the National Student Clearinghouse. It is a nonprofit organization which maintains student records for enrollment and degree verification. Over 2,500 colleges and universities were members by the 1998-99 academic year. However, there were schools who did not join until after 1998-99. For students with no enrollment match, it was possible to impute a school with a high degree of reliability by examining the first choice listed on the aid application. Most of the analysis of persistence and transfer patterns and rates could not include the students in the cohort whose enrollment was imputed by this method.
- 4 See, for example, Lutz K. Berkner and Lisa Chavez, *Access to Postsecondary Education for the 1992 High School Graduates*, (NCES 98-105). Washington D.C.: U.S. Department of Education, National Center for Education Statistics, U.S. Government Printing Office, 1997 and Michael S. McPherson and Morton Owen Shapiro, "Chapter 5: How Ability to Pay Affects College Options," *The Student Aid Game: Meeting Need and Rewarding Talent in American Higher Education*, Princeton: N.J.: 1998, pp. 42-48.
- 5 See, for example, Lutz K. Berkner and Lisa Chavez, *Access to Postsecondary Education for the 1992 High School Graduates* (cited above) and Susan P. Choy, *Access and Persistence: Findings from 10 Years of Longitudinal Research on Students*, Washington, D.C.: American Council on Education Center for Policy Analysis, 2002, pp.11, 13.
- 6 Choy, *Access and Persistence*, 2002, 19-26. See also, Laura Horn, *Stopouts or Stayouts? Undergraduates Who Leave College in Their First Year*, Washington, D.C.: NCES 1999-087, 1998.
- 7 California Postsecondary Education Commission, Report on Community College Transfers in 2000-01 and 2001-02.
- 8 Lutz Berkner, Stephanie Cuccaro-Alamin, and Alexander C. McCormick, *Descriptive Summary of 1989-90 Beginning Postsecondary Students: Five Years Later*, Washington, D.C.: NCES 96-155, 1996. See also Choy, *Access and Persistence*, p.21,22.



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