



Beyond Access: How the First Semester Matters for Community College Students' Aspirations and Persistence

Anne K. Driscoll

Policy Analysis for California Education
University of California, Davis

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Anne K. Driscoll is a demographer specializing in issues of importance to the development and well-being of adolescents and young adults. Her research areas include secondary and post-secondary education with a specific focus on minority and disadvantaged young people.

POLICY BRIEF

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California's economic well-being depends on an educated workforce. According to recent projections, the percentage of jobs in the state that will require some college or a college degree in 2020 will be greater than the proportion of the workforce with such training (Baldassare & Hanak, 2005). Many of these highly-educated workers must come from the ranks of community college students, as community colleges enroll the vast majority of post-secondary students in California. The success of community colleges in assisting their students, particularly young people making the transition to adulthood and career, to realize their educational goals is therefore crucial to the future of the state and its people.

The majority of young adults in community colleges enter with the goal of transferring to a four-year college to earn a bachelor's degree, but only a minority make it past the first semester with their goals intact.

As we show in this report, the majority of young adults in community colleges enter with the goal of transferring to a four-year college to earn a bachelor's degree, but only a minority make it

Executive Summary

By 2020, the percentage of jobs in California that will require at least some college will be greater than the proportion of the workforce with such training. Community colleges enroll the vast majority of the state's post-secondary students, so many of these workers must come from the ranks of community college students. The success of community colleges in assisting young people making the transition to adulthood and careers to realize their educational goals is therefore crucial to California's future well-being.

This report provides evidence that the first semester in community college is a pivotal point in students' academic careers. Students whose first academic experience in college is positive and successful are more likely to remain in school, and to sustain their aspiration to transfer to a four-year college. Those whose first experiences are less successful are far less likely to persist towards their goals.

The majority of young adult high school graduates who entered community college in fall 1998 aspired to transfer to a four-year college to earn a bachelor's degree, but only

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Executive Summary (continued)

a minority of these students made it past the first semester with their goals intact. Of the young adult high school graduates who entered college aspiring to transfer, most either left school after the first semester or lowered their educational expectations. One quarter did not return for the spring semester. Among those who returned, only a slight majority still had transferring to a four-year college as their primary educational goal. Overall, only four in ten returned for the spring semester and maintained their educational aspirations. One in three returned with lowered expectations. Ultimately, only 41.3 percent of this subset of students transferred to a four-year college or university.

The report also shows that students who took a full course load of transfer-eligible courses (four or more) in their first semester were far more likely to transfer than other students, a pattern found for every racial/ethnic group. Similarly, students with high first semester GPAs in transfer-eligible courses were more likely to transfer.

Much attention in California has been focused on increasing access

to higher education among socio-economically and educationally disadvantaged young people. Much of this attention has centered on the community college system. This analysis suggests that a focus on access is necessary, but it is not sufficient to achieve the goal of a more educated population and workforce. To realize the goal of extending higher education to a larger proportion of the next generation, policy makers must also focus on the factors that foster student persistence in college. This study suggests that devoting greater attention to first semester students in the forms of guidance and academic support including tutoring or resource centers could pay big dividends by increasing the proportion of students who remain in college and achieve their educational goals. Policies and interventions that increase the chances of success for young high school graduates with high aspirations, particularly for African Americans and Latinos, are necessary if California is to develop the diverse, educated workforce it needs to succeed in an increasingly competitive global economy.

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Many students who enter community college with the goal of transferring to a four-year school to earn a bachelor's

degree have already surmounted barriers to high aspirations and to access to post-secondary education. The next challenge they face is to successfully make the transition to college-level work. The findings presented in this report illustrate the importance of students' first semester experiences

and indicate that progressing beyond the first semester of college represents a very high hurdle for many students. Those who do well in their first semester classes and who manage to persist in their education and maintain their high aspirations after the first semester are much more likely to transfer than the majority of students who do not.

An important role of the community college system is to expand the opportunity of higher education to a greater variety of students than has traditionally had that opportunity. To fulfill this role, colleges must overcome barriers beyond increasing initial access to college (Shulock & Moore, 2007). California's population is being transformed by demographic changes. Ethnic minorities, particularly Latinos, are becoming an increasingly greater percentage of the population. Meanwhile, community college students are more likely to be minority and to come from socioeconomically and educationally disadvantaged backgrounds than students who first enter the University of California or California State University. To the extent that community colleges expand educational opportunity to groups that have historically been shut out they will simultaneously be contributing to the health and vigor of California's future through their role in educating the fastest growing segments of the population.

Study Approach

The data on which this study is based are drawn from the cohort of community college students who entered the community college system in California for the first time in the fall of 1998 and who were 17-20 years old at the time. We follow these students for six years beginning with their first semester of college. During this time, 32.5 percent transferred to four-year colleges.

This study focuses on the subset of students in this cohort who graduated from high school and whose primary educational goal upon enrollment was to transfer to a four-year college. These are the best prepared students in the community college system, with the best chances of educational success. Many of them have overcome significant challenges prior to enrollment. We follow this group of students for six years beginning with their first semester of college and ask how many accomplish their goal of transferring to four-year colleges. The answer is sobering. Only a minority of these students make it past the first semester with their goals intact. Most either leave school, at least temporarily, or lower their educational aspirations by their second semester. This brief calls attention to the critical importance of students' first college semesters, a key period in determining their subsequent educational trajectories.

Ultimately, 41.3 percent of this select subset of students transferred to a four-year college or university. This

percentage varies markedly by a number of factors, including race/ethnicity, first semester academic performance and persistence to the second semester. Nevertheless, the overall proportion of students who transferred within this restricted cohort is substantially higher than the 32.5 percent transfer rate for the entire cohort of young adults who started college in Fall 1998. This is not surprising since many students in this cohort had other goals. Moreover, there is a strong association between community college students' educational goals and their ultimate outcomes (Bailey, Jenkins & Leinbach, 2007).

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It is a difficult task to determine which students should be included in a study of transfer from California's community colleges to four-year institutions. Past studies have used a variety of criteria (e.g., Horn & Lew, 2007; Sengupta & Jepsen, 2006; Shulock & Moore, 2007). Only students who actually want to transfer should be included in such a study. But determining who these students are is not easy. Community colleges serve students with a variety of educational and personal goals. Many want community college

to be the stepping stone to a bachelor's degree; others have different goals. One approach is to rely on students' stated goals upon enrollment. Another is to examine course-taking behavior over time; students who complete transfer units can be categorized as students who aspire to transfer. As this study focuses on students' first semester behavior and experiences, we rely on students' initial aspirations as a basis for inclusion in the study and focus on their early academic behavior as predictors of ultimate transfer.

Our data set was created from data from the California Community Colleges Chancellor's Office (CCCCO) and includes six years of information. Additional data from the CCCCCO on which students transferred to four-year colleges and universities were also appended in order to be able to study transfer to four-year institutions. This information includes California state institutions, private colleges and universities in California and both private and state institutions outside of California.

Due to lack of data on students' socioeconomic status (SES), the issue of financial resources was not addressed in this brief. Obviously, finances play an important role in higher education, particularly in the lives of community college students who tend to come from modest socioeconomic backgrounds compared to students who start their post-secondary educations in four-year colleges and universities. Undoubtedly, many of the racial/ethnic differences found and presented

in this study are related to the strong links between race/ethnicity and SES. Moreover, given the higher costs of four-year schools, financial resources play a role in determining transfer rates among various groups.

This report provides evidence that the first year and even the first semester in college are pivotal points in students' academic careers. Students whose first academic experience in college is positive and successful are more likely to persist towards their goals than those who have negative initial experiences. Therefore, we present information and analyses on students' academic performance during their first semester and on the key interim outcome of persisting through one full academic year, the equivalent of two full semesters, and maintaining high aspirations after actual college experience. Finally, we examine the outcome of transfer to a four-year college or university.

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The research questions addressed here each address a step in the journey from initial enrollment in a California community college, through the first semester to the ultimate outcome of transferring to a four-year college. Since this study focuses on students who aspire to transfer, we also explore who decides to transfer.

Demographic Profile of Study Cohort

Of the 17-20 year old high school graduates who first entered the community college system in the fall of 1998, over four in ten (44.5%) of the study cohort were white; almost three in ten (28.5%) were Latino. One in ten (10.2%) students was Asian, one in twenty (5.6%) was African American and just over one in ten (11.2%) belonged to other racial/ethnic groups (Figure 1).

The cohort was equally divided between males and females (Table 1). Three quarters (76.4%) were either 17 or 18 years old when they first enrolled in community college; one quarter (23.8%) were 19 or 20 years old. Most (87.8%) went directly from high school to college; one in eight (12.2%) delayed entering college for one year or more after leaving high school.

FIGURE 1. Racial/Ethnic Distribution of Young Adult First Semester Students

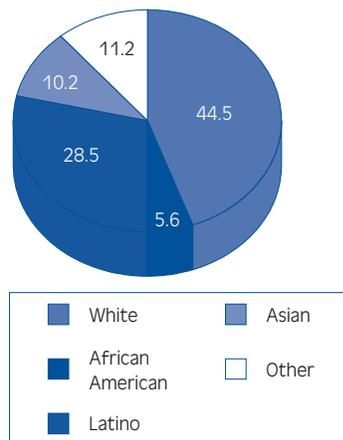


TABLE 1. Description of Cohort

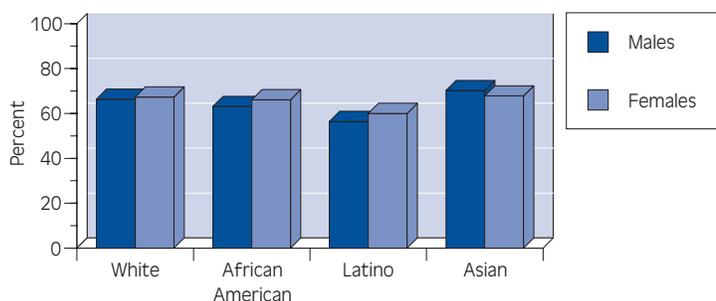
	Percentage
Gender	
Male	49.2
Female	50.8
Age at Enrollment	
17-18	76.4
19-20	23.6
Went Directly from High School to College	
Yes	87.8
No	12.2

More than six in ten (64.3%) students in the cohort entered community college with the primary goal of transferring to a four-year college to earn a bachelor's degree. This percentage differed slightly by race/ethnicity and gender (Figure 2). Asians were the most likely to aspire to transfer followed by

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whites; Latinos were the least likely to want to transfer. Among whites, African Americans and Latinos, females were more likely than males to aspire to transfer. Asian males had the highest percentage of transfer aspirants (70.2%) followed by Asian females (67.8%) and white females (67.3%). Latino males were the least likely to

FIGURE 2. Aspire to Transfer by Race/ethnicity and Sex



aspire to transfer upon initial enrollment; just over half (56.4%) of this group held this goal. Younger students and those who went directly from high school to college were more likely to aspire to transfer than older students and those who stopped out of school.

Because we are interested in factors that promote or hinder transfer to a four-year college, the findings presented from here on refer only to high school graduates who initially aspired to transfer to a four-year college. Since these students shared a common initial goal, it is possible to measure success, i.e., transfer, and to compare success rates across various groups and categories.

Educational and Aspirational Persistence

What predicts student educational and aspirational persistence in the second semester among young adult students who aspired to transfer upon enrolling in college?

Of the young adult high school graduates who entered college aspiring to transfer,

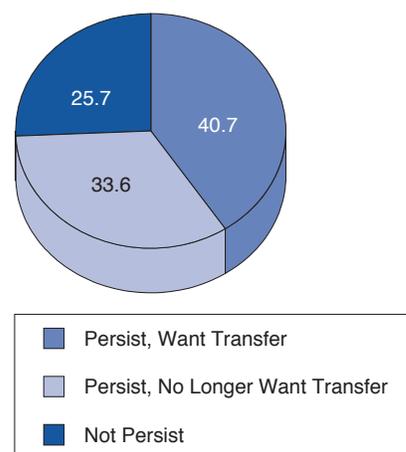
most either left school after the first semester or lowered their educational expectations (Figure 3). One quarter (25.7%) did not return for the spring semester. Of these, almost two thirds (65.1%) did not re-enroll in a community college during the following school year either. Among the students who returned for the spring 1999 semester, only a slight majority still had as their primary educational goal transferring to a four-year college. Overall, only four in ten (40.7%) returned for the spring semester and maintained their educational aspirations, while one in three (33.6%) returned with lower expectations than those with which they started college. This striking finding suggests that overcoming the obstacles related to aspirations and access to higher education that many students face—that is, managing to enroll in college with high aspirations—is necessary but not sufficient for the realization of high educational goals. This is true even of students who graduated from high school.

One possible explanation for the decline in educational aspirations among many continuing students is that they did not fully appreciate the

academic and other challenges they would face. In other words, these students did not anticipate the time and effort required to progress to the point where they would be eligible to transfer to a four-year college. They may have over-estimated their level of preparedness for college-level work and performed less well in their classes than they expected, which led them to become discouraged and to lower their academic sights.

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FIGURE 3. Second Semester Outcomes





Factors Related to Persistence and Transfer

Among students who aspire to transfer, academic performance in their first semester of college is important in determining their chances of realizing their goal. In this study, academic performance is defined by the type of courses students take and their grades in courses that confer transfer credit.

Course-taking Patterns

Community college courses fall into a number of different categories. Some confer the credits necessary to transfer to a four-year college as well as for an associate’s degree (A.A.); other courses are good for an A.A. but not for transfer. Others teach basic or remedial skills; these are taken by students who arrive in college academically under-prepared for college-level work in specific areas such as math or English. This category includes English as a second language courses for students with an insufficient command of English. These courses do not confer transfer credit. Others are vocational or occupational in nature and are usually taken by students pursuing certificates in vocational areas which require less than two years worth of credits.

Students whose goal is to transfer to a four-year college must accumulate enough credits by taking and passing courses that confer transfer credit to be eligible to transfer. Those who start accumulating these credits in their first semester of community college have higher chances of eventually realizing their goal.

Only one in fourteen (7.0%) high school graduates who aspired to transfer took no transfer-eligible courses in their first semester; more than one third (34.9%) took more than three such courses. Younger students (17 and 18 year olds) were more likely to take heavier course-loads than older students (37.0% vs. 27.7%) and higher percentages of those who went directly to college took at least four transfer-eligible courses than those who stopped out of school (36.9% vs. 25.7%).

The number of transfer-eligible courses students took in their first semester predicts whether they persist in their education by returning for the spring semester and continuing to aspire to a bachelor’s degree (Table 2). Students who took more courses had higher rates of enrollment the subsequent semester than those who took fewer courses. Moreover, they were more likely both to return for the next semester and to maintain their educational aspirations.

The proportion of students who took no transfer-eligible courses or who took more than three such courses in their first semester varied somewhat by race/ethnicity and sex (Figure 4). Only

one in twenty white students took no transfer-eligible courses as first semester students; four in ten took more than three courses of this type. One in ten Latinos and black females did not take any transfer-eligible courses. One third of both Asian males and females took at least four courses. Among African Americans, males were more likely to take a heavy courseload of transfer-eligible courses than females (32.4% vs. 26.4%). In comparison, equal proportions of Latino males and females took no transfer-eligible courses (9.8% vs. 9.6%) and more than three such courses (27.2% vs. 26.5%).

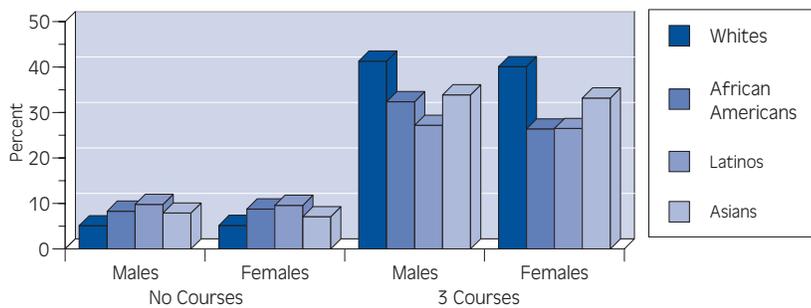
Just over one quarter (27.8%) of high school graduates who aspired to transfer took at least one basic skills course in their first semester.

Just over one quarter (27.8%) of high school graduates who aspired to transfer took at least one basic skills course in their first semester. Those who did were just as likely to persist as their peers who took no courses in this category. In fact, more than a

TABLE 2. Educational and Aspirational Persistence by Number of First Semester Transfer-eligible Courses

No. of Courses	Did Not Persist	Persisted		% of Persisters Wanted Transfer
		Wanted Transfer	No Longer Wanted Transfer	
0	43.2	26.8	30.0	47.2
1-2	29.5	36.8	33.8	52.1
3-4	20.2	45.6	34.2	57.1

FIGURE 4. Number of 1st Semester Transfer-eligible Courses by Race/ethnicity and Sex



quarter (26.6%) of students who took no basic skills courses dropped out after one semester compared to one in five (20.9%) of those who took one or two basic skills classes and only 15.0% of those who took more than two such classes (Table 3). Moreover, almost half (47.1%) of those who took more basic skills courses persisted both educationally and aspirationally. The reasons for these patterns are not readily apparent and deserve more attention.

Grades in Transfer-eligible Courses

Students' grades in courses that confer transfer credits are important gauges of their ability to handle college-level work. Those who do well in their first semester classes may be more likely to believe that their goal to transfer to a four-year college is attainable than those who struggle and earn low grades. Thus, they are more likely to persist in college increasing their chances of transferring to four-year colleges.

In their first semester, high school graduates who aspired to transfer were more likely to earn high grades in their transfer-eligible courses than low grades. Four in ten (42.8%) earned grade point aver-

ages (GPAs) of at least a 3.0 (equivalent to a 'B' average); one quarter (25.9%) had GPAs of below 2.0 (equivalent to a 'C' average).

Students who earned at least a 'C' average in their transfer-eligible courses were more likely to persist in their schooling and aspirations than those with lower GPAs (Table 4). Among students with low GPAs, one third (32.3%) dropped out of college after their first semester,

twice the proportion of those with at least a 'C' average (15.6%). Close to half (47.7%) of students with higher grades persisted in both their enrollment and aspirations compared to only one third (35.7%) of those with lower grades.

Students who took one, two or three courses had similar GPAs. Those who took four courses had higher GPAs, and those who took five courses had still higher GPAs

Similar to the pattern for GPA in transfer-eligible courses and persistence, *the more transfer-eligible courses students took, the higher the grades they earned in those courses.* Specifically, students who took one, two or three courses had similar GPAs. Those who took

TABLE 3. Educational and Aspirational Persistence by Number of First Semester Basic Skills Courses

No. of Courses	Did Not Persist	Persisted		% of Persisters Wanted Transfer
		Wanted Transfer	No Longer Wanted Transfer	
0	26.6	41.0	32.4	55.8
1-2	20.9	41.2	37.9	52.1
>2	15.0	47.1	37.9	55.4

TABLE 4. Educational and Aspirational Persistence by GPA in First Semester Transfer-eligible Courses

GPA	Did Not Persist	Persisted		% of Persisters Wanted Transfer
		Wanted Transfer	No Longer Wanted Transfer	
<2.0	32.3	35.7	32.0	52.7
>2.0	15.6	47.7	36.8	56.5

four courses had higher GPAs, and those who took five courses had still higher GPAs (Figure 5). This pattern was found for all racial/ethnic groups and the patterns were essentially the same for males and females. This suggests that stronger students tend to take more courses than those less prepared to tackle college-level courses.

Students' GPAs in first semester transfer-eligible courses varied by race/ethnicity and sex (Figure 6). African American and Latino students were more likely to earn low GPAs and less likely to earn high grades in their

transfer-eligible courses than whites and Asians. Roughly one third of black males and females earned low GPAs and one third earned high grades. In comparison, Latino males and females were more likely to earn at least a B average than below a C average. White and Asian females were more likely to have high grades than their male counterparts. Asian females were the only group in which more than half (53.0%) earned GPAs of at least 3.0.

Second Semester Academic and Aspirational Persistence

How does second semester educational and aspirational persistence vary by race/ethnicity and sex?

As shown in Figure 3, one quarter of students who began community college in Fall, 1998 hoping to transfer to a four-year college or university did not return to school the following spring. Among those who did return, just over half continued to aspire to this goal. *All together, six in ten (59.3%) young adult high school graduates who entered community college with the goal of transferring had either left school or reduced their aspirations after only one semester.*

FIGURE 5. 1st Semester GPA by Race/ethnicity and Number of Transfer-eligible Courses

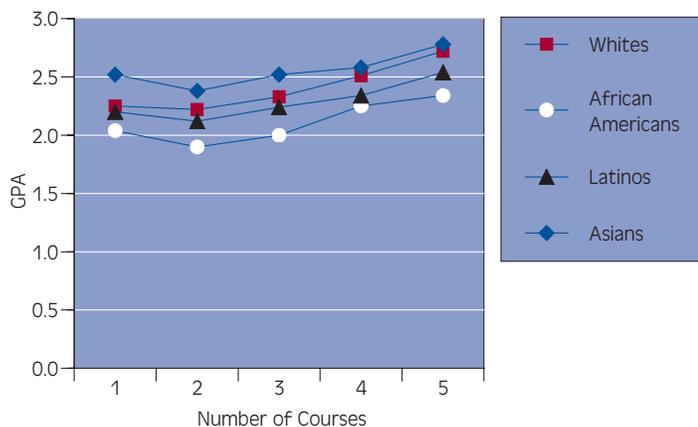
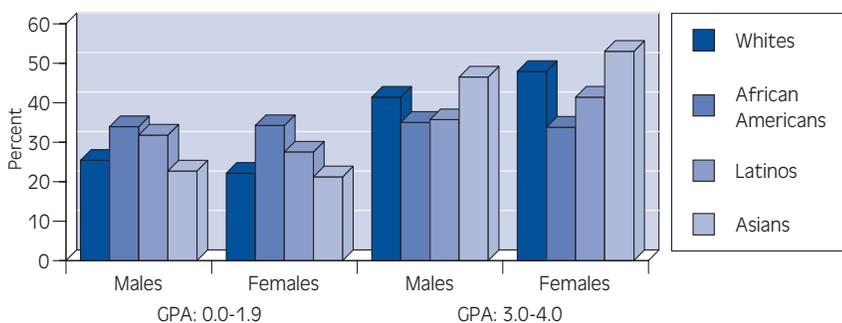


FIGURE 6. GPA in 1st Semester Transfer-eligible Courses by Race/ethnicity and Sex



One quarter of students who began community college in Fall, 1998 hoping to transfer to a four-year college or university did not return to school the following spring.

Not surprisingly, the proportion of students who left school, who persisted in school and in their aspirations, and who persisted in school but lowered their aspirations varied by race/ethnicity. Blacks were the most likely to leave school and the least likely to continue to aspire to transfer; Asians were the least likely to drop out and the most likely to persist in school and in their goals to transfer (Table 5). Among

TABLE 5. Educational and Aspirational Persistence by Race/ethnicity

Race/ ethnicity	Did Not Persist	Persisted		% of Persisters Wanted Transfer
		Wanted Transfer	No Longer Wanted Transfer	
White	26.8	39.6	33.6	54.1
Black	30.5	38.3	31.2	55.1
Latino	24.4	41.4	34.2	54.8
Asian	21.2	44.6	34.2	56.6

students who returned for the spring semester, just over half of all students still wanted to transfer.

Transfer to Four-year College

What factors predict whether students transfer to a four-year college or university?

Transfer data provided by the CCCCO were merged with the cohort data to ascertain which students eventually transferred to a four-year college or university.

Students' second semester educational and aspirational persistence is related to whether they eventually transfer to a four-year college or university. Not surprisingly, students who failed to return to college for the following semester were the least likely to transfer within six years. Also not surprisingly, half (48.2%) of those who not only returned but maintained their high educational aspirations went on to enroll in a four-year institution (Figure 7). More surprisingly, four in ten (41.8%) students who returned for their second semester with lower

aspirations eventually transferred. This pattern suggests that enrollment persistence is more important than aspirational consistency, and that the aspirations of continuously enrolled students may often recover.

Race/ethnicity and sex are also predictors of whether students who want to transfer to a four-year school actually do so. About half of Asians who aspired

FIGURE 7. Transfer to Four-year College by Educational and Aspirational Persistence

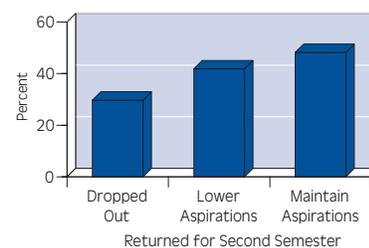
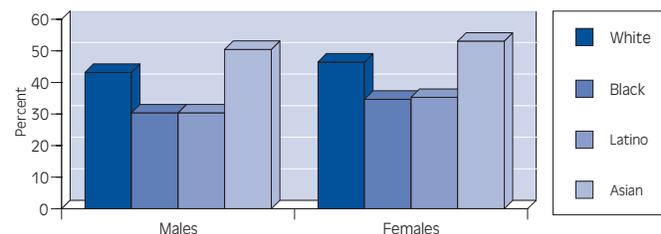


FIGURE 8. Transfer to Four-year College by Race/ethnicity and Sex

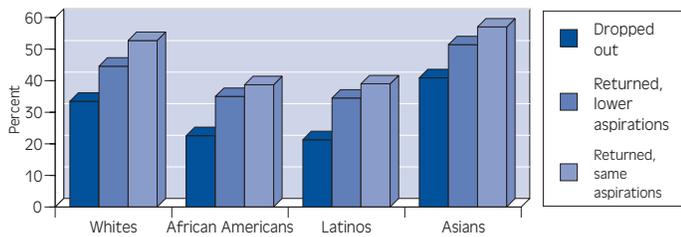


to transfer did so compared to 44.2% of whites (Figure 8). Slightly over three in ten African Americans and Latinos transferred. Within each racial/ethnic group, females had slightly higher rates of transfer than their male counterparts.

Enrollment persistence is more important than aspirational consistency... the aspirations of continuously enrolled students may often recover.

For each racial/ethnic group, transfer rates were lowest for those who left college after the first semester and highest for those who persisted in school and maintained their aspirations (Figure 9). The pattern seen in Figure 7 is repeated for each racial/ethnic group; the difference in transfer rates is narrower between the two groups of students who persisted educationally than the difference between those who did not return for the spring semester and other students. In each category, transfer rates were highest for Asians and lowest for blacks and Latinos. In

FIGURE 9. Transfer to Four-year College by Educational and Aspirational Persistence and Race/ethnicity



fact, blacks and Latinos who persisted educationally and aspirationally were still less likely to transfer than Asians in any category and than all whites who returned for the spring semester.

African American and Latino transfer rates were remarkably similar for each subgroup. Only one in five blacks and Latinos who did not return for the second semester eventually transferred. Failing to persist for the full year was somewhat less problematic for whites and Asians. One third (33.5%) of whites and four in ten (40.9%) Asians who did not return for the spring semester subsequently transferred to a four-year college. This pattern suggests that African Americans and Latinos have a more difficult time successfully returning to school after leaving for a semester and that early attrition is more likely to be permanent for them than for whites and Asians. Latinos and blacks who persisted in school and maintained their aspirations through the second semester were almost twice as likely to transfer as those who did not return for the spring semester. Slightly more than half of all Asians who persisted educationally and of whites who returned for the spring

maintaining their aspirations went on to enroll in four-year colleges.

Students who took a full courseload of transfer-eligible courses (four or more courses) in their first semester were far more likely to transfer than other students, a pattern found for every racial/ethnic group (Figure 10). More than six in ten white and Asian students who attended full-time as first semester students eventually transferred as did 46.7% of African Americans and half (48.6%) of Latinos. Nevertheless, while beginning as full-time students greatly enhanced the chances of transferring for blacks and Latinos, those who took a full courseload transferred at the same rate as Asians who were part-time students during their first term (46.9%).

Similarly, students with high first semester GPAs in transfer-eligible courses were more likely to transfer (Figure 11). Nearly half of African Americans and Latinos with at least a 3.0 GPA transferred, compared to three in ten (30.6%) of those with lower grades. Six in ten (60.3%) whites and two in three (65.2%) Asians with high GPAs transferred. In both GPA categories, Asians transferred at higher rates than other racial/ethnic groups; those with lower GPAs transferred at rates similar to Latinos and blacks with high GPAs.

Students who took any basic skills courses in their first semester were less likely to transfer than those who took no courses of this kind (Figure 12). Half or more of whites and Asians who took no basic skills courses went on to transfer as did just over one third of African Americans and Latinos. The difference in transfer rates between students who took basic skills courses and those who did not were greatest for whites (37.4% vs. 49.3%) and narrowest for blacks (31.8% vs. 35.7%).

FIGURE 10. Transfer to Four-year College by First Semester Enrollment in Transfer-eligible Courses and Race/ethnicity

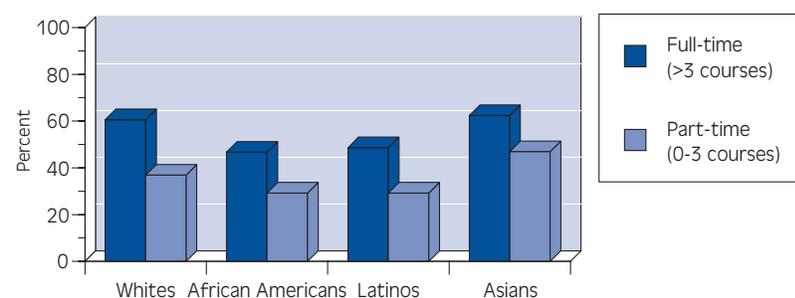


FIGURE 11. Transfer to Four-year College by GPA* in Transfer-eligible First Semester Courses and Race/ethnicity

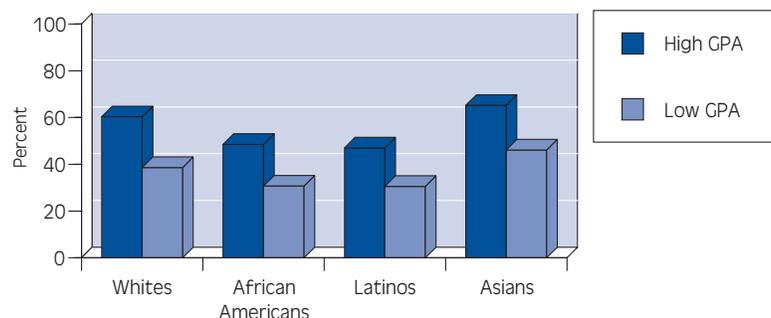
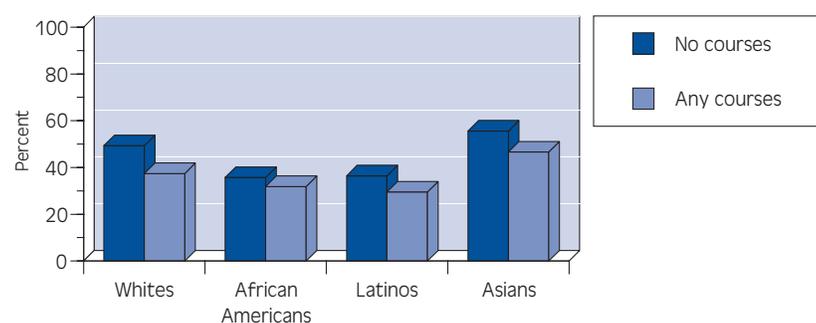


FIGURE 12. Transfer to Four-year College by First Semester Enrollment in Basic Skills Courses and Race/ethnicity



Summary

The analyses presented in this report focus on the subset of community college students who have the highest chance of academic success—recent high school graduates who entered community college with the goal of transferring to a four-year institution in order to earn a bachelor’s degree. Yet most did not realize their goal of transferring to a four-year college. One in four high school graduates who entered college with the initial goal of earning enough credits to transfer to a four-year college or university did not return for their second semester. Only a slight majority of those who did return

maintained the high educational aspirations they held when they started college just twelve weeks earlier.

Both first semester academic experiences and second semester educational and aspirational persistence are strongly associated with the odds that students will eventually transfer. Our findings also show that even across similar levels of academic performance, the transfer rates of African Americans and Latinos lag behind their white and Asian peers. Even blacks and Latinos who persist through their first year are less likely to transfer than their white and Asian counterparts.

Students’ initial course-taking and academic performance appear to play an important role in determining their chances of transferring. Those who take more courses that confer transfer credit and those who do well in these courses in their first semester are more likely to stay in community college and to eventually transfer to a four-year college. White and Asian students take more transfer-eligible courses than African American and Latino students; this confers upon them an early advantage in that they can more quickly amass the credits they need to transfer to four-year colleges. Similarly, whites and Asians earn higher grades in transfer-eligible courses than their black and Latino peers. This is also advantageous for white and Asian students since in order to earn transfer credits, students must earn at least a C in their courses.

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The findings from the analyses of basic skills courses appear contradictory. Students who took no such courses as first semester freshmen were less likely to return to school the following term than those who took one or more such courses. At the same time, however,



taking basic skills courses is associated with lower rates of transfer. Those who took one or more basic skills courses are less likely to transfer than those who took none. Students may earn higher grades in basic skills courses, and their success in these courses may encourage them to persist. Over the long term, however, they may not accumulate the necessary credits to transfer.

The analyses suggest that a key intermediate outcome on the way to transfer is whether students persist in their goals and in their studies from the first to the second semester of their first year in college. First semester performance predicts this important intermediate outcome which, in turn, is an important predictor of whether students ultimately transfer. In addition, levels of performance, persistence and transfer as well as relationships between these factors vary by race/ethnicity; overall, whites and Asians take more courses, earn higher grades and are more likely to transfer than African Americans and Latinos.

Implications

Students who start fast, that is, who take a heavy courseload of transfer-eligible courses in their first semester and do well in them, are much more likely to achieve the goal of transferring to a four-year college. The associations between early performance and transfer are likely due to the fact that better prepared and motivated students have the confidence to take and manage heavy courseloads of transfer-eligible

courses. Other students fall into the sizable category of those who need remedial classes or courses in such basic skills as English as a second language. For many, these deficits in academic skills and knowledge may be the result of a poor K-12 education. These needs prevent students from immediately beginning the process of accumulating the knowledge and credits necessary to progress towards transfer. Remedial courses can address some of these deficits, but there are limits to the lengths to which community colleges can be expected to go to remedy the deficits resulting from low-quality K-12 schools.

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It is nevertheless worth exploring strategies that enable students to take as many credit courses as they can handle early on in their college careers. For some students, this may mean improving access to remedial courses that prepare students for courses that confer transfer credit and for improving the quality of these courses. Our findings suggest that these students merit long-term support to increase their odds of taking and passing the courses they

need to transfer. Other students may be able to improve their performance in transfer-eligible courses with the help of tutoring and other services that could be provided on campus through centers or other means. Other students who initially aspire to transfer decide, after their initial college experience, that their goals have changed and that their talents and interests lie elsewhere. For many of these students, a failure to transfer does not represent a failure at all.

However, the high proportion of students with initially high goals who experience a decline in those goals may pose large costs for the state and for its economic future. California ranks below the national average and below similar states in the proportion of full-time students who earn a degree (associates, bachelor's or graduate). This may be due to having the country's largest proportion of community college students, who as a group are less likely to earn a degree than four-year college students. At the same time, California spends more than \$73,000 per degree earned, which exceeds both the national average and spending in comparable states (Gordon, Alderete, Murphy, Sonstelie & Zhang, 2007). One reason for this could be the high attrition level of community college students. Improving persistence and eventual academic success among the largest group of post-secondary students in California will both save taxpayers money and ultimately result in more taxpayers and a stronger economy.

Similarly, early momentum in the form of enrollment and aspirational persistence is a strong predictor of realizing the goal of transferring to a four-year college. While students stop out of school after their first semester for a wide variety of reasons, many of them not related to academics, assisting students in continuing their education without interruption may help to raise their odds of transferring to a four-year school. Moreover, it is likely that those who maintain high aspirations once they have experienced a semester of college-level coursework and faced the challenges of juggling school and their other roles and responsibilities have a more accurate idea of whether they have the knowledge and skills required to transfer. For many of the students who aspire to transfer, additional early support, guidance and resources would make their goals more achievable.

Improving persistence and eventual academic success among the largest group of post-secondary students in California will both save taxpayers money and ultimately result in more taxpayers and a stronger economy.

Educational and aspirational persistence is, lamentably, relatively uncommon. The fact that the majority of students in this cohort did not persist, either educationally or aspirationally, beyond their first semester suggests that, while they may have overcome

daunting obstacles to enroll in college, additional obstacles remain that most of them cannot overcome. Nevertheless, the aspirations of some students who returned for the spring semester with lowered aspirations eventually recovered; about 40 percent went on to transfer. This finding suggests that enrollment persistence, even in the face of reduced goals, offers some students the opportunity to get back on track towards their original educational goals. Moreover, a smaller percentage of students who left college after their first semester eventually returned to school and managed to transfer. This pattern highlights the myriad enrollment patterns, each with different odds of success, which lead to transfer to a four-year college.

Much attention in California has been focused on increasing access to higher education among socioeconomically and educationally disadvantaged young people. Much of this focus has centered on the community college system. This analysis suggests that this focus is necessary but not sufficient to achieve the goal of a more educated population and workforce. Persistence in community colleges, the higher education system in which the vast majority of college students in California are enrolled, is relatively rare. This pattern results in wasted time and resources for students, colleges and taxpayers. To realize the goal of extending higher education to a larger proportion of the next generation, policy makers must focus on the factors that foster student persistence in addition to maintaining

an emphasis on improving access to higher education. This study suggests that focusing a significant portion of efforts on first semester students in the form of guidance and support as well as access to remedial education in the form of classes, tutoring or resource centers will pay dividends in the form of increasing the proportion of students who persist. Policies and interventions that increase the chances of success for young high school graduates with high aspirations, particularly for African Americans and Latinos, are necessary if California is to develop the diverse, educated workforce it needs to maintain the prosperity of its citizens and to compete in the global economy.



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University of California
3653 Tolman Hall
Berkeley, CA 94720
<http://pace.berkeley.edu>

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