

PROFILE OF

The California Partnership Academies 2009-2010

OCTOBER 2011

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Career Academy Support Network
University of California, Berkeley

California Department of Education

ACKNOWLEDGMENTS

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FOREWORD

The challenges that California's high schools are facing are all too familiar. So when there is evidence of progress, it's important that we celebrate it. Even more important is to learn from it, identify what's working, and use that knowledge to bring success to more of California's young people.

This report provides an opportunity to do just that. First the celebration: This report on the California Partnership Academies (CPAs) reveals very promising results for student performance across a range of important outcomes: most notably graduation rates for seniors, and completion of the "a-g" courses required for admission to the University of California and California State University. It is significant to note that these results have been achieved despite the fact that 50% of CPA students enter the program as "at-risk students" based on strict criteria. The new findings confirm the pattern found in a similar report on the CPAs using data from 2004-05, but with substantially larger numbers of academies and students. With these two research reports — five years apart, with similar, positive results — we can say with confidence that CPAs are preparing California's youth for success in high school, college and careers.

How can we bring these promising results to more California high school students?

First, we can ensure that CPAs continue to get the support they need to survive and thrive. More than 200 of the 500 fully implemented CPAs documented in this report are set to lose funding at the close of the current school year. In tough economic times, where every dollar in the state budget must be spent wisely, we must continue to invest in educational approaches proven to deliver results, and these CPAs have certainly proven themselves a worthwhile investment.

Second, we must continue to think boldly about how to build on these successes to promote broader systemic change. It's important to provide the benefits of CPAs to more than the 3% of California students in grades 10-12 who are now enrolled in a CPA. The rapidly growing field of Linked Learning is creating impetus for expansion of CPAs and similar college-and-career pathways in California. This approach supports the proven practices embodied in CPAs — bringing together rigorous academics, demanding career technical education, and engagement with the world of adult work through a multi-year program of study in industry-themed pathways. Expansion of this approach can give far more students an advantage in high school, college, and careers.

The work of transforming California's secondary schools is far from over. But we must celebrate success when it occurs, and commitment to expanding on success is an excellent way to celebrate.

Tom Torlakson, Superintendent of Public Instruction
California Department of Education

EXECUTIVE SUMMARY

State legislation launched the California Partnership Academies (CPAs) in 1984. CPAs exemplify the career academy model for preparing high school students to succeed in both college and careers. Career academies are small learning communities within larger high schools, usually enrolling students in grades 10-12. Each year students take classes together, including core academic subjects and at least one career-technical course related to the academy's career theme. A team of teachers works with the same group of students over several years, linking instruction across disciplines and over time. Employers provide internships and other opportunities for students to learn outside the classroom. Several evaluations of career academies in California and elsewhere have found positive effects on students' performance during and after high school (Stern, Dayton, & Raby 2010). Career academies have provided a model for high school reform, and have become an important part of the current Linked Learning initiative in California.

Each CPA sends an annual report to the California Department of Education. This profile is drawn from the CPA reports for the 2009-10 school year. It parallels a profile produced five years ago from the 2004-05 reports (Bradby et al. 2007). More information on academies and the supporting legislation is available at <http://casn.berkeley.edu> and <http://www.cde.ca.gov/ci/gs/hs/cpagen.asp>.

Overview of the academies: locations, industry sectors, and sources of support

For the 2009-10 school year, 467 CPAs submitted reports to the California Department of Education. These academies operated in 278 of California's 1,264 comprehensive high schools. Most high schools with CPAs rank below average on the State's Academic Performance Index. The 437 CPAs that provided student-level data enrolled 48,436 students in grades 10-12 — about 3% of the State's 1.6 million students in these grades. CPAs serve 36 of California's 58 counties. California's six most populous counties—Los Angeles, Sacramento, Alameda, Riverside, San Diego, and Contra Costa — have a total of 287 CPAs.

Each CPA frames its curriculum around one of the 15 industry fields established for Career-Technical Education by the California Department of Education. The most common themes are Health Science and Medical Technology (76 academies); Arts, Media and Entertainment (66); Finance and Business (51); Engineering and Design (47); and Public Services (46).

The three sources of supplemental support for CPAs are: grants from the State; financial or in-kind support from the host school district, required to be at least equal to the State grant; and financial or in-kind contributions from local employers, also required to be at least equal to the State grant. The State grant is therefore leveraged at least two-to-one by local matching contributions. In total, State grants amounted to \$26.5 million in 2009-10, while school district matches totaled \$41.3 million and employer matches \$48.3 million. Thus, on average, CPAs received about 23% of their supplemental support from State grant funds (all in dollars), 35% in matching district support (mostly in-kind), and 42% in matching employer contributions (mostly in-kind). The matches from the districts were primarily in the form of personnel time to support a variety of activities, including instruction, tutoring and academic support.

The matches from employers were for advisory board members, speakers, field trip hosts, mentorships, and internships.

Student profile

By law, at least 50% of the students in each incoming class of CPA sophomores must meet three of the following six “at-risk” criteria (defined more specifically in the law): 1) having a poor attendance record, 2) being significantly behind in credits, 3) demonstrating low motivation for the regular school program, 4) being economically disadvantaged, 5) having low state test scores, or 6) having a low grade point average.

CPA students are 53% female and 47% male. CPA student gender balances vary considerably among industry sectors, from Fashion and Interior Design (2 academies) which is 79% female to Manufacturing and Product Development (8 academies) which is 78% male. However, most fields are fairly well balanced, almost half are near a 50-50 split, and generally the balance between genders has improved somewhat since 2004-05.

Student enrollment in CPAs is 59% Hispanic, 16% white, 10% Asian, 9% black, 3% mixed race or other, 2.5% Pacific Islander, and 0.5% Native American or Alaskan. The proportion of Hispanic students in CPAs is substantially higher than in grades 10-12 statewide; white student enrollment is substantially lower.

Student performance

As in the previous 2004-05 CPA report, the data reveal high attendance rates in CPAs. By law, CPAs receive additional state funding only for students with at least 80% attendance; 96% of CPA students in 2009-10 met this criterion. Another requirement for CPA funding is that students earn at least 90% of the credits that would be needed during the year to make normal progress toward on-time graduation. In 2009-10, 83% of CPA students met this requirement.

With respect to the California High School Exit Exam (CAHSEE), in grade 10, 82% of CPA students passed the English Language Arts (ELA) section, compared with 81% statewide. On the mathematics portion of the exam, 83% of CPA tenth graders passed, compared to 81% statewide. In both ELA and math, statewide passing rates for tenth graders improved more than in CPAs since 2004-05. When students are compared within racial/ethnic categories, the biggest difference is for Hispanics, where the grade 10 passing rate for CPAs was 7% higher than the statewide rate in math and 6% higher in ELA.

Ninety-five percent of academy seniors graduated at the end of the 2009-10 year, compared with 85% statewide. Examining gender differences, 96% of female and 94% of male academy 12th graders graduated, as compared to 89% of female and 81% of male students statewide. CPA graduation rates from grade 12 exceeded statewide rates for all racial and ethnic groups. Among the largest differences were an advantage of 16 percentage points for African American seniors in CPAs, and 14 points for Hispanics.

Student intentions and experiences

Most CPA seniors plan to combine college and work after they graduate. Three out of five students plan to attend a community college, and 28% a four-year college; a large majority of these plan to work while attending college. These plans are highly consistent with the CPA goal of preparing students to pursue a range of college and career options after high school.

CPAs are designed to prepare students for both college and careers. In California, a key indicator of preparation for college is completion of the “a-g” courses required for admission to the University of California or California State University. For 2009-10, CPAs reported that 57% of their graduates fulfilled the a-g subject requirements, compared to 36% of high school graduates statewide. Among the experiences provided by CPAs to help prepare students for careers are mentorships and internships. In 2009-10, 71% of CPA 11th graders participated in mentorships, while 52% of seniors participated in a work-based learning experience. These indicators are consistent with those reported in 2004-05.

Matching contributions from school districts and employers.

By law, each CPA is required to receive financial or in-kind support from the host school district in an amount at least equal to the CPA grant from the State. In 2009-10, 96% of CPAs met the district matching requirement. The CPA law also requires each academy to receive financial or in-kind contributions from employers that equal or exceed the amount of the State grant. In 2009-10, 93% of CPAs met the employer matching requirement.

Comparing newer and older academies

Since some CPAs operating in 2009-10 have been in existence for more than 20 years, while others are much newer, it would be useful to know whether an academy’s age is related to quality of implementation or level of student performance. However, comparing three groups of academies — those that started before 1994, between 1995 and 2005, and after 2006 — did not reveal any consistent relationship. The newest academies appear strongest on a-g completion, the academies that started in the 1995-2005 period look strongest on CAHSEE, and the oldest academies appear strong on all comparisons except senior internships. Graduation rate from grade 12, which is arguably the most consequential measure, is virtually the same among these three groups of academies.

Comparing academies by industry sector

Since CPAs now exist in all 15 of the State’s career-technical education sectors, it is useful to consider whether academies in different sectors face different challenges and opportunities. The 12th grade graduation rate is quite consistent across sectors, but the a-g completion rate varies widely, for reasons that are not apparent. Mentorships and internships tend to be more available in sectors where student enrollment is predominantly female.

Commentary

Now in their 27th year of operation, California Partnership Academies have proved a durable model, although CPAs remain rather sparsely distributed throughout the state, occurring in just 22% of high schools. The average annual state funding of about \$547 per student is quadrupled by local matching contributions. CPAs support a broad range of career themes. Ethnic data suggest good diversity, and gender balance in the large majority of academies is also good. Academy students slightly outperform statewide averages on CAHSEE pass rates, substantially outperform them in meeting a-g course requirements for UC and CSU, and report much higher graduation rates for seniors, especially among students of color. These results are encouraging since, by law, at least half of the students entering a CPA must meet specific “at-risk” criteria, and most CPAs are in low-performing high schools.

While these are generally positive findings, we must point out that the information comes from academy self-reports, which may not always be accurate. Information that is contained in official student records — such as attendance, credits, demographic data, graduation, and CAHSEE passing rates, among others — may be more accurate than information that must be estimated by respondents, including a-g course completion and the value of contributions by employers.

With that caveat, this profile of California Partnership Academies in 2009-10 is consistent with the profile from 2004-05. The academy approach — which combines small learning communities, integrated academic and career-technical curriculum, and partnerships with employers and higher education — evidently continues to prepare students for both college and careers.

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INTRODUCTION

In 1984, the California State Legislature passed Assembly Bill 3104, calling for the replication of a successful pilot project in 10 new sites and effectively launching the California Partnership Academies (CPAs). The authorization was renewed by Senate Bill 605 in 1987, Senate Bill 44 in 1993, and Senate Bill 1354 in 2010. Additional funding came as a result of Senate Bill 70 in 2006 for career-technical pathways, and Assembly Bill 519 in 2009 for “green” academies. With each round of additional funding, the California Department of Education has issued a request for proposals, and has awarded grants after a review of competing applications. There are now almost 500 CPAs, enrolling almost 50,000 students in high schools located in 36 different counties.

CPAs have served as a model for high school reform within and beyond California. Many of the districts that received federal Small Learning Community (SLC) grants employed “career academies,” often based on California’s CPAs in some or all of their SLCs. More recently, in school districts receiving grants from the James Irvine Foundation under its Linked Learning initiative, most of the Linked Learning pathways have been career academies. It is estimated that roughly 700 career academies exist in California and 7,000 in the nation, with both numbers continuing to grow.

More than two decades of evaluations, beginning in the 1980s, have consistently found that career academies, including CPAs, produce positive outcomes for high school students (for a summary of the research, see Stern, Dayton, & Raby 2010). Several studies, comparing academy students with similar students in the same high schools, found that academy students over the course of their high school years had significantly improved attendance, earned better grades, completed more course credits, and were less likely to leave high school. A major study by MDRC, using a strict random-assignment design, found that academy students not only improved their performance while in high school but also had significantly greater earnings eight years after high school (Kemple 2008). Other studies also have found that career academies do, in fact, effectively prepare students for careers.

At the same time, studies have found that career academy students also perform well in postsecondary education. The MDRC study found high rates of postsecondary educational attainment among former career academy students. Another notable study, by Maxwell (2001), found that career academy graduates who went on to one of the large California public university campuses were more likely to complete bachelor’s degrees, and less likely to need remedial classes along the way, than other graduates from the same urban school district. The strong and consistent track record of career academies is one reason for their continued growth.

CPAs combine a number of high school reform features generally considered to be effective. They:

- Group 10th- through 12th-grade students into several related classes each year
- Organize cross-curricular teacher teams, both academic and career-technical
- Frame the academic classes within a broadly defined career theme, while in most cases still enabling students to complete the “a-g” course sequence required for UC and CSU
- Show students connections between their academic subjects and this career theme
- Show students connections between their coursework and activities outside the high school

- Incorporate employer and community support through advisory groups, speakers, field trips, job shadowing, mentors, and internships

Details of this model are available at the CASN website (<http://casn.berkeley.edu>), as well as the CDE website (<http://www.cde.ca.gov/ci/gs/hs/cpagen.asp>).

Among other features of the law that governs them, at least 50% of the students in each incoming class of CPA sophomores must meet three of the following six “at-risk” criteria (defined more specifically in the law): 1) having a poor attendance record, 2) being significantly behind in credits, 3) demonstrating low motivation for the regular school program, 4) being economically disadvantaged, 5) having low state test scores, or 6) having a low grade point average. CPAs also are required to match their State grant with either funding or in-kind support from both the receiving district and the academy’s supporting employers, thereby substantially increasing the value of the State grant. Furthermore, CPA funding is performance-based, dependent on how many students meet specified targets for attendance, credits and graduation. CPAs are required to submit yearly performance data for each enrolled student, and they receive funding only for students who have met or exceeded the performance targets, up to a maximum or “cap”. The maximum annual State grant for a CPA in 2009-10 was either \$69,120 or \$81,000, depending on which State law authorized the funding.

The California Department of Education receives these annual reports, which include program implementation Information as well as student performance data. For the past ten years, these reports have been submitted electronically, building a rich database. The sections that follow draw on these student performance and program data from the 2009-10 school year, the most recent available. Comparisons are made with the 2004-05 report throughout.

This report is presented with several caveats. First, the information here is only as accurate as the individual CPA reports from which this report is derived. While this information is considered generally reliable, and most of the student performance data come directly from high school and district records, we have no way to confirm the accuracy of the information provided in the annual reports. Second, CPA reports must provide information that determines the academies’ compliance with state requirements, which may lead to some reporting bias. Third, even though at least half the students entering CPAs meet specified “at-risk” criteria, academy students nonetheless may be more motivated or have other unmeasured strengths that would make them more likely to succeed even if they were not in academies; this should be kept in mind when comparing CPA students with the statewide student population.

That said, it is clear that CPAs are serving largely at-risk students — and mainly in low-performing high schools as measured by the State’s Academic Performance Index (API). Most (54%) of the high schools with at least one CPA ranked in the bottom 40% of high schools statewide, and only 22% of high schools with CPAs were in the top 40%.

This report includes information about academies and about students. The academy-level and student-level information came from two different data files provided by the California Department of Education. The academy-level file contained 467 academies, and we included all of these in the analysis of academy-level information. The student-level file contained 437 academies (excluding

academies that were classified as “closed”), and we included all 437 in the analysis of student-level information. A number of the academies with no student data were new “green” academies still in the planning phase.

OVERVIEW OF ACADEMIES: LOCATIONS, INDUSTRY SECTORS, AND SOURCES OF SUPPORT

In 2009-10, 36 California counties had at least one CPA, two more than in 2004-05. There has been a more than 60% increase in the total number of CPAs, with 21 counties experiencing growth. The largest increase was in Los Angeles County, which had 66 CPAs in 2004-05 and now has 127. Nine counties had no change and six experienced a decrease. In the 437 CPAs for which student-level information is available, average enrollment was 111 students.

As in the county data, school district and high school trends show little expansion of CPAs to new districts and high schools despite considerable expansion within existing sites. Figures 2 and 3 show that the percentages of high schools and districts with CPAs have increased only slightly from 2004-05 to 2009-10. As of 2009-10, 22% of high schools have at least one CPA, as do 28% of districts. High schools are much more likely to have one CPA than two or three (13% statewide as compared with 5% and 4% respectively), and a similar pattern is seen for districts (10% statewide with one CPA, 4% with either two or three, although 7% now have four academies).¹ High schools that have three or four academies are listed in the Appendix.

¹ The information on the total number of districts and High School schools is from: <http://www.ed-data.k12.ca.us/>

Figure 1a: Number of CPAs in each California county, 2009-2010 and 2004-2005

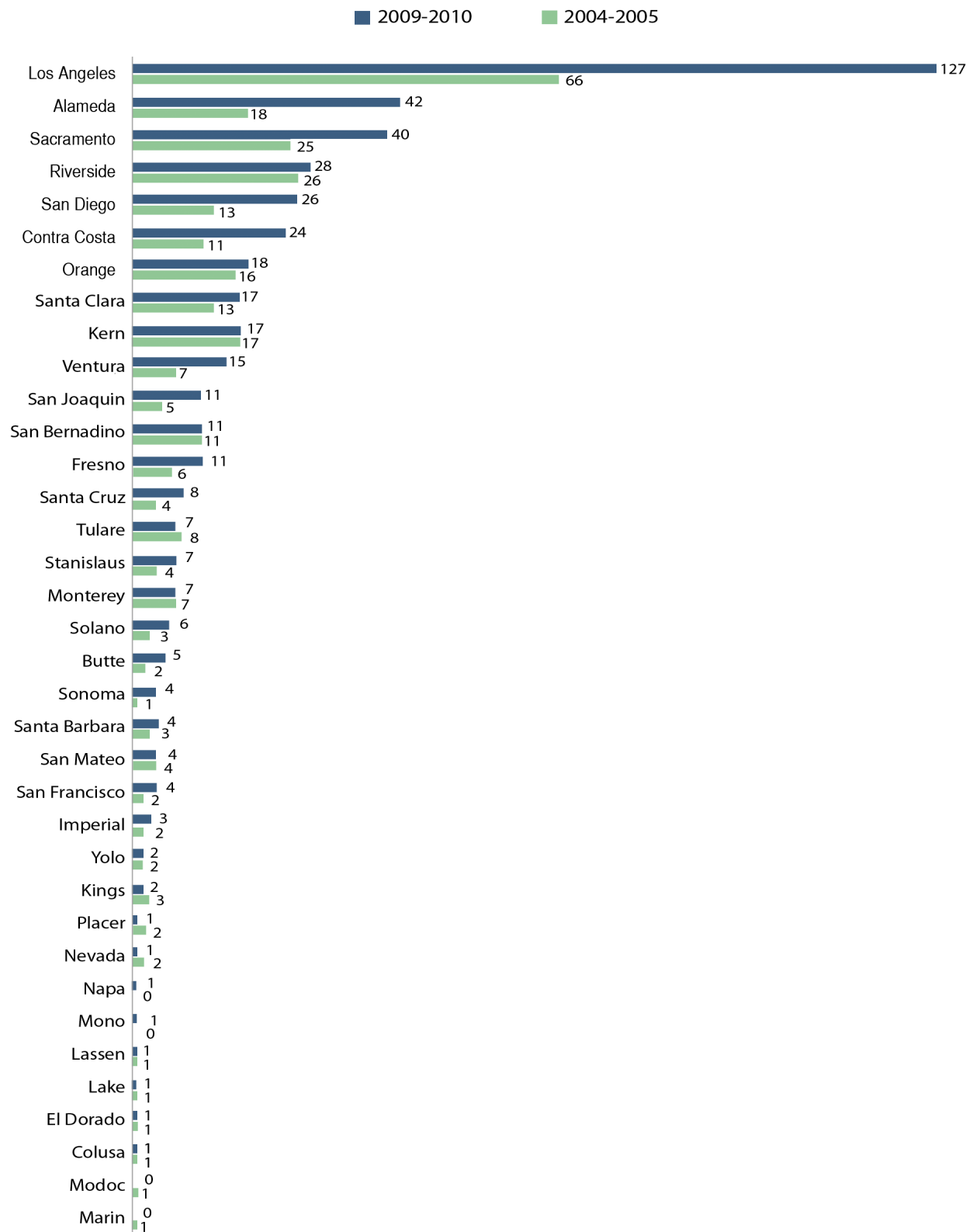


Figure 1b: Number of CPAs in each California county, 2009-2010

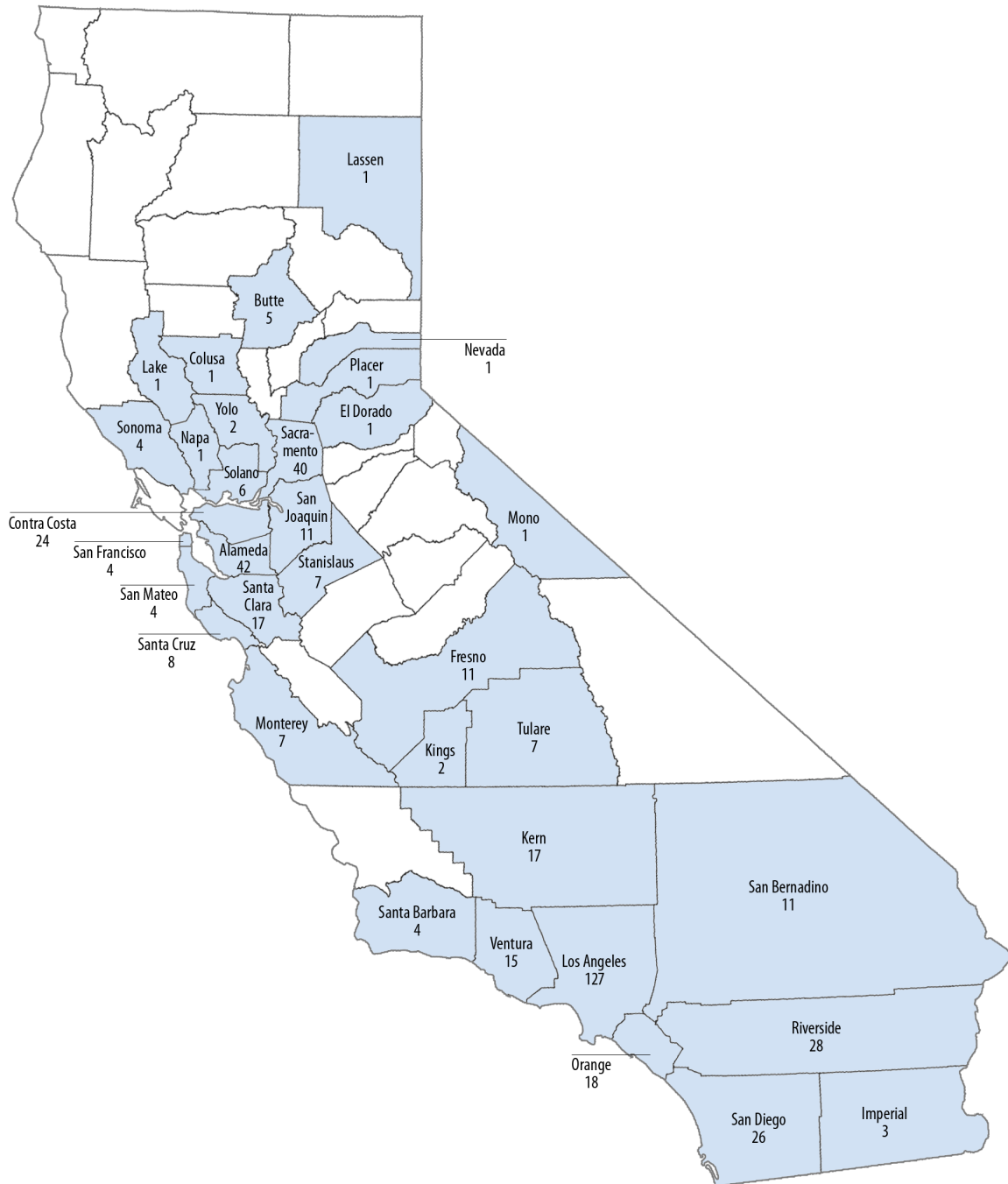


Figure 2: Number of CPAs within unified and high school districts, 2009-2010 and 2004-2005

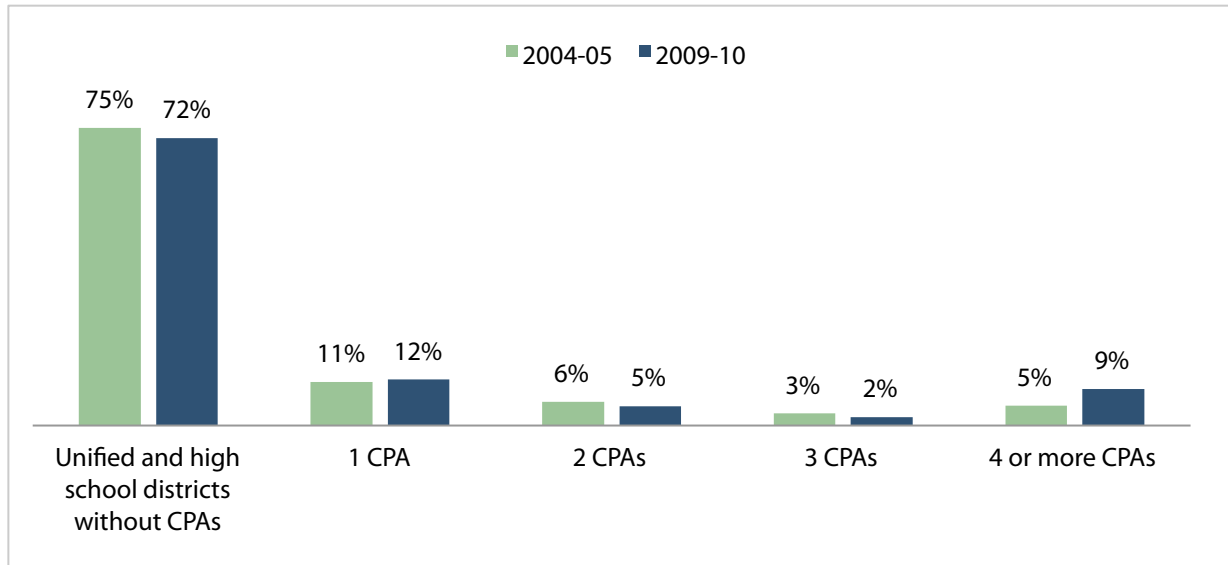
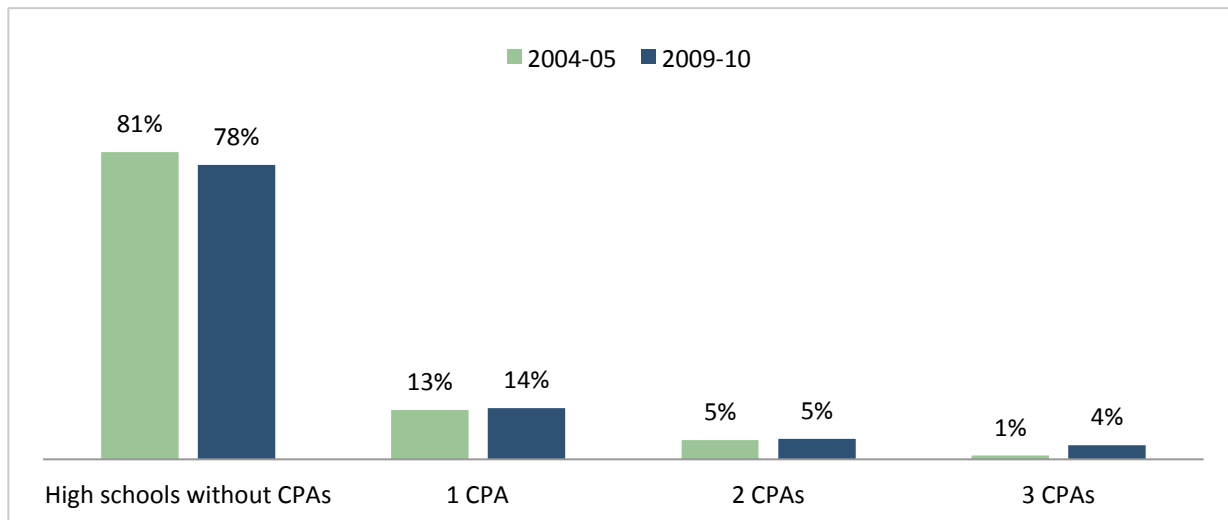


Figure 3: Number of CPAs within high schools, 2009-2010 and 2004-2005

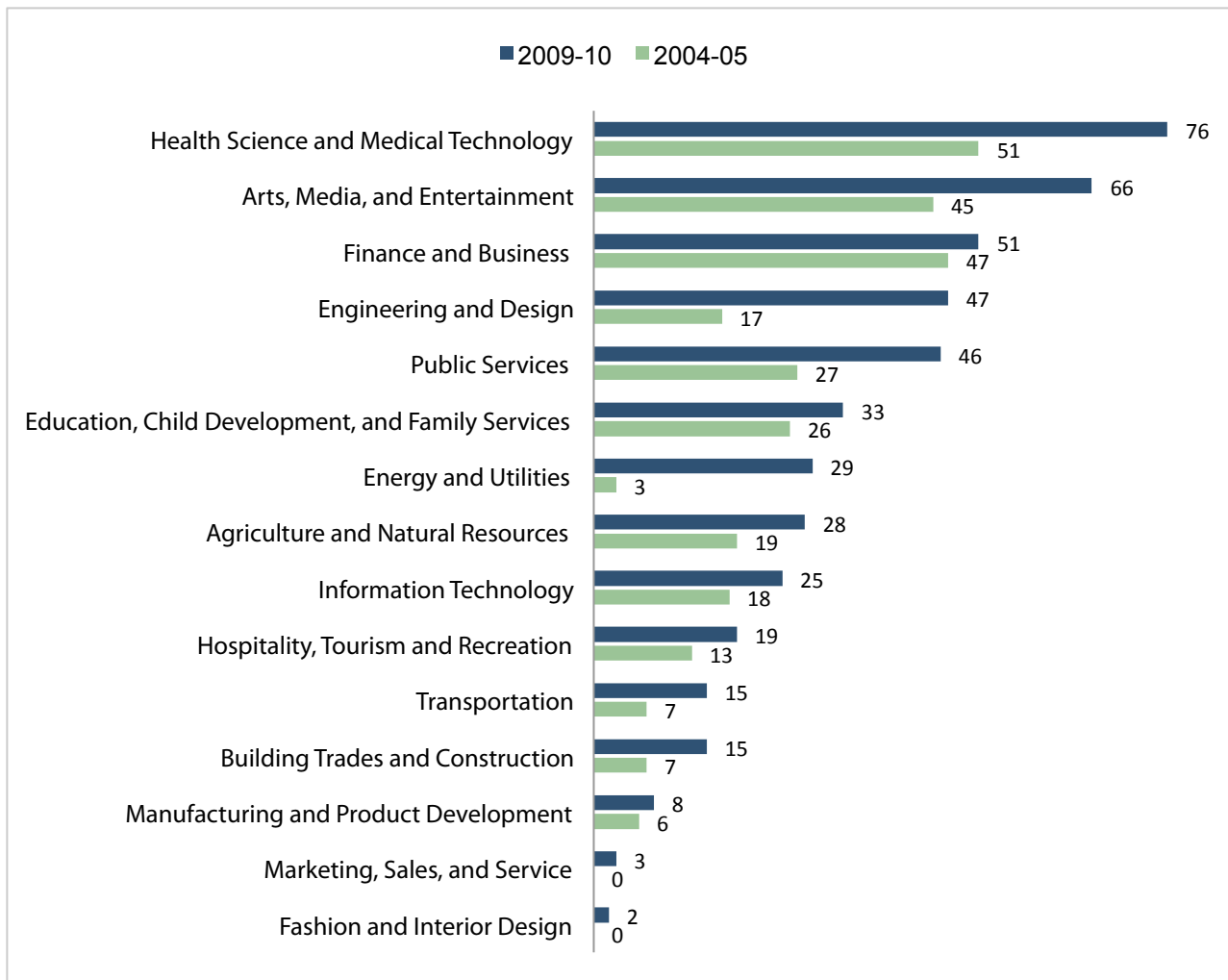


Each CPA has an industry theme associated with one of the 15 sectors the State uses for organizing career-technical education. Composition of the academy’s advisory board, career-technical course offerings, extra-curricular activities, internships and mentorships all reflect the industry theme. Figure 4 displays the industry sector classification of academies in 2004-05 and 2009-10. The industry sector with the greatest number of CPAs, both in 2004-05 and in 2009-10, is Health Science and Medical

Technology. Not far behind is Arts, Media, and Entertainment. The industry sectors with the fewest number of academies are two of the newest: Fashion and Interior Design, and Marketing, Sales and Service. As of 2009-10, all of California’s 15 sectors are represented.

Engineering and Design showed rapid growth from 2004-05 to 2009-10, as did Energy and Utilities.

Figure 4: Number of CPAs by industry sector, 2009-10 and 2004-05



CPA funding

Most CPAs (290) are supported by Proposition 98 funds, which were the only source of funding until 2007-08. Proposition 98 funds are ongoing, as long as the academy meets the grant requirements (the student selection and performance measures, and district and employer matching). In 2007-08, 150 new academies were begun (over a three-year period) with funds authorized by SB 70, a five-year bill that sunsets in 2011-12. In 2009 the State enacted AB 519, a three-year law supporting 61 new green academies. The proportion of academies funded by each of these sources is shown in Figure 5a.

Figure 5a: Sources of State funding: percentage of CPAs funded from each source, 2009-10

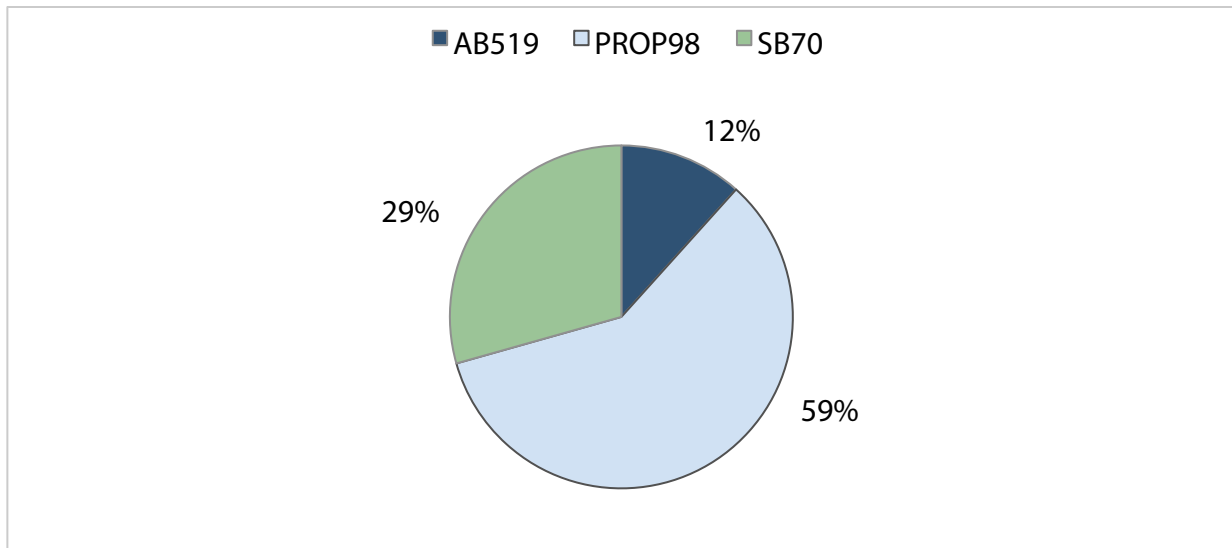
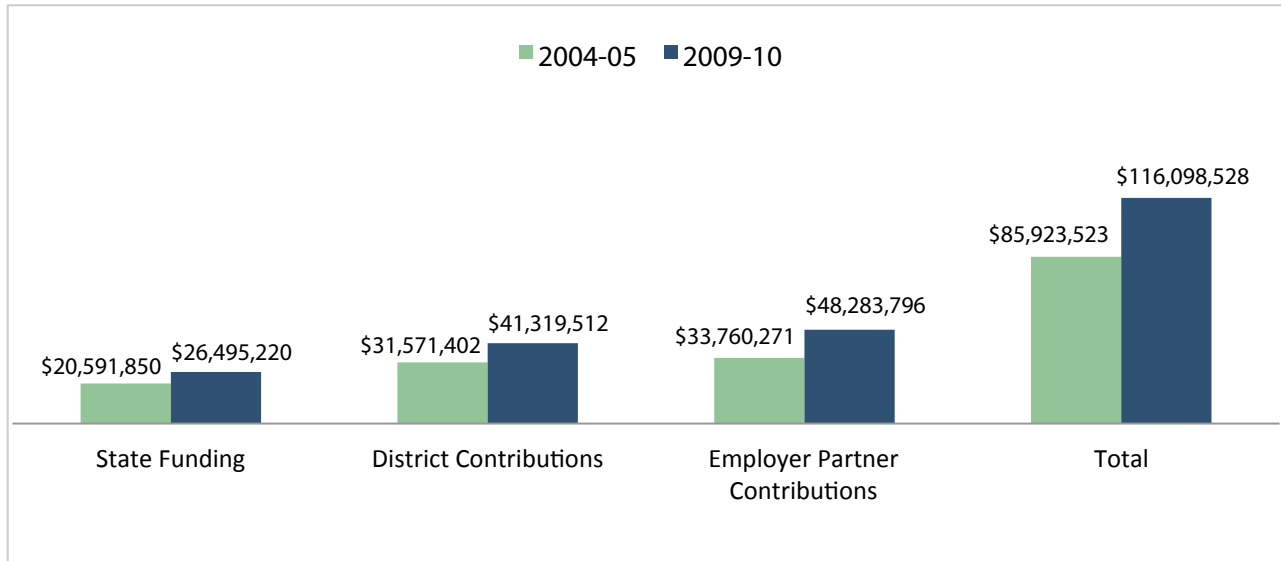


Figure 5b shows the proportion of support that comes through the State grant, district match, and employer match. On average, CPAs received 23% of their support from State grant funds (all in dollars), 35% in matching district support (mostly in-kind), and 42% in matching employer contributions (mostly in-kind). The matches from the districts were primarily in the form of staff time to conduct a variety of activities, including instruction, tutoring and administrative support. The matches from employers were for advisory board members, speakers, field trips, mentorships, and internships.

Figure 5b: CPA funding sources and amounts, 2009-10 and 2004-05



CPAs receive state grants to serve students in grades 10 through 12. Students are eligible for full funding if they obtain 90% of the credits each academic year in courses that are required for graduation. To qualify for full funding, sophomores and juniors also must achieve at least 80% attendance, and seniors must successfully graduate after 12th grade. Students who meet the performance targets for only one semester qualify for 50% funding.

As Figure 6a shows, in both 2004-05 and 2009-10 a large majority of students enrolled in CPAs qualified for funding, especially at higher grade levels. There is a cap on the funding, so that an academy when fully implemented (i.e., across all three grade levels) can receive funding for only 90 students. Most academies enroll more than that number and do receive the full amount, which is \$81,000 for those funded under SB 70 or AB 519, or \$69,120 for those funded under Proposition 98 funding (the latter reduced from \$81,000 over the past two years because of State budget cuts). Figure 7 shows that most academies enroll more students than are eligible for funding. About two-thirds of academies receive funding for at least 80% of their students.

Figure 6a: Total funded and unfunded students in CPAs, 2009-10

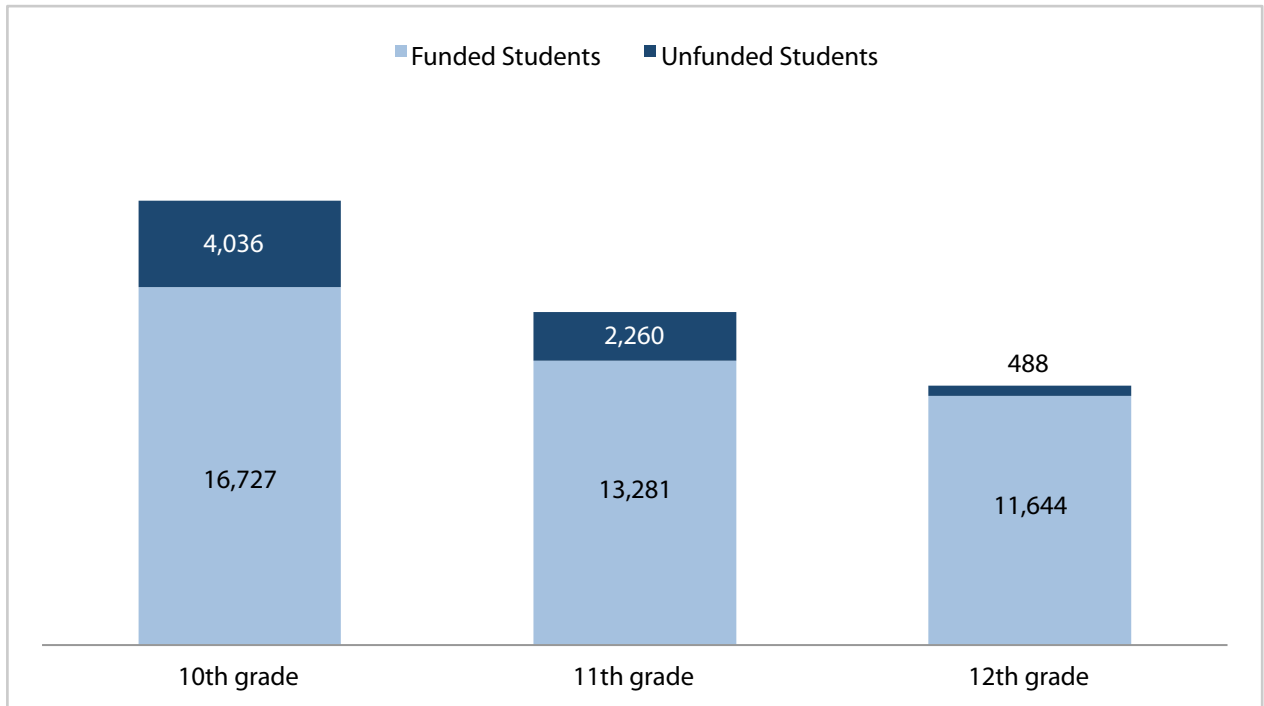


Figure 6b: Total funded and unfunded students in CPAs, 2004-05

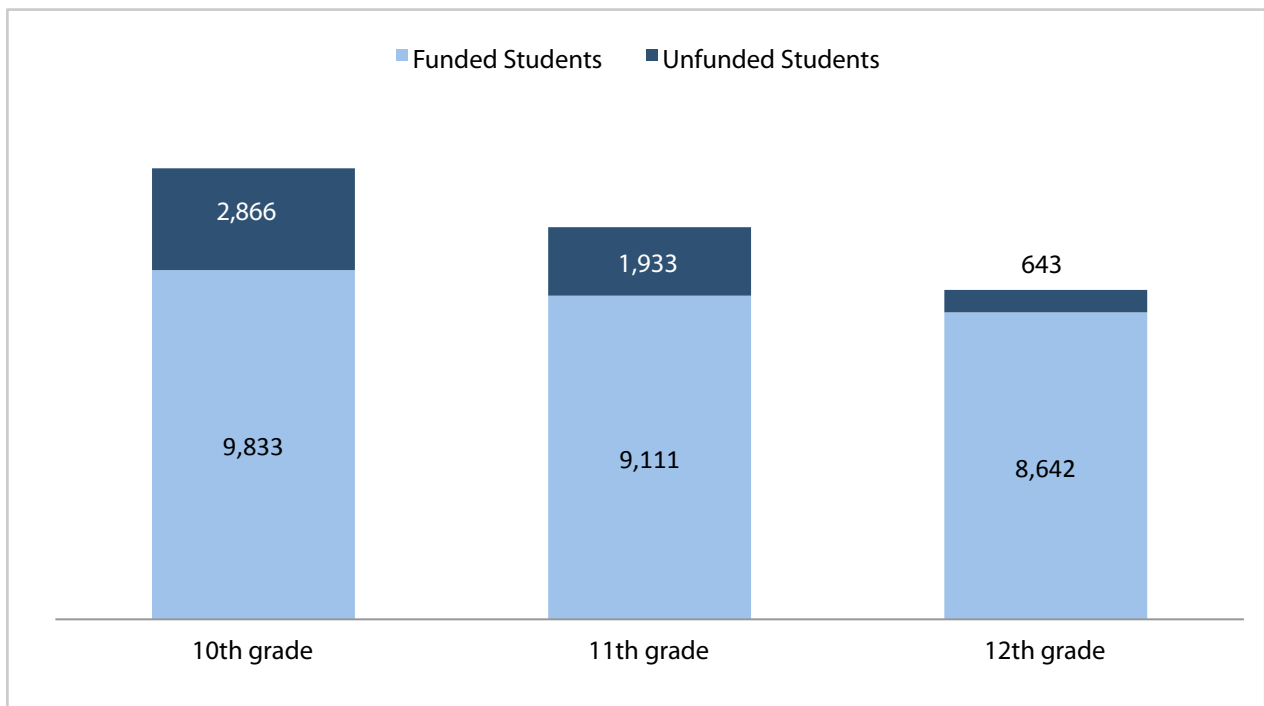
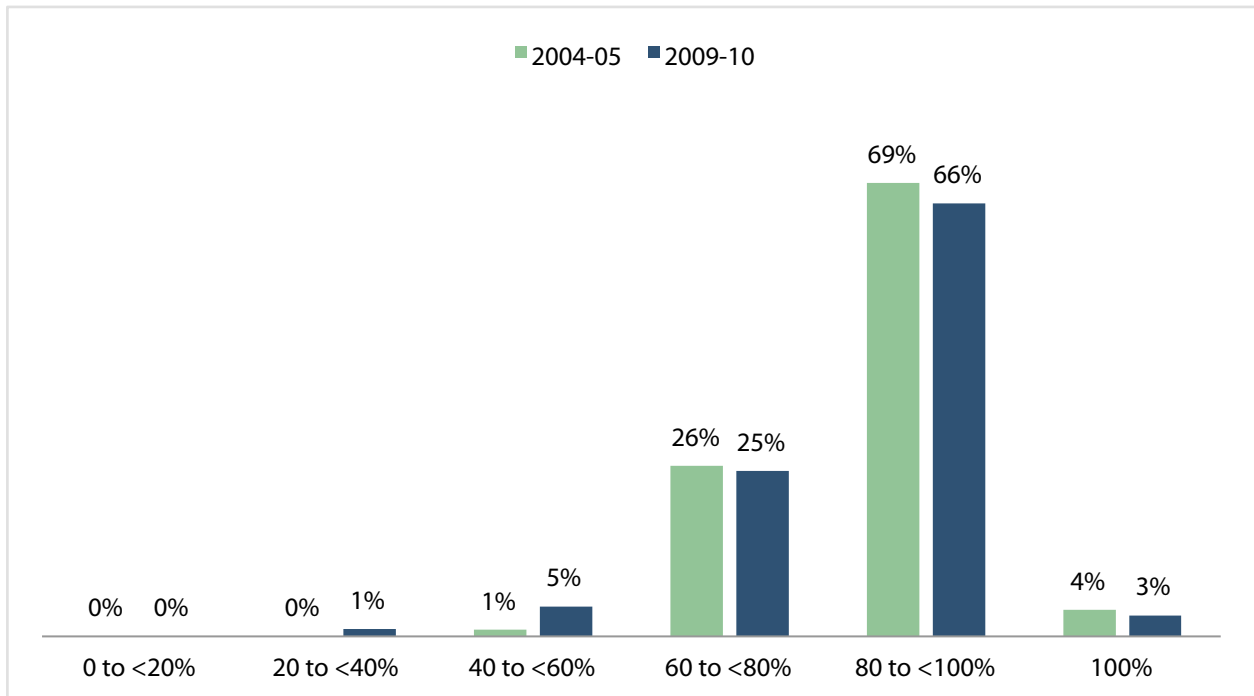


Figure 7: CPAs by category according to percentage of students eligible for full or partial funding, 2009-10 and 2004-05



STUDENT PROFILE

Race/ethnicity and gender

The largest portion of CPA and statewide enrollment is comprised of Hispanic students who make up 59% of the CPAs' student body, compared with 47% of statewide enrollment. As indicated by Figure 8, students of color represent a growing proportion of grade 10-12 enrollment in the State, and even more so in the CPAs. Specifically, Hispanic enrollment in CPAs grew from 46% to 59%, while statewide the Hispanic percentage rose from 41% to 47% in grades 10-12. Conversely, white students decreased from 26% to less than 16% of CPA enrollment, while decreasing from 36% to just under 30% of grade 10-12 enrollment statewide. Black students also decreased as a proportion of both CPA and statewide enrollment, but still represent a larger fraction of enrollment in CPAs (8.7%) than statewide (7.5% of grades 10-12). The proportion of Asian students in CPAs and statewide changed very little from 2004-05 to 2009-10; they continue to represent a larger fraction of enrollment in CPAs (10.3%) than statewide (8.9% of grades 10-12).

Figure 8: CPA and California 10th- to 12th-grade enrollment by race/ethnicity, 2009-10 and 2004-05

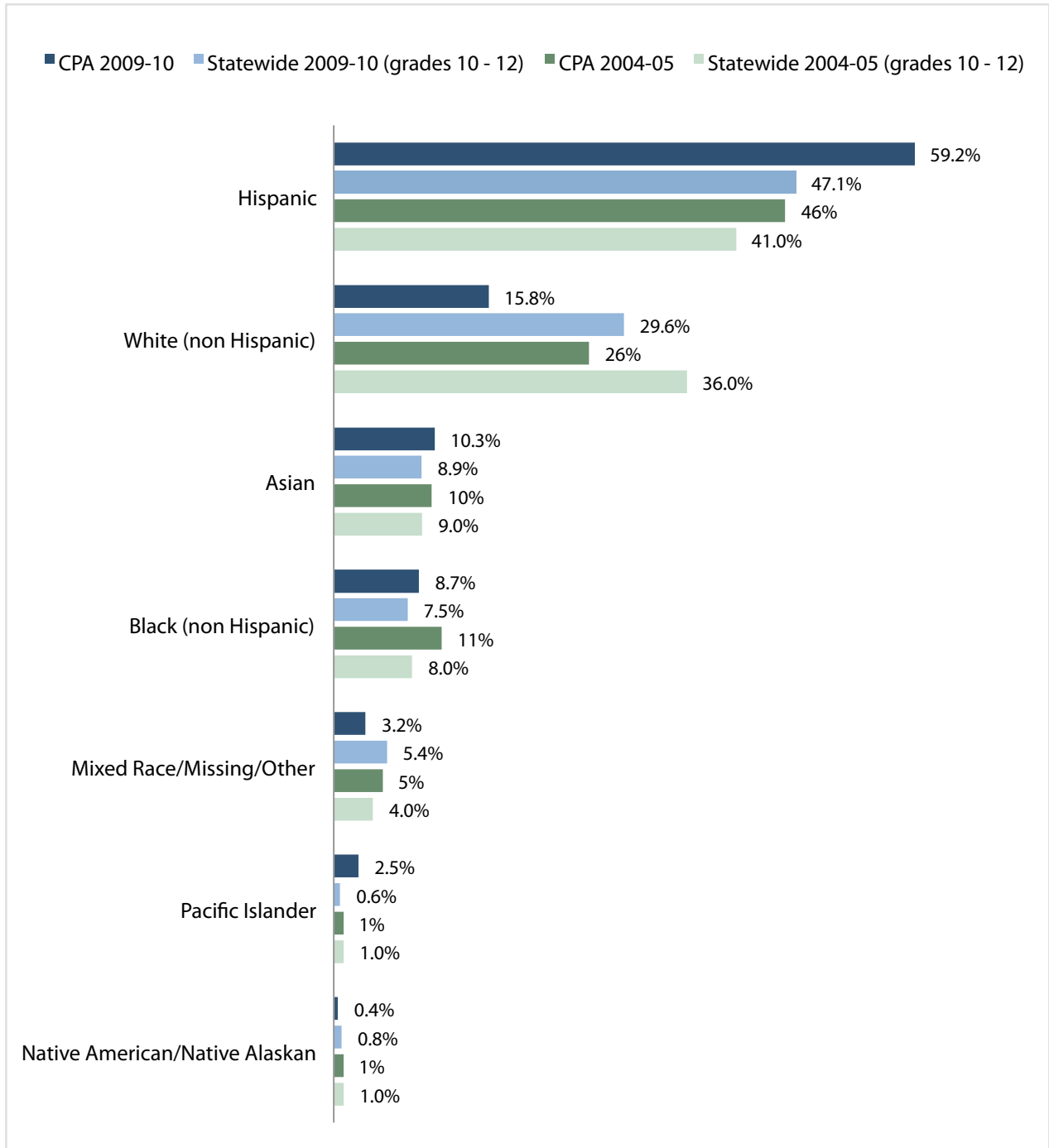


Figure 9a shows CPA and statewide enrollment by gender. State 10th - 12th grade enrollment is 49% female and 51% male, and this ratio has remained constant since 2004-05. In contrast, CPA enrollment was 53% female and 47% male in 2009-10, a more equal distribution than in 2004-05, when it was 57% female and 43% male. Figure 9b reveals that Hispanic females account for most of the female majority in CPA enrollment, though females also outnumber males in every other racial/ethnic group except whites.

Figure 9a: CPA and California 10th- to 12th-grade enrollment by gender, 2009-10 and 2004-05

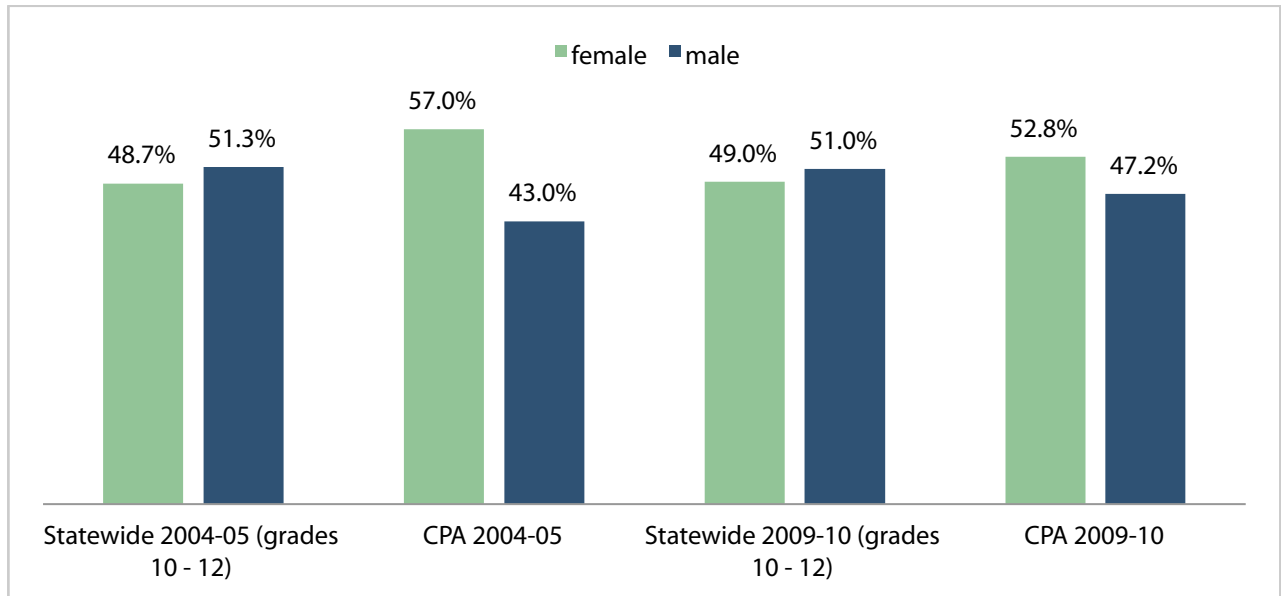
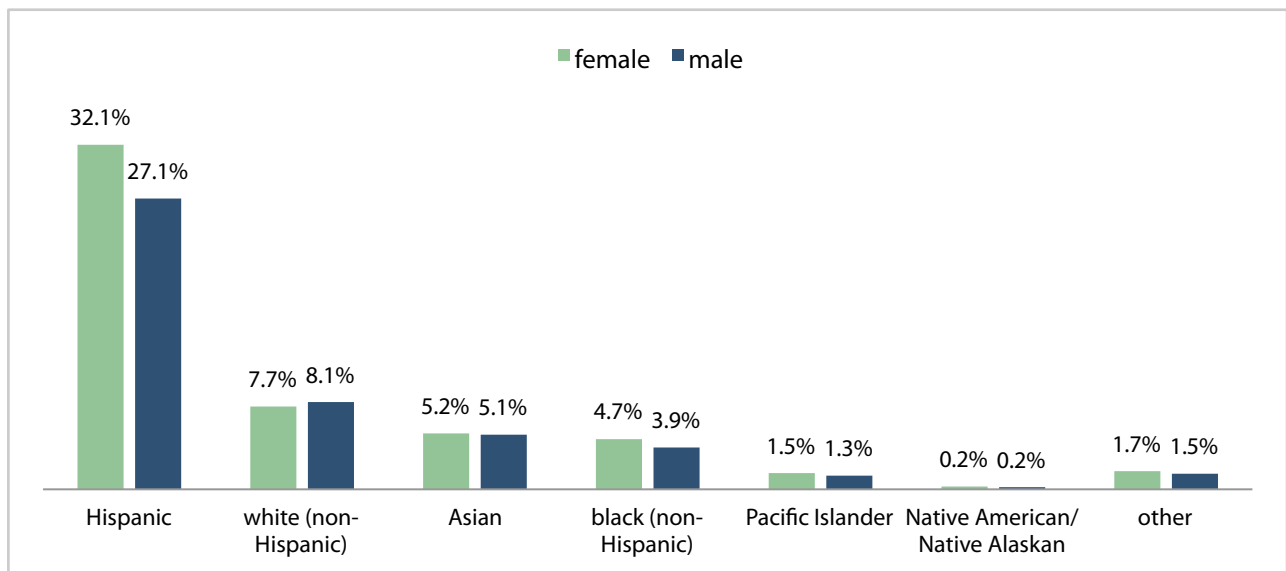


Figure 9b: CPA 10th- to 12th-grade enrollment by race/ethnicity and gender, 2009-10



Figures 10a and 10b show the percentages of female and male students in each industry sector in 2009-10 and 2004-05. The three industry sectors with the largest proportions of female students are Fashion and Interior Design; Health Science and Medical Technology; and Education, Child Development and Family Services. Manufacturing and Product Development, Building Trades and Construction, and Engineering and Design have the greatest proportions of male students. The pattern is largely consistent in both years, with some moderate gains in gender balance. For example, the industries at both ends of the spectrum are a bit more balanced, and there are now eight industries where the ratio is no higher than 60-40 either way, compared with six such industries in 2004-05.

Figure 10a: CPA enrollment by industry and gender, 2009-10

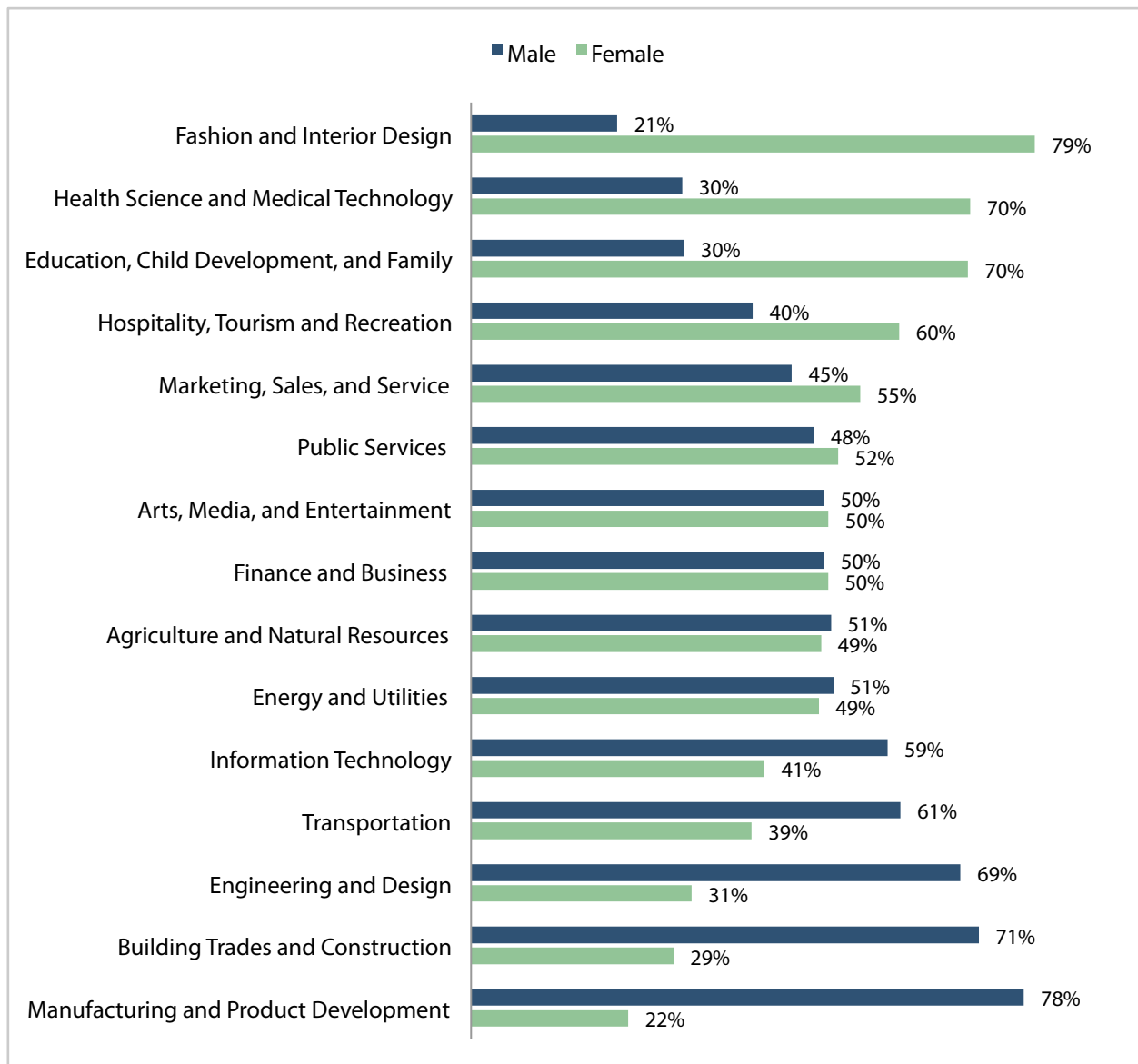
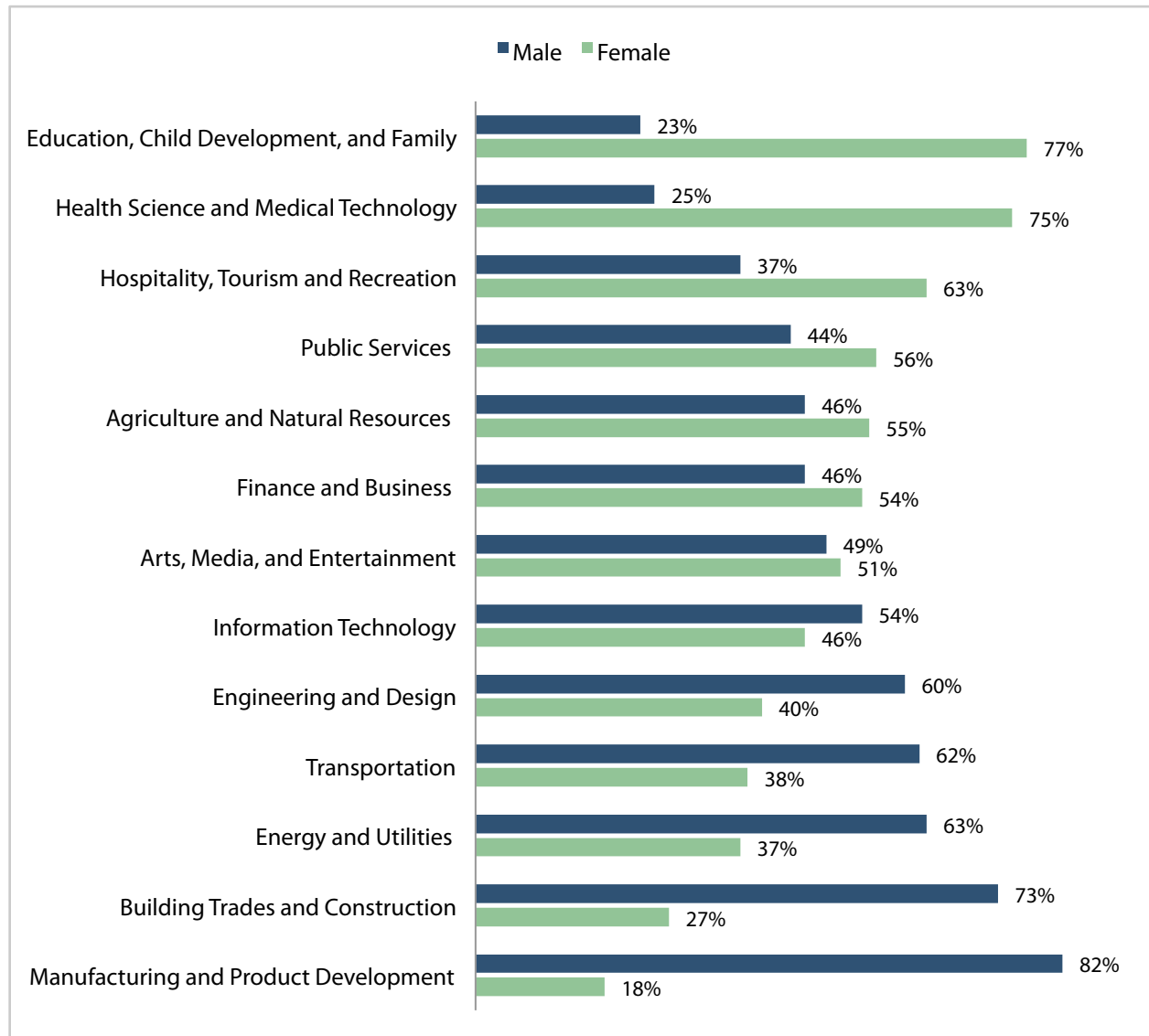


Figure 10b: CPA enrollment by industry and gender, 2004-05



STUDENT PERFORMANCE

Attendance and Credits

As in the 2004-05 CPA report (Bradby et al, 2007), the data reveal high attendance rates in CPAs. Academies receive State funding only for students with at least 80% attendance; 96% of CPA students in 2009-10 met this criterion (down slightly from 98% in 2004-05). Another requirement for CPA funding is that students earn at least 90% of the credits that would be needed during the year to make normal progress toward on-time graduation. In 2009-10, 83% of CPA students met this requirement (down slightly from 85% in 2004-05).

CAHSEE pass rates

In 2009-10 the tenth grade CAHSEE pass rates were 81% in both English Language Arts (ELA) and math statewide, compared to 82% in ELA and 83% in math for 10th-graders in CPAs. However, statewide tenth grade CAHSEE pass rates improved substantially from 2004-05 to 2009-10 while CPA rates remained essentially stable, so differences between CPA and State averages have declined somewhat. Figure 11 shows results for both years.

Figure 11: 10th-grade CAHSEE pass rates by subject test, 2009-10 and 2004-05

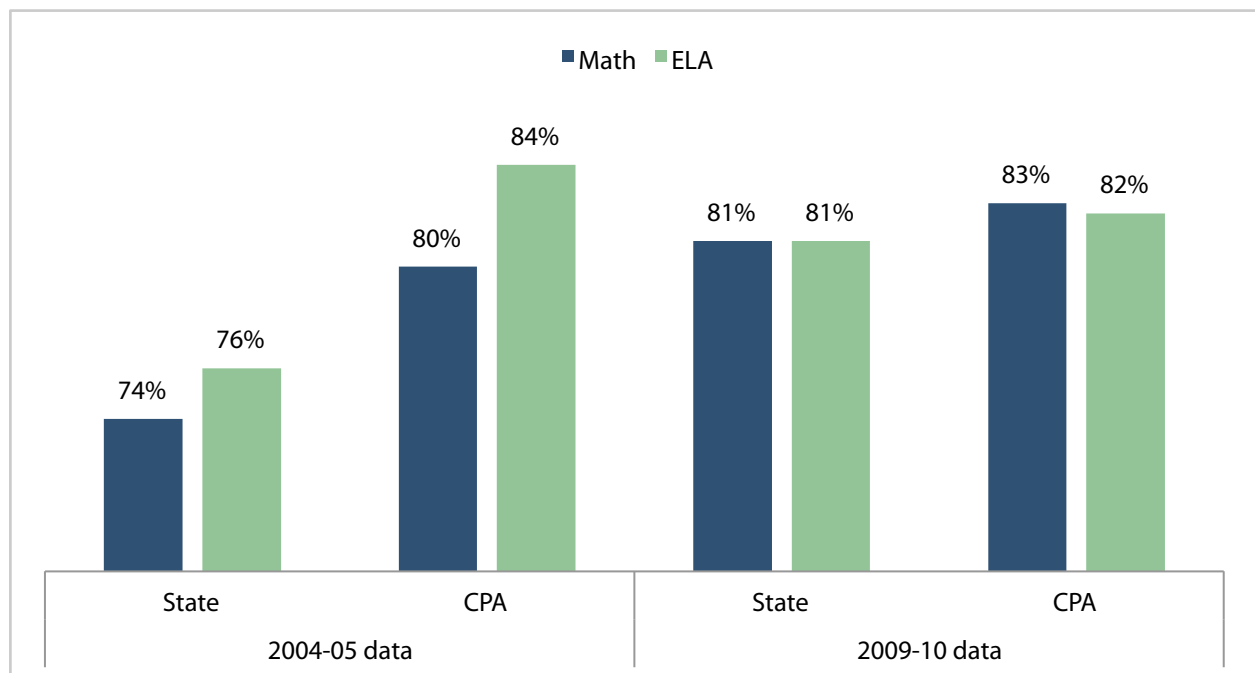


Figure 12a shows both males and females in CPAs had passing rates on both ELA and math that were at least as high as the statewide rates in 2009-10. Gender differences in pass rates on the ELA portion were smaller among CPA students than statewide. Figure 12b shows both of these patterns also occurred in 2004-05.

Figure 12a: 10th-grade CAHSEE pass rates by subject test and gender, 2009-10

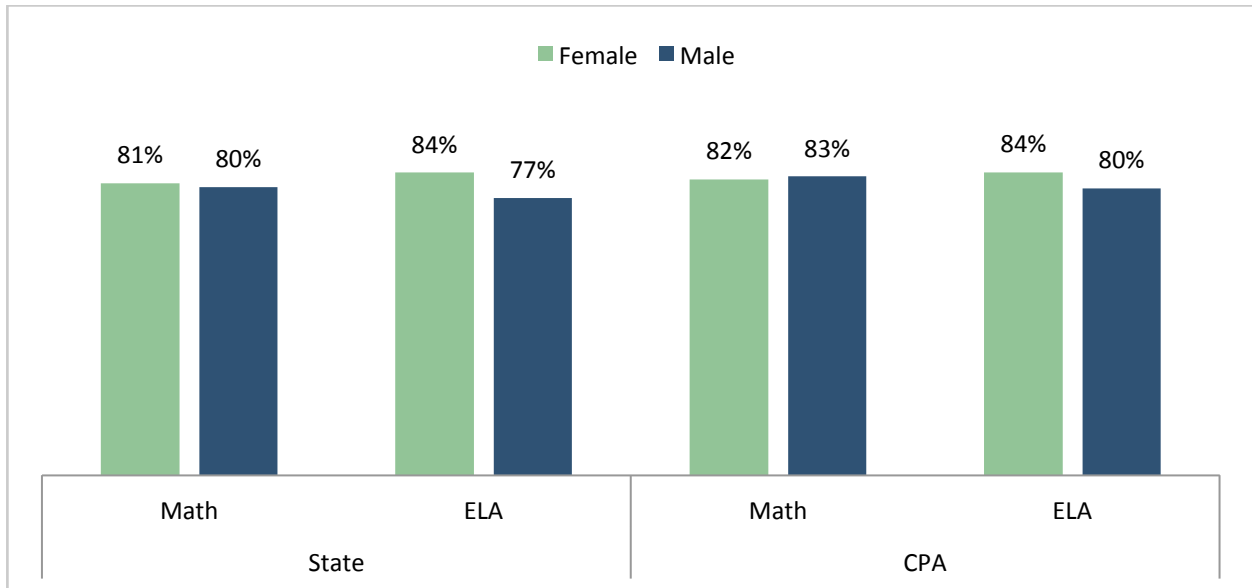


Figure 12b: 10th-grade CAHSEE pass rates by subject test and gender, 2004-05

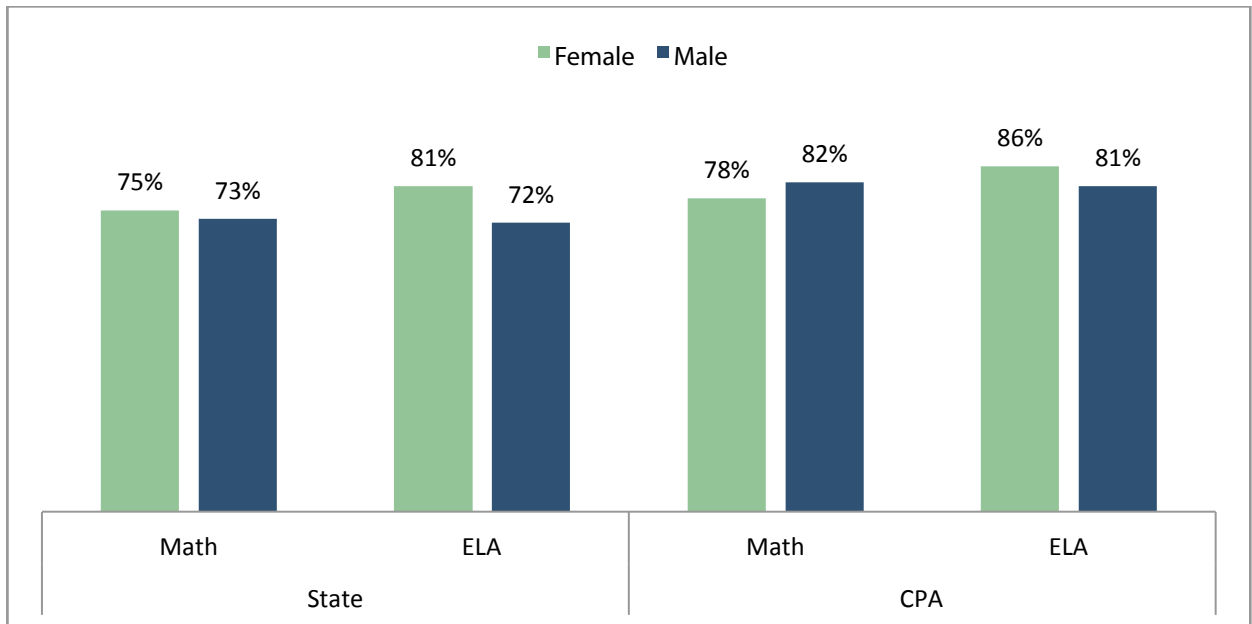


Figure 13a indicates that tenth grade CAHSEE pass rates in both ELA and math were higher for CPA students than statewide among Hispanics, Native Americans, Hawaiian and Pacific Islanders, and “others”. However, Asian CPA students had lower pass rates than statewide on both sections of the test; and white and black CPA students had slightly lower pass rates than statewide on the math portion. In 2004-05, CPA 10th graders outperformed the statewide results in all racial/ethnic subgroups. Again, these results reflect the fact that statewide pass rates in grade 10 improved during this period while CPA pass rates were more stable.

Figure 13a: 10th-grade CAHSEE pass rates by subject test and race/ethnicity, 2009-10

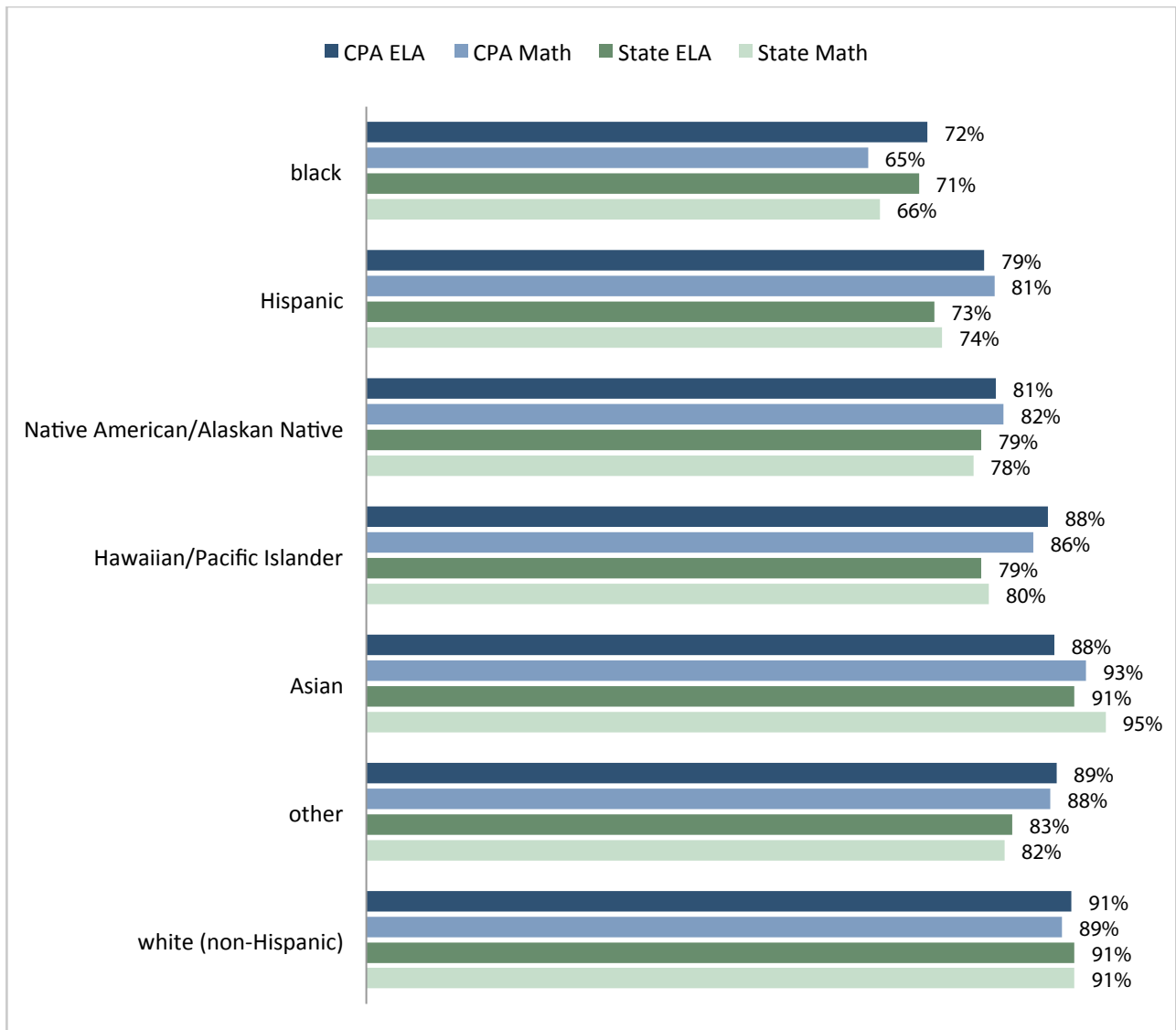
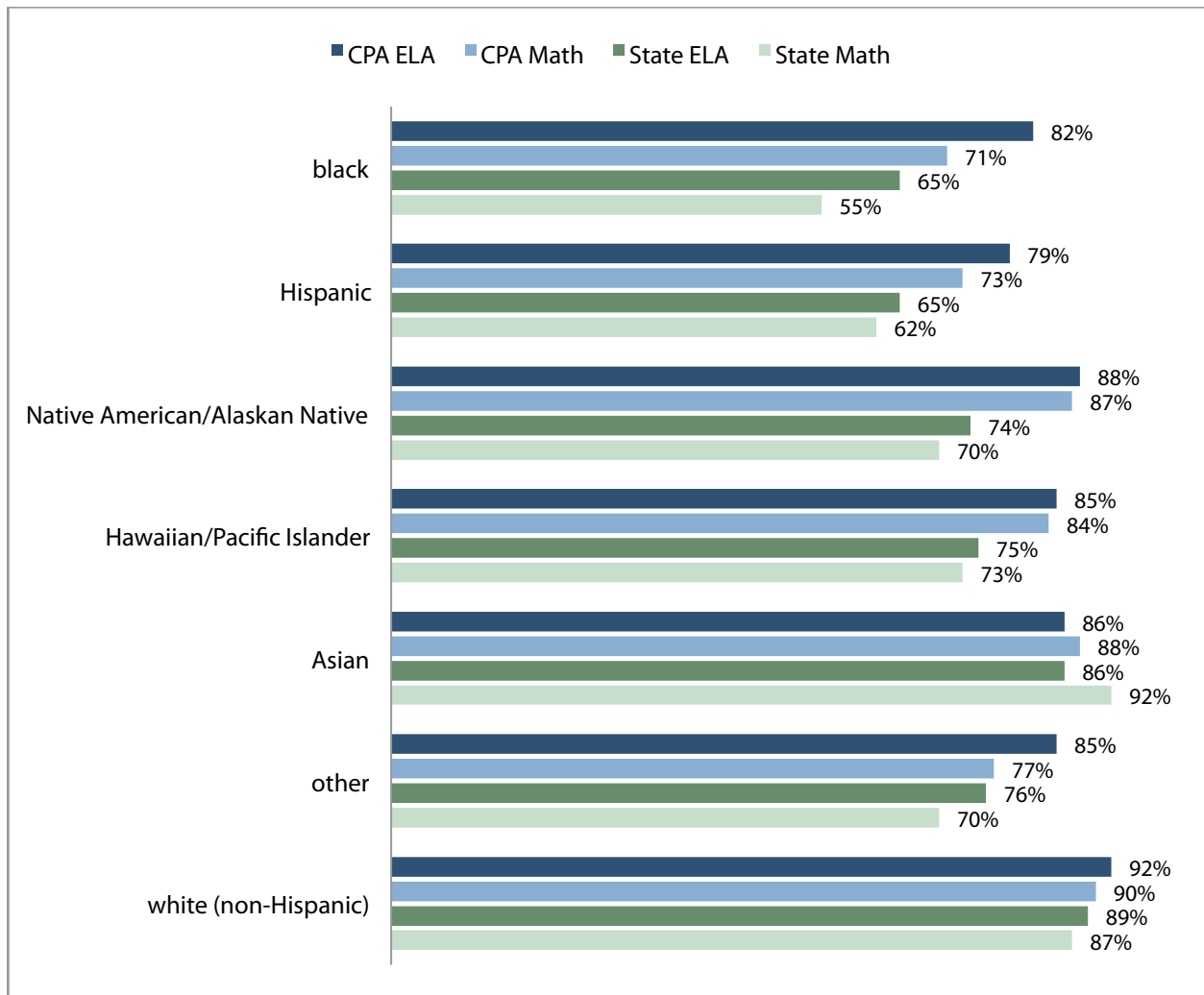


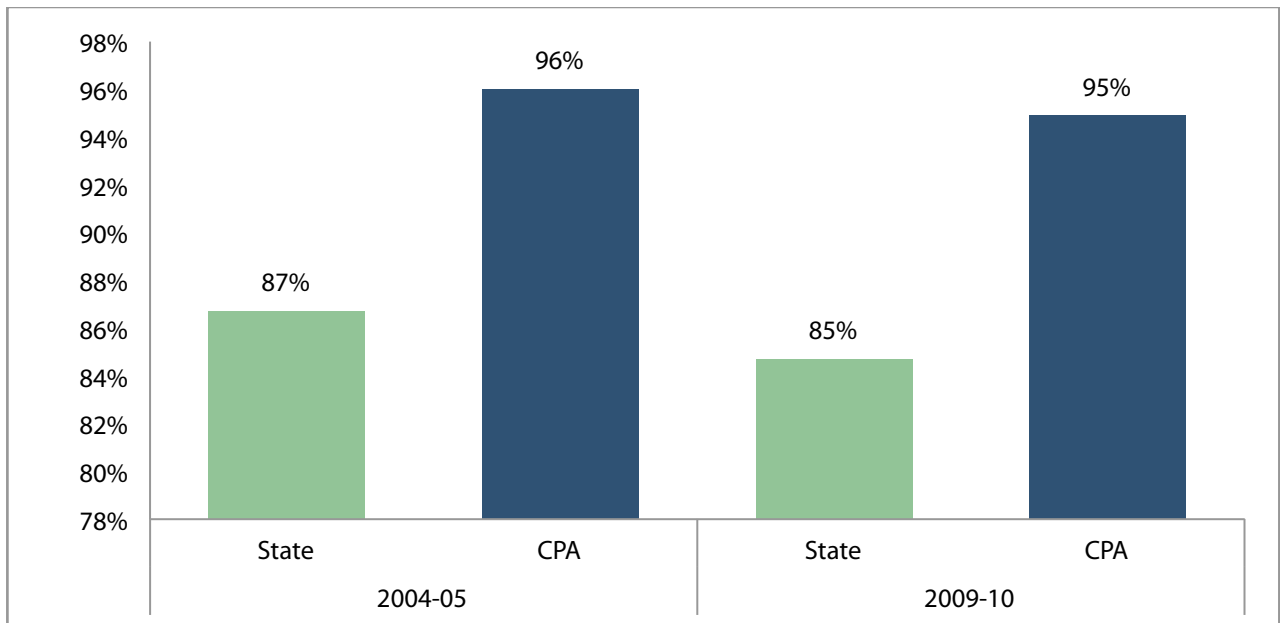
Figure 13b: 10th-grade CAHSEE pass rates by subject test and race/ethnicity, 2004-05



Graduation rates for seniors

One of the most consequential outcomes for high school students is whether or not they actually receive a diploma. It is therefore striking that, among students who remain in high school until senior year, the graduation rate in CPAs was 10 percentage points higher than statewide. Figure 14a shows that 95% of CPA seniors graduated at the end of 2009-10, compared to only 85% statewide.² To provide additional perspective, Figure 14b plots the statewide rate from 2001-02 through 2009-10.³ A big drop occurred in 2005-06, the year the CAHSEE requirement for graduation first took effect, but the statewide graduation rate for seniors recovered noticeably in 2009-10. Reasons why CPAs have higher graduation rates for seniors may include the greater attention CPA teachers are able to give to each student’s progress toward graduation, and improvement in students’ motivation to graduate as a result of the academy program.

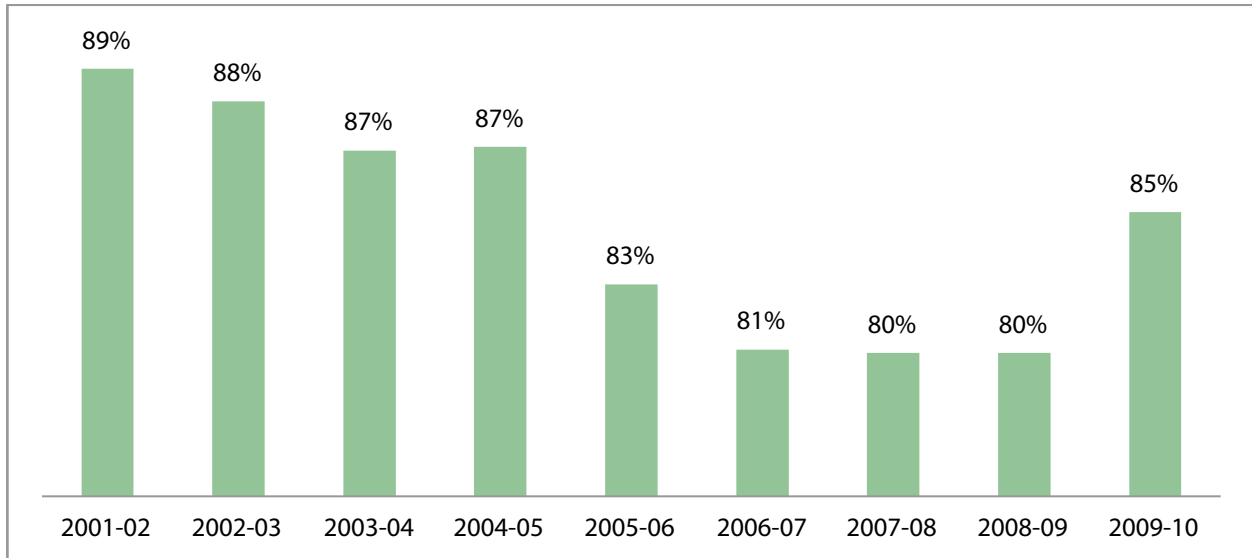
Figure 14a: CPA and California 12th-grade graduation rates, 2009-10 and 2004-05



² See Appendix 2 for discussion of the statewide number of graduates in 2010.

³ Source: Dataquest web site: <http://dq.cde.ca.gov/dataquest/EnrGradDrop.asp>. This site shows annual data since 1974-75.

Figure 14b: California State 12th-grade graduation rates, 2001-02 through 2009-10



Statewide graduation rates for seniors are substantially higher for females than for males. However, this discrepancy is much smaller in the CPAs. Figure 15 shows the 2009-10 senior graduation rate was 8% higher for females statewide, but only 2% higher in CPAs.

Figure 15: CPA and California 12th-grade graduation rates by gender, 2009-10 and 2004-05

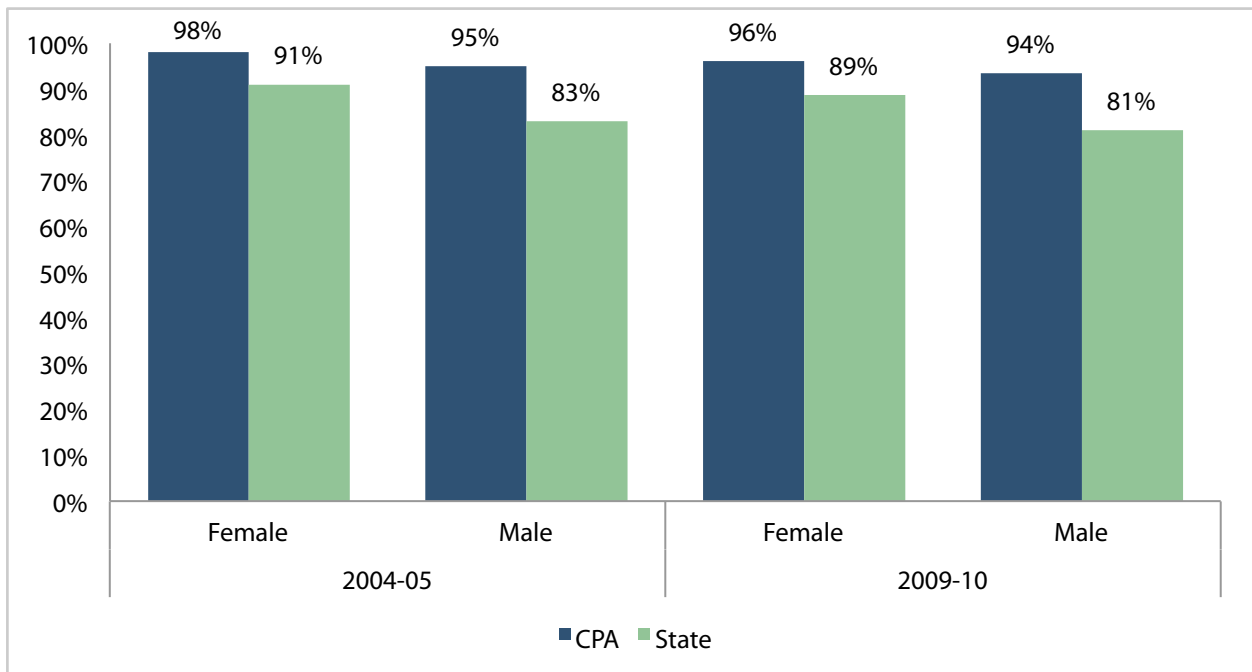


Figure 16a shows CPA graduation rates from grade 12 were higher than the statewide rate among all racial/ethnic groups. The difference among black students was 16%, and among Hispanic students 14%. Stated differently, the probability of *not* graduating at the end of the year for a black senior statewide was three times greater (24%) than for a black senior in a CPA (8%). For a Hispanic senior, the probability of *not* graduating was more than three times greater statewide (20%) than in a CPA (6%). The 2004-05 data in Figure 16b showed a similar pattern.

Figure 16a: CPA and California 12th-grade graduation rates by race/ethnicity, 2009-10

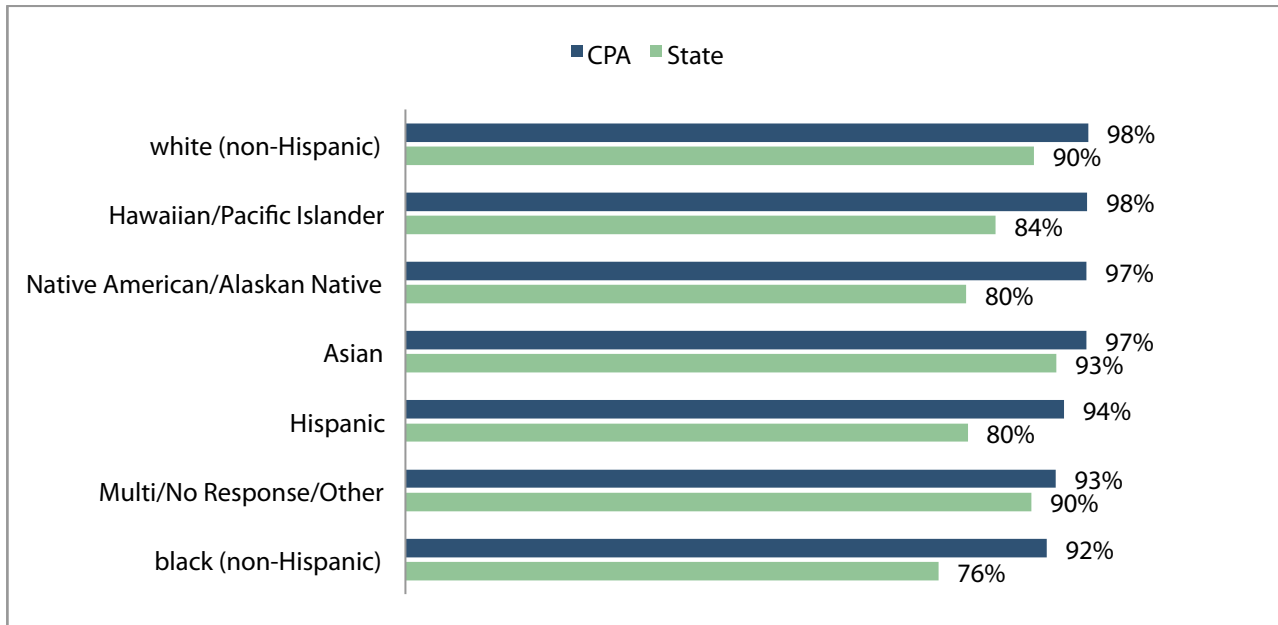
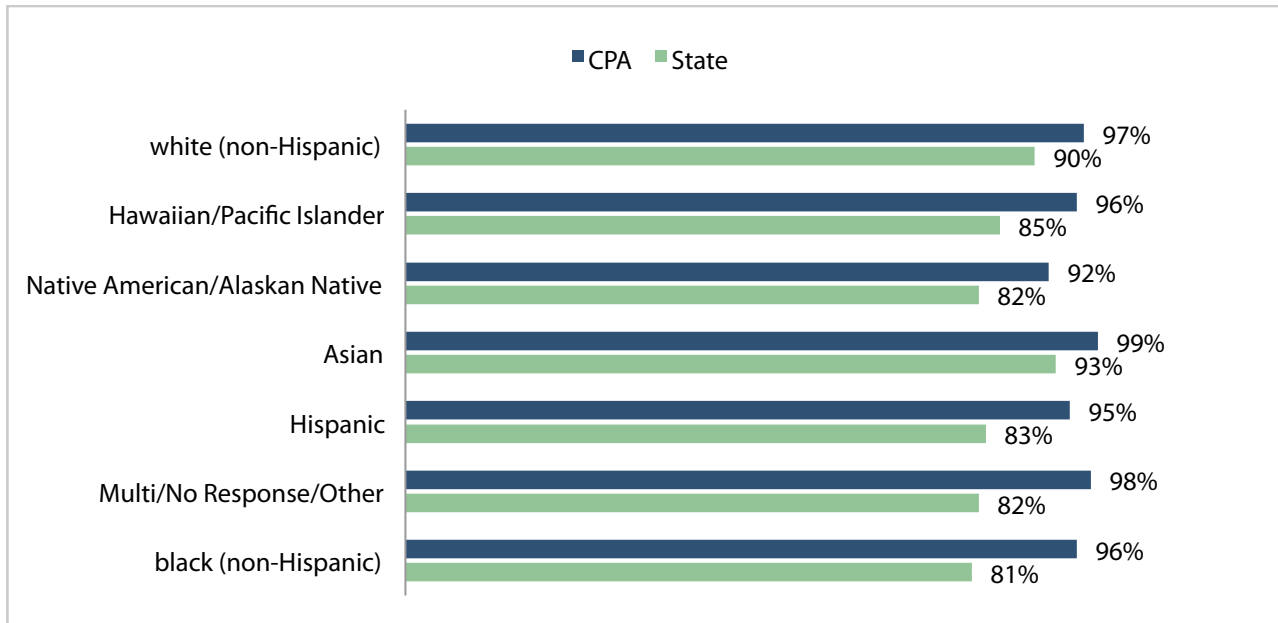


Figure 16b: CPA and California 12th-grade graduation rates by race/ethnicity, 2004-05

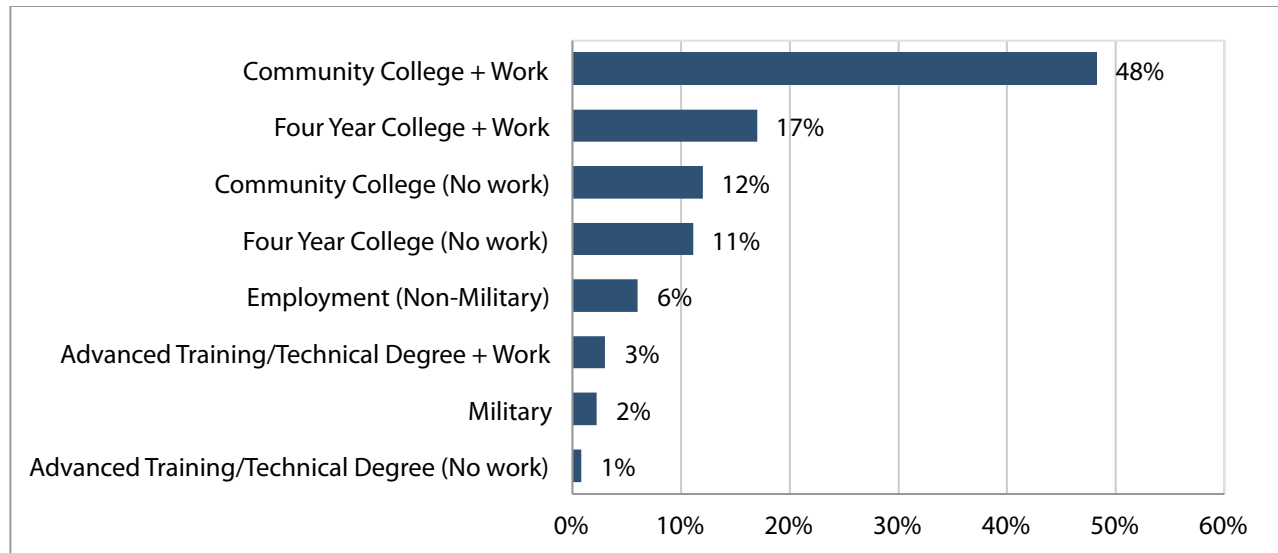


STUDENT INTENTIONS AND EXPERIENCES

Combining college and career

Most CPA seniors plan to combine college and work after they graduate, as Figure 17 shows. Three out of five students plan to attend a community college, and 28% a four-year college. A large majority of these students plan to work while attending college. These plans are consistent with the CPA goal of preparing students to pursue a range of college and career options after high school.

Figure 17: Postsecondary plans of CPA seniors, 2009-10

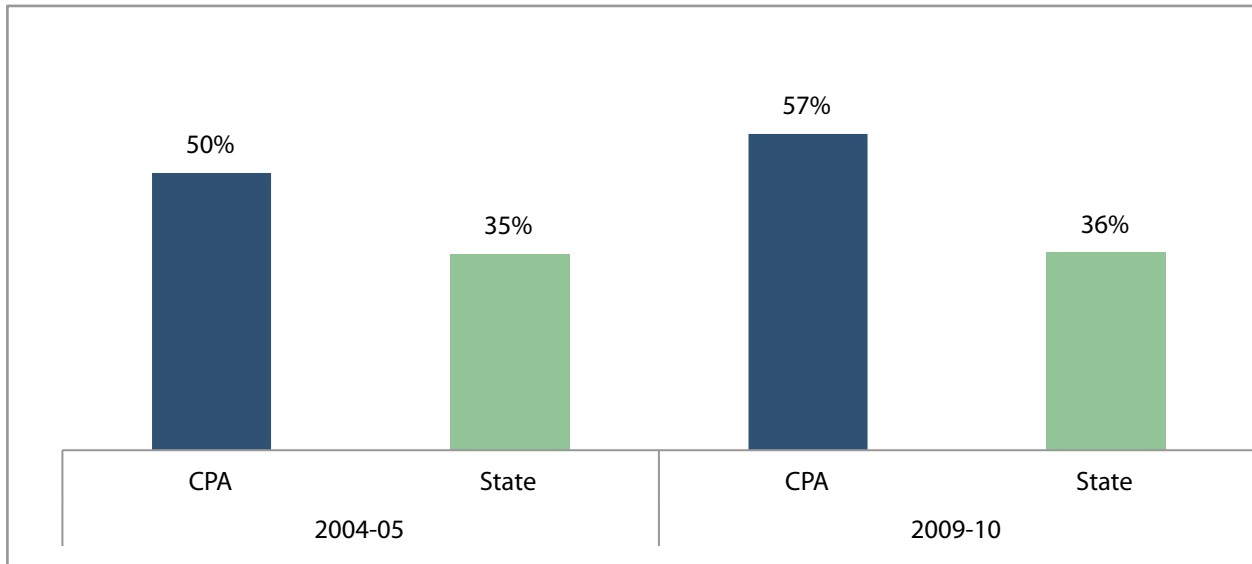


Satisfying UC/ CSU course requirements

To enter the University of California or California State University (UC/CSU) as freshmen, high school graduates must pass what are called the a-g subject requirements, a total of 15 year-long courses in academic subjects. As shown in Figure 18a, CPAs in 2009-10 reported that 57% of their graduating seniors had fulfilled these requirements, up from 50% in 2004-05. This compares with the 36% reported by high schools statewide in 2009-10 and 35% in 2004-05.

Any course that actually counts toward meeting a-g requirements must be approved by UC at each school and posted on the official “Doorways” web site that UC maintains for this purpose. It is unlikely that the teachers or other school staff who submit the reports for CPAs, or for entire high schools, have gone through the time-consuming process of checking every student’s transcript against the school’s Doorways list. Therefore, the estimates of a-g completion for both CPAs and high schools are only approximate, and both may suffer from some upward bias. However, there is little reason to believe that the bias in CPA reports is so much bigger than the bias in school reports that it would account for the 21% (57% vs. 36%) difference in the 2009-10 data. Thus it seems safe to conclude that the a-g completion rates for CPA graduates are higher than for high school graduates statewide. By this measure, CPA graduates are better prepared for postsecondary education than other California high school graduates.

Figure 18a: Graduates reported to meet a-g subject requirements, 2009-10 and 2004-05



As one would expect, CPA graduates who plan to attend a four-year college are most likely to have completed the a-g requirements. Compared to the statewide rate of 36%, Figure 18b also shows high school rates of a-g completion among CPA graduates who plan to attend community college or other postsecondary education.

Figure 18b: Graduates reported to meet a-g subject requirements, by postsecondary plans, 2009-10

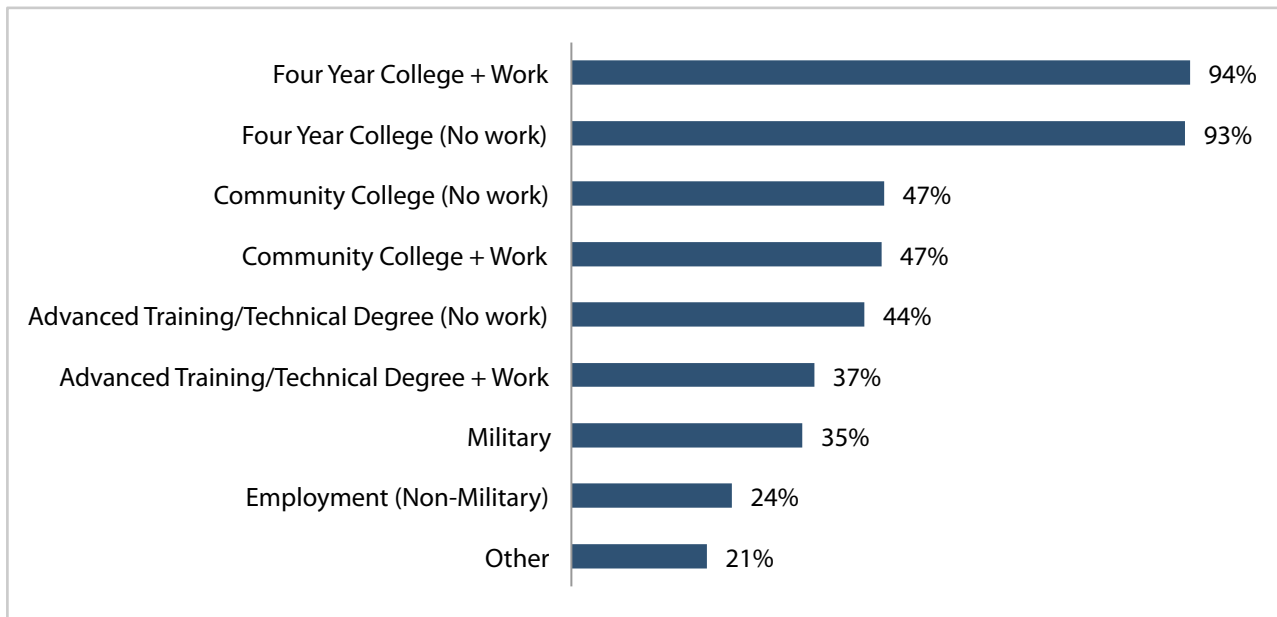
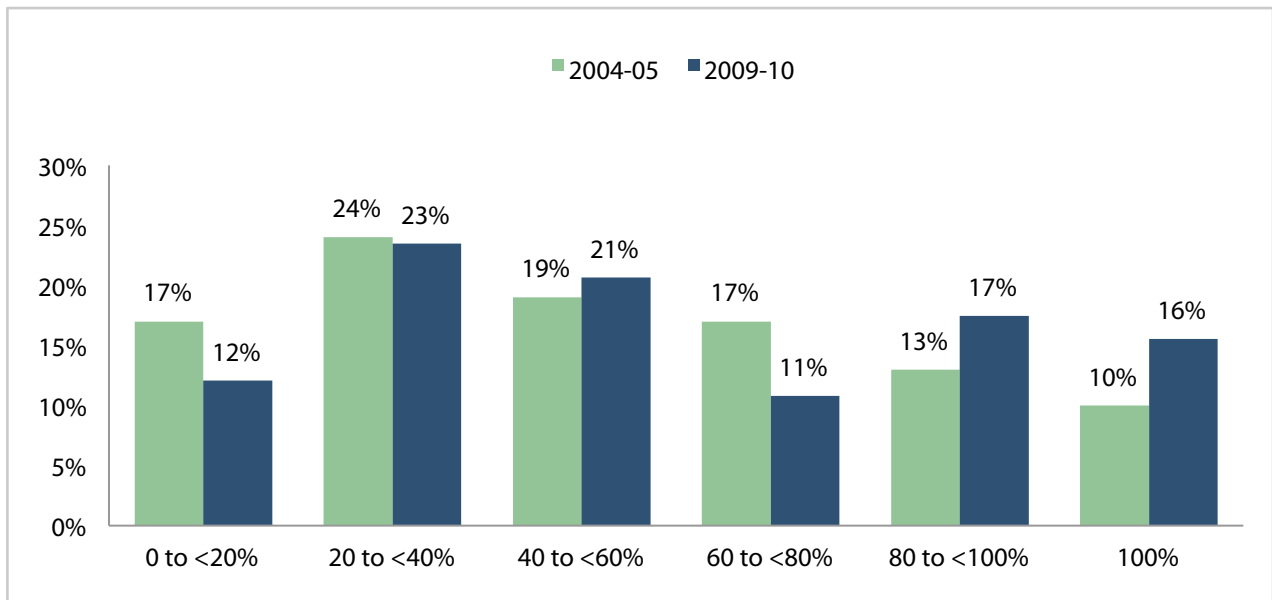


Figure 19 shows CPAs grouped into categories according to what percentage of graduates are reported to have met the a-g requirement. More academies are in the upper categories in 2009-10 than in 2004-05, reflecting the overall increase from 50% to 57% in the percentage of CPA graduates reported to have met these requirements.

Figure 19: CPAs by category according to percentage of graduates meeting a-g subject requirements, 2009-10 and 2004-05

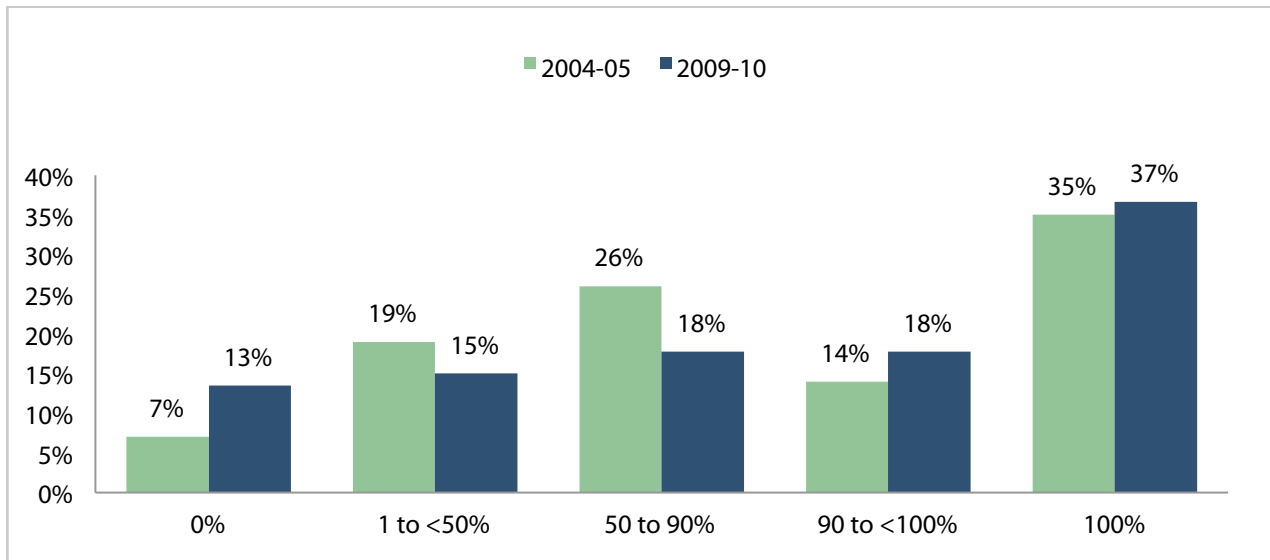


Work-based learning opportunities

CPAs also prepare students for college and careers by creating opportunities for them to learn from professionals in the community. In grade 11, CPAs are expected to provide mentorships, connecting students to individuals working in the academy’s career field. In the summer after their junior year, and continuing into their senior year, CPAs are also expected to arrange paid or unpaid internships for students in the academy’s career field.

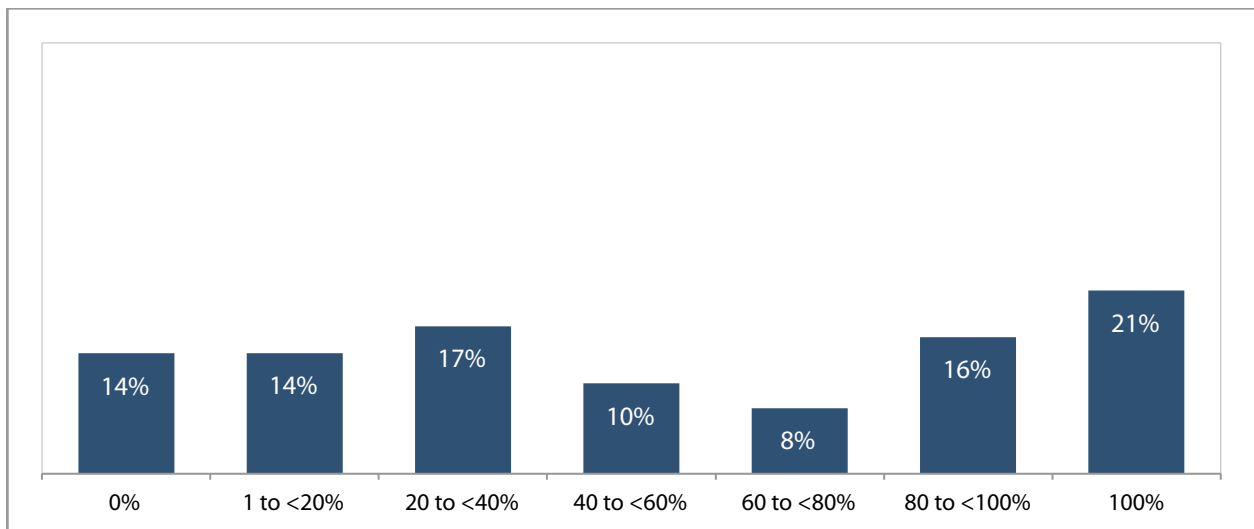
In 2009-10, 71% of juniors were reported to have had mentors —similar to the 72% reported in 2004-05. Figure 20 shows an uneven pattern of change among academies: more CPAs in 2009-10 reported that they provided mentorships for at least 90% of their juniors, but more also reported that they provided no mentorships at all.

Figure 20: CPAs by category according to the reported percentage of juniors in mentorships, 2009-10 and 2004-05



In 2009-10, 52% of seniors were reported to have had work-based learning experiences, again close to the number in 2004-05, when 53% were reported to have had work experiences related to the academy’s industry focus. Similar to what Figure 20 shows for junior mentorships, Figure 21 shows wide variation in the ability of academies to provide senior internships, with 14% of academies offering none while 21% reportedly placed all incoming seniors in work-based learning. Despite this variation, it appears that most CPAs are able to arrange mentorships and internships for many of their students (and some opt out by choice)— features that help account for the effectiveness of career academies in preparing students for both college and careers.

Figure 21: CPAs by category according to the reported percentage of seniors in work-based learning, 2009-10



MATCHING CONTRIBUTIONS FROM SCHOOL DISTRICTS AND EMPLOYERS

One requirement of the State CPA grant is that it be fully matched by the receiving district, with either financial or in-kind support. Figure 22 shows the performance of the CPAs in meeting the district requirement. Ninety-six percent of academies met the matching requirement, and 70% reported that district contributions exceeded the minimum requirement by \$10,000 or more. These results are similar to 2004-05. Figure 23 shows the nature of these matches, what kind of support the districts and high schools contributed to the CPAs. As in 2004-05, most such matches were in in-kind, contributions of teacher/ counselor/ administrator time, or equipment or materials bought for the academy. The rule guiding these contributions is that they must supplement existing expenditures prior to the academy and not supplant that spending.

Figure 22: CPAs by category according to amount by which district support exceeded required match, 2009-10 and 2004-05

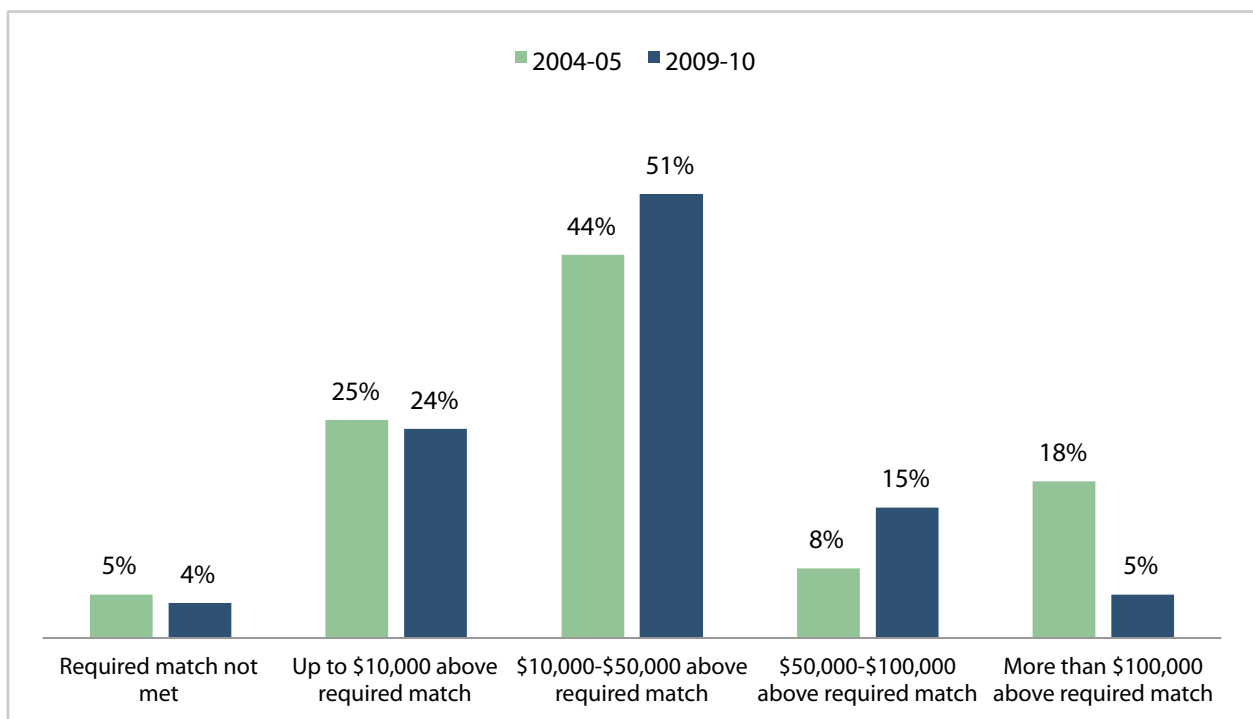
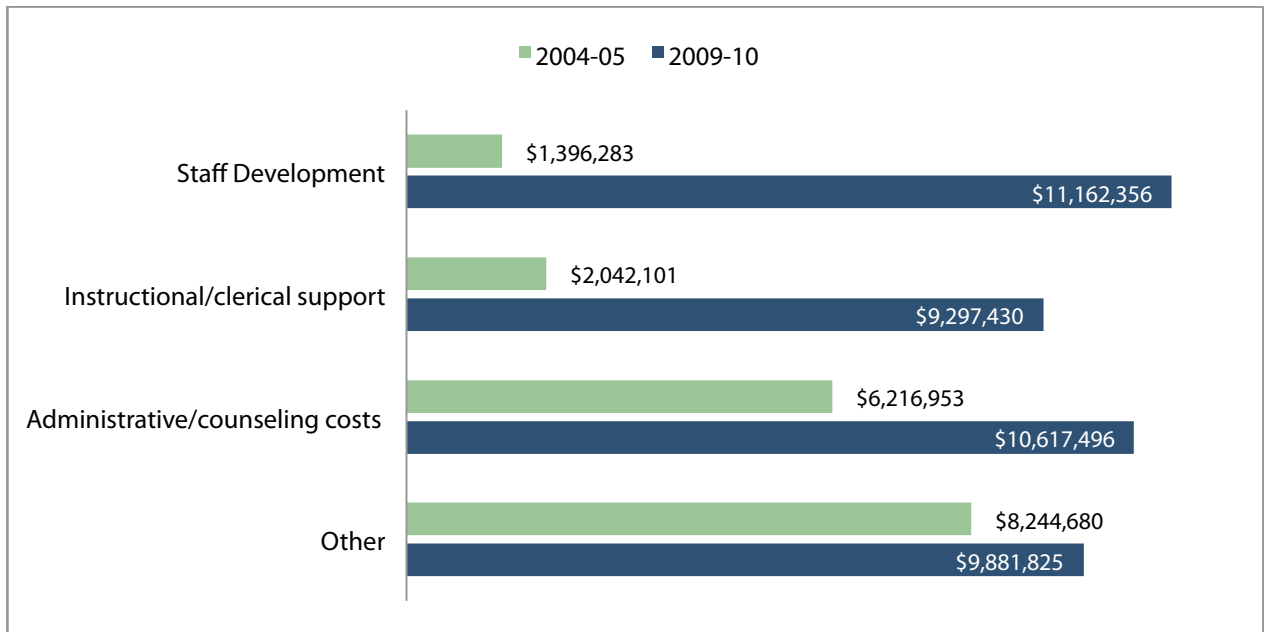


Figure 23: Total district contributions by support type, 2009-10 and 2004-05



A second required match of the State grant for each CPA is from employer partners. Like the district match, this must equal or exceed the State grant in either dollars or in-kind support. Figure 24 indicates that all but 7% of CPAs met this requirement. As with the district match, the employer contributions usually exceeded the State grant by substantial amounts. Figure 25 shows the nature of the support employers provided to the academies.

Figure 24: CPAs by category according to amount by which employer contributions exceeded required match, 2009-10 and 2004-05

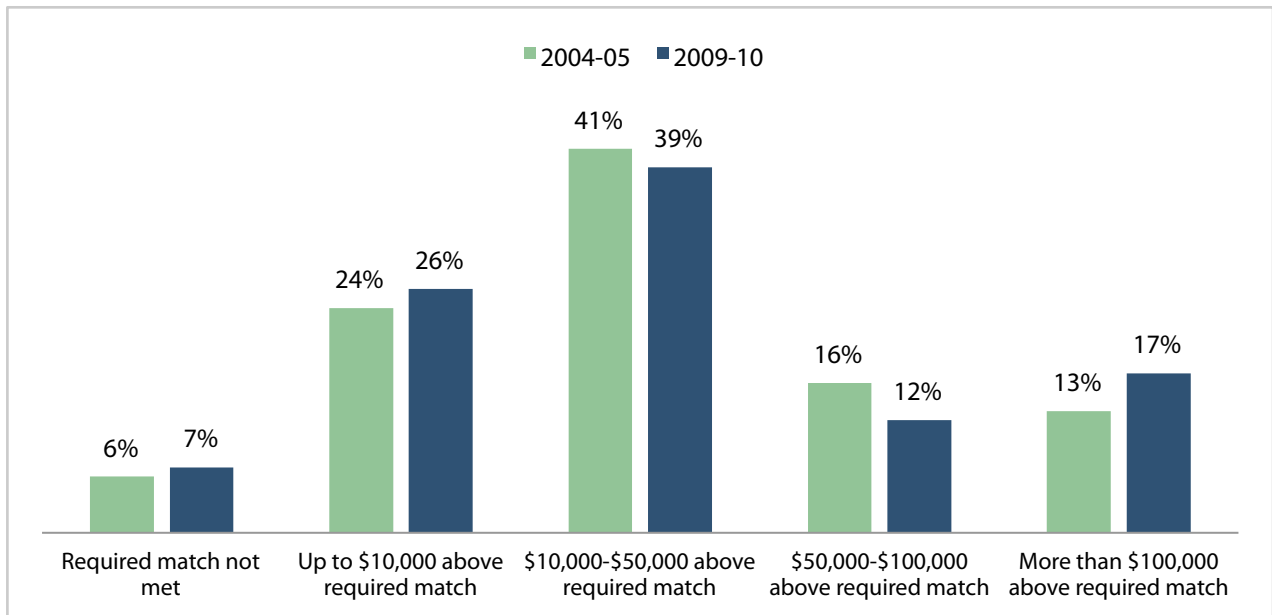
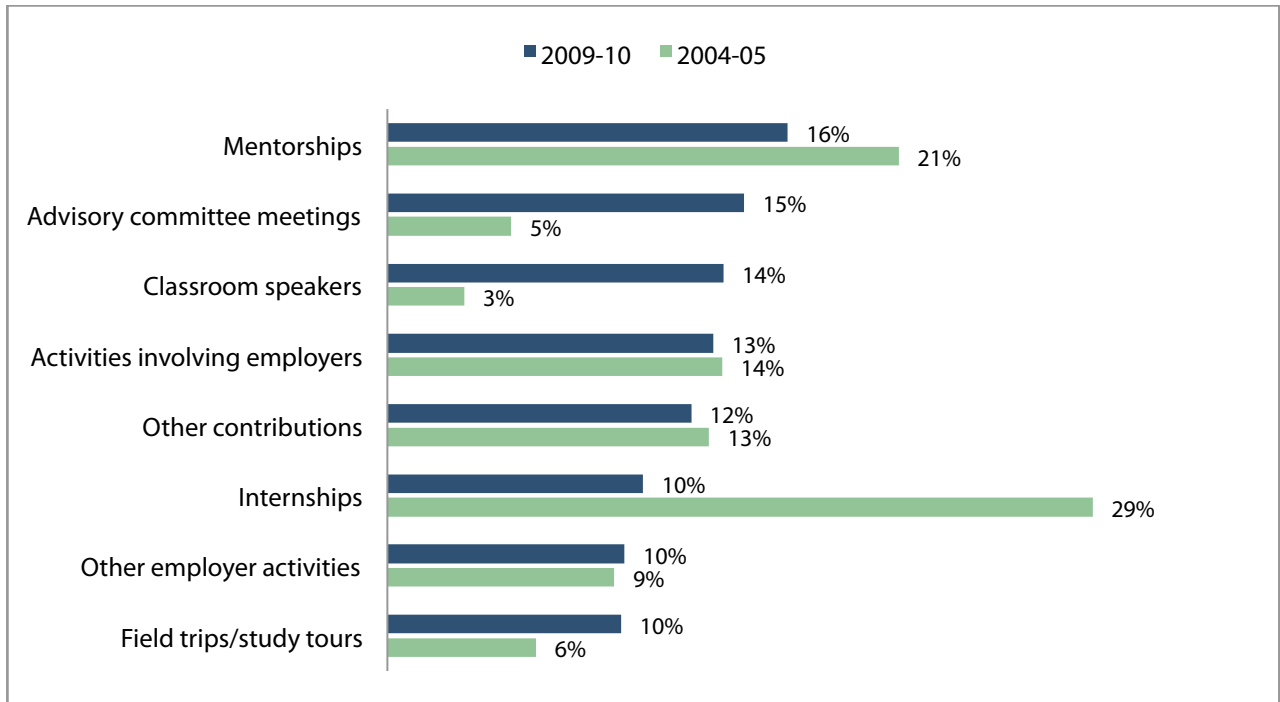


Figure 25: Total employer contributions to CPAs by type of support, 2009-10 and 2004-05



COMPARING NEWER AND OLDER ACADEMIES

The first CPAs have now been in existence for a quarter century, some are brand new, and others have begun at various times in between. The question may arise, therefore, whether the length of time an academy has been operating has any relationship to how well it is implemented or how students are performing. If older academies are performing better, it would suggest that more care should be given to the process of replicating new ones. Conversely, if newer academies are performing better, it would suggest that older academies need some kind of refreshing or possibly should be phased out.

Figure 26a shows how many currently operating CPAs started in various years. For Figures 26b through 26d, we grouped CPAs into three categories: an early group of 23 CPAs that started before 1994, a middle set of 227 CPAs that began between 1995 and 2004-05, and a recent group of 213 academies that started after 2006.

Figure 26a: Number of CPAs operating in 2009-10, by year of start-up

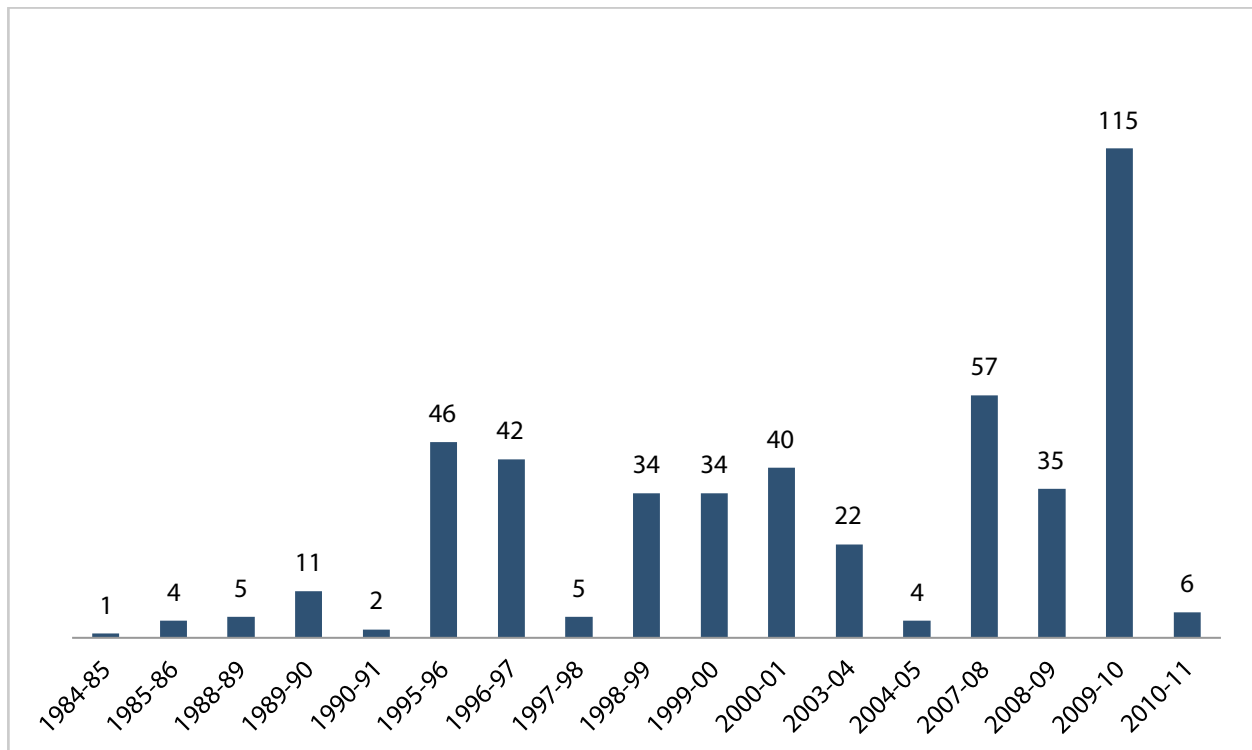


Figure 26b shows one important indicator of student performance: the percentages of 10th graders who pass the ELA and math sections of the CAHSEE. Academies that started in the 1995-2005 era have the highest CAHSEE pass rates for 10th graders, followed closely by the early start-ups. Academies that started after 2006 reported pass rates 3 to 5 points lower. One possible explanation might be that the newest academies are still learning how to deliver the necessary support to help sophomores pass CAHSEE. Another possible explanation could be that the newest academies are recruiting 10th graders who are weaker on the skills tested by CAHSEE, compared to the 10th graders entering academies that have been in operation longer.

Figure 26b: 10th-grade CAHSEE pass rates in 2009-10, in CPAs with early, middle, and recent start-up years

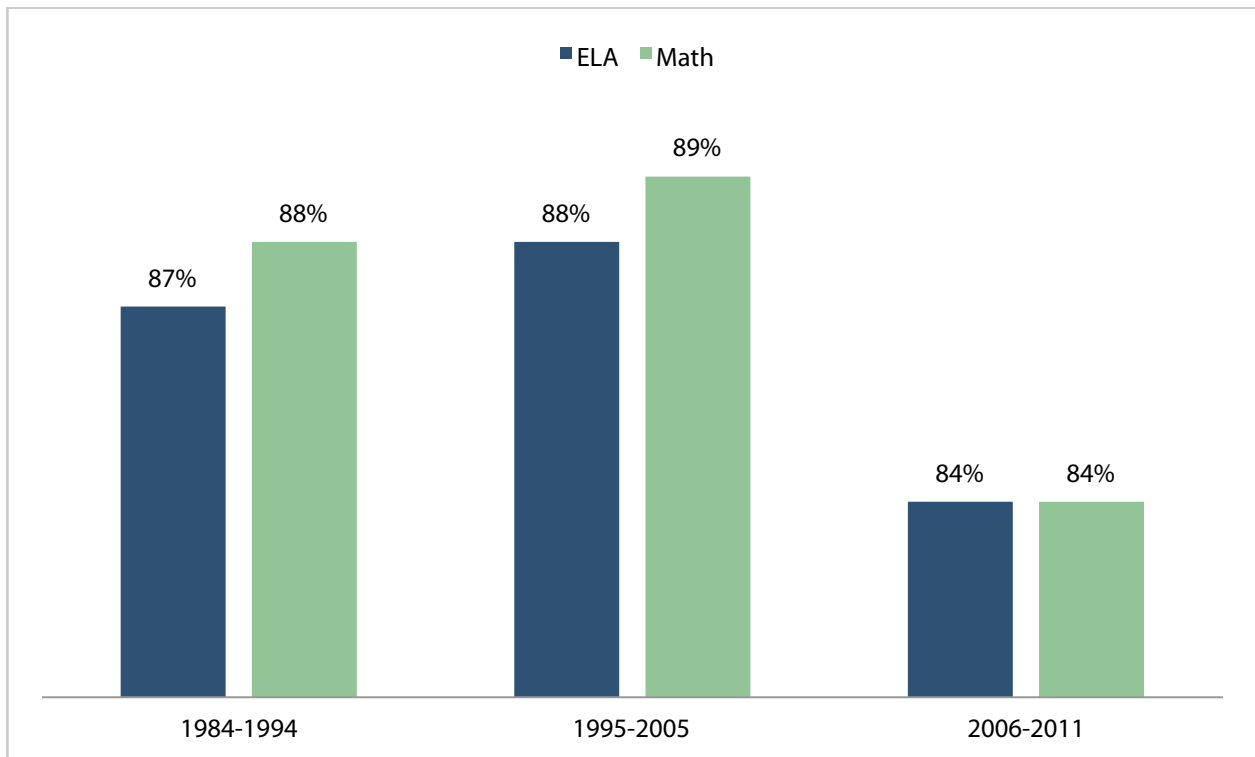


Figure 26c examines two key features of CPAs that are intended to develop students’ readiness for college and careers: junior mentorships and senior internships. The pattern here is mixed. Academies that started most recently have about 15% fewer juniors in mentorships, compared to older academies. But academies that started before 1995 have about 20% fewer seniors in internships, compared to newer academies. More detailed examination of the circumstances of individual academies might explain this pattern, but there doesn’t seem to be a simple relationship between start-up year and these features of the academy program.

Figure 26c: Percentages of juniors with mentorships and seniors with internships in 2009-10, in CPAs with early, middle, and recent start-up years

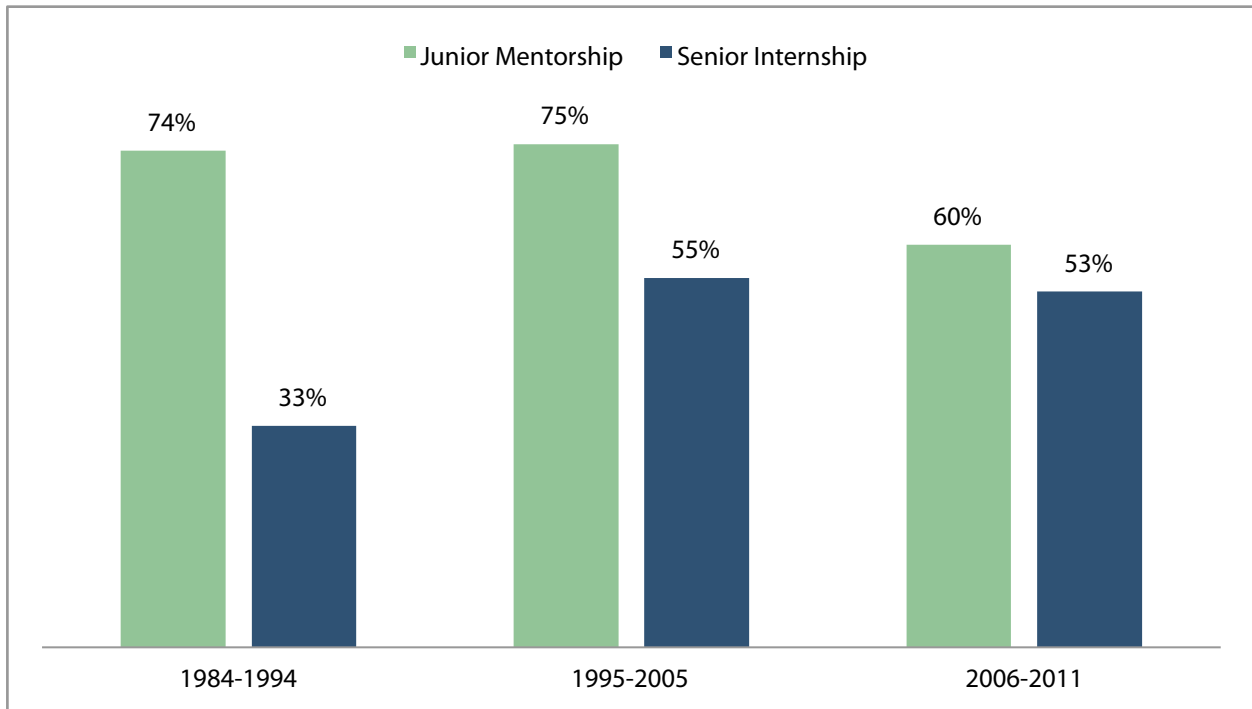
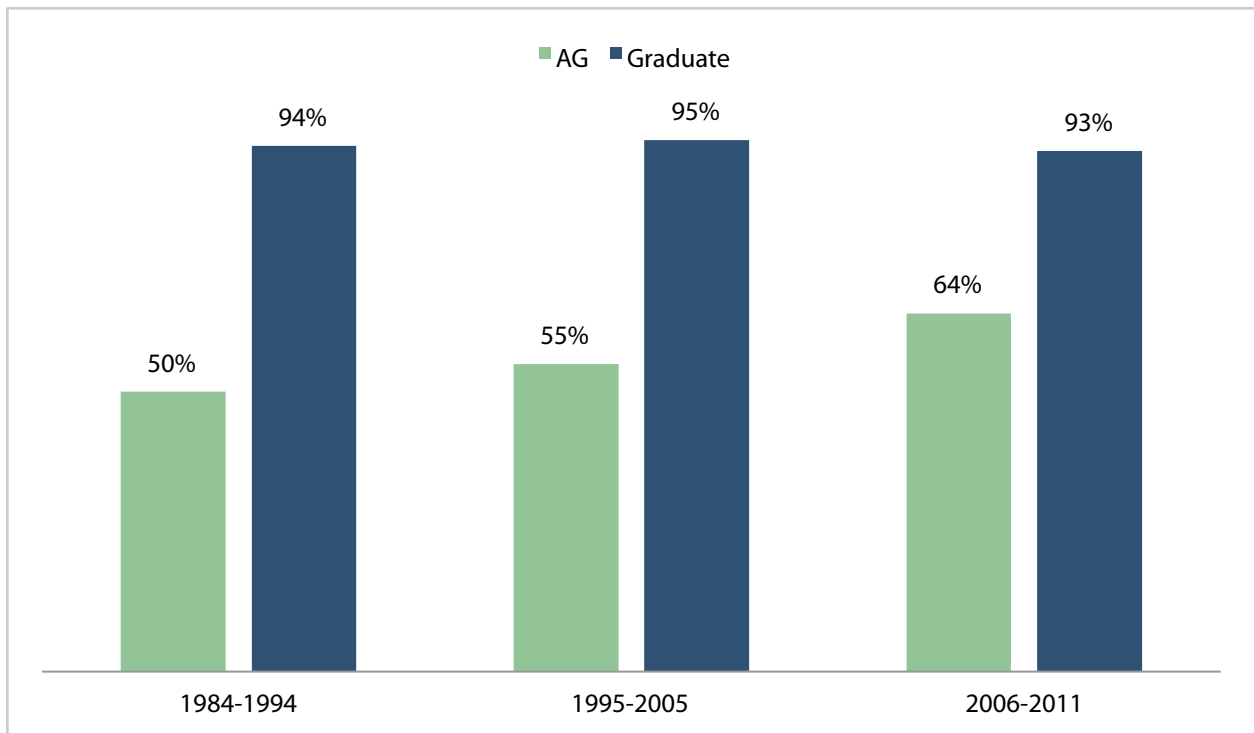


Figure 26d considers two key indicators of student performance that affect their postsecondary options: graduation from grade 12, and completion of the a-g course sequence. It shows that graduation rates for seniors are very similar in academies that started in the early, middle, or most recent time periods. On the other hand, academies that started most recently report considerably higher percentages of graduates completing the a-g sequence. The high rates of a-g completion contrast with the low CAHSEE pass rates in the newest academies, as seen in Figure 26b.

Although more analysis of this kind could be done, these comparisons do not reveal any consistent relationship between academy vintage and indicators of implementation or student performance. The newest academies appear strongest on a-g completion, the middle academies look strongest on CAHSEE, and the oldest academies appear strong on all comparisons except senior internships. Graduation rates from grade 12, which is arguably the most consequential measure, are virtually the same among the three groups.

Figure 26d: Rates of 12th-grade graduation and a-g completion in 2009-10, in CPAs with early, middle, and recent start-up years

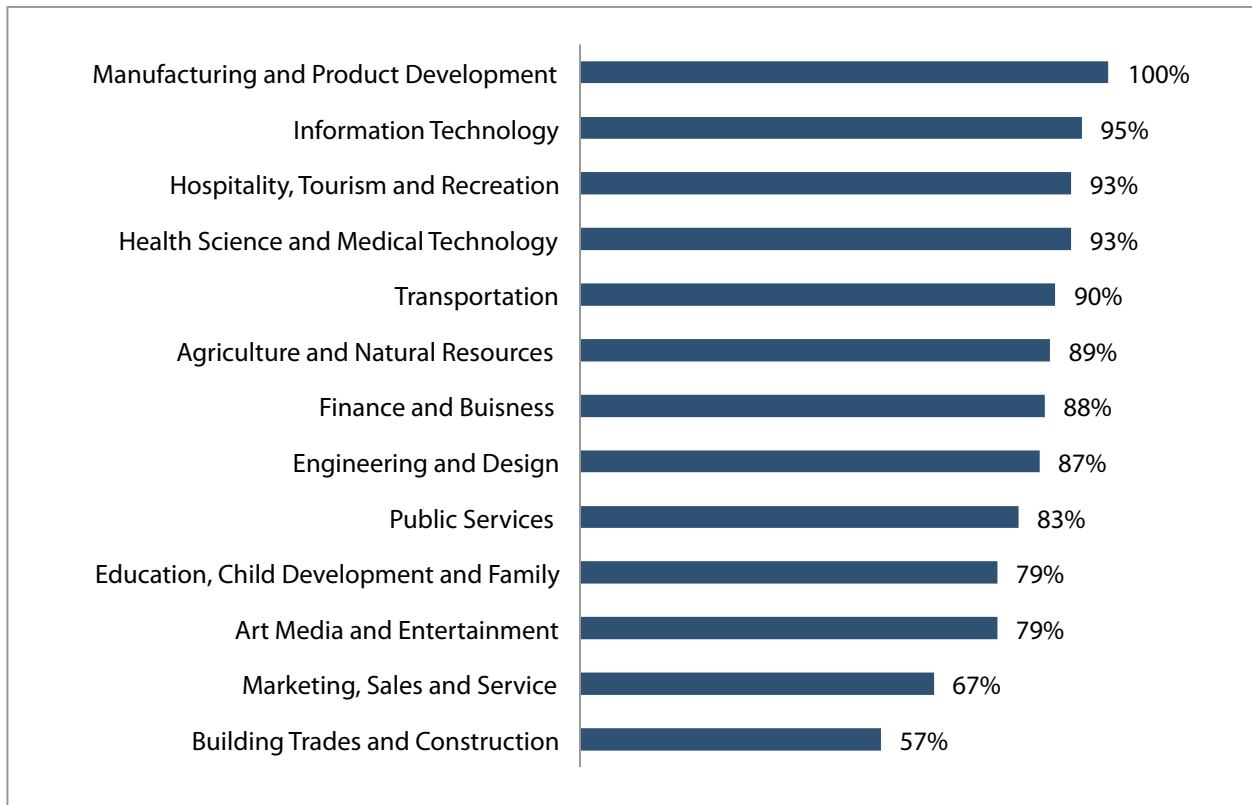


COMPARING ACADEMIES BY INDUSTRY SECTOR

CPAs in 2009-10 were operating in all 15 of California’s career-technical education sectors. It is possible that academies in different industry sectors face different kinds of challenges and opportunities. To examine that possibility, Figures 27a-f compare some key measures of academy implementation and student performance across industry sectors.⁴

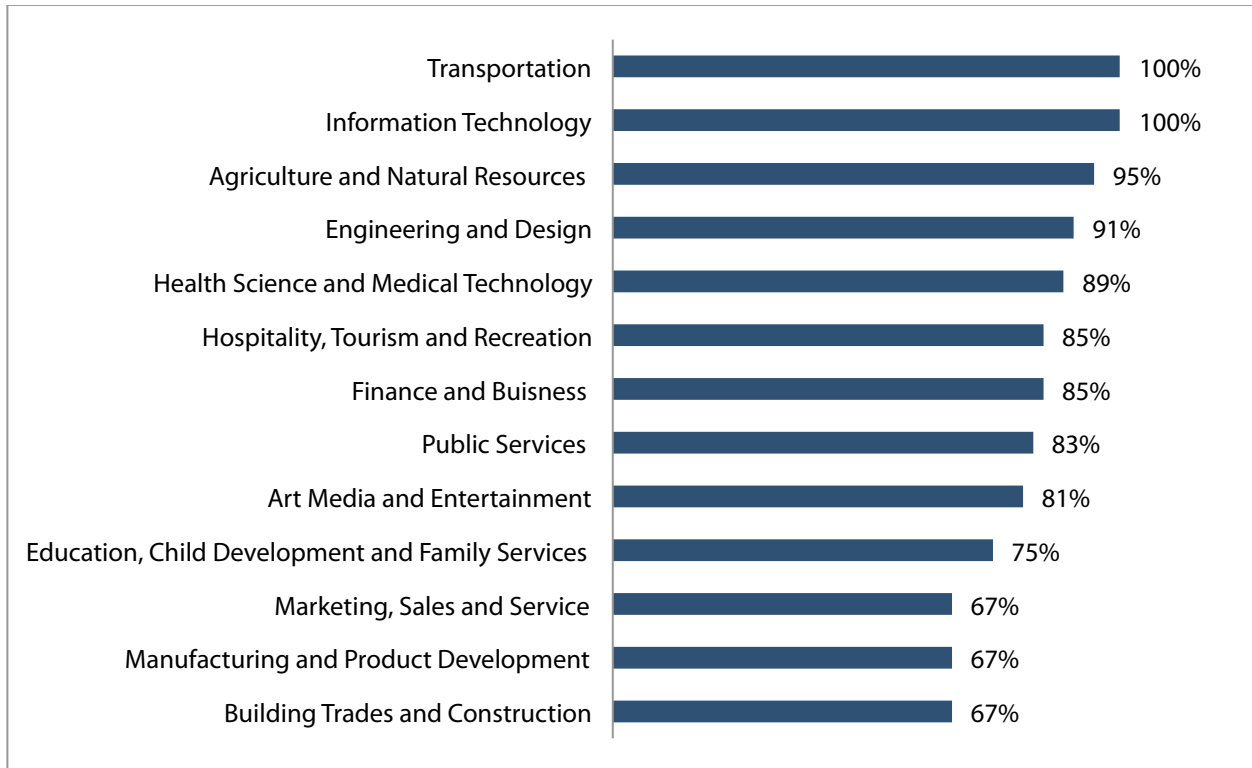
Figures 27a and 27b compare grade 10 pass rates on the CAHSEE. Some sectors are not included in these charts because they reported data on fewer than 5 students in grade 10. There was considerable variation in CAHSEE pass rates for 10th graders. In both ELA and math, the lowest pass rates were in Building Trades and Construction, and in Marketing, Sales, and Service.

Figure 27a: 10th-grade CAHSEE pass rates in ELA, by industry sector, 2009-10



⁴ Sectors where data were available for fewer than 5 students are omitted from these figures.

Figure 27b: 10th-grade CAHSEE pass rates in math, by industry sector, 2009-10



Figures 27c and 27d report the percentages of juniors with mentorships and seniors with internships. There is considerable variation among industry sectors. Interestingly, the sectors with the highest percentages of students in mentorships and internships are the same sectors that have the largest proportions of female students (see Figure 10a) — namely, Health Science and Medical Technology; Education, Child Development and Family Services; and Hospitality, Tourism and Recreation. Conversely, the three sectors with the largest proportions of male students — Manufacturing and Product Development; Building Trades and Construction; and Engineering and Design — report relatively low percentages of students with mentorships and internships. The correlation is not perfect, but it does appear that mentorships and internships are more available in sectors where most of the students are female. Further analysis would be required to determine whether this pattern reflects the history and culture of different industry sectors, or whether female students are more likely to have mentorships and internships independent of the sector they are in.

Figure 27c: Percentages of juniors with mentorships, by industry sector, 2009-10

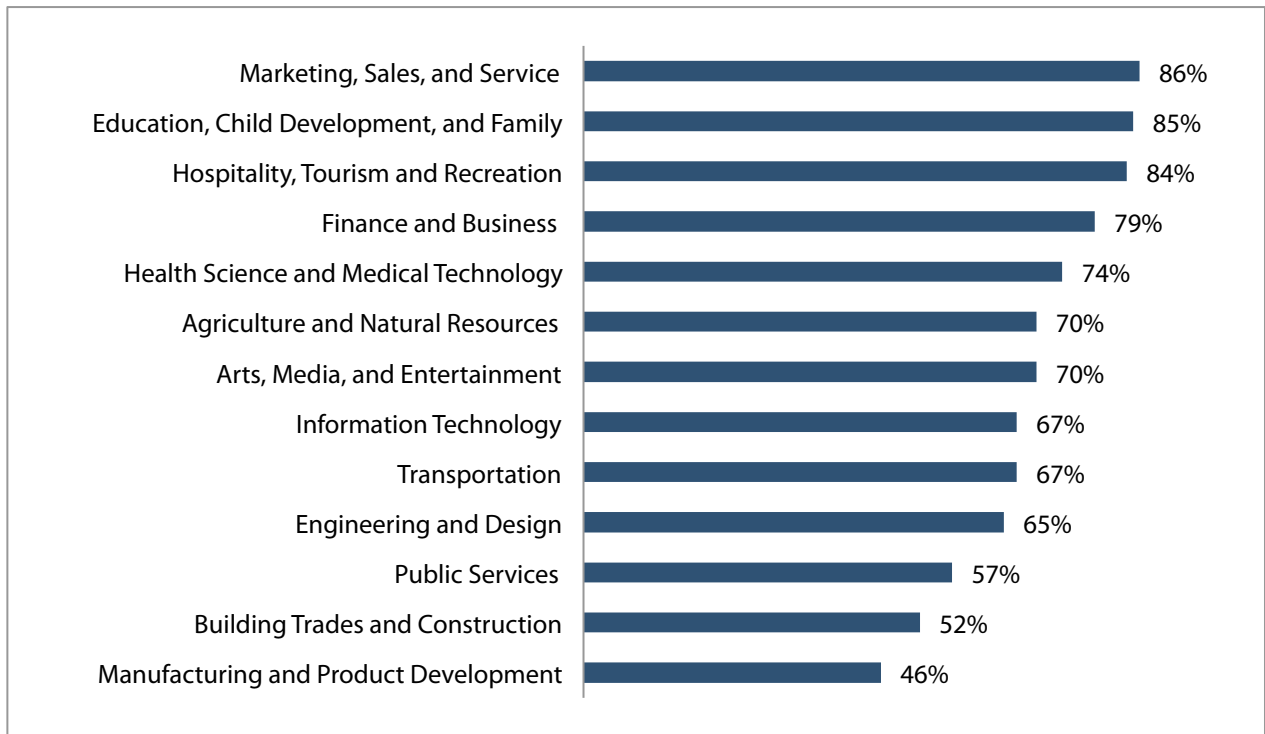
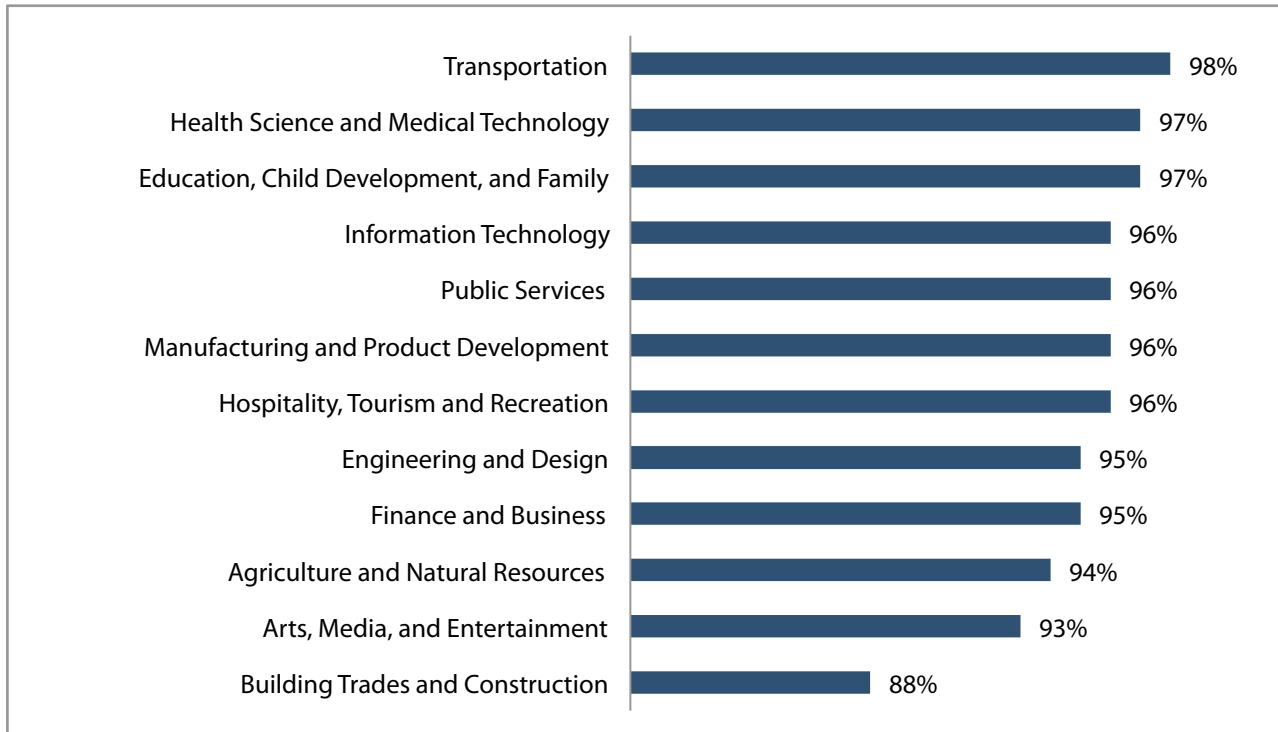


Figure 27d: Percentages of seniors with internships, by industry sector, 2009-10



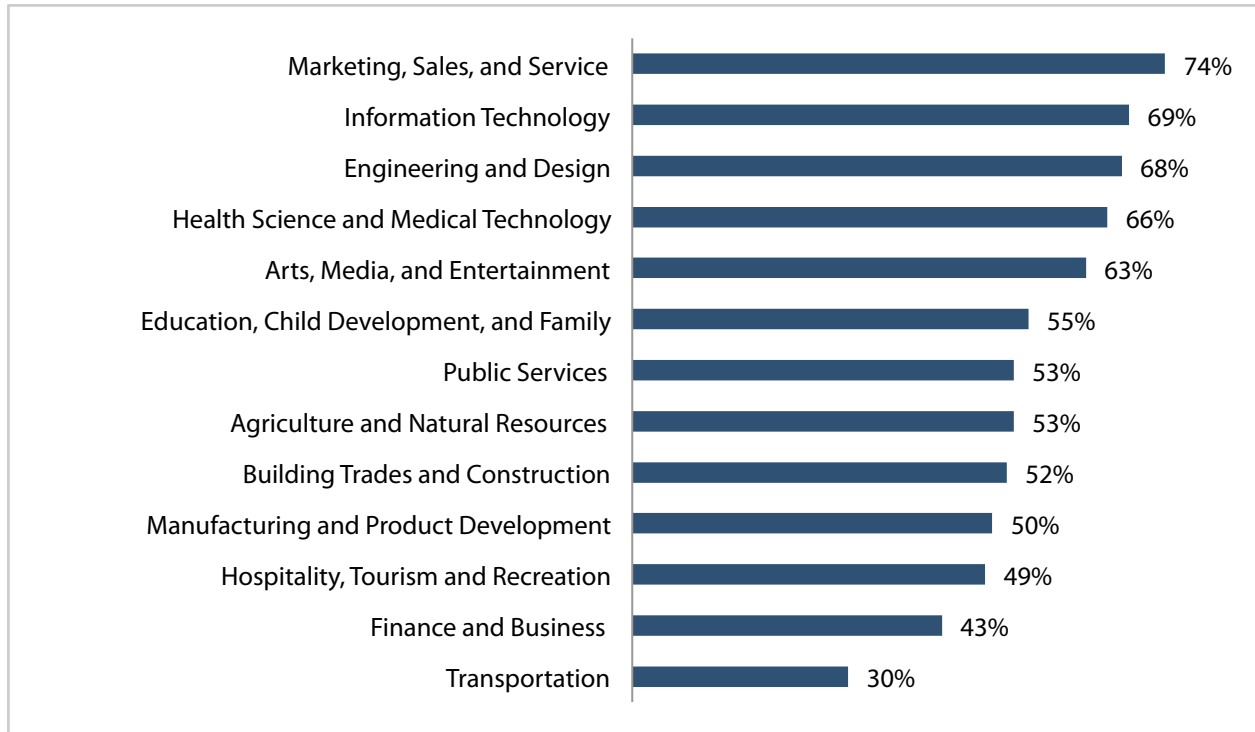
Figure 27e shows 12th grade graduation rates. These are strikingly similar across sectors, ranging from 93 to 98 percent, with the one exception of Building Trades and Construction, where only 88 percent of seniors graduated. However, even 88 percent is above the statewide rate of 85 percent. CPAs in all sectors show a high degree of consistency in getting almost all their seniors to graduate.

Figure 27e: 12th-grade graduation rates by industry sector, 2009-10



There is a greater range of variation among sectors in the percentage of graduates who complete the a-g course requirements for freshman admission to UC or CSU. Figure 27f shows this percentage ranges from 30% in the Transportation sector to 74% in Marketing, Sales, and Service.

Figure 27f: Rates of a-g completion by industry sector, 2009-10



COMMENTARY

Now in their 27th year of operation, California Partnership Academies have proved a durable model, and have now become an important part of California's Linked Learning initiative. CPAs, and career academies more generally, have endured and grown for several reasons: they have been linked to student success; few other high school reform models are designed to prepare students for both college and careers; and they have received financial support from government and private sources. Still, CPAs are not yet a major presence in California high schools. As of 2009-10, they enrolled only about 3% of California students in grades 10-12, and only 22% of the State's comprehensive public high schools had CPAs.

Some have argued that CPAs are too expensive for further expansion. Dividing the total dollars spent by the state on CPAs in 2009-10 by the actual number of students enrolled in CPAs yields a figure of \$540 per student in State grant funds that year. The State grants are quadrupled by matching support from local districts and employers. One should probably view the matching figures with some skepticism, since matching is a matter of compliance, most of the matches are reported as in-kind, and there is no way to corroborate the reported numbers. Nevertheless, it seems clear that CPAs leverage considerable local support.

District matches also raise the question of whether these contributions draw support away from non-academy students. But employer contributions clearly represent a net gain in resources available for the education of high school students.

California Partnership Academies represent a broad range of career themes. Generally, these themes have been selected locally, based on student and teacher interest and available employer support and labor market information. Some fields have proven especially fertile for academies, such as Health Science and Medical Technology; Arts, Media, and Entertainment; and Finance and Business. But all of the 15 industries included in the California Department of Education's taxonomy are represented, and the more popular career fields generally correlate with either large and relatively healthy industries or ones experiencing growth.

CPA gender and racial/ethnic data suggest good program diversity. The higher proportion of Hispanic students than the state average suggests that CPAs are seeking diversity, or at least reflecting the makeup of their high school populations. Gender diversity is also good, with 53% female and 47% male enrollment. While the gender balance within some career fields is not ideal, it has improved somewhat over the past five years, in most fields is good, and may not even ideally be 50-50 in every field.

Evidence of the at-risk nature of incoming students entering the academies has improved over the past five years. Since these criteria primarily point to poor ninth grade performance (on measures such as attendance, grades, credits, and test scores), the student performance data reflect positively on the academies. The rate at which seniors are graduating from academies is 10 points higher than statewide averages -- 95% vs. 85% -- a substantial difference. Put differently, only one-third as many CPA seniors are failing to graduate as statewide. This is a significant achievement, and students of color outpace their non-academy counterparts by the widest margin.

Another indication of success is the large proportion of CPA graduates who met the a-g subject requirements for freshman admission to UC or CSU. Fifty-seven percent of academy graduates met this requirement, compared with 36% statewide. In addition, 91% of academy seniors were reported to be planning on pursuing post-graduate education immediately after high school, with most planning on a community college (60%) or four-year college (28%). Most of these students were also planning to work while pursuing their education. This is consistent with the national experimentally designed study of career academies (Kemple 2008), which found a statistically significant gain in earnings for academy students, along with high levels of attainment in postsecondary education.

According to CPA data, most but not all enrolled students are experiencing mentorships and internships. The CPA mentor program operates in grade 11, and 71% of juniors were reported to be involved. The CPA internship program operates primarily over the summer following the junior year, or sometimes part-time during the senior year. These percentages vary considerably by academy, but the average was 52% of student involvement. Where the numbers approach 100% academies should be commended, but where they fall substantially short there is room for improvement.

CPAs, like any program, vary in the quality of implementation. Narrative reports reflect this variation and surface a variety of problems. Among these are financial stresses, insufficient teacher buy-in, difficulty in complying with federal and state regulations for under-performing schools, other grant requirements such as “pure” cohort scheduling, lack of time for teachers to collaborate and plan collectively, staff turnover and loss of CPA team members, challenges of operating an academy within a larger school master schedule, lack of administrative support, and difficulty in securing mentors and internships for students.

Career academies are not easy programs to implement. They require several activities new to most high schools, such as establishing cross-curricular teams of academic and career-technical teachers, showing students connections between their academic subjects and a career theme, and involving employers and higher education representatives in a variety of ways. Those considering starting new academies should be aware of these complexities and should expect neither easy implementation nor quick results. California’s Linked Learning initiative, which involves school districts in providing greater support for career academies and other college-and-career pathways, should help to sustain high-quality implementation.

This report describes CPAs and students’ performance, but cannot establish causal impact. Still, the findings indicate that academies are enrolling at-risk students and preparing them for both college and career. Students are performing well in CPAs, which enroll them in smaller units within comprehensive high schools, show students the relevance of their academic classes to possible future careers, and expose them in various ways to post-secondary options for education and work.

At the same time, it is important to reiterate the caveats. The data come from self-reports. In some cases, data relate to compliance and may be biased to reflect the positive. Additionally, too little is known about student selection. Academies may attract students who are more motivated than their peers, and who would therefore be more likely to succeed even if they were not enrolled in academies. Conversely, in some schools, academies may enroll students who are less motivated or more troubled

than their peers. These enrollment factors are unknown. Thus, this analysis leads to the following recommendations:

- Gather more pre-program (9th grade) data reflecting the performance of students before they enter the academy
- Conduct case studies, particularly of academies/high schools reporting the lowest and highest performance, to learn more about the data's accuracy, highlight possible accuracy improvements, and offer local insight on improving performance through better implementation
- Examine the progress of individual CPA students over the course of their time in the academy, and compare their progress with non-academy students in the same high schools

The California Department of Education responded effectively to the recommendations made in the report on 2004-05 data (Bradby et al, 2007), and now gathers data on the meeting of at-risk criteria, individual student IDs to allow linking of information across grade levels, and data on which courses within academies meet UC/ CSU a-g requirements. Because of this, another report on the CPAs will compare the performance of CPA students with other students in the same high schools on statewide tests, over time. It is hoped this "value-added" approach will allow us to see whether impact on this measure can be found in addition to the various measures included here.

This profile of California Partnership Academies in 2009-10 is consistent with the profile from 2004-05. CPAs mainly enroll at-risk students, and most CPAs operate in high schools with low rankings on the State's Academic Performance Index. In spite of that, reported graduation rates among seniors, and the percentage of graduates who complete the a-g course requirements for UC and CSU, are much higher in CPAs than for the State as a whole. CPAs also continue to offer mentorships and internships that connect students' coursework to the world beyond high school, and they leverage State grants with substantial contributions from employers. As a successful model of how to prepare students for both college and careers, CPAs continue to serve as an important part of California's strategy to improve high schools.

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Appendix 1: Schools with Three or Four CPAs

Schools with Three CPAs

<i>School</i>	<i>District</i>
Anaheim High School	Anaheim Union High School
Arroyo High School	San Lorenzo Unified
Downtown Business High School	Los Angeles Unified
Florin High School	Elk Grove Unified
Foshay Learning Center	Los Angeles Unified
Grant Union High School	Twin Rivers Unified
Hogan High School	Vallejo City Unified
Independence High School	East Side Union High School
Irvington High School	Fremont Unified
James Monroe High School	Los Angeles Unified
John Muir High School	Pasadena Unified
John W. North High School	Riverside Unified
La Mirada High School	Norwalk-La Mirada Unified
Laguna Creek High School	Elk Grove Unified
Los Angeles Unified	Los Angeles Unified
Los Angeles Unified	Los Angeles Unified
Milpitas High School	Milpitas Unified
Mt. Diablo High School	Mt. Diablo Unified
Pacifica High School	Oxnard Union High School
Pinole Valley High School	West Contra Costa Unified
University Senior High School	Los Angeles Unified
William C. Overfelt High School	East Side Union High School
Windsor High School	Windsor Unified
Woodrow Wilson Senior High School	Los Angeles Unified

Schools with Four CPAs

<i>School</i>	<i>District</i>
Berkeley High School	Berkeley Unified
Canyon Springs High School	Moreno Valley Unified
Coachella Valley High School	Coachella Valley Unified
Cordova High School	Folsom-Cordova Unified
McLane High School	Fresno Unified
Phineas Banning Senior High School	Los Angeles
Richmond High School	West Contra Costa Unified

Appendix 2: Senior Graduation Rate for 2009-10

In this report, the graduation rate for seniors is the number of graduates at the end of a given school year, divided by the number of students enrolled in grade 12 at the beginning of that school year.

Starting with the graduating class of 2010, California used a new method for counting graduates, as part of a new procedure for computing on-time graduation rates. The new method refers back to the number of students who enrolled in grade 9 *for the first time* four years earlier, adjusts for transfers in and out, and uses the adjusted cohort size as the denominator for computing a cohort dropout rate.

Cohort outcome data for the class of 2010 are reported at

<http://data1.cde.ca.gov/dataquest/cohortrates/GradRates.aspx?cds=00000000000000&TheYear=2009-10&Agg=T&Topic=Graduates&RC=State&SubGroup=Ethnic/Racial>

That table shows the number of graduates in 2010 was 386,222. That is the number of students from this cohort who graduated on time, i.e., in the expected four years.

In addition, 34,086 students from this cohort are counted as still enrolled. They had not dropped out, but did not graduate on time in 2010. Some will eventually graduate.

In all other tables, Dataquest (which posts official data from the California Department of Education) shows the number of 2010 graduates as 404,987. For example, see

<http://data1.cde.ca.gov/dataquest/stgrads.asp?cChoice=StGrad&cYear=2009-10&level=State>

This number reflects the old method of counting graduates. It includes some students who started high school more than four years earlier. To be consistent with earlier years, we use this number for 2010.