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CALIFORNIA COMPETES
HIGHER EDUCATION FOR A STRONG ECONOMY

May 2021



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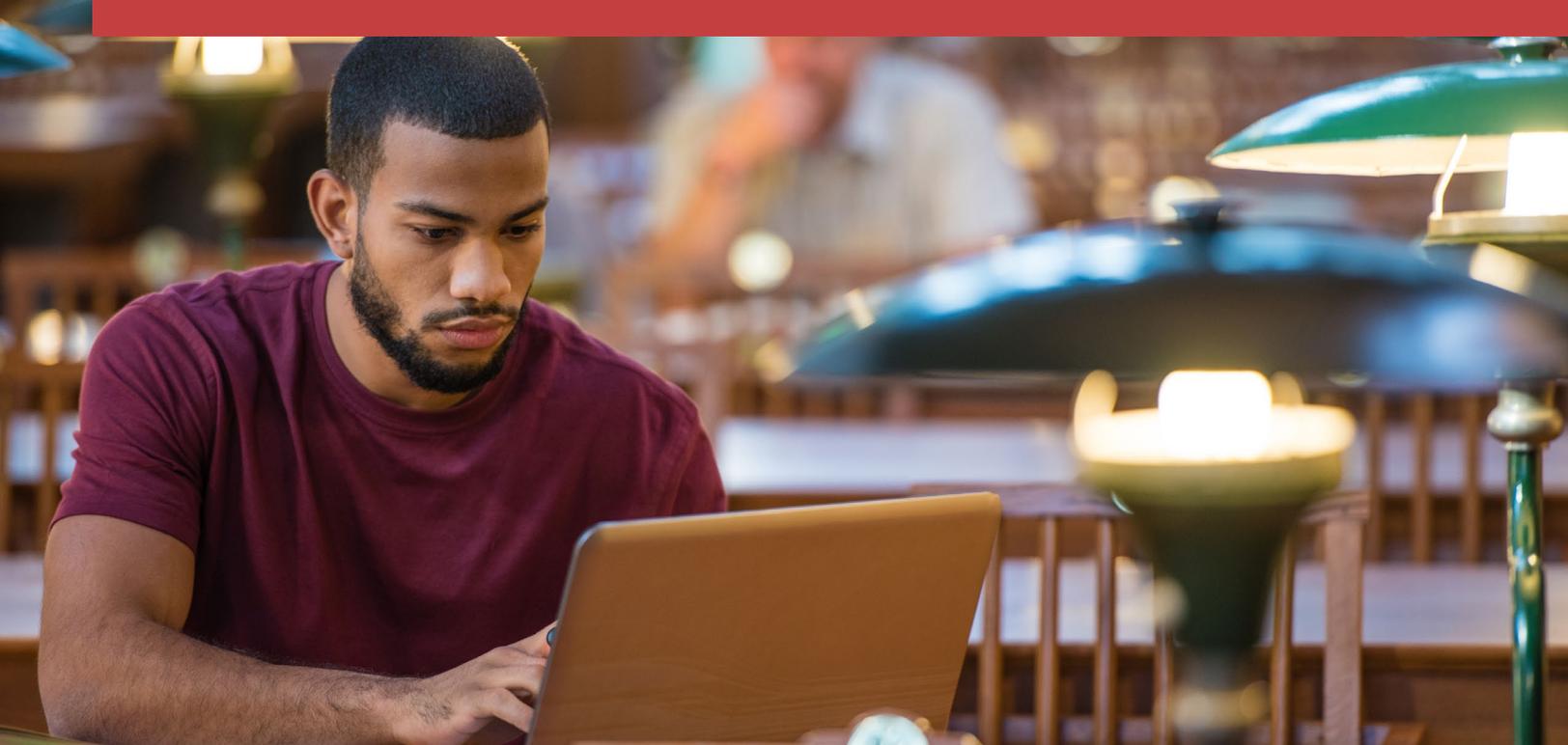


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Summary

California faces a shortfall of over two million degrees and certificates to meet employers' needs and promote economic mobility for its residents. At the same time, 5.1 million Californians ages 25 and older, representing nearly a fifth of the adult population, intend to enroll in higher education in the next two years. These adults have the potential to substantially narrow this credential gap—if the conditions are right for them to enroll and succeed. This report examines which groups of California adults intend to enroll in higher education or training; which types of institutions they are interested in; whether they are interested in enrolling online; and how employers, policymakers, and institutions can better support them.

Overall, 19 percent of California adults (5.1 million) intend to enroll in higher education within the next two years.

There is, however, considerable variation across groups in intent to enroll, interest in specific institution types, and interest in exclusively online instruction.

- A higher percentage of women intend to pursue higher education (22%) than do men (16%).
- One-third of Latinx adults intend to enroll in higher education, a substantially higher proportion than their white, Black, and Asian counterparts (6%, 11%, and 15%, respectively).
- Adults ages 25–34 have the greatest levels of intent to enroll (37%), followed by those ages 35–44 (22%), with far fewer adults ages 45 and older expressing intent to enroll (11% to 12%).
- Sixty percent of California adults with household incomes of \$35,000–\$49,999 and 45 percent of those with incomes of \$50,000–\$74,999 intend to enroll in higher education, compared with 19 to 33 percent of those in lower income ranges. Very few—1 percent to 5 percent—of those with incomes of at least \$75,000 intend to pursue higher education.
- Adults in Imperial County have the highest levels of intent to enroll in higher education among twelve regions of the state, though regional differences seem to be driven by the shares of Latinx residents.
- With a few exceptions, there are only minor differences in which type of institutions prospective students are interested in attending (public university, vocational or technical college, or community college).
- Fifteen percent of California adults (3.9 million) intend to enroll in higher education and are interested in exclusively online instruction. Men and Californians ages 55 and older who plan to pursue higher education are proportionally less interested in online instruction than other groups.

Policymakers, employers, and institutions should leverage this detailed analysis of adult demand for higher education to implement programs and policies that make higher education a feasible and attractive option for these California adults. Given adults' large demand for higher education and the demographics of who intends to enroll, **we recommend:**

- Encouraging employer-led programs aimed at working adults, such as offering employee tuition remission, building and maintaining relationships with local postsecondary institutions, and offering meaningful work-based learning opportunities like paid internships and apprenticeships.
- Tailoring institutional policies to welcome adult learners and help them succeed, such as awarding credit for prior learning and offering programs with shorter terms and more frequent start dates.
- Sustaining efforts to increase the quality and accessibility of online instruction for Californians who cannot attend in person and to sidestep capacity constraints, building on the advances in teaching and technology use developed over recent decades.
- Improving other aspects of the online education experience by better approximating the benefits of attending in person, including expanding access to services and amenities such as libraries, health care, student organizations, and academic advising and support services.
- Expanding broadband access to reach a broader swath of the population, particularly Californians earning less than \$20,000 per year.
- Continuing efforts toward launching the state's Cradle-to-Career Data System, which (among other things) has the potential to streamline applications for higher education and social supportive programs and to facilitate transfer of credit across institutions.
- Reestablishing a higher education coordinating entity to help ensure that higher education offerings meet current and future needs.

Higher education can narrow California's credential gap while enhancing economic opportunity and security for millions of adults and their families, but only to the extent these adult students can succeed. Making the right reforms to promote and strengthen in-person and online higher education will help adult Californians earn the credentials they need to get ahead.



California's credential deficit

Can adult enrollment in higher education help ameliorate California's shortage of college graduates? If California is to meet anticipated workforce needs and remain competitive with other states in terms of credential attainment, it must find ways to assist over two million more residents to earn degrees and certificates by 2025.¹ Efforts to boost college attendance among recent high school graduates will not be sufficient to close this gap. A successful approach must include measures aimed at the population of adults ages 25 years and older. This group of potential adult college students is the focus of this report.

The benefits of higher education to the state and its residents are increasingly clear. Each additional graduate brings the state thousands of dollars in additional tax revenues and saves thousands more in spending on prisons and antipoverty

programs.² Higher education also brings individual benefits in terms of higher wages, lower unemployment, better health, and reduced incidence of poverty, as well as societal benefits such as greater participation in voting and other civic activities.³

At the same time, California's public universities face capacity constraints that limit their ability to educate enough students in person to meet this workforce demand.⁴ Add to this situation the difficulty of college access for residents (particularly in rural areas) who live far from public colleges and universities,⁵ and the growing number of students struggling with family and work responsibilities,⁶ it is little wonder that students and policymakers are looking for solutions that provide college education affordably and at scale.

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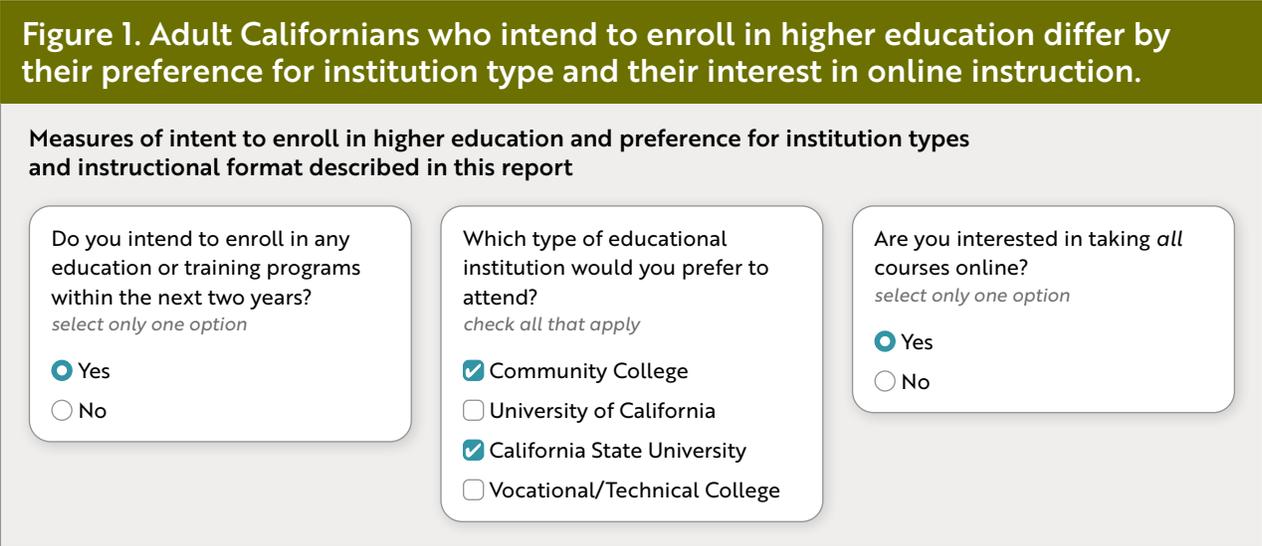
Online higher education: Not whether, but who, where, and how

Among the multiple approaches California must take to ameliorate its credential deficit, online education will play a central role. Even before the COVID-19 pandemic, online education constituted a growing proportion of the state’s college enrollment, albeit still only a fraction of in-person enrollment.⁷ The abrupt switch to remote learning in the spring of 2020 in response to the COVID-19 pandemic understandably led many students at both residential and commuter colleges to protest about being shortchanged and even sparked demands for tuition refunds.⁸ But regardless of global and local events, it seems inevitable that online higher education will expand to meet rising demand for higher education. A growing body of research is demonstrating that online instruction can be as effective pedagogically as traditional in-person education, possibly at a lower cost.⁹

The financial pressures and advances in practice and technology have shifted the conversation from *whether* online higher education is a viable approach to *how* best to implement it, *who* is already willing to learn online, and *which* groups are best positioned to participate after additional outreach.

This report uses a new and unique dataset to catalog adults’ intent to enroll in higher education (for details, see “Estimating adult interest in higher education” at the end of this report). It identifies those groups of adults, defined as Californians ages 25 and older, who are already open to enrolling in online higher education as well as other groups who might need additional outreach to learn more about aspects such as quality, value, and program offerings.

The five measures of adult interest in higher education in this report are based on three survey questions, which are reproduced in figure 1. These measures identify specific groups of California adults ages 25 and older. The broadest measure is intent to enroll in a higher education or postsecondary training program in the next two years. Those who expressed intent to enroll were also asked their preference for enrolling in a community college, a public university (defined as selecting the University of California, the California State University, or both), or a vocational or technical college, with the ability to select more than one option. Respondents who expressed intent to enroll were also asked their interest in taking all courses online.

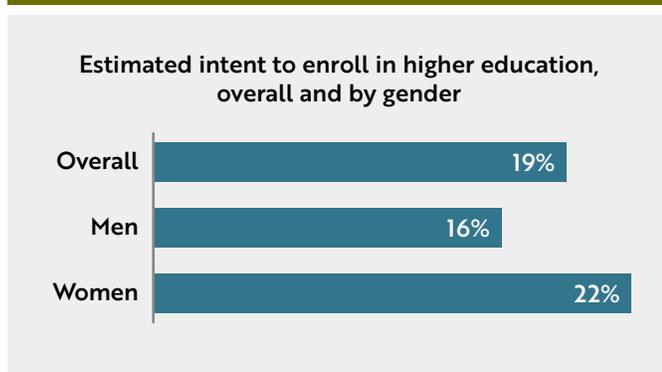


Source: CollegeAPP, October 2020.

Who intends to enroll in higher education?

Overall, an estimated 19 percent of adult Californians intend to enroll in higher education in the next two years (see figure 2). Adults' intent to enroll varies by gender, race and ethnicity, age, household income, and region.

Figure 2. Nearly one in five adult Californians intend to pursue higher education in the next two years.

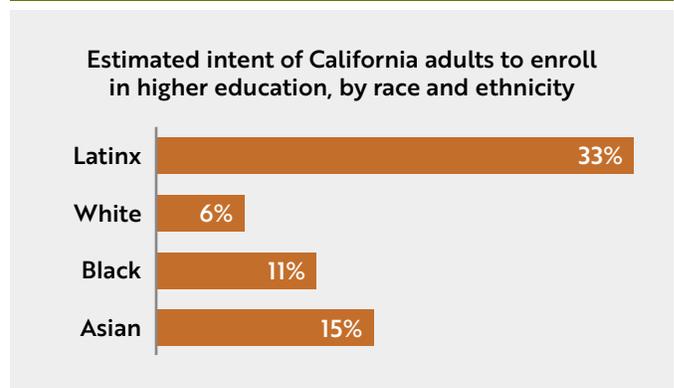


Source: CollegeAPP estimates, October 2020.

Gender. A larger proportion of women, 22 percent, intend to enroll in some form of higher education, compared with 16 percent of men (see figure 2). Women already have higher postsecondary achievement than men in California. More women than men attend college within one year of graduating from public high schools, and female college students earn bachelor's degrees at a higher rate than their male classmates. Thirty-eight percent of women ages 25–54 have earned a bachelor's degree or higher, and 8 percent earned an associate's degree as their highest level of educational attainment, compared with 33 percent and 7 percent, respectively, of men.¹⁰

Race and ethnicity. Among those ages 25 and older, Latinx Californians are far more interested in pursuing higher education than other Californians. As portrayed in figure 3, one-third of Latinx Californians (33%) intend to enroll in higher education, compared with 6 percent of white Californians, 11 percent of Black Californians, and 15 percent of Asian Californians.

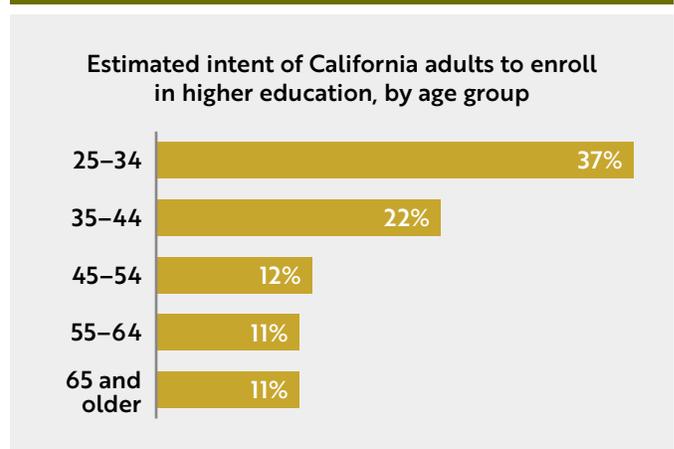
Figure 3. One-third of Latinx adults intend to enroll in higher education, a higher proportion than white, Black, and Asian adults.



Source: CollegeAPP estimates, October 2020.

Age. Intent to pursue higher education of all types is highest among Californians ages 25–34 and 35–44, and it drops off substantially among those 45 and older (see figure 4). Specifically, 37 percent of Californians ages 25–34 and 22 percent of those ages 35–44 intend to enroll in higher education, compared with only 11 to 12 percent of older Californians.

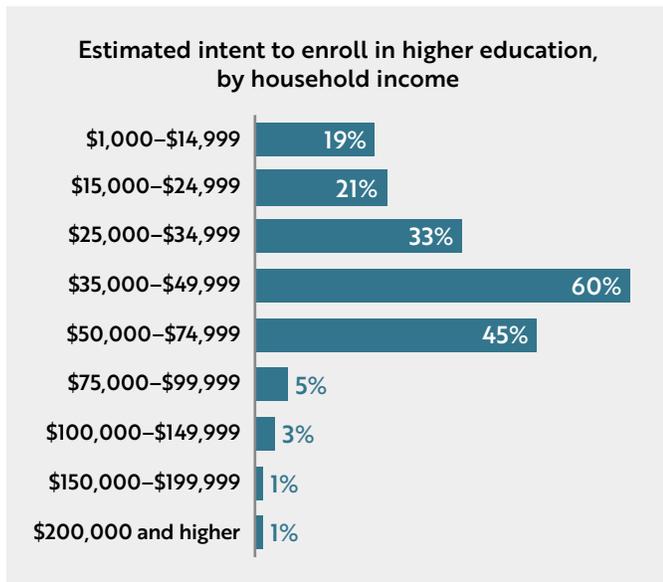
Figure 4. California adults ages 25–34 have the highest level of intent to enroll in higher education, followed by those ages 35–44.



Source: CollegeAPP estimates, October 2020.

Household income. Intent to enroll in higher education is strongest among adult Californians in the bottom half of the income distribution, particularly those with incomes right below the median, while few in the top half of the distribution intend to pursue higher education. The state’s median household income was \$80,440 in 2019, the most recent year for which statistics are available.¹¹ As figure 5 shows, 60 percent of Californians with household incomes of \$35,000–\$49,999 expressed an intent to enroll in higher education, followed by 45 percent of those with incomes of \$50,000–\$74,999 and 33 percent of those with incomes of \$25,000–\$39,999. Only 19 to 21 percent of Californians with incomes under \$25,000 intend to enroll in higher education, and far fewer (1% to 5%) of those with incomes of \$75,000 intend to do so.

Figure 5. Adult Californians in the bottom half of the income distribution are most likely to intend to pursue higher education.

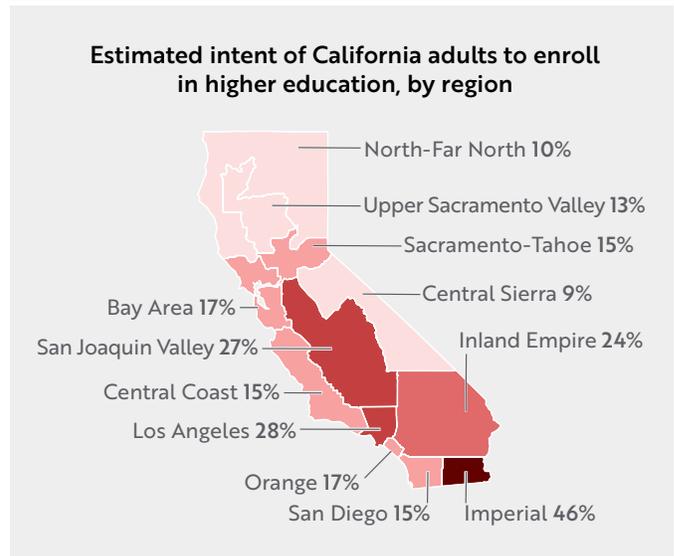


Source: CollegeAPP estimates, October 2020.

Region. The percentage of adult Californians seeking higher education differs widely across regions. Figure 6 shows the percentage of Californians who intend to enroll in higher education in each of the 12 regions with a relatively homogeneous grouping in terms of urbanicity, major industries, and (to a lesser extent) demographics.¹² The values range from 9 percent in Central Sierra (Alpine, Amador, Calaveras, Inyo, Mariposa, Mono, and Tuolumne Counties) to 46 percent in Imperial County.

Sources: US Census Bureau, American Community Survey five-year estimates (2014–2018); CollegeAPP estimates, October 2020.

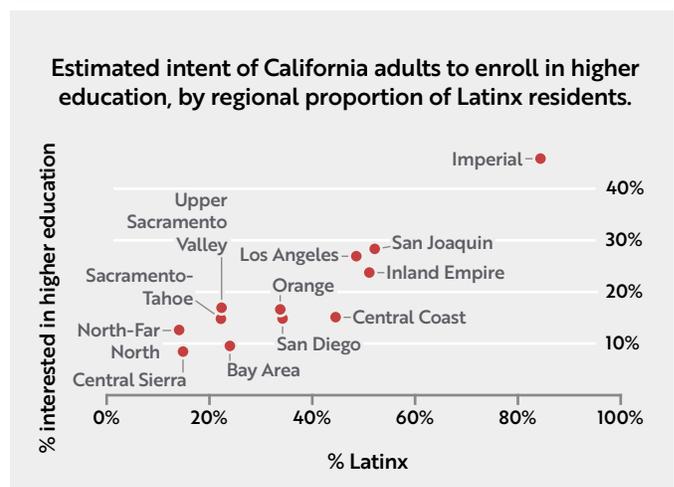
Figure 6. Adults’ intent to enroll in higher education varies widely by region and is highest in Imperial County.



Source: CollegeAPP estimates, October 2020.

Most of the variation in intent to pursue higher education appears to be driven by the share of the population that is Latinx. The Latinx population is the largest racial or ethnic group in California and, as shown in figure 3, also has the largest proportion of members who plan to pursue higher education. As figure 7 demonstrates, the percentage of adult residents in each region interested in higher education is strongly positively correlated with the percentage of Latinx residents in the region. (The coefficient of determination is $R^2 = 0.87$.) In other words, nearly all of the regional variation in adult interest in higher education (87%) can be explained by differences in the percentage of Latinx residents in each region.¹³

Figure 7. Adult intent to pursue higher education closely tracks each region’s Latinx population share.



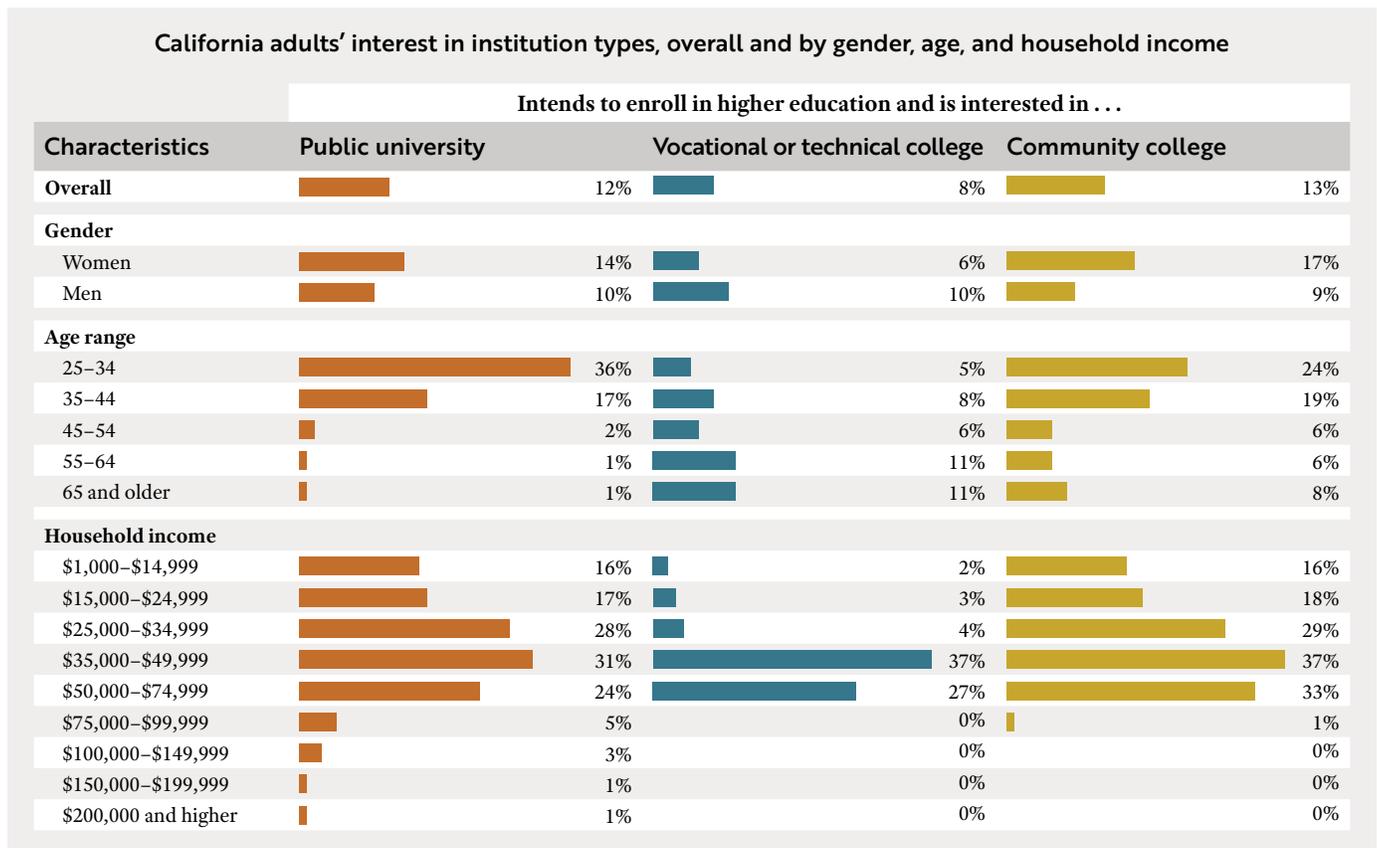
Where are prospective adult college students interested in enrolling?

Respondents who intend to enroll in higher education were asked their interest in attending a public university, a community college, or a vocational or technical college and could select more than one option. The percentages interested in each institution type are reported for selected groups in figure 8.

By and large, the patterns of California adults' interest in institution types mirror the earlier findings about their intent to enroll in higher education, but there are a few notable differences. First, men are more likely than women to be interested in enrolling in a vocational or technical college (10% vs. 6%, respectively), whereas proportionally more women are interested in attending a public university or community college. Second, while 11 to 12 percent of Californians 45 and older intend to enroll in higher education, only 1 to 2 percent are interested in attending a public university, a much lower percentage than the 36 percent of

adults ages 25–34 and 17 percent of adults ages 35–44 who are interested in attending a public university. This difference may reflect the fact that universities are the only type of institution among the three options provided that typically offer bachelor's degrees. Californians ages 55 and older who intend to enroll in higher education are somewhat more likely to be interested in attending a vocational or technical college (11%) than their younger counterparts (5% to 8%), perhaps because these institutions tend to offer shorter nondegree programs. Third, while 19 to 33 percent of California adults with household incomes under \$35,000 intend to enroll in higher education (figure 5), only 2 to 4 percent are interested in vocational or technical colleges (figure 8). In contrast, 37 percent of adults with incomes of \$35,000–\$49,999 and 27 percent of adults with incomes of \$50,000–\$74,999 are interested in vocational or technical colleges, substantially larger proportions of the 60 percent and 45 percent of the respective groups who intend to enroll in higher education.

Figure 8. Vocational and technical colleges are especially appealing to men, older adults, and middle-income Californians

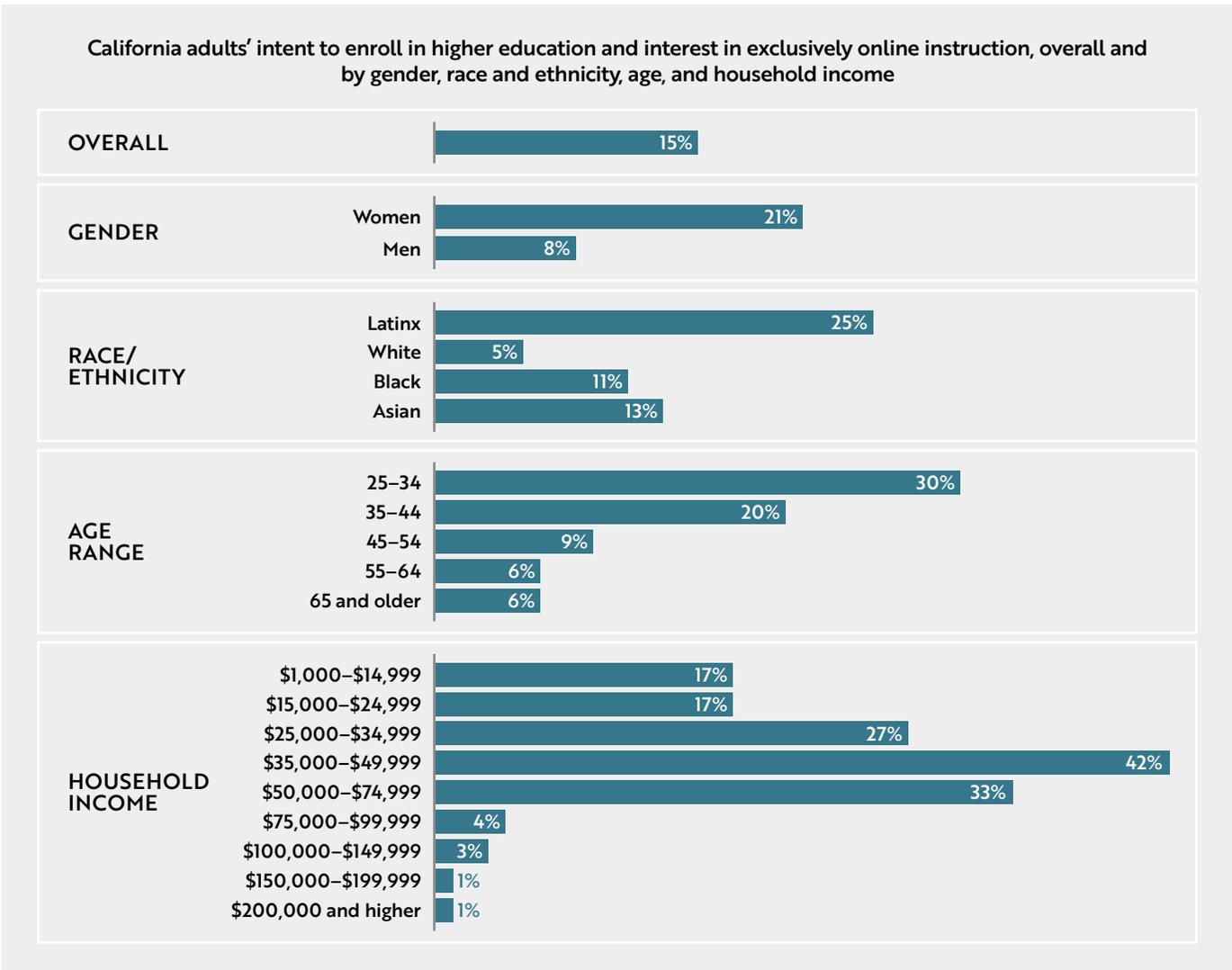


Which groups of prospective adult students are interested in online instruction?

Finally, most of the adult Californians who intend to enroll in higher education are also interested in exclusively online instruction, overall and across most groups. Specifically, 15 percent of adults ages 25 and older plan to pursue higher education and are interested in taking all courses online, which totals 3.9 million adults of the 5.1 million adults who intend to enroll in any format (figure 9). One exception to this

pattern is men, among whom only 8 percent intend to enroll and are interested in online instruction, roughly half of the 16 percent of men who intend to pursue any type of higher education (figure 2). The other exception is Californians ages 55 and older. While 11 percent of this group plans to enroll in higher education (figure 4), only 6 percent (approximately half) is also interested in online instruction.

Figure 9. Intent to enroll in online higher education mirrors intent to enroll in any type of higher education, with highest interest among women, Latinx Californians, individuals under 45 years old, and those with household incomes under \$75,000.





What do these findings mean for addressing California's credential gap?

Nearly one in five California adults intend to pursue higher education in the next two years, including 15 percent who are also interested in online instruction. This level of interest, while encouraging news for efforts to increase the number of Californians with postsecondary credentials, will do little toward closing the state's credential gap if would-be students do not or cannot follow through on their intentions to enroll.

To illustrate the potential impact of adult enrollment, suppose that half of the 5.1 million California adults who intend to pursue higher education actually enrolled and that one-third of those who enrolled completed a degree or vocational certificate. (In a nationally representative study of students who first entered college in the 2011–12 academic year, 38 percent of those who started at ages 25 and older completed an award within six years.¹⁴) If most of these adults are first-time completers, the resulting 858,000 awards would nearly halve the state's two million-credential gap. Improvements to completion rates or higher rates of enrollment would further close the credential gap.

On the other hand, there are mounting concerns about whether the state's public universities are able to accommodate even a moderate bump in enrollment, in terms of both physical space and sufficient staffing. In recent years, for example, 19 out of 23 California State University campuses have limited enrollment in specific undergraduate programs, including seven campuses that have limited enrollment in *all* programs, and the proportion of qualified applicants rejected because of capacity constraints is on the rise.¹⁵ Only two campuses have adequate physical space for additional in-person instruction.¹⁶

Given the dim prospects of expanding the state's public university campuses, as well as the limited existing options for residents of the state's rural regions who are not able to relocate, online instruction could play a vital role in meeting the anticipated demand for higher education. Over time, online instruction may also prove to be less costly to provide.

Policy recommendations for institutions, employers, and policymakers

Regardless of where and how adults choose to enroll, employers, institutions, and policymakers must take action to attract and retain adult students and to narrow the credential gap. If even a fraction of the 5.1 million adult Californians who intend to enroll in higher education follow through, institutions would see an increase of hundreds of thousands of students. This surge in enrollment threatens to overwhelm the already limited capacity of many institutions. Helping these students through to completion poses another challenge. Ensuring that adult students will succeed in meeting their educational goals requires redoubled efforts from all corners. The following proposals would benefit adult Californians and younger Californians alike by helping them enroll in and succeed in higher education.

Grow and strengthen higher education-employer compacts. Adult interest in higher education is already highest among Californians ages 25–44 (figure 4), which is also the age range that is most likely to be employed in the coming years.¹⁷ Connecting higher education and employers to build stronger linkages will improve postsecondary alignment with workforce needs, while also leveraging employers as key stakeholders in workers' college success. Employers should, for instance, promote and expand employee tuition remission programs to partially defray the cost of attendance. They should also build and maintain relationships with local postsecondary institutions. These mutually beneficial exchanges will help employers recruit qualified candidates and help institutions develop and refine programs to teach the skills that are most in demand. Employers can also offer meaningful work-based learning opportunities like paid internships and apprenticeships, which give students practical experience and give employers an inside track to hiring workers with demonstrated capabilities. Many postsecondary-employer partnerships already exist because of compliance for various state and federal grants, but few colleges and universities engage employers actively enough to develop and sustain the reforms needed to improve adult access and success.

Institutions should tailor policies to welcome adult learners and help them succeed. Institutions, for their part, can develop and strengthen policies aimed at adult learners. For example, awarding credit for prior learning formally recognizes the college-level knowledge that adult students acquired through employment, military service, and other experiences outside the classroom.¹⁸ Likewise, offering programs with shorter terms and more frequent start dates gives time-strapped adults more opportunities each year to start or resume a postsecondary program, reduces the chances they will be interrupted midterm when outside obligations arise, and grants them greater flexibility in adjusting their course loads to fit their current circumstances.¹⁹

Institutions should continue to improve online instruction. Remote learning is an increasingly attractive option for Californians who live too far from an institution that meets their educational needs or who have other commitments that prevent them from attending classes in person. It is also a promising solution to the physical capacity limits faced by many institutions. Distance education has evolved dramatically as older modes like broadcast television and videotapes have given way over the decades to online instruction, but there is still considerable room for improvement in remote learning, even setting aside the effects of the COVID-19 pandemic. At the California Community Colleges (CCC), for instance, completion rates with passing grades for online courses are catching up to those of in-person courses, perhaps because of factors such as systematic technological upgrades, targeted faculty professional development, and adoption of policies and best practices specific to supporting remote learning.²⁰ Also worrisome is that Black and Latinx students at CCC complete online and other distance education courses at much lower rates than their white and Asian classmates (53% and 63% vs. 73% and 77%, respectively). Black students at CCC also have the largest difference in completion rates between distance education courses and in-person courses, 53 percent vs. 63 percent, compared with Latinx students (63% vs. 68%), white students (73% vs. 79%), and Asian students (77% vs. 79%).²¹

Institutions need to improve other aspects of online education. Students depend on their institutions to be much more than a venue for delivering lectures and taking exams, as demonstrated during the massive interruption of higher education in the spring of 2020. Millions of US students were suddenly cut off from services and amenities ranging from doing research in libraries and laboratories to receiving counseling and other health care to participating in student organizations and social activities. Moreover, undergraduates who identified as coming from poor, low-income, and working-class backgrounds were more likely than their classmates from higher-income backgrounds to report difficulty using formerly in-person services such as academic advising and support services.²² To the extent that institutions can improve online services that approximate these noninstructional aspects of being physically present on campus, they will enhance the experience of remote learners and broaden the appeal to prospective students wary of missing out on these supports and experiences.

Institutions should better market their existing offerings that already meet prospective students' demands. When institutions already provide the education options sought by prospective students, the answer may be as simple as getting the word out. Take, for instance, the finding that among men who intend to enroll in higher education, a slightly higher proportion is interested in vocational or technical college (10%) compared with community college (9%) (figure 8). The CCC already offer thousands of courses and programs similar to those offered at vocational and technical colleges, including hundreds created under a recently concluded grant program.²³ Marketing efforts need not take the form of expensive advertising campaigns but can build on existing formal and informal relationships with employers, community-based organizations, and other local education and training providers.

California should sustain its efforts toward building a comprehensive state longitudinal data system. The state's emerging Cradle-to-Career Data System promises to provide extensive and accurate information on residents' educational experiences that can aid institutions, state and local government agencies, and nonprofits in efficiently targeting outreach activities. For instance, applicants for unemployment benefits and CalWORKS public assistance could be automatically informed about higher education programs related to their work experience, their estimated financial aid eligibility, and their opportunity to get a head start through credit for prior learning or transferred credits from previous postsecondary enrollments. Moreover,

current data on college access focus on the postsecondary pathways of high school seniors, and we know little about the pathways for those a year or more out of high school.

California should reestablish a higher education coordinating entity. A central authority responsible for higher education coordination could set credential and degree attainment goals for the state, identify each segment's role in meeting credential attainment goals, and analyze policies to enable segments to meet those goals. For example, such an entity could help the segments develop pathways for adult Californians and ensure that online education offerings complement, rather than duplicate or compete with, existing programs within the state's three public higher education segments. It could also research, guide, and evaluate cross-segment initiatives such as a single streamlined application process and common course numbering. Since the California Postsecondary Education Commission was defunded in 2011, no single entity has had the responsibility and authority to collect and analyze data to guide public higher education institutions toward meeting projected needs.²⁴

Policymakers should expand broadband internet access. To open up online education to underserved populations and improve the educational experience of all students, federal and state policymakers should expand the reach, reliability, capacity, and affordability of residential broadband internet service. Currently, 89 percent of California households have broadband internet (including cellular phone data plans), but access is lower among households whose members stand to benefit the most from online education, including households earning less than \$20,000 per year, where just 68 percent have access.²⁵ Even students attending in person would no doubt benefit from broadband connectivity at home to better communicate with instructors and classmates and to complete assignments remotely.

Boosting the share of California adults with college degrees and certificates is a critical step to both shore up the state's economic vitality and to provide economic opportunity and security for individuals and their families. This report has answered who intends to enroll in higher education, which institution types they are interested in, and whether they are interested in online instruction. The final question is directed to employers, institutions, and policymakers: Will you take the steps necessary to enable these prospective adult learners to succeed?

METHODS:

Estimating adult interest in higher education

The findings in this report are based on person-level modeling and scoring of individual California adults' intent to enroll, interest in various institution types, and interest in online instruction. Scores and analysis were provided to California Competes by CollegeAPP, a Los Angeles-based education data company that applies proven modeling techniques from political campaigns to identify adults who are interested in further education and training. CollegeAPP surveyed 9,559 Californians ages 18 years and older from August 12, 2020, through September 10, 2020. (This report focuses on adults 25 and older.) The survey asked respondents whether they planned to pursue higher education or training in the next two years, and if so, whether they are interested in taking all courses online and whether they are interested in enrolling in a public university, community college, or vocational or technical college (see figure 1). (The survey did not ask about private colleges or other institution types.)

CollegeAPP staff combined the survey results with hundreds of demographic, economic, educational, and other variables in the underlying consumer database, and used machine learning to predict the likelihood that each adult in California intends to seek further education, where they are interested in attending, and whether they are interested in taking some or all courses online. Machine learning is a technique used with large datasets that iteratively creates, tests, and refines predictive models. CollegeAPP models were extensively tested to maximize internal reliability. These models generated, for each member of the consumer database, an intent score that estimates the probability of stating intent to enroll in higher education and preference scores for taking some or all courses online. In other words, each of the 19 million adults in the California consumer database was assigned estimated values between 0 percent and 100 percent of expressing intent to pursue higher education, interest in online instruction, and interest in specific institution types.

The consumer database excludes adults who opted out of data sharing under the terms of the California Consumer Privacy Act. To compensate for missing records and improve the validity of the total estimated demand for higher education, CollegeAPP staff applied the intent and preference models to score each adult in the California voter file. (The voter file consists of data on registered voters, including those who have opted out of sharing consumer data for marketing. Voter file records may be used for nonprofit policy analysis, but not for marketing.)

For this report, CollegeAPP staff separately summarized total demand and interest from the registered voters in the voter file and the unregistered voters in the consumer file, weighted the results to match state totals, and combined the weighted counts. Totals from the voter file were weighted by age to match registered vote totals reported by the Secretary of State as of September 2020. Total counts of unregistered voters from the consumer file were weighted by age to match the US Census Bureau's American Community Survey's five-year estimates for 2020 California population by age, minus the actual September 2020 voter registration counts by age.

In this report, intent to enroll in higher education is defined as having at least a 60 percent probability of answering "yes" to the question "Do you plan to enroll in an education or training program in the next two years?" This threshold, which yields a 19 percent rate of interest in pursuing higher education overall, is in line with other 2020 survey results showing 21 to 24 percent of Americans 18 and older planning to enroll or currently enrolled in higher education.²⁶ Likewise, interest in online instruction is defined as at least a 50 percent probability of answering "yes" to the question "Are you interested in taking *all* courses online?" Respondents who expressed intent to enroll in higher education were asked whether they were interested in attending community college, a public university, or a vocational or technical college. Respondents were permitted to select more than one option, and interest in each institution type is defined as at least a 50 percent probability of selecting it.

There are two important limitations to interpreting these data. First, the thresholds represent a maximum prediction for each individual. Take, for example, the finding that 15 percent of Californians have at least a 50 percent probability of interest in online instruction. If it were possible to survey the entire adult population, it would be expected that between 7.5 percent and 15 percent would be interested in online instruction. Second, there is often a significant gap between intention and action. Just as many people fall short of their resolutions to adopt more healthy lifestyles (eating better, exercising more, smoking and drinking less), the intentions expressed in these data probably exaggerate the extent to which respondents will actually follow through on their intentions to pursue higher education. Prospective students still must contend with tuition and other educational expenses, the opportunity cost of forgoing employment, and investing a significant amount of time in order to succeed in higher education.

Notes

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Staff

Su Jin Jez, PhD
Executive Director

Gail Yen
Senior Policy and Research Analyst

Kim Bernet
Operations Director

David Radwin
Senior Researcher

Joanna Rosenthal
Communications Director