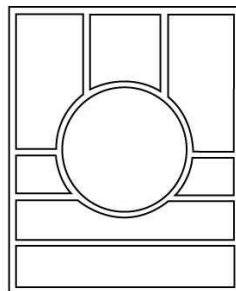




ADDRESSING LATINO OUTCOMES AT CALIFORNIA'S HISPANIC-SERVING INSTITUTIONS

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INTRODUCTION

With the largest population of Latinos and Latinas in the nation—from undocumented to descendants of the first Mexican settlers—California is fast becoming a Latinized state. In an economy and labor market that place a premium on highly educated workers, the future well-being and happiness of all Californians is linked to the college attainment among Latinos and Latinas. Addressing Latino Outcomes at California’s Hispanic-Serving Institution, a joint report of USC’s Center for Urban Education and Tomas Rivera Policy Institute, makes clear that it is in the best interest of all Californians that more Latinos earn a bachelor’s degree, that more of those who meet the admissions requirements for the University of California actually enroll, and that a larger share of the thousands of Latinos in community colleges transfer to four-year colleges.

Its system of higher education, especially Hispanic-Serving Institutions, will greatly influence whether California will become a divided state with a separate and unequal Latino majority or the 21st-century model for Latino inclusiveness. The persistence of inequity in higher education participation and attainment will reduce the proportion of college-educated adults, which in turn will have detrimental effects on the state’s economy, workforce preparation, and the quality of life of aging baby boomers, as well as to aspirations to be a society that provides equal opportunities regardless of race or socioeconomic status. It is incumbent therefore that many more Latinos go to college, earn degrees, and be ready to step into the thousands of jobs that members of the baby boom generation are leaving behind as they reach retirement age. Investing in equity in college attainment for Latinos is not an optional choice; it is an investment that insures all Californians.

Becoming the model of the Latinized state for the 21st century demands that the higher education system, especially Hispanic-Serving Institutions, resolve to address the educational inequality that characterize college-going and college completion for Latinos. To lay the groundwork toward greater equity for Latinos, we are providing an analysis of Latino outcomes at Hispanic-Serving Institutions as well as a two-day institute that puts in the hands of leaders and professionals the tools and strategies to make equity for Latinos attainable as an ideal and result.



WHY HISPANIC-SERVING INSTITUTIONS?

California's Hispanic-Serving Institutions are the most important pathway to Latino inclusivity in the state. These 112 colleges enroll 61 percent of California's Latino college students and 48 percent of all of the state's college students. Based on the analyses (see below) of the status of Latinos enrolled at Hispanic-Serving Institutions, we offer two recommendations that can be implemented immediately.

1. Leaders of the 76 HSI community colleges and the 15 California State University campuses need to join together and remove the bureaucratic and academic obstacles that thwart the transfer pathways of Latinos.

Of the 342,000 Latino full-time equivalent students, 72 percent are concentrated in community colleges, making these institutions the single most important factor in achieving a higher share of college-educated Latinos. Rightfully, community colleges take pride in their many purposes and the flexibility that makes it possible to create workforce development programs from one day to the next. There is an expectation that no purpose should take precedence over others. In the case of Hispanic-serving community colleges, however, there is a compelling rationale to prioritize programs that are eligible for transfer to four-year colleges. Unless more Latinos transfer, earn a bachelor's degree, and go on to graduate programs, California puts its economy at risk.

“Equity” is an abstract concept that holds different meanings for different people.

Senate Bill 1440, the Student Transfer Achievement Reform (STAR) Act adopted by California's legislature, provides the legal mandate for improved articulation of credits and programs. But community colleges cannot improve transfer alone; they need the collaboration and support of their counterparts in the Hispanic-Serving Institutions of the California State University System.

2. University of California leaders need to determine which among the many factors related to recruitment, admission, and matriculation contribute to the enrollment underrepresentation, in UC campuses, of Latinos who graduated from California's highest-performing high schools.

Latinos who graduate from the state's top-performing high schools (those that rank in the top 10 percent of Academic Performance Index scores), are significantly more likely to enroll in community colleges than their Asian, white, and African American counterparts. Among Latinos who graduate from high schools with an API rank of 10, 46 percent enroll in community colleges, compared with 19 percent of Asians, 23 percent of African Americans



and 27 percent of whites. Just 5 percent of Latinos who graduate from the top-performing high schools enroll in a UC school, compared with 34 percent of Asians. Is this anomaly a function of not being eligible for admission? Or is it that Latinos do not apply or are not encouraged to apply? Or is it because despite being admitted, they do not matriculate? To what extent is this a financial aid problem?

An Agenda for Equity, Effectiveness, and Excellence at Hispanic-Serving Institutions

The majority of Hispanic-Serving Institutions did not become that way by design. Their Latino enrollment swelled because of their location. It is very likely that many more institutions will soon meet the 25 percent Latino enrollment threshold that the US Department of Education has set to designate HSI's, making them eligible to compete for Title V grants. The challenge that Hispanic-Serving Institutions now face is how to be more effective in achieving equity and excellence for Latinos.

WHAT IS EQUITY?

"Equity" is an abstract concept that holds different meanings for different people. One of the most common misperceptions is that it is a concept synonymous with equality. A definition of equity that is appropriate for the mission and goals of California's higher education system, and community colleges should focus on "representational equity," defined as proportional participation of racial and ethnic groups in access, retention, and completion as well as in opportunity to succeed.

In particular, it is useful to define equity at each of the milestones through which Latinos must progress in order to be successful in higher education:

- Access equity: Representation in academic pathways that is proportional to Latinos' share of the total student population.
- Retention equity: Equitable representation in retention and progress within academic pathways leading to a degree and/or transfer.
- Academic equity: Equitable representation in pathways and programs that increase Latinos' representation in science, technology, engineering, and math fields.
- Completion equity: Equitable representation in attainment of baccalaureate and associate degrees, certificates, and transfer.



WHAT IS EFFECTIVENESS?

Effectiveness in Hispanic-Serving Institutions is evidenced by having:

- Goals to continuously monitor equity in the outcomes of Latinos on the chief indicators of successful academic progression, achievement, and completion.
- A statement of mission as a Hispanic-Serving Institution.
- Specified practices in the academic, administrative, and student support areas that support the HSI mission.
- A professional program to develop the competencies that professionals at HSIs should demonstrate.

WHAT IS EXCELLENCE?

In addition to increasing equity in Latino college attainment, Hispanic-Serving Institutions must extend opportunities for Latinos to attain equity in access to exclusive opportunities and elite programs. Latinos are severely underrepresented in experiences that accrue social capital for participants such as engaging in undergraduate research with a faculty member, being in an honors program, holding an internship or fellowship, or studying abroad. Monitoring Latino access and participation in activities and programs that are reserved for small numbers of students is critical to Latino inclusivity. It is important for Hispanic-Serving Institutions to ask, "What is the participation of Latinos in undergraduate research?" "What is the representation of Latinos in the Honors Program?" "What proportion of Latinos graduate with a GPA of 3.5 or higher and are admissible to selective graduate programs?" "What proportion of Latino community college students transfer to highly selective public and private colleges?"

Equity, effectiveness, and excellence for Latinos are measurable goals. The objective of the institute is to provide tools and practices so that equity, effectiveness, and excellence are embedded into institutional culture and serve as standards of "Hispanic Servingness."



EQUITY IN STEM OUTCOMES AT CALIFORNIA'S HISPANIC-SERVING INSTITUTIONS

California's Hispanic-Serving Institutions are not awarding Latinos an equitable share of the STEM degrees granted by these institutions, according to new research conducted at the University of Southern California's Center for Urban Education.

Less than one-quarter of Latinos attending two-year HSIs are at institutions that produce equitable outcomes in degree completion for STEM fields—science, technology, engineering, and mathematics. Among four-year HSIs, a mere 1 percent of Latino students attend institutions that are at or above equity. Meanwhile, Latinos are concentrated in the HSIs with the lowest equity scores, with nearly three-quarters (72.3 percent) of Latinos in four-year HSIs attending institutions with low performance and four-in-ten (42 percent) Latinos at two-year institutions.

Given the growth of STEM occupations and the increasing need for STEM competencies across a wide range of occupational sectors, it is clear that these inequities at California's HSIs need to be addressed so that Latinos can fully participate in the modern economy. Institutions of higher education with an enrollment that is at least 25 percent Latino are eligible for certification as HSIs by the U.S. Department of Education and can then apply for competitive federal grants.

To understand how the state's HSIs are performing, the center examined data on degree and certificate completion at all HSIs in California in the 2011-12 school year. Applying the Equity Index^[1], the center determined whether the number of Latinos earning STEM degrees and certificates at individual institutions is proportional to their enrollment in those institutions. In an equitable outcome, the share of Latinos earning STEM degrees or certificates would be the same as the share of Latinos in the graduating class.

This analysis shows that although there is quite a bit of variability among HSIs, the overall picture is that Latino students at those institutions are earning a disproportionately small share of degrees and certificates in the vital STEM fields given the size of their enrollment.

THE ROLE OF STEM EDUCATION IN LATINO ADVANCEMENT

Growth in STEM occupations—technical jobs in science, technology, engineering, and mathematics—outpaces all sectors except health-care professions. Throughout the U.S. economy, individuals with education and training in STEM fields enjoy higher earnings and face lower unemployment rates. By 2018, California businesses and governments will require 1.1 million STEM workers, and significantly more workers with STEM competencies in a broad



range of occupations. However, the persistent underrepresentation of Latinos in STEM fields threatens the state's ability to meet these labor market demands and will prevent Latinos from reaping the economic and professional benefits associated with science, technology, and related careers.

With more than 60 percent of California's Latino college students attending Hispanic-Serving Institutions, these two- and four-year colleges and universities play a critical role in granting access to STEM coursework and credentials to this population. Achieving equity in STEM degree and certificate completion will ensure that Latinos can fully participate in the growing STEM-based economy.

Science, engineering, and technology-related fields play an increasingly significant role in the modern, global economy. Policymakers and a range of stakeholders in business and industry have recognized the centrality of STEM innovation and education to the nation's continued economic competitiveness and productivity. According to a 2011 analysis by the Center on Education and the Workforce at Georgetown University, the STEM occupational sector is among the nation's fastest growing, second only to health care (Carnevale, Smith, & Melton, 2011). By 2018, 5 percent of U.S. jobs will be in traditional STEM areas. However, the importance of scientific and technological knowledge extends far beyond traditional STEM jobs, as a broad range of occupations—including professional and business services, and health-care services—increasingly require core STEM competencies (Carnevale et al., 2011).

Indeed, workers with education and training in STEM areas enjoy significant wage premiums and lower levels of unemployment in the current labor market (Carnevale et al., 2011). Economic projections suggest that the advantages enjoyed by individuals with STEM credentials (i.e., sub-baccalaureate certificates, associate, bachelor's, and graduate degrees) and by those who may not hold a STEM degree but possess core STEM competencies will continue to grow over time (Carnevale et al., 2011).

Even with the positive economic and labor market prospects for STEM workers and for workers in other occupational sectors who possess STEM competencies, the demand for these individuals continues to outpace supply (Carnevale et al., 2011). This has led to disproportionate representation of foreign-born workers in the STEM workforce: 17 percent of the STEM jobs in the United States are filled by foreign-born workers, compared with 12 percent of jobs in the entire U.S. economy (Carnevale et al., 2011).

Exacerbating this shortage of STEM workers is the persistent underrepresentation of Latinos, African Americans, Native Americans, and Pacific Islanders among STEM degree holders (National Science Foundation, 2013). Because these demographic groups comprise a growing share of the nation's population, the failure to broaden participation in STEM and to support achievement in science and mathematics at all educational levels will lead the



nation's to rely more heavily on foreign sources for STEM talent, deny minoritized groups the opportunity to fill an increasing number of well-paying STEM jobs, and perpetuate long-standing economic inequities (National Research Council, 2011).

Clearly, broadening participation in STEM—that is, increasing STEM degree attainment, facilitating STEM competence-building, and increasing STEM workforce entry among Latinos, African Americans, Native Americans, Pacific Islanders and other underrepresented groups—ought to be a priority for *every* U.S. postsecondary institution. Minority-serving institutions play a particularly important role in efforts to broaden participation in STEM, as these institutions enroll disproportionately high numbers of students of color.

THE ROLE OF HSIs IN PRODUCING LATINO STEM TALENT FOR CALIFORNIA'S ECONOMY

California has the highest number of STEM jobs in the nation (Carnevale et al., 2011). This trend is expected to continue. By 2018, the state's economy will require a total of 1.1 million STEM jobs—a 19 percent increase over the number required in 2008. Nearly all of these STEM jobs (93 percent) will require postsecondary education and training, and two-thirds will require a bachelor's degree or more advanced training (Carnevale et al., 2011). Clearly, equity in postsecondary educational access and outcomes is critical to developing the diverse pool of STEM talent necessary for California's continued economic vitality. However, current data illustrate that Latinos experience inequities in STEM certificate and degree completion.

In 2011, Latinos represented about 45 percent of California's college-aged population (i.e., those between 18 and 24 years) (U.S. Census Bureau, 2012) but earned just 35 percent of STEM certificates, 27 percent of STEM associate degrees, and 31 percent of STEM bachelor's degrees awarded by the state's postsecondary institutions in the same year (U.S. Department of Education, 2013). Going forward, California's institutions of higher education must take active steps to increase STEM competence-building and STEM degree completion among the state's Latino population. With more than 60 percent of California's Latino college students attending one of the state's 112 Hispanic-Serving Institutions, these institutions play a critical role in ensuring greater involvement in STEM fields by Latinos. However, the current analysis of institutional performance data illustrates that as a whole, California HSIs do not provide equitable access to STEM certificates and degrees for these students.

ASSESSING THE STATE OF EQUITY IN STEM DEGREE COMPLETION AT CALIFORNIA'S HSIs

Attaining equity in STEM degree completion would mean that STEM certificate and degree earners should be representative of college student enrollments. For example, if 50 percent of a community college's student body is Latino, and 50 percent of STEM certificates awarded by that institution are earned by Latinos, that institution has achieved equity in STEM certificate completion. The Center for Urban Education's Equity Index (Hao, 2002; Bensimon,



Bustillos, & Hao, 2006) is a numerical measure of proportionality that establishes how far or how close a particular group (Latinos, in this case) is from reaching representation on a particular indicator of attainment that is equal to their representation in a specified population pool. If the equity index equals 1 for a given indicator, Latinos have achieved equity for that educational outcome. An equity index below 1 indicates underrepresentation, and an equity index greater than 1 indicates overrepresentation. In this analysis, we use the Equity Index to categorize California’s Hispanic-Serving Institutions into four performance categories using equity in STEM degree attainment as the metric. The four performance levels are defined in Table 1:

Table 1. Performance Levels as Indicated by the Equity Index

Performance Level	Equity Index Value	Description
High Performance	Greater than or equal to 1	At or above equity
Medium-High Performance	0.85 < Equity Index < 0.99	Almost at equity
Medium-Low Performance	0.70 < Equity Index < 0.85	Below equity
Low Performance	Equity Index < 0.70	Far below equity

Adapted from Bensimon, Bustillos, & Hao (2006).

STEM Bachelor’s Degrees. During the 2011-12 academic year, Latinos earned 22.6 percent of all STEM bachelor’s degrees awarded by California’s 33 four-year Hispanic-Serving Institutions, despite representing 37.3 percent of full-time equivalent undergraduate enrollment at these institutions. This performance level corresponds to an equity index of 0.61—which falls far below equity.

An institutional-level analysis reveals quite a bit of variability in the state of equity in STEM degree completion across California’s four-year HSIs. Multiple four-year HSIs fall into each of the performance categories detailed in Table 1. However, as shown in Table 2, just 1 percent of Latinos enrolled in the state’s four-year HSIs attend high-performing institutions. While a larger proportion attend four-year HSIs attend institutions that have almost achieved equity in STEM bachelor’s degree completion, nearly three-quarters of Latinos enrolled in California’s four-year HSIs attend low-performing institutions.



Table 2. Distribution of Latino Enrollment in California's Four-Year HSIs, by STEM Bachelor's Degree Completion Performance Level

Performance Level	Share of Latino Enrollment in 4-Year HSIs *
High Performance	1.0%
Medium-High Performance	7.1%
Medium-Low Performance	19.2%
Low Performance	72.3%

* **Note:** Column does not sum to 100% because 0.4% of Latinos enrolled in California's four-year HSIs attend institutions with no STEM degree programs.

Source: Author's calculations based on Integrated Postsecondary Education Data System (IPEDS) Completions Survey, 2012.

STEM Associate Degrees. During the 2011-12 academic year, Latinos earned 31.6 percent of all STEM associate degrees awarded by California's 79 two-year HSIs, despite representing 43.2 percent of full-time equivalent undergraduate enrollment at these institutions. This performance level corresponds to an equity index of 0.73—which falls below equity. As with four-year HSIs, an institutional-level analysis of California's two-year HSIs reveals a range of performance levels in terms of equity in STEM associate degree completion for Latinos. Less than one-fourth of Latino students enrolled in two-year HSIs in California attend institutions that perform at or above equity using Latino STEM associate degree completion as a metric:

Table 3. Distribution of Latino Enrollment in California's Two-Year HSIs, by STEM Associate Degree Completion Performance Level

Performance Level	Share of Latino Enrollment in 2-Year HSIs *
High Performance	23.4%
Medium-High Performance	14.6%
Medium-Low Performance	18.5%
Low Performance	42.0%

* **Note:** Column does not sum to 100% because 1.5% of Latinos enrolled in California's two-year HSIs attend institutions that awarded no STEM associate degrees in 2011-12.

Source: Author's calculations based on IPEDS Completions Survey, 2012.



STEM Certificates. During the 2011-12 academic year, Latinos earned 37.2 percent of all STEM sub-baccalaureate certificates awarded by two-year HSIs in California, despite representing 43.2 percent of full-time equivalent undergraduate enrollment at these institutions. This performance level corresponds to an equity index of 0.86—which is almost at equity. There is a great deal of variability in the performance of California’s two-year HSIs in terms of STEM sub-baccalaureate certificate completion. Slightly less than one-quarter of Latino students enrolled in two-year HSIs in California attend institutions that perform at a high level using equity in STEM certificate completion as a metric:

Table 4. Distribution of Latino Enrollment in California’s Two-Year HSIs, by STEM Certificate Completion Performance Level

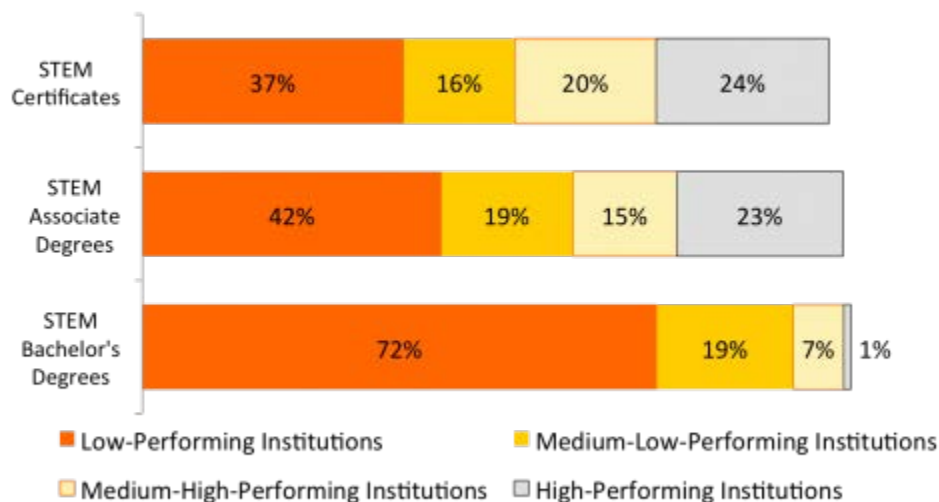
Performance Level	Share of Latino Enrollment in 2-Year HSIs*
High Performance	24.3%
Medium-High Performance	19.9%
Medium-Low Performance	15.6%
Low Performance	36.7%

***Note:** Column does not sum to 100% because 3.5% of Latinos enrolled in California’s two-year HSIs attend institutions that awarded no STEM certificates in 2011-12.

Source: Author’s calculations based on IPEDS Completions Survey, 2012.



Figure 1: Distribution of Latina/o Enrollment in California HSIs, by STEM Equity Performance Level



Note: Columns do not sum to 100% because 2% of Latinas/os are enrolled in HSIs that do not award STEM associate degrees and 4% are enrolled in HSIs that do not award STEM certificates

Source: Author's calculations based on IPEDS Completions Survey, 2012.

LATINOS EXPERIENCE INEQUITIES IN TRANSFERRING FROM HISPANIC-SERVING COMMUNITY COLLEGES TO FOUR-YEAR INSTITUTIONS

California's community colleges pursue multiple missions. In addition to facilitating basic skills development, providing vocational and career technical education, and offering continuing education coursework, community colleges prepare a large share of their students to transfer to a four-year college or university. However, an analysis by the Center for Urban Education reveals that Latinas and Latinos experience inequities in transfer access to the state's public four-year universities.

Currently, Latinos represent more than 43 percent of full-time equivalent enrollment at California's Hispanic-serving community colleges. However, in 2010, only 33 percent of students who transferred from these institutions to the California State University (CSU) system were Latino.



Latinos experience more severe inequities in transfer access to the University of California (UC) system: they were just 21 percent of students who transferred from the state's Hispanic-serving community colleges to the UC system in 2010.

The Equity Index is a measure of proportionality that assesses the extent to which some population of interest is equitably represented among individuals who have achieved a specific educational outcome (Bensimon, Bustillos, & Hao, 2006; Hao, 2002). An Equity Index of 1 is indicative of equitable representation of the population of interest among all who have achieved the specified educational outcome; an Equity Index less than 1 reflects underrepresentation, and an Equity Index greater than 1 is indicative of overrepresentation. For example, if 40% of students enrolled at a community college are Latino, and 40% of students who successfully transferred to a four-year institution are Latino, Latinos are said to have achieved equity in transfer access—that is, the Equity Index has a value of 1.

In the current analysis, the Equity Index indicates that, in the aggregate, California's Hispanic-serving community colleges perform at a medium-low level for Latino student transfers to CSUs. On average, Hispanic-serving community colleges are low performing in terms of providing Latinos transfer access to the UC system.

An examination of data on community college transfers to the CSU and UC systems by discipline reveals that Latinos are underrepresented among transfer students to bachelor's degree programs in science, technology, engineering, and mathematics (STEM). While 43 percent of students enrolled in Hispanic-serving community colleges are Latino, Latinos comprise a significantly smaller proportion of students who transfer from these two-year Hispanic-Serving Institutions to bachelor's degree programs in agricultural sciences, biological and biomedical sciences, computer and information sciences, engineering, mathematics and statistics, and the physical sciences at CSU and UC campuses. In terms of providing Latinos with equitable transfer access to California's public universities, Hispanic-serving community colleges perform at a low level for every STEM field except mathematics and statistics. While the transfer outcomes to bachelor's degree programs in math are more positive than in other STEM disciplines, Latinos remain underrepresented among community college transfers in this degree field as well.

The implications of the inequitable transfer outcomes experienced by Latinos at Hispanic-serving community colleges are clear; inequities in transfer access to the CSU and UC systems limit Latinos' opportunity to earn bachelor's degrees in all fields, and in STEM fields in particular.



Table 1. Performance Levels as Indicated by the Equity Index

Performance Level	Equity Index Value	Description
High Performance	Greater than or equal to 1	At or above equity
Medium-High Performance	0.85 < Equity Index < 0.99	Almost at equity
Medium-Low Performance	0.70 < Equity Index < 0.85	Below equity
Low Performance	Equity Index < 0.70	Far below equity

Adapted from Bensimon, Bustillos, & Hao (2006).

Table 2. CSU Transfer Access for Latinos at Hispanic-Serving Community Colleges, 2010

Measure	% Latina/o	
Full-Time Equivalent Enrollment in Hispanic-Serving CCs	43.2%	Reference Population
		Equity Index
All CSU Transfers	32.6%	0.76
Transfers to CSU, by STEM Field		Equity Index
Agricultural Sciences	29.2%	0.68
Biological and Biomedical Sciences	27.8%	0.64
Computer and Information Sciences	24.4%	0.56
Engineering	29.3%	0.68
Mathematics and Statistics	35.3%	0.82
Physical Sciences	23.9%	0.55

Source: Author's calculations based on California Postsecondary Education Commission's online data system, *Enrollment of Full-Year Transfer Students to Public Institutions*, 2010.

Table 3. UC Transfer Access for Latinos at Hispanic-Serving Community Colleges, 2010

Measure	% Latina/o	
Full-Time Equivalent Enrollment in Hispanic-Serving CCs	43.2%	Reference Population
		Equity Index
All UC Transfers	20.9%	0.48



Transfers to UC, by STEM Field		Equity Index
Agricultural Sciences	23.2%	0.54
Biological and Biomedical Sciences	23.7%	0.55
Computer and Information Sciences	21.8%	0.51
Engineering	24.8%	0.57
Mathematics and Statistics	32.3%	0.75
Physical Sciences	18.9%	0.44

Source: Author’s calculations based on California Postsecondary Education Commission’s online data system, *Enrollment of Full-Year Transfer Students to Public Institutions, 2010*.

LATINA AND LATINO HIGH SCHOOL GRADUATES ARE DISPROPORTIONATELY ENROLLED IN COMMUNITY COLLEGES

An analysis of college enrollment data reveals that Latino high school graduates are more likely to attend California community colleges than their white, Asian, and African American counterparts. As shown in Table 1, more than one-third of Latino high school graduates enroll in the state’s community college system, compared with about one-quarter of Asian, white, and African American high school graduates.

Nearly 10 percent of Latino high school graduates attend one of the California State University (CSU) institutions, making them slightly more likely to attend a CSU than white and African American high school graduates. However, less than 4 percent of Latinos attend a University of California campus after completing high school—a figure far below the quarter of Asian high school graduates who enroll in the highly selective UC system.

Table 1. College-Attendance Rates of California High School Graduates by Public Higher Education System and Race/Ethnicity, 2010

	Community College Attendance Rate	CSU Attendance Rate	UC Attendance Rate
Latina/o	33.7%	9.8%	3.9%
Asian	25.9%	13.2%	25.0%
White	23.1%	8.7%	5.2%
African American	24.5%	8.3%	3.7%

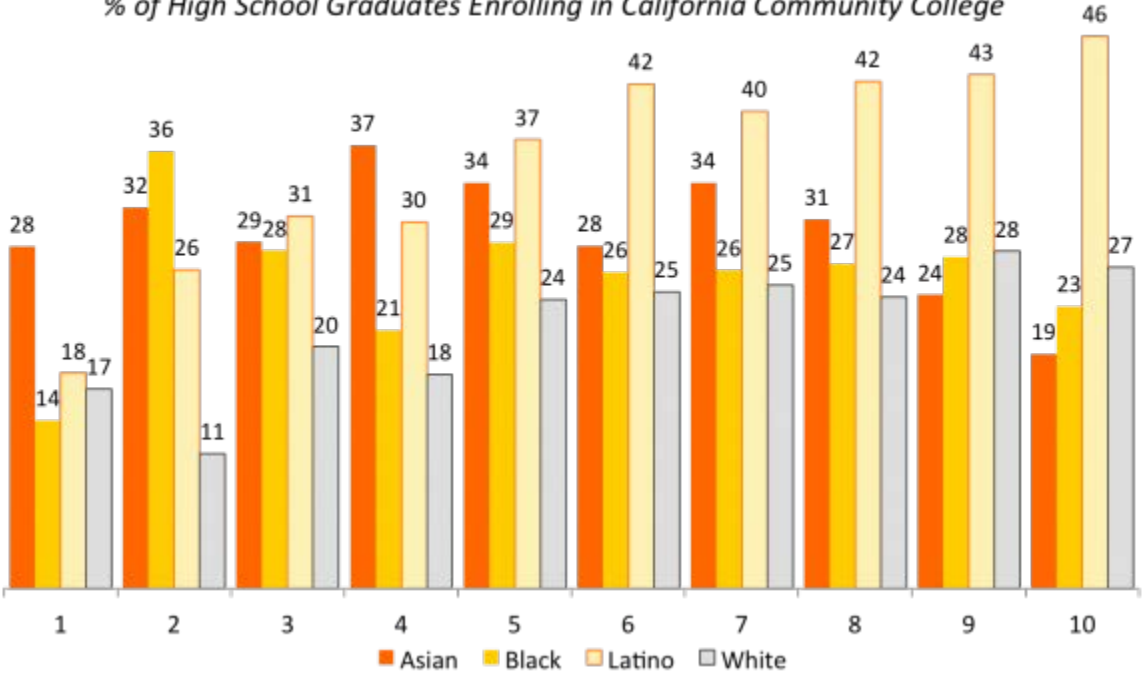


Source: Author's calculations based on California Postsecondary Education Commission's (CPEC) online data system and California Department of Education (CDE) *Academic Performance Index* data files, 2010.

What accounts for these racial and ethnic differences in the patterns of college attendance among California high school graduates? Previous research has found the concentration of Latinos in the public two-year sector to be attributable to many factors, including the relatively low cost, geographic accessibility, and curricular and program flexibility of community colleges (e.g., Crisp & Nora, 2010; Nora & Crisp, 2009). Researchers have also pointed to systemic disparities in K-12 school quality experienced by Latinos and the consequences that attending disadvantaged and underresourced schools have on Latino student college readiness (Nora & Crisp, 2009).

However, an in-depth examination of pathways from California high schools to the state's public higher education institutions reveals that even Latinos who graduate from the state's top-performing high schools (that is, those who rank in the top 10 percent of Academic Performance Index, or API, scores) are significantly more likely to enroll in a community colleges than their Asian, white, and African American counterparts.

Figure 1: California Community College (CCC) Attendance Rate by High School API Rank and Race/Ethnicity, 2010
% of High School Graduates Enrolling in California Community College

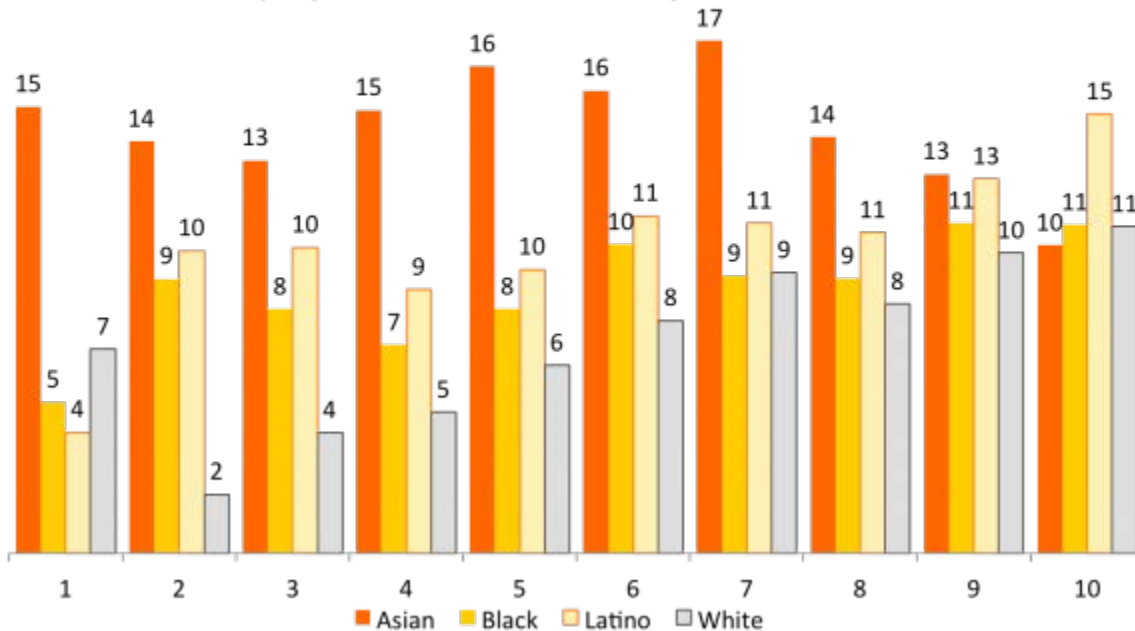




Source: Author's calculations based on California Postsecondary Education Commission's (CPEC) online data system and California Department of Education (CDE) academic performance index data files, 2010.

Figure 1 illustrates the community college attendance rate of Californian high school graduates by high school API rank and race and ethnicity. A score of 1 indicates the lowest API, while 10 is the highest rank. Among students who graduated from the state's lowest-performing high schools, Asians have the highest community college attendance rate. However, as high school API rank increases, the likelihood of enrolling in a community college drops for Asian high school graduates and rises sharply for Latinos. As shown, 46 percent of Latinos who graduate from high schools with an API rank of 10 enroll in community colleges, compared with 19 percent of Asians, 23 percent of African Americans, and 27 percent of whites.

Figure 2: California State University (CSU) Attendance Rate by High School API Rank and Race/Ethnicity, 2010
% of High School Graduate Enrolling in a CSU Institution



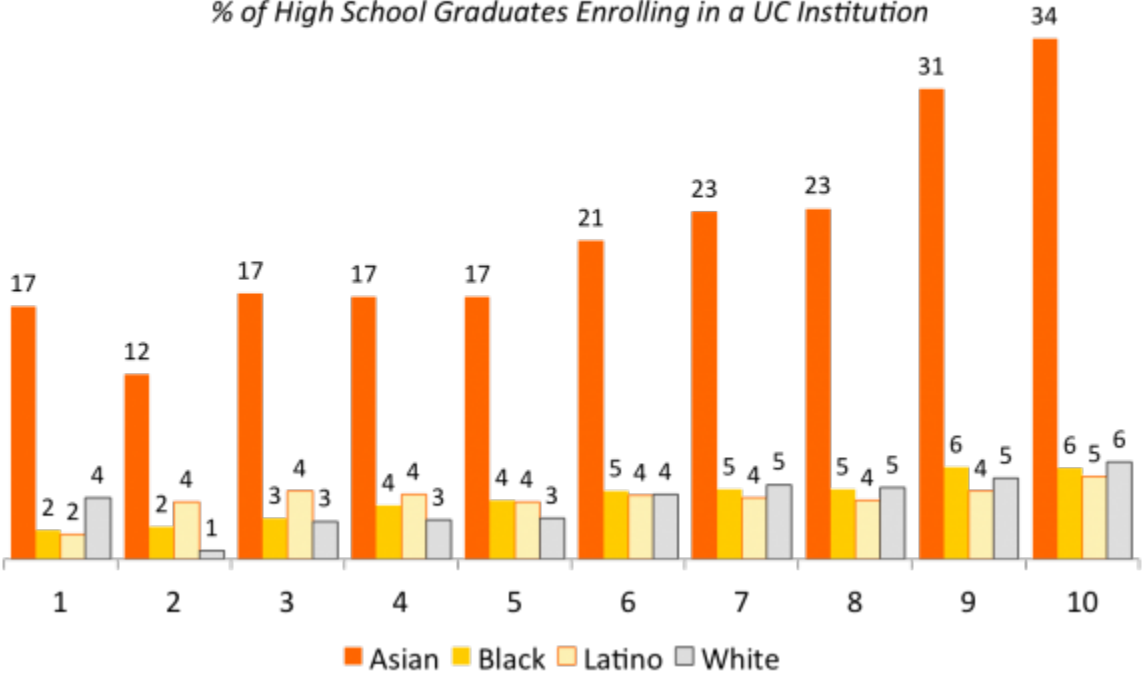
Source: Author's calculations based on California Postsecondary Education Commission's (CPEC) online data system and California Department of Education (CDE) academic performance index data files, 2010.



Figure 2 depicts the CSU attendance rate of high school graduates by API rank, disaggregated by race and ethnicity. Among students who graduate from the lowest-ranked high schools (an API rank of 1), Asians have the highest likelihood of enrolling in a CSU (15 percent), and Latinos are the least likely to enroll in a CSU (4 percent). As API rank increases, however, the CSU attendance rate increases for Latinos, whites, and African Americans and decreases for Asian high school graduates. Among students who graduate from the highest-performing high schools, Latinos are more likely than whites, African Americans, or Asian high school graduates to enroll in a CSU (15 percent).

Figure 3: University of California (UC) Attendance Rate by High School API Rank and Race/Ethnicity, 2010

% of High School Graduates Enrolling in a UC Institution



Source: Author’s calculations based on California Postsecondary Education Commission’s (CPEC) online data system and California Department of Education (CDE) academic performance index data files, 2010.

UC attendance rates by high school API rank are shown in Figure 3. The data illustrate that Asian high school graduates are significantly more likely than Latinos, African Americans, and whites to attend a UC institution. This pattern holds true across all high school API ranks. Just 5 percent of Latino graduates from the top-performing high schools enroll in a UC, compared with 34 percent of Asians. Interestingly, white and African American graduates from the



highest-ranked high schools attend UC at rates that are nearly as low as that of Latinos (6 percent).

The college enrollment data presented here illustrate disturbing inequities in Latino high school graduates' access to California's public higher education institutions. Even at high schools that perform well academically, Latinos are most likely to attend open-access community colleges and least likely to attend the highly selective UC system.

HIGHER EDUCATION BUDGET CUTS HAVE REDUCED ACCESS FOR LATINOS

The severe budget cuts imposed on California's public higher education institutions have had a significant impact on the state's Hispanic-Serving Institutions and Latino college students. Brought on by declining state support, the recent budget crisis has led California's public higher education institutions to raise tuition and fees, limit enrollment, reduce course offerings, increase class sizes, and curtail student services (Bohn, Reyes, & Johnson, 2013; Orfield, 2011; University of California Office of the President, 2013). These institutional responses to budget cuts have jeopardized higher education access for California's Latino college students, 78 percent of whom attend public institutions, and 60 percent of whom attend public HSIs.

LATINO COLLEGE STUDENTS ARE CONCENTRATED IN PUBLIC INSTITUTIONS, MANY OF WHICH ARE HISPANIC-SERVING INSTITUTIONS.

The vast majority of California's Hispanic-Serving Institutions are public institutions; 76 of the state's 112 HSIs are community colleges, 15 are institutions in the California State University system, and two are institutions in the University of California system. Though 83 percent of the state's HSIs are public, these institutions serve a much higher share of Latino college students who attend HSIs; just below 98 percent of all Latinos who attend California's HSIs are enrolled in public institutions. This mirrors Latino students' overall college enrollment pattern, in which 78 percent of all Latinos enrolled in college in California attend public institutions.

DECLINING STATE SUPPORT HAS CAUSED PUBLIC, FOUR-YEAR INSTITUTIONS TO RAISE TUITION AND FEES.

Over the past decade, declining state support for higher education has led the UC and CSU systems to increase student tuition and fees. In 2000-01, a full-time undergraduate California



resident would pay around \$2,000 on average to attend a CSU institution and about \$4,000 to attend a UC institution. By 2010-11, tuition and fees had tripled to more than \$6,000 for CSUs and more than \$12,000 for UCs (Johnson, 2012). While both systems provided additional financial aid to economically disadvantaged students to help offset these increased costs, a report published by the Public Policy Institute of California finds that these tuition increases are correlated with decreased enrollment rates among the state's high school graduates (Johnson, 2012). The report also notes that the sharp increases in tuition and fees have not entirely made up for the loss in state support. As a result, per-student expenditures at both the UCs and CSUs have fallen, forcing the institutions to take other cost-saving measures, including limiting enrollments and cutting academic program offerings and student services (Johnson, 2012).

CALIFORNIA'S COMMUNITY COLLEGES OFFER FEWER COURSE SECTIONS AND INCREASED CLASS SIZES TO COPE WITH STATE BUDGET CUTS.

Unlike the UC and CSU, California's community college system has been unable to offset declining state support by increasing student fees, in part because community college fees are set by the state legislature. As a result, community colleges have taken steps to slash expenditures by reducing the number of non-credit courses offered, offering fewer credit course sections, and cutting staff, including the number of full-time instructors (Bohn, Reyes, & Johnson, 2013).

These reductions in credit course sections are evident in Hispanic-serving community colleges and non-HSIs alike. Over the past five years, the number of credit course sections offered by Hispanic-serving community colleges declined by nearly 22 percent, from 257,488 sections in 2007-08 to 201,945 in 2012-13 (California Community Colleges Chancellor's Office [CCCCO], 2013). During the same period, the number of full-time equivalent students enrolled in credit course sections declined by nearly 7 percent (CCCCO, 2013). The smaller percentage decline in full-time equivalent enrollment reflects increased class sizes at Hispanic-serving community colleges (Bohn, Reyes, & Johnson, 2013). Similar declines in credit course sections and full-time equivalent enrollment occurred in non-HSI community colleges (CCCCO, 2013).

Cuts in non-credit course sections were even more severe than those for credit coursework. Over the past five years, non-credit course sections offered by Hispanic-serving community colleges declined by nearly 43 percent, from 17,378 sections in 2007-08 to 9,950 sections in 2012-13 (CCCCO, 2013). Over the same period, non-credit full-time equivalent enrollment at Hispanic-serving community colleges declined by 32 percent (CCCCO, 2013). Again, non-Hispanic-serving community colleges experienced similar declines in non-credit course offerings and enrollments (Bohn, Reyes, & Johnson, 2013).



INCREASED COSTS, LIMITED ENROLLMENTS, AND DECREASED COURSE OFFERINGS HAVE LED TO DECLINING COLLEGE ENROLLMENT RATES IN CALIFORNIA'S PUBLIC POSTSECONDARY INSTITUTIONS AMONG LATINO HIGH SCHOOL GRADUATES.

Since California's higher education budget crisis began, the rates at which Latino high school graduates enroll in the UC, CSU, and community college system have fallen. In 2007, 4.5 percent of California's Latino high school graduates enrolled in the UC system, while 11.4 percent entered CSUs, and 35.2 percent enrolled in CCCs (CPEC, 2010; Johnson, 2012). By 2010, all of these rates decreased, with 4 percent, 10.2 percent, and 33.2 percent of Latino high school graduates enrolling in the UC, CSU, and CCC systems, respectively (CPEC, 2010; Johnson, 2012).

Recent events have given rise to the hope that the damage caused by higher education budget cuts since the beginning of the recession will be mitigated. With increased appropriations in the governor's budget and the 2012 passage of Proposition 30, state support for California's public postsecondary institutions seems to be on the rise. However, many higher education policy analysts have expressed skepticism that pre-recession funding levels will be restored (Johnson, 2012). Given this widespread belief, it is important that all public higher education institutions, and Hispanic-Serving Institutions in particular, prioritize restoring college access while ensuring quality education and equitable outcomes for Latino students.

DATA NOTE: COMPLETION RATES AT CALIFORNIA'S HISPANIC-SERVING INSTITUTIONS

While college access remains a concern for Latinos and other historically disadvantaged groups, there is growing emphasis on college completion in the higher education policy discourse. Philanthropic educational foundations, higher education policy organizations, and numerous policy makers have called for a sharp increase in the number of adults earning postsecondary credentials over the next decade. Achieving President Barack Obama's college completion goal would require 8 million additional young adults to earn associate and bachelor's degrees by 2020. The number of new college graduates required in California alone is estimated to be between 1.6 million and 1.9 million more than current educational attainment rates are projected to produce (U.S. Department of Education, 2011). Given the demographic composition of the state, such an increase in the number of college graduates is not possible without increasing educational attainment among Latinos.

With California's Hispanic-Serving Institutions (HSIs) enrolling more than 60 percent of Latino college students in the state, these two- and four-year colleges and universities play a central role in accomplishing the nation's college completion agenda.



Data from the California Community College Chancellor's Office (CCCCO) and the National Center for Education Statistics' Integrated Postsecondary Education Data System (IPEDS) reveal the current completion rates of Latinos enrolled at California's HSIs:

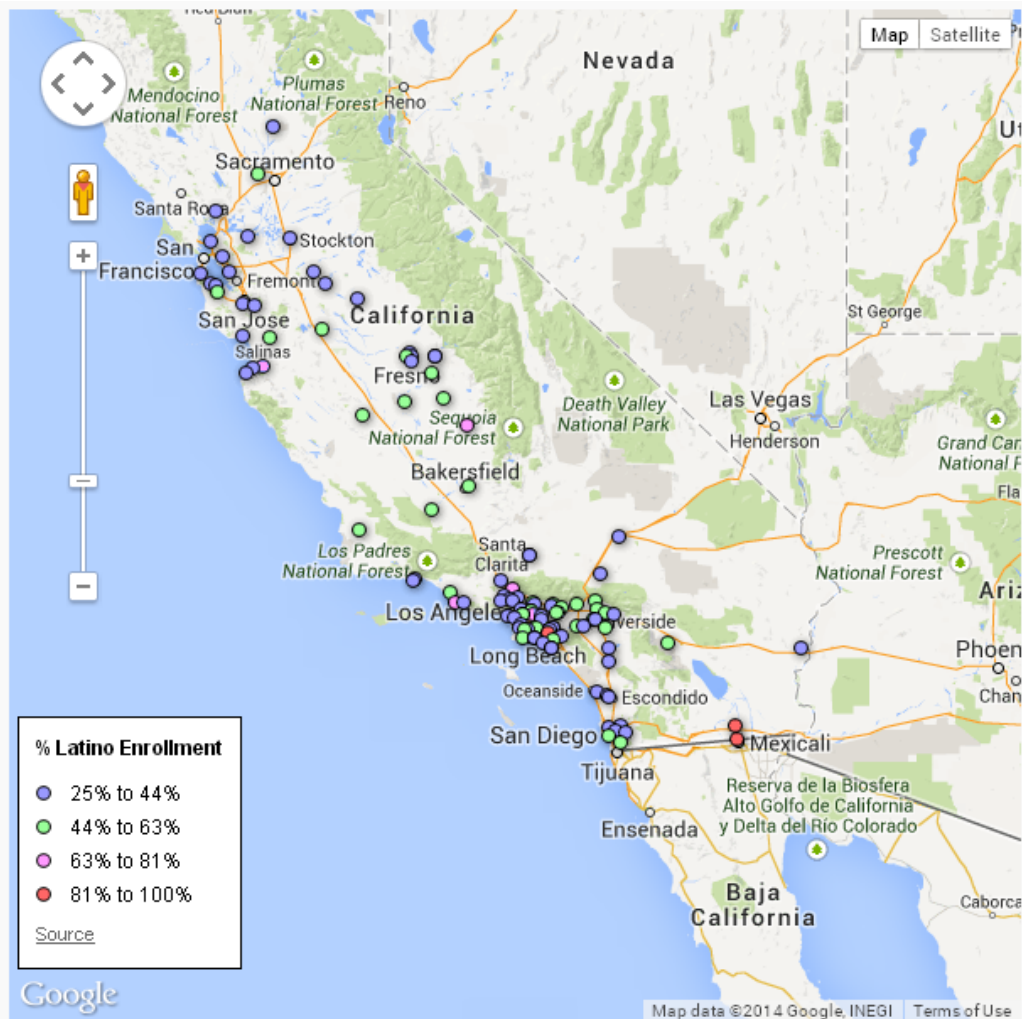
- 65 percent of first-time Latino students who entered Hispanic-serving community colleges prepared for college-level work in 2006-07 successfully completed one or more of the following outcomes by 2011-12:
 - Earn an associate degree or certificate;
 - Transfer to a four-year institution;
 - Achieve "transfer prepared" status (i.e., successfully completed 60 UC/CSU transferable units with a grade point average at or above 2.0). (CCCCO, 2013)
- In 2011, the weighted meansix-year graduation rate of Latinos enrolled in California's four-year HSIs was 46 percent. (IPEDS, 2012)

Latinos continue to experience inequities in college completion compared with their white counterparts:

- Latinos enrolled in California's Hispanic-serving community colleges are less likely to earn an associate degree or certificate, transfer to a four-year college or university, and/or achieve "transfer prepared" status than white students enrolled in those same institutions. The completion rate for whites enrolled in the state's Hispanic-serving community colleges was 69 percent, compared with 65 percent for Latinos (CCCCO, 2013).
- Latinos enrolled in four-year HSIs are less likely than whites to graduate within six years. The graduation rate for whites enrolled in California's four-year HSIs was 54 percent in 2011, versus 46 percent for Latinos (IPEDS, 2012).
- Just one-sixth (16.7 percent) of Latinos enrolled in California's four-year HSIs attended institutions where Latinos graduated at a rate equal to or greater than that of whites (IPEDS, 2012).



WHERE ARE THE HSIS IN CA?



Sources: Author's calculations based on Integrated Postsecondary Education Data System (IPEDS), Enrollment survey, Fall 2011.

Geographical Data obtained from California Community Colleges Chancellor's Office, 2013.

PRIORITIZING EQUITY | PERFORMANCE FUNDING IN CALIFORNIA'S COMMUNITY COLLEGES

The [Center for Urban Education \(CUE\)](#) housed at the [USC Rossier School of Education](#) released a brief in July 2011, examining performance based funding for California community colleges. The brief was prepared for the Campaign for College Opportunity and covers:



- “What equity means in California
- Precedents for equity as a policy priority in California higher education
- Lessons from other states on integrating equity into performance funding
- Proposals for building equity into a performance funding model for California’s community colleges:
 - Underscore all accountability metrics with an Equity Index Score
 - Provide optional equity metrics from which colleges can choose in order to align accountability with their own unique missions
 - Designate resource to help colleges build capacity to use data strategically
 - Integrate CA student success and equity plans into one statutory annual tool for campuses to use for planning, responding, and improving outcomes”

Download: CUE Brief On Performance Based Funding for CA CC’s Prepared for Campaign for College Opportunity July 13 2011 at:

<http://trpi.uscmmediacurator.com/wp-content/uploads/2013/10/CUE-Brief-On-Performance-Based-Funding-for-CA-CCs-Prepared-for-Campaign-for-College-Opportunity-July-13-2011.pdf>

CONCLUSION

With science, technology, engineering, and mathematics playing a more central role in the knowledge economy, supporting the development of core STEM competencies among Latinos in addition to providing equitable access to STEM degrees is imperative for California’s future prosperity. Though some HSIs meet this imperative today, much progress remains to be made.

DATA NOTE: CALIFORNIA’S HISPANIC-SERVING COMMUNITY COLLEGES ARE BUILDING CORE STEM COMPETENCIES AMONG LATINAS AND LATINOS

Data from the California Community College Chancellor’s Office show that during the fall 2012 semester, Hispanic-serving community colleges enrolled more than 290,000 Latinas and Latinos in credit-bearing STEM coursework. The Hispanic students successfully completed those courses at rates somewhat below their white and Asian classmates.



In an increasingly knowledge-based economy, STEM competencies are necessary for employment and professional advancement in a broad range of occupational sectors outside traditional STEM careers (Carnevale et al., 2011). By providing access to courses in science, technology, engineering, and mathematics, California's two-year Hispanic-Serving Institutions are helping to build core STEM competencies among the state's Latino population.

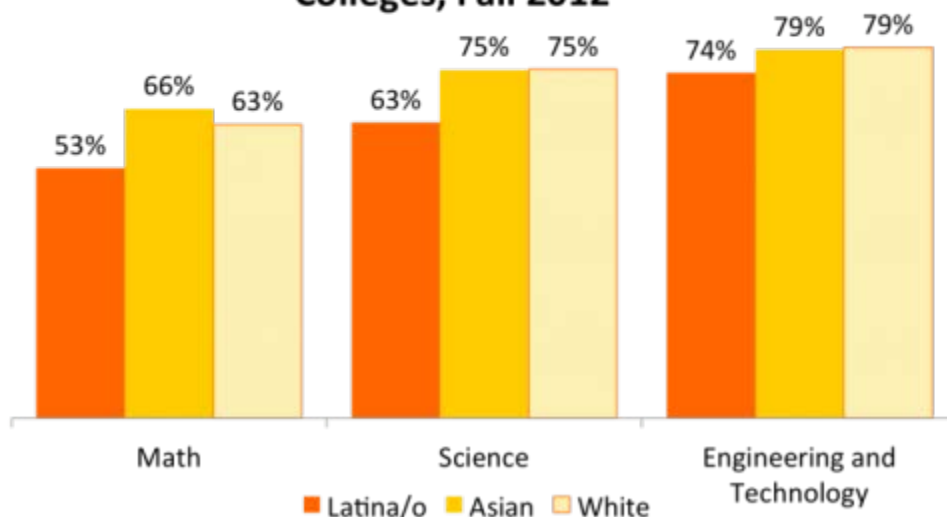
However, data on STEM course completion rates also reveal that there is much progress to be made in supporting Latina and Latino student success in STEM fields. In this analysis, "successful completion" is defined as achieving a score of C or better. At California's Hispanic-serving community colleges:

- Nearly three-quarters (74 percent) of Latinos who enrolled in engineering and information technology courses for credit succeed. That is roughly the same rate as for whites and Asians (both 79 percent)
- Nearly two-thirds (63 percent) of Latinos who attempt credit-bearing science courses complete those courses with a grade of C or better, compared with three-quarters of whites and Asians (both 75 percent).
- Just 53 percent of Latinos who attempt credit-bearing math courses complete those courses with a grade of C or better. Meanwhile, the rates for whites (63 percent) and Asians (66 percent) were higher.

In addition to improving STEM course success rates for Latino community college students, Hispanic-serving community colleges should focus on reducing inequities in STEM course completion. Creating equity in STEM course completion will ensure that Latinos can participate in emerging careers in the modern economy.



Figure 2: **STEM Course Success Rates at California's Hispanic-Serving Community Colleges, Fall 2012**



SOURCE: AUTHOR'S CALCULATIONS BASED CALIFORNIA COMMUNITY COLLEGE CHANCELLOR'S OFFICE MANAGEMENT INFORMATION SYSTEMS DATAMART, 2013.

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[1] The Equity Index is a measure of proportionality that assesses the extent to which some population of interest is equitably represented among individuals who have achieved a specific educational outcome (Bensimon, Bustillos, & Hao, 2006; Hao, 2002). An Equity Index of 1 is indicative of equitable representation of the population of interest among all who have achieved the specified educational outcome; an Equity Index less than 1 reflects underrepresentation, and an Equity Index greater than 1 is indicative of overrepresentation.