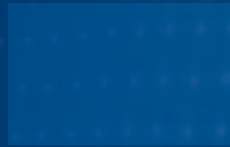
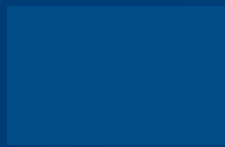
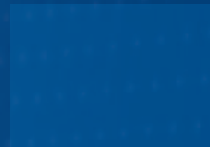


Engaged Learning in a Public University

Trends in the Undergraduate Experience

Report on the Results of the 2008 University of California
Undergraduate Experience Survey



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1. UCUES: Purposes and Design

In assessing the quality and effectiveness of universities, much of the attention in the past focused on the role of faculty in an institution's main mission of teaching, research, and community service. Now there is increased focus on the student side of this equation: in effect, what is the student experience and its contribution to this tripartite purpose of universities?

The Student Experience in the Research University (SERU) Project is a collaborative effort among academic scholars and institutional researchers devoted to collecting new data and providing policy-relevant analysis of exactly these questions. Our purpose is to study in depth the undergraduate experience and, at the same time, through systematic analysis and use of data for policymaking, promote an institutional culture of evidence and self-improvement.

Based at the Center for Studies in Higher Education, and led by a faculty and institutional research team, one of the SERU Project's main accomplishments has been the development of the University of California Undergraduate Experience Survey (UCUES) — a census online survey focused on the unique environment of

As we build a multi-year database, the potential grows for addressing a wide range of questions about the value-added of a UC education and the differential educational experiences of various sub-populations within and across the nine UC undergraduate campuses.

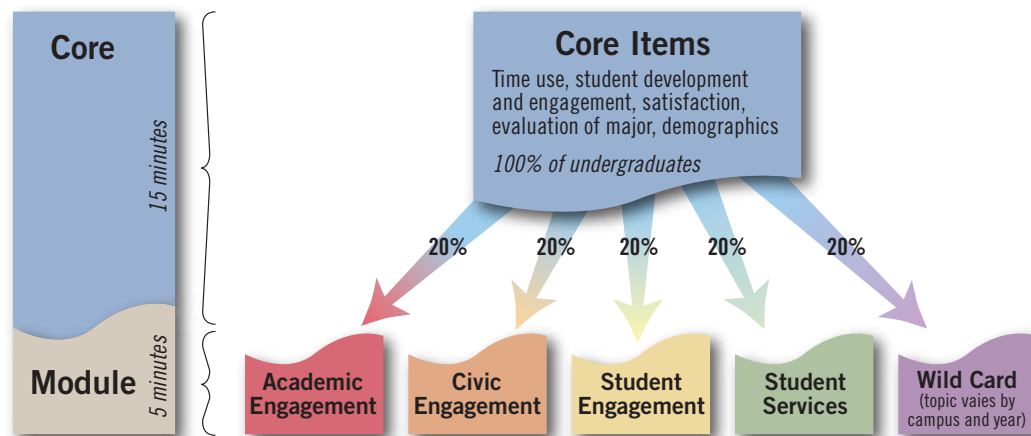
Council of Vice Provosts and Deans of Undergraduate Education, University of California

research universities and the challenges they face. Since 2004, the UCUES has been administered regularly to the 170,000 enrolled students across all nine of the University of California's undergraduate campuses.

UCUES has emerged as a major tool at the University of California for:

- **UNDERSTANDING WHO OUR STUDENTS ARE:** Creating a much fuller understanding of our undergraduate population — their familial, academic, cultural, and ethnic background and self-identity.
- **UNDERSTANDING THE STUDENT EDUCATIONAL AND CO-CURRICULAR EXPERIENCE:** More fully exploring how students' subcultural identities and interests shape their educational and co-curricular experiences, and, in turn, how and when these experiences transform students' identities and interests.
- **PROGRAM REVIEW AND ACCREDITATION:** Providing a widely praised new tool for gauging academic and civic experience at the major/departmental and campus-wide levels.
- **TRANSLATING WHAT WE KNOW INTO POLICY:** Providing evidence relevant to policy discussions on admissions, campus climate, and transfer student needs, among other topics.

Analyzing data from the latest UC-wide census administration of the survey in spring 2008, the following report is the third general report offered by the SERU Project. In this report we replicate work on UC students' academic and civic engagement



presented in previous general reports. Here you will find trends in socioeconomic and racial/ethnic background, academic and co-curricular time allocation, and other measures of the student experience.

In addition, we provide for the first time results on the level and type of research engagement of undergraduate students and on student-reported learning gains – two important issues related to the unique environment of public universities.

UCUES Survey Design and Response Rates

The UCUES includes a set of core questions that all students answer. These include questions on educationally enriching experiences, co-curricular activities, time use, student self-reported learning gains, and evaluation of students' major subject and levels of satisfaction with the research university experience. The remainder of the survey consists of randomly assigned modules. These modules usually assess student experience in the following areas:

- Academic Engagement
- Civic and Social Engagement
- Student Development
- Student Services
- Wild card for campus-specific questions

Multiple personalized email invitations were sent to all undergraduate spring students enrolled as of the end of the prior term encouraging them to complete the Web-based survey. Each UC campus provided additional publicity about the survey.

Of the over 162,000 undergraduate students enrolled in the University of California in spring 2008, some 63,600 completed the survey during a four-month period for a response rate of 39.2 percent. Response rates by campus varied from a high of 49.5 percent to a low of 31.4 percent. Analyses of the 2008 survey indicated that, while students with higher UC GPAs were more likely to respond than those with lower GPAs, the

Across the UC system, the UCUES survey data has played a pivotal role in campus accreditation self-study efforts, particularly under the new WASC accreditation protocol with its greater emphasis on demonstrating educational effectiveness, rather than policing compliance. It is also an important tool for responding to external demands for greater accountability for the value-added of a UC education.

Christine Maslach, Vice Provost for Teaching and Learning

UCUES results are representative of the enrolled undergraduate population and provide unbiased intergroup comparisons.

The UCUES Advantage

Why develop a survey targeted at the learning and social environment of research universities? Rather than rely on existing nationally used survey instruments, the UCUES Project research team saw the need for a survey instrument that focused on student engagement and experience specific to the research university environment.

The UCUES more aptly meets the needs of research universities than other national student experience survey services. Among the major advantages of UCUES are the following:

- The census approach allows for data collection on large enough numbers of students to support undergraduate program review. It also creates the capacity for institutions to investigate the experience of important but relatively small populations of students, such as underrepresented minority women in STEM fields;
- The design of the survey and the organization of data allow for cross-institutional discipline-based comparative analysis — educators can see how the experiences of students in their major programs compare to those of students in the same programs at other AAU institutions;
- Survey questions focus on issues specifically important to research universities, such as undergraduate research engagement and how that varies by field of study (science, engineering, and mathematics majors versus other majors); the effectiveness of innovative methods to “break down” the large lecture hall experience; factors associated with experience of campus climate by different subgroups; and opportunities for civic engagement and community service;
- The combination of a core set of questions plus thematic modules addressing specific dimensions of the student experience supports efficient collection of data without increasing questionnaire length;
- The survey design allows for customization to the needs and pressing issues facing individual campuses.
- In addition, students are afforded an opportunity to provide open-ended suggestions and comments on their educational

and social experience. At the University of California, this has provided evidence of both the high value of small classroom experiences the vital importance of opportunities to be exposed to faculty research, and to engage in some form of faculty-led research activity.

The SERU Consortium

The SERU Project has recently formed a SERU Consortium.

The purpose of this effort is to form a critical mass of major research universities that are interested in both generating new institutional and comparative data and using it systematically as a tool for policy-relevant research and institutional self-improvement.

The SERU research team has formed the Consortium so that major research universities can promote internal accountability mechanisms and analysis and seek on their own terms the improvement of one of their primary responsibilities: the undergraduate experience and educational process. Members of the SERU Consortium share these values and demonstrate a commitment to self-analysis and institutional self-improvement.

Greater self-knowledge about the student experience is vital for universities as they pursue self-defined quality assurance evaluations in advance of growing external pressure for one-size-fits-all assessment and accountability regimes.

See <http://cshe.berkeley.edu/research/seru/> for more information on the SERU Project and Consortium.

One of the primary findings of the SERU Project's earlier research is that there are many student experiences within a campus, and therefore any useful analysis requires a large and time-series data set to allow for disaggregating student responses. Campus-wide gauges of student satisfaction, for example, are largely meaningless. The SERU survey's state-of-the-art online census design provides for a relatively low-cost means for reaching all students and important subgroups, creating a detailed data set with large benefits for participating campuses.

Acknowledgements

The UCUES Research Team includes: Steven Brint, UCUES Co-Principal Researcher and Professor of Sociology and Associate Dean of the College of Humanities/Arts, Arts, and Social Sciences, UC Riverside; Steve Chatman, UCUES Project Director, UC Berkeley; John Aubrey Douglass, UCUES Co-Principal Researcher and Senior Research Fellow, Center for Studies in Higher Education, UC Berkeley; and Gregg Thomson, SERU Co-Principal Researcher and Executive Director of the Office of Student Research and Campus Surveys, UC Berkeley.

Initial survey analysis and report preparation was conducted by Preeta Saxena of the UC Riverside Survey Research Center, under the direction of Steven Brint and David Crow, Associate Director of the UC Riverside Survey Research Center, and in collaboration with the UCUES Research Team.

The UC Office of the President and each of the nine undergraduate campuses of the University of California, along with contributions from the Center for Studies in Higher Education and the UC Berkeley Office of Student Research and Campus Surveys, provided financial support for the administration of the 2008 survey. We would like especially to thank Vice President for Student Affairs Judy Sakaki, together with Nina Robinson, Sam Agronow, and Paula Zezstowski at UCOP, for their support of the UCUES Project as well as the Vice Chancellors for Student Affairs and the Executive Vice Chancellors at each of the undergraduate UC Campuses for providing the funding that made the survey possible.

2. Social Background

UCUES extends our knowledge of the backgrounds of UC students by combining new or expanded information on immigrant status, first language, and parental social class, income, and education with university data on race and ethnicity. A majority of UC students are non-White and come from families in which both parents were not born in the US. UC students represent diverse socioeconomic backgrounds with a plurality (about 40 percent) from families with middle incomes.

Highlights

- While White/European-American remains the largest single ethnic group (35.8 percent), Asian/Asian-American and Pacific Island groups combined are now a plurality (39.3 percent) of undergraduates at UC.
- 61 percent of UC undergraduate students were either themselves foreign born or have at least one foreign-born parent, up from 57 percent in 2003. Over 70 percent of respondents at UC Irvine and UC Riverside reported that they had either immigrated to the United States or had at least one parent who was born outside of the United States.
- 93 percent of Asian/Asian-Americans and 74 percent of Chicanos/Latinos reported that they were first- or second-generation Americans. 37 percent of Black/African-American respondents report at least one parent not born in the US, reflecting African and other immigrant origins. For White/European-American respondents the figure is 24 percent, reflecting a significant number of students of recent Eastern European and Middle Eastern origin.
- 34 percent of Chicanos/Latinos and 27 percent of Asian/Asian-Americans reported learning English as their sole first language, compared to 86 percent of both Black/African-Americans and White/European-Americans.
- Student with current or recent immigrant backgrounds tend to gravitate toward the physical sciences/engineering (including mathematics majors) and biological sciences, while third-and fourth-generation Americans tend to be overrepresented in the humanities/arts and underrepresented in the physical sciences/engineering, and the biological sciences.
- Approximately 40 percent of UCUES respondents come from middle-income families (defined as families earning between \$35,000 and \$100,000). More than a third of students come from upper-middle or more affluent families (families earning \$100,000 or more).
- Compared to statewide figures, the median parental income of Berkeley students has decreased and UC's representation of low-income students has increased from 2006 to 2008.
- Consistent with previous UCUES Project studies, more than two out of five respondents reported having at least one parent with a graduate degree. Vietnamese, Chicano, and African-American students are particularly likely to have parents without any college experience. By contrast, South Asian students are very likely to have at least one parent with a graduate degree.

Racial/Ethnic Background

Figure 2.1 provides the results for the racial/ethnic breakdown of UC undergraduates across all campuses for 2008. European heritage (White/European-American) students were the largest group at UC, 35 percent of the total. Chinese/Chinese-American students make up 18 percent of undergraduate students and Chicano/Mexican-American students make up 11 percent. Vietnamese, Korean, Filipino, Latino, and South Asian students

Fig. 2.1 UC System Undergraduate Race/Ethnicity

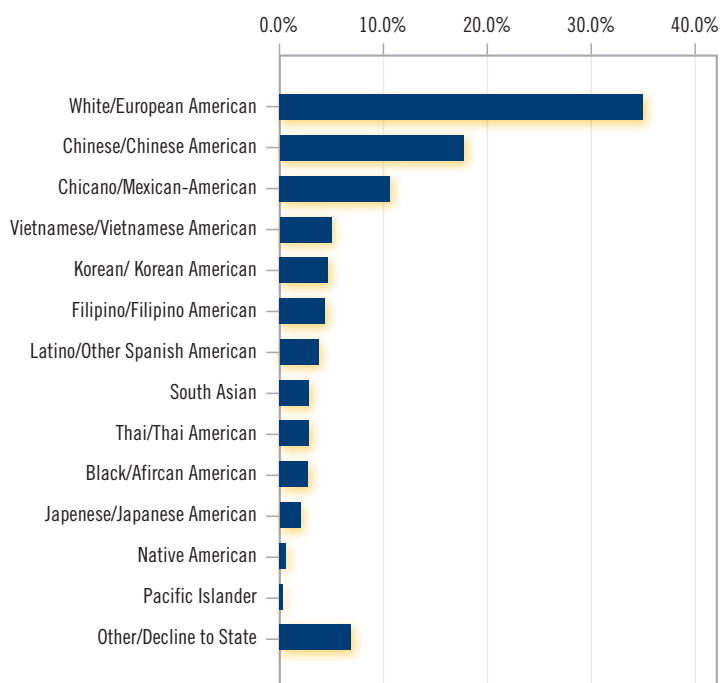
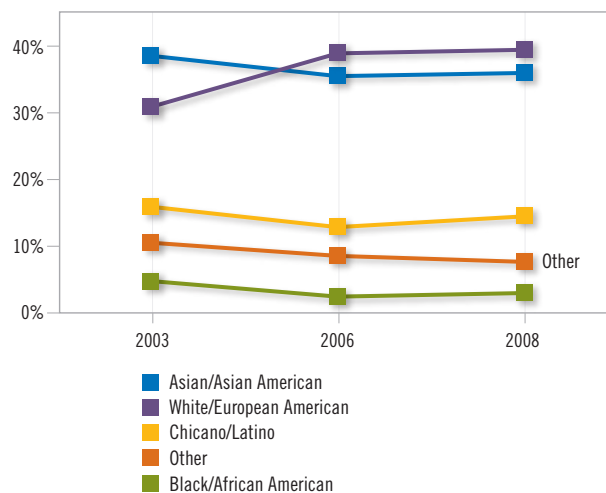


Fig. 2.2 UC System Race/Ethnicity Trends 2003-2008



each comprised between 4 and 6 percent of UC students. Only 3 percent of UC students were Black/African-American. Pacific Islanders were the smallest ethnic group at 0.3 percent.

The trend data provided in Figure 2.2 is drawn from UC-wide statistics on ethnicity.² These data show that from 2003 to 2008 Asian/Asian-American undergraduates have increased by 9 percent, while the percent of White/European-American, Decline to State/Other, and Black/African-American students has decreased somewhat. The proportion of Chicano/Latino students in 2008 is the same as in 2003.

Immigrant Status

As shown in Figure 2.3, on most UC campuses only about one in three students have both parents who were born in the United States. However, at UC Davis the figure is 44 percent and at both UC Santa Cruz and UC Santa Barbara it is 59 percent.

With a larger proportion of community college transfers (who are more likely to be immigrants than freshman entrants), UC Berkeley and UCLA have the largest overall percentage of first-generation American undergraduates (26 percent). UC Irvine (51 percent) and UC Riverside (49 percent) have the largest proportion of second-generation American students.

Figure 2.4 shows immigrant status by several broad racial/ethnic groups. The findings show that 74 percent of Chicanos/Latinos and 93 percent of Asians/Asian-Americans reported that they were first- or second-generation Americans. 37 percent of Black/African-American respondents report at least one parent not born in the US, reflecting African and other immigrant origins. For White/European-American respondents the figure is 24 percent, reflecting a significant number of students of recent Eastern European and Middle Eastern origin.

² For more info with regard to the UC statistics, see <http://www.ucop.edu/ucophome/uwnews/stat/>

Fig. 2.3 Generational Immigrant Status by Campus

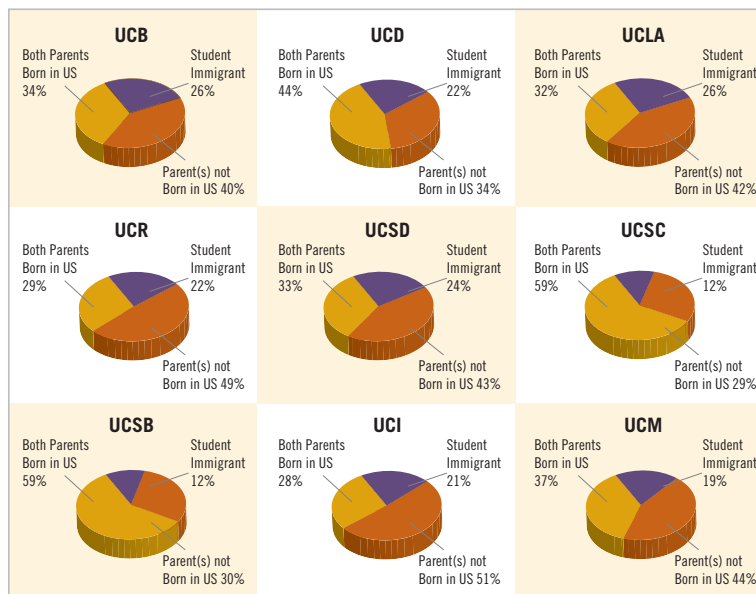


Fig. 2.4 Immigrant Status by Race/Ethnicity

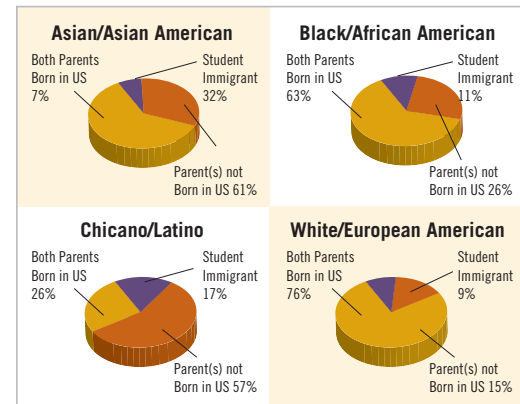


Fig. 2.5 Trends in Generational Immigrant Status

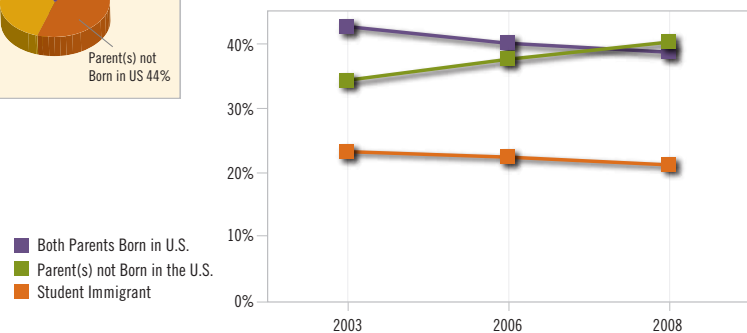


Figure 2.5 shows trends in the immigrant generation of UC students between 2003 and 2008. The proportion of students whose parents were both born in the United States has decreased by 4 percent, while the proportion of second-generation students has increased by 6 percent. There has been a slight decline (2 percent) in the proportion of first-generation undergraduates.

First Language

Only slightly more than half (54 percent) of survey respondents reported that English was their sole first language. Nearly one-fifth (19 percent) said they first learned a language other than English, while 27 percent learned English and another language. Not surprisingly, these proportions varied greatly by race/ethnicity, as illustrated in Figure 2.6.

A plurality of Chicano/Latinos (39 percent) and Asians (45 percent) reported learning both English and another language. Only 86 percent of both African-Americans and White/European-

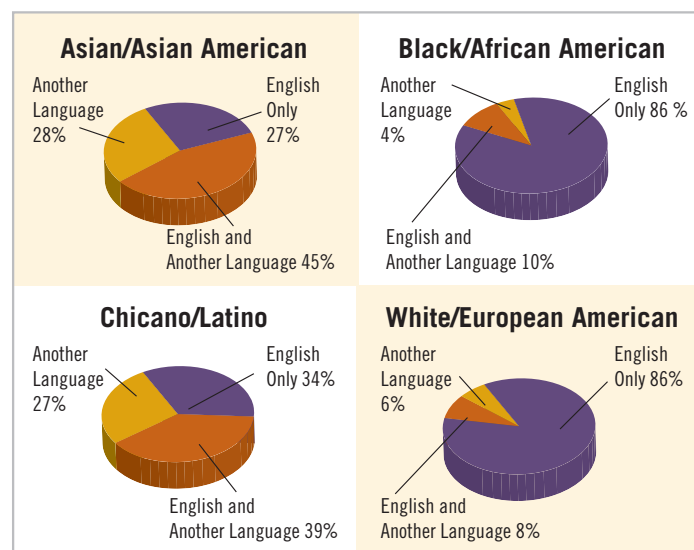
Americans reported learning only English, reflecting the immigrant components of each these groups.

Field of Study by Immigrant Status

UCUES data helps us understand the relationship between social background and aspects of the undergraduate experience at UC campuses. For instance, immigrant status is associated with choice of major field of study, as seen in Figure 2.7, which divides majors into four categories: physical sciences/engineering, biological sciences, social sciences (including business), and humanities/arts. (Undeclared, multiple, general, and professional majors are not included in these disciplinary breakdowns.)

As Figure 2.7 shows, students with immigrant backgrounds tend to gravitate toward the physical sciences/engineering and biological sciences, while third-generation or higher Americans tend to be overrepresented in the humanities/arts and underrepresented in the physical sciences, engineering, and the biological sciences.

Fig. 2.6 First Language Learned by Race/Ethnicity



Social Class Background

The 2003 survey results first documented the great diversity of socioeconomic origins of UC undergraduates. Data from 2008 (Figure 2.8) show similar findings: UC undergraduates are fairly evenly distributed across five broad bands of reported parental income with 22.5% reporting parental income under \$35,000.

These figures correspond relatively well to self-identifications by social class, as reported in Figure 2.9. The largest proportion of students (nearly 40 percent) reported their social class growing up was “middle class.” One-third of students reported coming from working-class or poor families. More than one-quarter of students said their family’s social class was “upper-middle class or professional”, and fewer than 2% identify their family as “wealthy.”

Based on UCUES responses, adjusting for inflation, median UC parental income for UC undergraduates has declined (Figure 2.10) .

Figure 2.7 Immigrant Status by Disciplinary Field of Study

	Field of Study			
	Physical Sciences/Engineering	Biological Sciences	Social Sciences	Humanities/Arts
Student Immigrant	28.2%	23.5%	20.6%	14.4%
Parent(s) not Born in the U.S.	37.8%	44.2%	40.3%	33.0%
Both Parents were Born in the U.S	34.0%	32.3%	39.1%	52.6%
	100.0%	100.0%	100.0%	100.0%

Figure 2.8 Estimated Parental Income

Family Income	Frequency	Percent
Less than \$35,000	13358	22.5%
\$35,000-\$64,999	11430	19.2%
\$65,000-\$99,999	12616	21.2%
\$100,000-\$149,000	12577	21.2%
\$150,000 or More	9439	15.9%

In 2004³, the median income was \$72,493⁴, whereas in 2008 this figure dropped to \$68,670. This decline is consistent with other UC data sources, including family income reported in the admissions process and for financial aid.

Figure 2.10 provides a trend comparison to statewide income data from the California Population Survey, showing a substantial UC income between 2006 and 2008, a period where statewide income increased.

How to explain this shift downward in the average family income level of University of California undergraduates at a time in which statewide income did not decline? While only speculative, the decline may reflect a UC undergraduate population increasingly comprised of students admitted under comprehensive review, which is sensitive to applicants' total life circumstances.

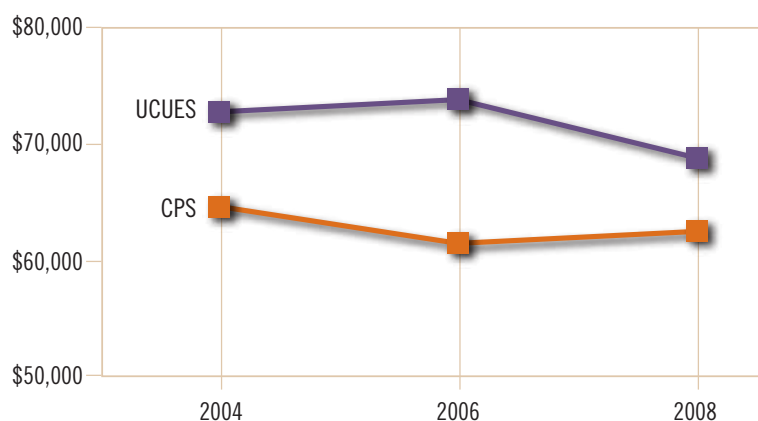
³ Due to accessibility, 2004 UCUES and CPS data was used in place of 2003.

⁴ To adjust for inflation, the median income for 2004, 2006, and 2008 was multiplied by the cumulative inflation rates respectively, for 2004-2006 and then 2006-2008. This made the final figures constant to 2004 dollars

Figure 2.9 Perceived Social Class

Social Class	Frequency	Percent
Low-income or poor	6614	10.7%
Working-class	13650	22.1%
Middle-class	23947	38.8%
Upper-middle/professional	16330	26.4%
Wealthy	1203	1.9%

Fig. 2.10 Income Trends in 2004 Dollars



Figures 2.11 and 2.12 provide evidence consistent with this interpretation. While the percentage of households in California making less than \$50,000 (unadjusted for inflation) declined significantly from 2004 to 2008, the percentage of UC undergraduates from families making less than \$50,000 did not. While there is modest overrepresentation of students from higher income families, the overrepresentation is primarily in the lower range of upper income (\$100,000-\$124,999), and for 2008 there was almost no overrepresentation in the \$125,000 and up category.

Parents' Education

The UCUES also provides detailed information on the parental education of UC undergraduates. As indicated in Figure 2.13, three in ten UC students come from families where neither parent has a college degree, while more than four in ten survey respondents reported having at least one parent with a graduate degree.

Figure 2.11 Low Income (under \$50,000)

	CPS*	UCUES	Difference
2004	40.0%	34.2%	-5.8
2006	38.3%	31.3%	-7.0
2008	33.6%	32.3%	-1.3

*Not adjusted for inflation

Figure 2.12 High Income (\$100,000 or more)

\$100,000-\$124,999			
	CPS*	UCUES	Difference
2004	11.2%	14.2%	+2.2
2006	10.7%	15.0%	+4.3
2008	10.8%	14.5%	+3.7
\$125,000 and higher			
2004	17.1%	18.5%	+1.4
2006	19.2%	21.4%	+2.2
2008	22.1%	22.5%	+0.4

Figure 2.13 Parents' Education

Neither parent attended college	20.6%
At least one parent with some college attendance	10.3%
One parent is college graduate	16.6%
Both parents are college graduates	10.3%
One parent has graduate degree	27.7%
Both parents have graduate degrees	14.5%
Total	100%

As would be expected, a significant relationship exists between reported level of parental education and perceived social class. Most students who report coming from low-income/poor or working-class families also indicate that their parents do not have a college degree. On the other hand, two-thirds of students from upper-middle or professional family backgrounds report at least one parent with a college degree.

Figure 2.15 presents the relationship between race/ethnicity and parental education for UC undergraduates. Chicano/Mexican-American (51 percent) and Vietnamese (44 percent) students are most likely to have parents with no college experience whatsoever. At the other extreme, 63 percent of South Asian and 53 percent of White/European-American UC undergraduates have at least one parent with a graduate degree. Filipino students (49 percent) are most likely to have at least one parent whose highest level of education is a four-year college degree.

Figure 2.14 Parents' Education by Perceived Social Class

	N	Neither parent attended college	At least one parent with some college attendance	One parent is college graduate	Both parents are college graduates	One parent has graduate degree	Both parents have graduate degrees	
Low-income or poor	6614	49.6%	18.0%	15.6%	2.1%	12.1%	2.6%	100%
Working-class	13650	32.9%	21.6%	19.1%	4.6%	17.8%	4.0%	100%
Middle-class	23947	12.0%	12.0%	20.8%	10.2%	31.9%	13.2%	100%
Upper-middle or Professional-middle	16330	3.7%	4.3%	14.6%	10.9%	38.9%	27.5%	100%
Wealthy	1203	3.3%	4.2%	10.4%	11.5%	41.1%	29.5%	100%

Figure 2.15 Ethnicity of UC Students by Parents' Education

	N ⁵	Neither parent attended college	At least one parent with some college attendance	One parent is college graduate	Both parents are college graduates	One parent has graduate degree	Both parents have graduate degrees	
White/European-American	22810	11.3%	9.4%	16.9%	9.7%	33.4%	19.2%	100.0%
Chinese/Chinese-American	10772	25.6%	8.0%	14.1%	10.0%	27.0%	15.3%	100.0%
Chicano/Mexican-American	5955	50.5%	15.5%	12.3%	2.9%	14.5%	4.2%	100.0%
Korean/Korean-American	2818	17.1%	6.6%	17.2%	21.3%	27.6%	10.3%	100.0%
Vietnamese/Vietnamese-American	2755	44.4%	14.8%	14.4%	9.3%	12.7%	4.5%	100.0%
Filipino/Filipino-American	2833	7.0%	9.7%	25.8%	26.5%	22.3%	8.8%	100.0%
Thai/Thai-American	1582	24.6%	9.7%	15.2%	11.3%	22.7%	16.4%	100.0%
Black/African-American	1685	23.3%	19.1%	18.8%	6.0%	23.5%	9.4%	100.0%
Latino/Other Spanish-American	2319	29.0%	16.5%	19.0%	4.5%	23.3%	7.9%	100.0%
South Asian	1732	7.7%	4.8%	12.4%	11.6%	37.9%	25.6%	100.0%
Japanese/Japanese-American	1407	5.3%	9.0%	28.1%	13.7%	32.7%	11.1%	100.0%
Native American	334	24.3%	16.8%	14.4%	4.5%	26.6%	13.5%	100.0%
Pacific Islander	107	10.3%	20.5%	20.5%	8.4%	36.4%	3.8%	100.0%
Other/Decline to State	2523	10.9%	9.2%	19.3%	9.5%	32.3%	18.8%	100.0%

⁵ The number of respondents (N) here is limited to those respondents who reported that their parents attained their education in the U.S. and those whose parents' foreign education was comparable to the U.S.

3. Academic Engagement

This section describes the time use patterns of UC students, variations in time use by entry status and academic major, the relationship between academically productive uses of time and social background, and the extent to which time spent on academics is related to positive academic outcomes.

Highlights

- Students reported spending an average of approximately 28 hours per week on academic activities, including class time and academic activities outside of the classroom, such as studying.
- Respondents in the physical sciences/engineering and biological sciences reported studying more hours per week than respondents in the humanities/arts and social sciences. Students in the physical sciences/engineering reported spending, on average, 15.1 hours preparing for class, followed by 13.7 hours for biological sciences students, 11.9 for humanities/arts, and 11.5 for social sciences students.
- Work obligations account for some 8 hours a week on average, and civic and co-curricular activities take up some 6 hours per week; students reported spending over 41 hours on social and leisure activities, including sports and exercise; students reported sleeping only 6.5 hours per night on average.
- First-generation students and those who come from lower-income backgrounds study more and spend less time socializing. In addition, 15 percent of respondents in the lowest income level group reported never missing class compared to fewer than 10 percent in the four highest income categories.
- Time use varied by year in school, entry status, major, and immigrant status, most notably with transfer students spending more time on academic activities outside of class, more time on work and family obligations, and less time on co-curricular/extra-curricular activities than students entering directly from high school.
- Higher UC GPA students report only slightly higher amounts of time spent studying. Students with higher high school GPAs studied more hours at UC than those who had lower high school GPAs.
- University of California students engaged in some form of research activity outside the classroom under faculty supervision at a significantly higher rate than the national average. Some 33 percent of upper division undergraduates at UC were involved in research activity, while the national average at four-year institutions is closer to 19 percent.
- Women and underrepresented minority students report participating in undergraduate research opportunities at rates comparable to men and non-minority students. A higher percent of STEM majors (43 percent) than humanities/arts or social sciences majors (26 percent) report engaging in research activities.
- Nearly three-quarters of UC students indicated an intention to attain a graduate degree. More UC undergraduates plan to pursue medical or other health-related degrees than law or business degrees; a significant proportion of students (34 percent) in the biological sciences reported aspiring to a medical degree. Fewer humanities/arts students reported graduate degree aspirations.

Study Time vs. Social Time

UCUES provides information on the time use patterns of UC students. Average hours for each time-use item are reported in Figure 3.1. In 2008, 15 items were included in the time use question series. Overall, respondents reported spending the more time on various social and leisure activities (41 hours/week) than academic activities, including attending and preparing for class (28 hours/week). Work and family obligations (12 hours/week) and co-curricular activities (6 hours/week) take up less time. Although work and family obligations are often thought to interfere with academic pursuits, they account for only about a third of the time each week that the average student devotes to social and leisure activities.

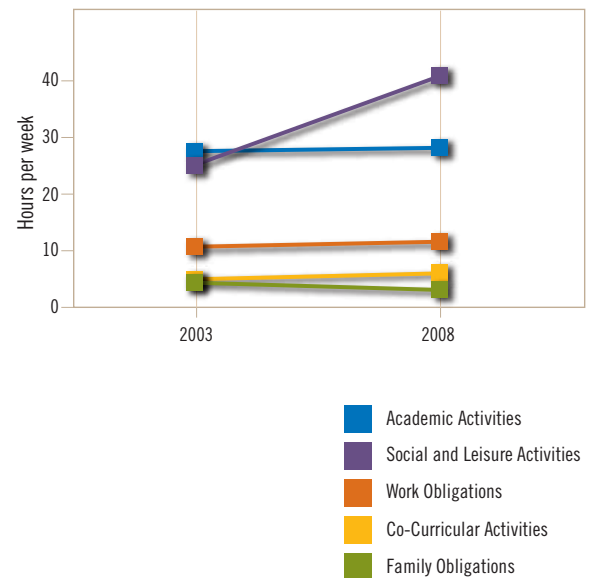
UC undergraduates report sleeping an average of 6.5 hours per night.

Figure 3.2 appears to show that between 2003 and 2008 UC students significantly increased the hours they spent on social and leisure activities (from an average of 25 hours/week to an average of 41 hours/week). Some of this increase is an artifact of a change in question wording between 2003 and 2006. “Partying” was replaced by “recreational or creative interests” and the new reported hours spent “socializing with friends” was equivalent to the previous “socializing with friends” plus “partying” with “recreational or creative interests” adding six more hours. However, there was also a sizable increase in Internet use for recreation as well as small incremental changes in time watching television, attending entertainment events, and physical exercise and sports.

Figure 3.1 Student Time Use: Mean Hours per Week or Night

Items	Mean Hours per Week	Mean Hours per Night
Attending classes, sections, or labs	15.5	
Academic activities outside of class	12.8	
Total – Academic Activities	28.3	
Employment	7.6	
Total – Work Obligations	7.6	
Time with family	4.7	
Total-Family Obligations	4.7	
Student clubs or organizations	3.7	
Community service or volunteer activities	2.4	
Total – Co-Curricular Activities	6.1	
Non-academic computer use	10.7	
Socializing with friends	10.5	
Recreational or creative interests	6.0	
Physical exercise and sports	5.4	
Watching TV	5.0	
Attending entertainment events	3.5	
Total – Social and Leisure Activities	41.1	
Commuting to school and work	3.8	
Total -Commute per week	3.8	
Spiritual or religious activities	1.8	
Total – Spiritual or Religious Activities	1.8	
Sleeping per night		6.5
Total – Sleeping per Night		6.5

Fig. 3.2 Time Use Trends



Hours spent in co-curricular activities increased during the period from 4 hours/week on average to 6 hours/week. Students reported that time spent on academics was relatively stable during the period.

Time Use and Social Background

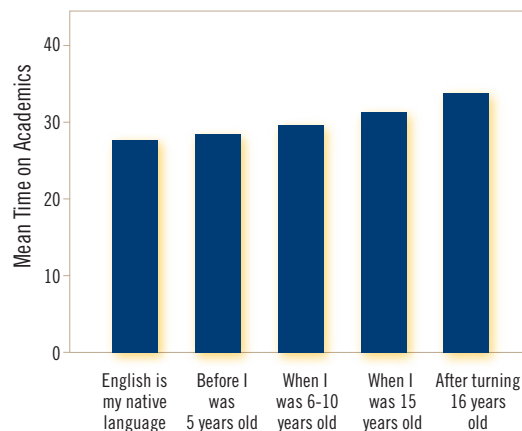
In general, first-generation students and those who come from lower-income backgrounds study more and spend less time socializing. Student immigrants reported that they spent more time studying than other students (Figure 3.3). In part, this is due to the tendency of these students to enroll in engineering and other majors that require more course preparation time.

Related to immigrant status, English language proficiency is also associated with time spent on academics. Figure 3.4 presents the amount of time spent on academic activities by the age at which the student learned to speak English. Those who indicated learning English at an older age spend more time studying and in class, reflecting perhaps both choice of field of study and time required for mastery of the subject matter.

Figure 3.3 Mean Hours per Week Spent on Academic Activities Outside of Class by Immigrant Status

99% CI	Student Immigrant	Parent(s) not Born in the U.S.	Both Parents were Born in the U.S.
Upper Bound	14.1	12.7	12.6
Mean	13.9	12.6	12.4
Lower Bound	13.7	12.5	12.2

Figure 3.4 Age at which UC Students Learned English by Average Time on Academic Activities



Conversely, academically disengaged behavior was more likely among students from higher social class backgrounds; as with the 2003 and 2006 UCUES data, a similar relationship is seen between self-reported social class and studying. Figure 3.5 shows that students reporting that they came from lower-income backgrounds reported more hours of out-of-class study than other students. The bars around the means represent 99 percent confidence intervals (CI).

Similarly, Figure 3.6 shows that, as income levels increase, more students reported skipping class. A higher percentage (15 percent) of respondents reported never missing class in the lowest income level group, but fewer than 10 percent of the respondents in the two highest income categories reported never missing class.

Figure 3.5 Student-Perceived Socioeconomic Class and time Spent Studying

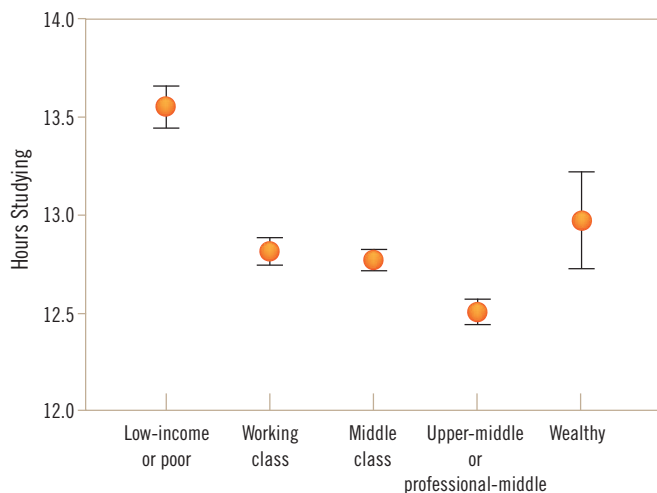


Figure 3.6 Class Absences and Family Income



Figure 3.7 examines the relationship between parental income and time spent on academic and social life, respectively. These data are expressed as z-scores, or scores standardized by their distance from the mean. These data show that upper-income students were significantly more likely to spend higher than average amounts of time in social activities, while lower-income students were somewhat more likely to spend higher than average amounts of time studying.

Time Use, Entry Status, and Majors

Respondents' time use more generally varied by year in school, entry status, major, and immigrant status. Respondents who entered UC as transfer students allocated their time differently than those who came directly from high school, spending more time on academic activities outside of class, more time on work and family obligations, and less time on social and leisure activities and co-curricular activities.

Figure 3.7 Time Spent on Academic and Social Life by Parent Income

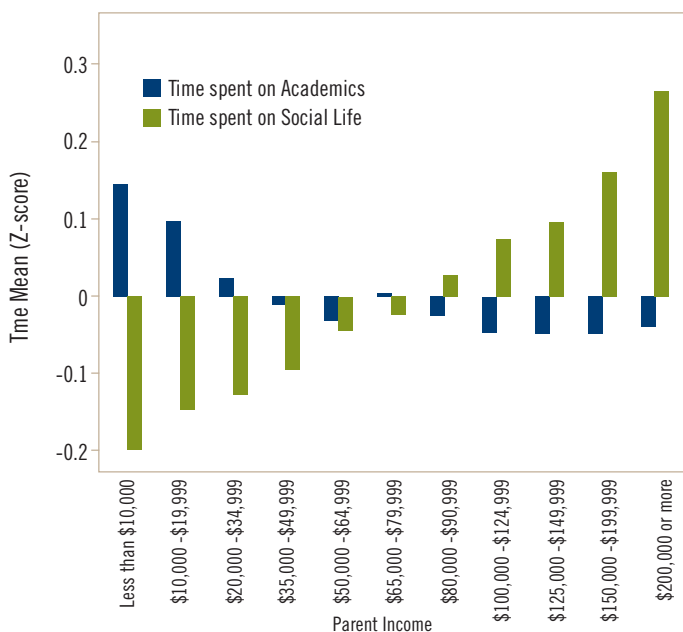


Figure 3.8 Mean Hours per Week on Academic Activities Outside of Class by Transfer Status and Year in School

99% CI	Entry Status							
	Freshman Entry					Transfer		
	1st	2nd	3rd	4th	5th+	1st	2nd	3rd
Upper Bound	12.6	12.6	12.8	12.4	13.1	14.5	14.5	15.3
Mean	12.5	12.5	12.6	12.2	12.6	14.2	14.1	14.7
Lower Bound	12.3	12.3	12.4	12	12.1	13.9	13.8	14.1

Figure 3.9 Mean Hours per Week on Co-curricular Activities by Transfer Status and Year in School

99% CI	Entry Status							
	Freshman Entry					Transfer		
	1st	2nd	3rd	4th	5th+	1st	2nd	3rd
Upper Bound	5.3	7.0	7.6	7.7	6.0	4.4	5.3	5.5
Mean	5.1	6.8	7.4	7.5	6.6	4.2	5.0	5.0
Lower Bound	5.0	6.6	7.1	7.2	7.1	3.9	4.7	4.7

Figure 3.10 Mean Hours per Week on Social and Leisure Activities by Transfer Status and Year in School

99% CI	Entry Status							
	Freshman Entry					Transfer		
	1st	2nd	3rd	4th	5th+	1st	2nd	3rd
Upper Bound	44.3	41.8	40.4	42.6	41.5	35.7	37.5	36.5
Mean	44.0	41.6	40.1	42.4	40.9	35.4	37.1	36.8
Lower Bound	43.8	41.4	39.9	42.1	40.4	35.1	36.7	36.1

Figure 3.11 Mean Hours per Week on Work and Family Obligations by Transfer Status and Year in School

99% CI	Entry Status							
	Freshman Entry					Transfer		
	1st	2nd	3rd	4th	5th+	1st	2nd	3rd
Upper Bound	10.9	14.6	17.1	19.1	23.5	19.4	22.5	26.7
Mean	10.6	14.3	16.8	18.7	22.6	18.8	21.8	25.4
Lower Bound	10.3	14.0	16.5	18.3	21.6	18.3	21.2	24.1

Figure 3.12 Mean Hours per Week Spent on Academic Activities Outside of Class by Major

99% CI	Field of Study			
	Physical Sciences/ Engineering	Biological Sciences	Social Sciences	Humanities/Arts
Upper Bound	15.2	13.8	11.6	12.1
Mean	15.1	13.7	11.5	11.9
Lower Bound	15.0	13.6	11.4	11.8

These trends are illustrated in Figures 3.8 through 3.11. The middle row provides the mean number of hours reported by respondents in the subgroup, and the top and bottom rows demarcate a 99 percent confidence interval around this mean.

Student time use also varied by field of study. Respondents in the physical sciences/engineering and biological sciences reported studying more hours per week than respondents in the humanities/arts and social sciences. Students in the physical sciences/engineering reported spending, on average, 15.1 hours preparing for class, followed by 13.7 hours for biological sciences students, 11.9 for humanities/arts students, and 11.5 for social sciences students.

Time Use and Academic Outcomes

There is a surprisingly modest relationship between UC GPA and reported hours studying (Figure 3.13), reflecting differences in academic requirements and perhaps grading practices across disciplines as well as differences in individual effort required to obtain a given level of performance.

On the other hand, Figure 3.14 shows that high school GPA is a good predictor of time spent studying. Students with stronger high school GPAs studied more at UC than those who had lower high school GPAs.

Undergraduate Research Participation ⁶

An evaluation of UCUES 2008 data shows that approximately 10,350 upper-division undergraduate students said they had participated in research under the direction of a faculty member outside of class at the University of California. This accounts for approximately 33 percent of upper-division undergraduate respondents to the 2008 UCUES.

A recent study published by the Teagle Foundation using the National Survey of Student Engagement (NSSE) data from 209 four-year colleges and universities in the United States found that only one in five (19 percent) of senior students nationally had worked on research with a faculty member outside of class.⁷

⁶ Data and analysis for this section was developed by David Radwin and Elizabeth Berkes.

⁷ The Teagle Working Group on the Teacher-Scholar, (2007). Student Learning and Faculty Research: Connecting Teaching and Scholarship. The Teagle Foundation, American Council of Learned Societies.

Figure 3.13 Mean Hours Study Time by GPA

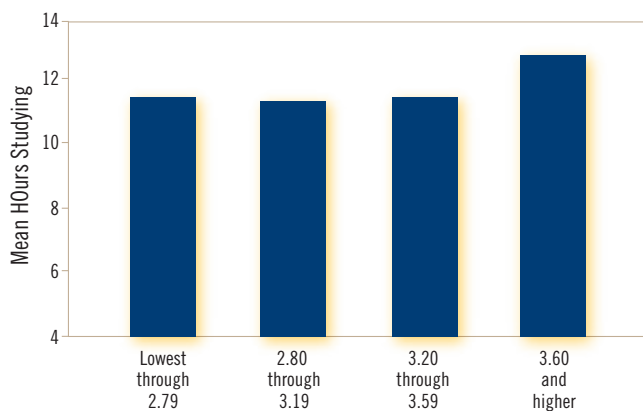
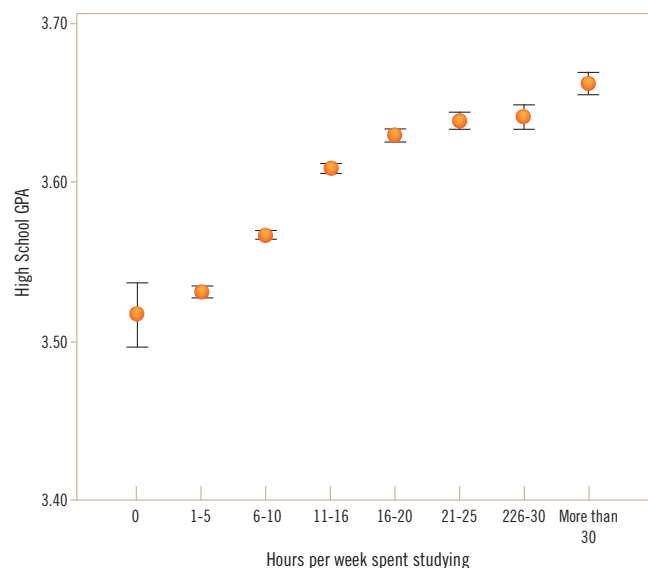


Figure 3.14 High School GPA in Relation to Time Spent Studying



By comparison with this national assessment, the UCUES data show that University of California students are conducting research with faculty at a much higher rate than the national average.

Figure 3.15 shows research participation as a function of the total number of upper-division respondents to the survey by type of involvement (credit, pay, or volunteer). Special studies courses, such as research internships with faculty, have been given special course numbers by the university. The courses numbered 99 are reserved for “Supervised Independent Study” for academically superior lower-division students, who are to

be defined by each department, or equivalent. This definition includes, as a necessary part, a grade-point average of at least 3.3. Course number 199 is reserved for upper division students.

National evaluations show that between 25-39 percent of biological or physical sciences/engineering students participate in research activities by the time they are seniors.⁸ As shown in Figure 3.16, UCUES data show that a higher percent of STEM majors (43 percent) than humanities/arts or social sciences majors (26 percent) engage in research opportunities. STEM majors participate in research as volunteers, for pay and for independent study credit (course 199 on most UC campuses) at substantially higher

⁸ Ibid.

Figure 3.15 types and Percentage of Students Gaining Research Experience

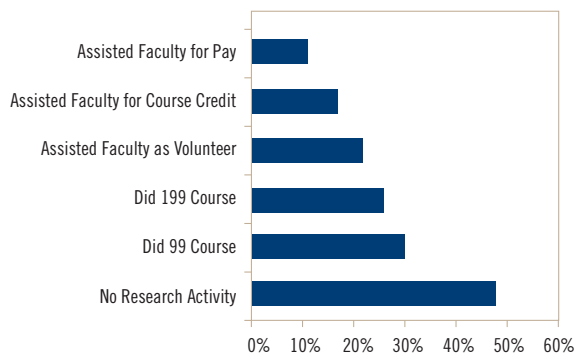
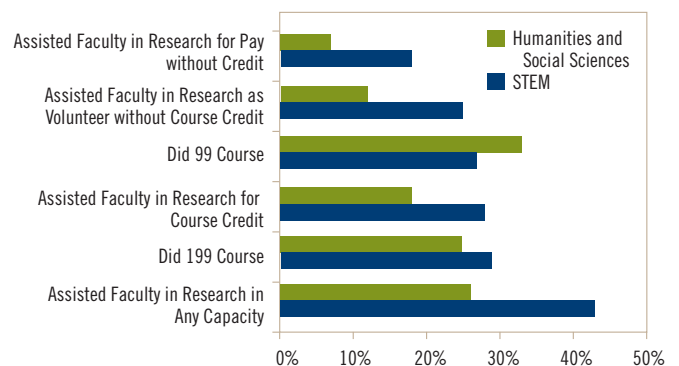


Figure 3.16 Research Participation by Type of Major



rates than humanities/arts and social sciences majors. However, humanities/arts and social sciences majors reported engaging in research for student research credit (course 99 on most UC campuses) at a higher rate than STEM majors.

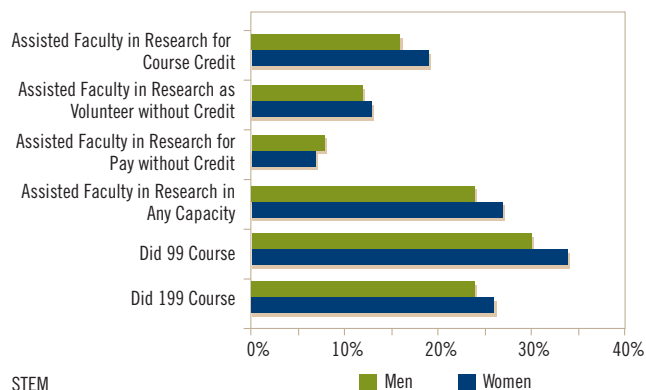
The data show that certain campuses engage a higher percentage of undergraduate researchers than others in particular fields of study. Irvine and Berkeley engage the most STEM undergraduate researchers (49 percent and 48 percent of STEM responders respectively) and San Diego and Santa Cruz the least STEM undergraduate researchers (38 percent of STEM

responders each). Santa Barbara engages the most humanities/arts and social sciences undergraduate researchers (30 percent of humanities/social sciences responders), and Santa Cruz the least (20 percent of humanities/social sciences responders).

Women and minorities participated at high rates in undergraduate research opportunities. Across the UC system, 33 percent of women UCUES responders and 32 percent of men reported engaging in undergraduate research. Among UCUES respondents in the humanities/arts and social sciences majors, Black/African-American and Chicano/Latino students

Figure 3.17 Research Participation by Gender and Major

HUMANITIES AND SOCIAL SCIENCES



STEM

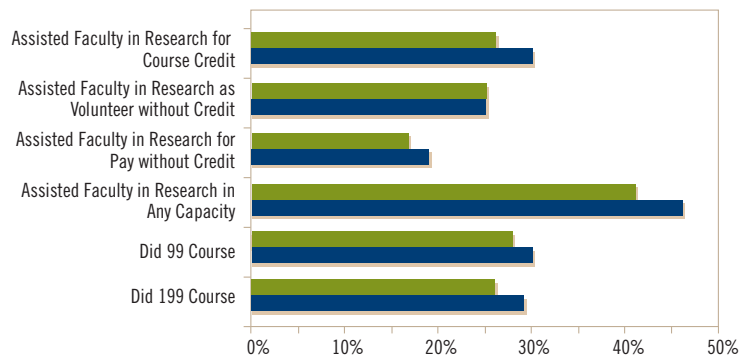
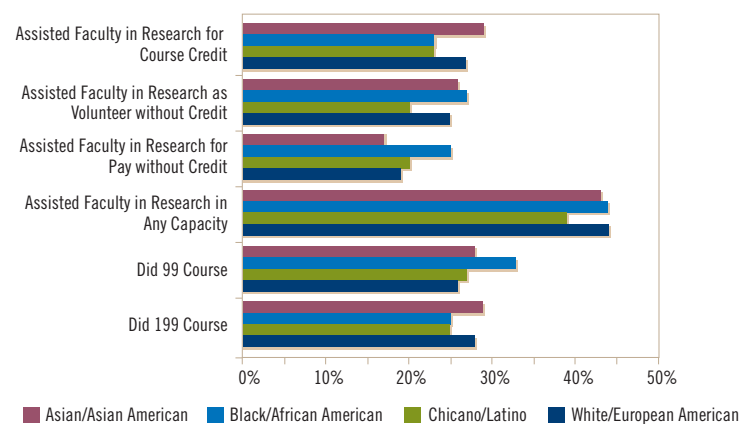


Figure 3.18 STEM Majors Research Participation by Ethnicity



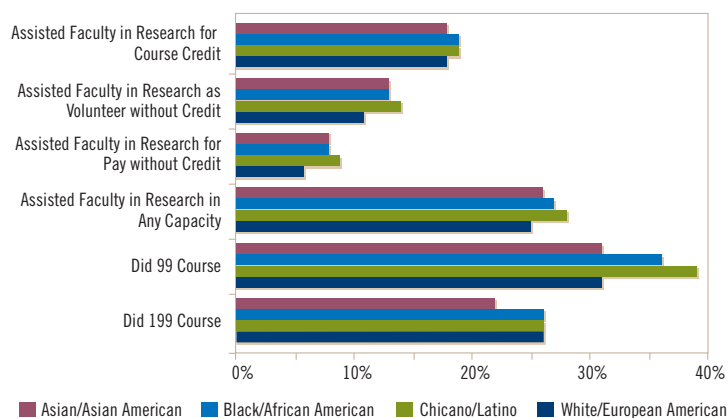
participated in undergraduate research at a higher than and comparable rate relative to White/European-American and Asian/Asian-American or Pacific Islander students. Among STEM majors, Black/African-American students, White/European-American students and Asian-American students participated in research at a similar rate, whereas Chicano/Latino students participated at the lowest rate (39 percent).

A campus-by-campus comparison (excluding Merced due to low N) reveals that four campuses have slightly lower participation in undergraduate research by women and four campuses have a higher participation. Santa Barbara has the biggest percentage point difference between women and men in terms of research participation (women = 35 percent participation, men = 29 percent participation). Davis has a large percentage of STEM undergraduate researchers (44 percent) and a large percentage of women participants (37 percent).

San Diego had the highest participation of Black/African-American humanities/arts and social sciences researchers (35 percent) and Santa Cruz, the lowest (17 percent). Los Angeles and Santa Barbara had the highest participation of Chicano/Latino humanities/arts and social sciences researchers (30 percent each). Santa Barbara also had the highest participation of Asian/Asian-American humanities/arts and social sciences researchers (29 percent) and White/European-American humanities/arts and social sciences researchers (30 percent). Overall, Santa Barbara has the highest percentage of humanities/arts and social sciences researchers across all races and ethnicities (30 percent).

The data show a significant difference between STEM researchers and non-researchers with regard to the education level of their parents. Significantly more STEM researchers

Figure 3.19 Humanities/Arts and Social Science Majors and Research Participation by Ethnicity



reported that at least one parent has a four-year degree (47 percent). However, the figure below shows that in humanities/arts and social sciences majors, a parent's education level is not necessarily predictive of undergraduate research activity.

These findings suggest that students, especially STEM majors, who took advantage of opportunities to participate with faculty in research projects may be doing so because their families are familiar with such work and its benefits.

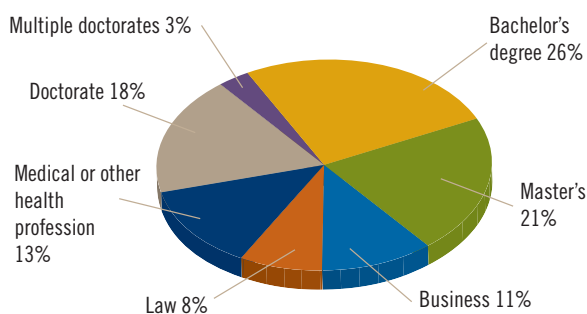
Graduate Degree Aspirations

The UCUES also asked respondents about their degree aspirations. As seen in Figure 3.20, nearly three-quarters of UC students indicated an intention to attain graduate degrees. Intentions to pursue medical or other health-related degrees were more common than intentions to pursue law or business degrees.

Degree aspirations varied by immigrant status and field of study. Student immigrants and students with one or both parents born in the US represented the largest proportion (15 percent) of those who aspired to a medical degree. On the other hand, over 30 percent of those aspiring to only a bachelor's degree were students whose parents were both born in the US.

As one would expect, a significant proportion of students (34 percent) in the biological sciences reported aspiring to a medical degree. Humanities/arts students were least interested in graduate degrees; 38 percent of the humanities/arts students aspired to end their educations with a bachelor's degree. (In this analysis, humanities also includes arts, where graduate degrees are rare.) Notably, nearly one out of five Asian/Asian-American students aspired to medical degrees.

Figure 3.20 Degree Aspirations of UC Students



4. Co-Curricular Activities and Civic Engagement

The survey asked students about their co-curricular activities, including participation in student organizations, community service activities, and political affiliation.

Highlights

- Academic clubs, including career groups related to majors (16 percent); honor societies (15 percent), campus sports clubs (15 percent), fraternities/sororities (14 percent), religious groups (13 percent), recreational clubs (12 percent), and service groups (11 percent) have the highest rate of participation.
- Engineering and physical sciences majors are more likely to be involved in academic clubs; biological sciences in service and religious groups; social sciences majors in fraternities/sororities, student government, advocacy groups, and political groups; and humanities/arts students in performing and media groups.
- 46 percent percent of respondents said they participated in community service activities, with the largest proportion of students becoming involved in community service work through an on-campus student organization or by volunteering on their own.
- Students most frequently volunteer for community service in K-12 schools (22 percent), clinics or hospitals (13 percent), environmental groups (8 percent), religious organizations (8 percent), youth services agencies (6 percent), and homeless shelters (5 percent).
- Almost one-quarter of physical sciences/engineering, social sciences, and humanities/arts students engaged in community service for K-12 schools, whereas almost a third of biological sciences students volunteered at a clinic or hospital.
- Volunteers reported spending, on average, 2.4 hours in a typical seven-day week performing community service work; first-generation students (2.8) and second-generation students (2.6) reported spending more hours on community service than students who have both parents born in the United States (2.0).
- Overall, students at the UC campuses reported identifying with the Democratic Party (56 percent) more than with the Republican Party (14 percent) or as an Independent (30 percent). However, only 5 percent of students reported having worked in one of the political campaigns as of the time of the UCUES survey in spring 2008.

Student Clubs and Organizations

Figure 4.1 displays the range of student participation and leadership in campus groups and organizations. Academic clubs, including career groups related to majors (16 percent); honor societies (15 percent), campus sports clubs (15 percent), fraternities/sororities (14 percent), religious groups (13 percent), recreational clubs (12 percent), and service groups (11 percent) have the highest rate of participation. In addition, 25 percent of UC undergraduates report participating in off-campus groups or organizations.

As seen in Figure 4.2, student involvement in organizations varies somewhat by field of study. Engineering and physical sciences majors are more likely to be involved in academic clubs. Biological sciences majors participate more in service and religious groups. Social sciences majors are more often found in fraternities/sororities, student government, advocacy groups, and political groups. Humanities/arts students participate at a greater rate in performing and media groups.

Figure 4.1 Student Participation in Co-Curricular Activities

Participant or Member	Officer or Leader	Total	Organization
12.9%	3.2%	16.1%	Academic
13.7%	1.1%	14.8%	Honor society
12.1%	2.7%	14.7%	Campus sports club
8.6%	5.1%	13.7%	Greek fraternity or sorority
10.3%	3.0%	13.3%	Religious
11.0%	1.4%	12.4%	Recreational
8.7%	2.1%	10.9%	Service
7.2%	1.1%	8.3%	Performing group
4.8%	2.3%	7.1%	Advocacy
4.2%	2.1%	6.3%	Governing bodies
4.0%	0.7%	4.7%	Political
2.3%	0.7%	3.0%	Campus varsity team
2.1%	0.6%	2.7%	Media
19.9%	4.7%	24.6%	Other campus-based club or organization
19.3%	5.8%	25.1%	Off-campus club or organization

Figure 4.2 Level of Participation in Organizations by Field of Study

Physical Sciences/ Engineering	Biological Sciences	Social Sciences	Humanities/ Arts	
26.4%	20.7%	15.5%	11.6%	Academic
17.2%	17.5%	17.1%	17.4%	Honor society
15.7%	15.3%	13.0%	10.6%	Campus sports club
10.2%	11.9%	15.7%	9.6%	Greek fraternity or sorority
13.0%	15.6%	13.1%	11.9%	Religious
12.3%	13.2%	11.0%	9.9%	Recreational
8.0%	18.0%	14.0%	10.0%	Service
7.9%	8.4%	7.9%	14.4%	Performing group
4.6%	7.8%	10.8%	7.9%	Advocacy
7.2%	9.2%	11.2%	6.3%	Governing bodies
3.7%	4.2%	7.6%	5.1%	Political
4.0%	4.1%	2.4%	3.9%	Campus varsity team
3.3%	4.2%	5.8%	12.0%	Media
25.3%	31.5%	28.4%	25.0%	Other campus-based club or organization
22.1%	26.3%	28.0%	27.9%	Off-campus club or organization

How do Students Get Involved?

Forty-six percent of respondents said they participated in community service activities. Figure 4.3 shows that the largest proportion of students became involved in community service work through an on-campus student organization or by volunteering on their own.

Where Do Students Serve?

Students most frequently volunteer for community service in K-12 schools (22 percent), clinics or hospitals (13 percent), environmental groups (8 percent), religious organizations (8 percent), youth services agencies (6 percent), and homeless shelters (5 percent).

Students in different majors varied in their preferred sites of volunteer service. Biological sciences students were more likely to volunteer at a clinic or hospital and with an environmental group. Social sciences students were more active in K-12 schools, youth service agencies, and homeless shelters.

When compared to responses in 2006, the 2008 survey showed a drop in the rate of students serving homeless shelters (from 7 percent to 4 percent) as well as an increase (from 6 percent to 8 percent) in the number of students serving in environmental groups. These trends are presented in Figure 4.4.

Figure 4.3 How Students get Involved in Community Service Work

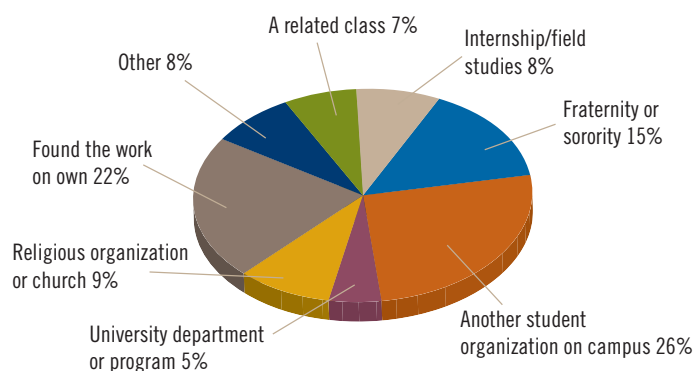


Figure 4.4 Where Students Participate by Field or Study

	Field of Study			
	Physical Sciences/ Engineering	Biological Sciences	Social Sciences	Humanities/ Arts
K-12 school	20.3%	13.9%	27.6%	22.3%
Youth services agencies	4.0%	4.7%	8.1%	5.2%
Environmental group	6.8%	9.5%	8.0%	7.2%
Homeless shelter	3.9%	4.2%	6.1%	4.9%
Clinic or hospital	9.4%	30.7%	7.7%	4.2%
Religious organization	8.8%	7.5%	7.8%	8.2%

How Much Time Do Students Give?

Volunteers reported spending, on average, 2.4 hours in a typical seven-day week performing community service work, lower than the 3.2 hours reported in 2006. As shown in Figure 5.8, biological sciences and social sciences students devoted more time to community service than did humanities/arts or

physical sciences/engineering students. (The civic engagement of biological sciences students can be partly explained by the emphasis that medical schools place on volunteering in hospitals and clinics.)

As shown in Figure 4.7, student immigrants and students with at least one immigrant parent spent more time in community service than did other students.

Figure 4.5 Where Students Serve Trends

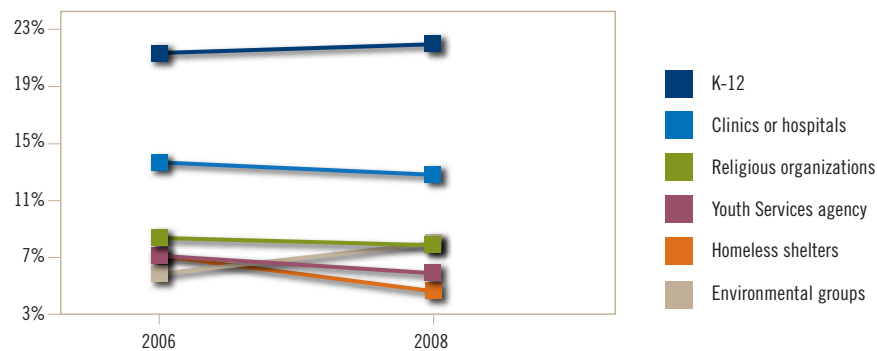


Figure 4.6 Hours in Community Service by Field or Study

99% CI	Field of Study			
	Physical Sciences/ Engineering	Biological Sciences	Social Sciences	Humanities/ Arts
Upper Bound	1.88	2.97	2.66	2.09
Mean	1.85	2.93	2.63	2.05
Lower Bound	1.81	2.89	2.60	2.01

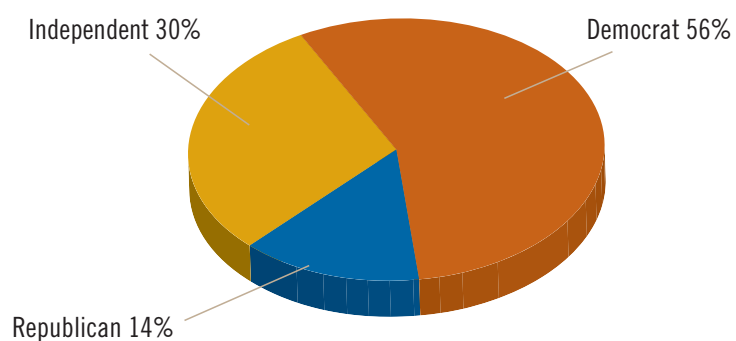
Figure 4.7 Mean Hours per Week Spent on Community Service by Immigrant Status

99% CI	Immigrant Status		
	Student Immigrant	Parent(s) not Born in the U.S.	Both Parent(s) Born in the U.S.
Upper Bound	2.88	2.61	2.01
Mean	2.83	2.58	1.98
Lower Bound	2.79	2.55	1.96

Political Affiliations

In the presidential election year, UCUES asked students a number of questions related to political engagements and affiliations. Overall, students at the UC campuses reported identifying with the Democratic Party more than with the Republican Party or as independents. Women were 13 percent more likely than men to identify as Democrats. However, only 5 percent of students reported working on one of the political campaigns.

Figure 4.10 UC System Political Affiliation



Student immigrants were more likely than others to identify as independents. Third generation students were more likely than others to identify as Republicans, but even they favored the Democrats by 3:1.

Students in physical sciences/engineering were the only group with a larger number of Republicans and independents than Democrats. Close to 60 percent of UCUES respondents from the social sciences reported identifying as Democrats, compared to 46 percent of students in the physical sciences/engineering.

Amount of Attention Paid to Candidates

UCUES also asked students about the amount of attention they paid to the presidential candidates. On the whole, social sciences students and humanities/arts students were more likely to report paying a “great deal” or “a significant amount” of attention to the candidates, as indicated in Figure 4.14.

Figure 4.11 Political Affiliation by Gender

	Gender	
	Male	Female
Democrat	48.3%	61.5%
Republican	15.4%	12.4%
Independent	36.4%	26.1%

Figure 4.12 Political Affiliation by Immigrant Status

	Immigrant Status			
	Student Immigrant	At least one Immigrant Parent	At least one Immigrant Grandparent	Three Generations born in U.S.
Democrat	52.8%	59.6%	55.6%	53.7%
Republican	9.7%	13.2%	15.0%	16.6%
Independent	37.5%	27.3%	29.4%	29.7%

Figure 4.13 Political Affiliation by Field or Study

	Field of Study			
	Physical Sciences/ Engineering	Biological Sciences	Social Sciences	Humanities/ Arts
Democrat	46.0%	53.9%	58.2%	56.4%
Republican	16.9%	15.3%	14.5%	11.2%
Independent	37.1%	30.8%	27.2%	32.4%

Nearly 20 percent of third-generation students reported that they paid “a great deal” attention to the candidates and the issues in the election, whereas more than a quarter of the student immigrant respondents reported paying no attention to the candidates or the issues.

Figure 4.14 Amount of Attention towards Candidates and Issues by Field of Study

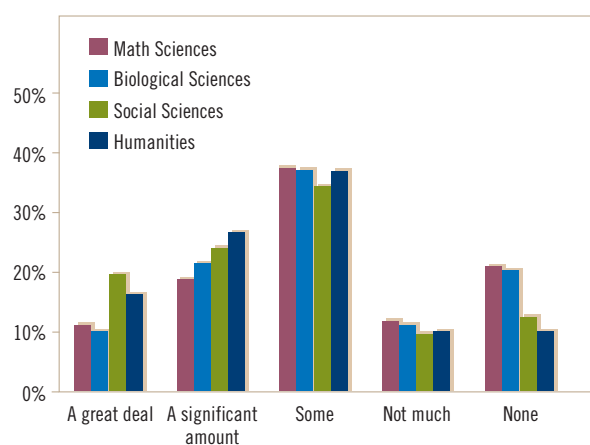
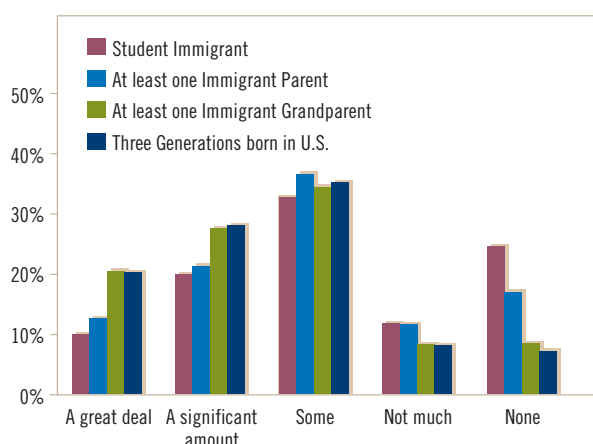


Figure 4.15 Paid Attention to Candidates and Issues by Immigrant Status



5. Learning Outcomes

Interest in measurement of learning outcomes at all levels of education has grown considerably over the past decade. In higher education, learning assessment is viewed by many, including lawmakers and advocates for new and more expansive accountability regimes, as a method to measure the value-added, and in some sense the quality, of colleges and universities. But perhaps most important, collecting and making public more and better information about how and what students learn is an important means for institutional self-improvement.

The following section provides data and analysis regarding student perceptions of learning gains and future educational aspirations derived from the 2008 UCUES data.

Highlights

- Students from all backgrounds reported that their analytical and critical thinking skills increased dramatically between their freshmen and senior years.
- Women and men reported very good or excellent analytical and critical thinking abilities by their senior year.
- Among major ethnic groups, all reported sizable gains in their analytical and critical thinking skills, with White/European-American students reporting the highest gains, followed by Black/African-Americans and Chicanos/Latinos. Asian/Asian-American students expressed the lowest sense of their skill abilities at the freshman level, and reported the lowest gains.
- In reading and comprehension skills, the largest overall gain was reported by Black/African-American and Chicano/Latino students, and again the lowest gains by Asian/Asian-American students.

- Students in the humanities/arts fields reported the greatest ability in writing as entering freshmen (32 percent), and at their senior year (77 percent), followed by students in the social sciences, biological sciences, and then physical sciences/engineering.
- Self-reported gains in writing skills among men and women by the senior year were lower than in the areas of analytical and critical thinking, and reading and comprehension skills.
- The average increase in the percent reporting very good or excellent levels of quantitative skills was just 10 percent in all disciplines other than physical sciences/engineering.

Value and Limits of Student Self-Assessment

Like other attempts at measuring learning outcomes, there are inherent weaknesses in relying too heavily on student perceptions. Decades of student surveys on a wide range of issues, in a wide range of institutional types, with an array of students with different socioeconomic and racial and ethnic backgrounds, provides evidence that students in general wish to affirm their own experience as positive; that their investment in their education is, or has been, a profitable venture. This is a reality that we always weigh in assessing the meaning of the UCUES data.

It is increasingly evident that assessment is most valid and reliable at the level of the major or field, and at the level of demographic sub-groups of students. Apparent campus differences in student

UCUES Measures Self-Assessed Competency in:

- Analytical and critical thinking
- Writing
- Reading and comprehension
- Presentation skills
- Quantitative skills

(self-ratings of) proficiencies are in large measure a reflection of differences in disciplinary and demographic composition rather than campus differences in student proficiencies and by implication the “value added” by a particular campus.⁹ General insitutional assessments have limited value.

The UCUES’s census design, and the array of questions that can then be linked with a great variety of other institutional data (such as grades), may in fact give institutions, such as the University of California, a better tool than standardized tests for measuring what kind of job it is doing, at the campus-wide level, and perhaps most importantly at the level of the major or among specific demographic groups.

For this reason, the major research universities that are part of the Voluntary System of Accountability (VSA) have identified the UCUES as a nationally recognized tool for institutional accountability.

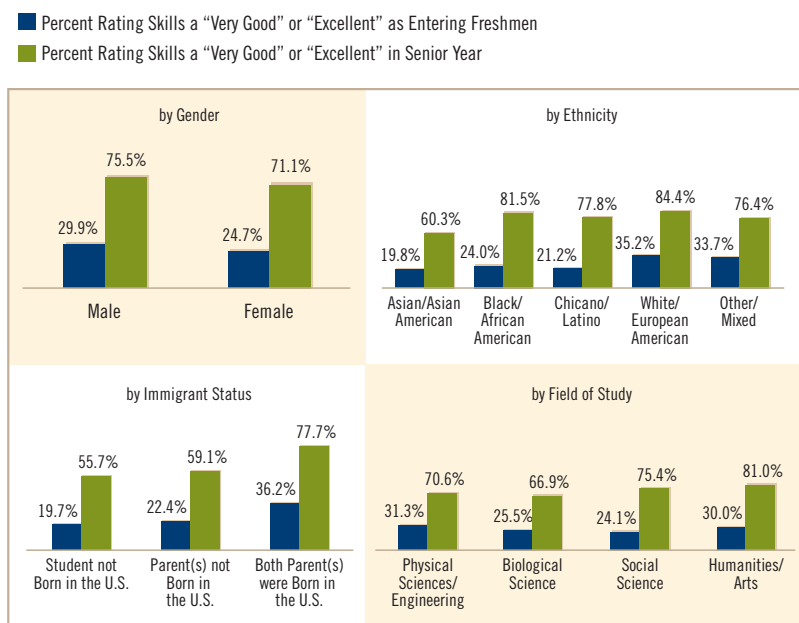
⁹ See Gregg Thomson and John Aubrey Douglass, “Decoding Learning Gains: Measuring Outcomes and the Pivotal Role of the Major and Student Backgrounds,” CSHE Research and Occasional Papers Series, CSHE.5.09. (May 2009). Available online at: <http://cshe.berkeley.edu/publications/publications.php?id=338>

Analytical and Critical Thinking Skills

As shown in Figure 5.1, students across four statuses in this analysis (gender, ethnicity, field of study, and immigrant status) reported that their analytical and critical thinking skills increased dramatically between their freshmen and senior years. Women and men had similar self-report skills of either very good or excellent analytical and critical thinking abilities by their senior year, with some 75 percent of males and 71 percent of females making this self-assessment. That contrasts to only 30 percent of males and 25 percent of females saying they had this level of these skills as freshman.

Among major ethnic groups, all reported sizable gains in this skill area, with White/European-American students reporting the highest gains of 84 percent, followed by Black/African-Americans at 82 percent, Chicanos/Latinos at 78 percent,

Figure 5.1 Analytical and Critical Thinking Skills by Gender, Race/Ethnicity, Field of Study, and Immigrant Status



and Asian/Asian-American students at 60 percent. Some 76 percent of “Other” ethnic groups (including mixed-race students) reported that they have very good or excellent skills. Black/African-American and Chicano/Latino students show the greatest self-reported gains over their abilities at the freshman level.

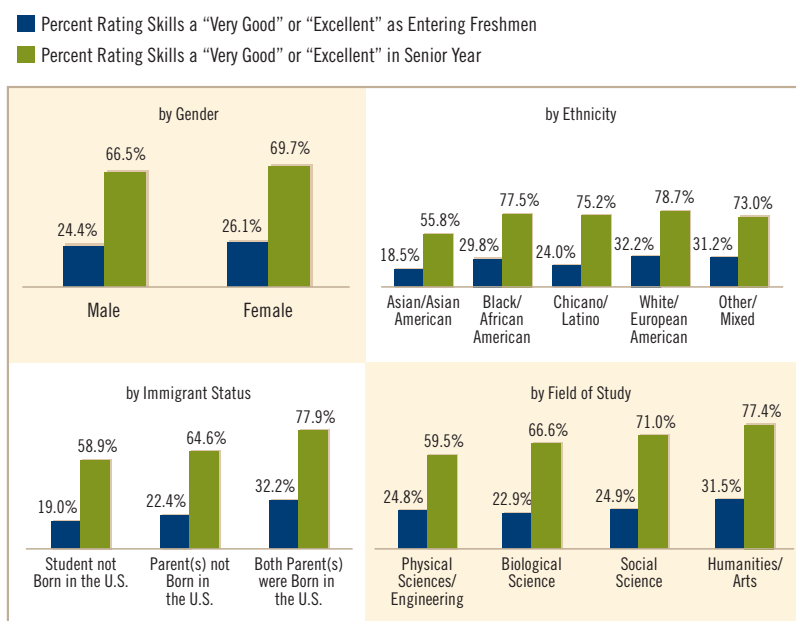
Asian/Asian-American students have the lowest sense of their skill abilities at the freshman level, and reported the lowest gains. This result fits a pattern in which Asian/Asian-American students, on average, tend to be the most self-critical in their abilities and academic performance, in part influenced by the high number of Asian/Asian-American students who were in the hard sciences or engineering, many with immigrant backgrounds. Many also tend to be more career oriented, and are focused on (and perhaps sometimes disappointed in) their overall GPA.

Students show a relatively even sense of their abilities as freshmen by field of study, ranging from 26 percent in the biological sciences to 31 percent in physical sciences/engineering fields reporting very good and excellent skills, with the largest sense of self-reported gains in the social sciences (75 percent reported very good or excellent skills in their senior year) and the humanities/arts (81 percent). Physical sciences/engineering and biological sciences students reported the lowest rate of very good or excellent analytical and critical thinking skills in the senior year.

Again, this indicates important differences among the majors and among the demographic mix of students in specific fields. The biological sciences are relatively more selective fields than the social sciences and humanities/arts; many students who enter biological fields at the early part of their undergraduate careers transfer to non-science majors due to poor academic

¹⁰ For the student experiences and perceptions category of the VSA, participating institutions are required to report data from one of four surveys: the College Student Experiences Questionnaire, the College Senior Survey, the National Survey of Student Engagement or the SERU Survey (known in the UC system as the University of California Undergraduate Experience Survey).

Figure 5.2 Skills in Reading and Comprehension of Academic Materials by Gender, Race/Ethnicity, Field of study, and Immigrant Status



performance in key courses. Women also represent high percentages of graduates in the biological sciences in the University of California. These factors may influence self-assessed learning gains of students.

As shown earlier in this report and in previous UCUES research, some 61 percent of all undergraduates in the UC system were themselves immigrants or have at least one parent who is an immigrant. In some campuses, such as Irvine, the number is nearly 72 percent. Hence, immigrant status, and factors related to race, ethnicity, and cultural dynamics, is extremely important for understanding the undergraduate experience.

As shown in Figure 5.1, undergraduates who were not born in the US (first-generation) or have parents not born in the US (second-generation) reported relatively low skills at the freshman level when compared to students whose parents were both born in the US, and they also reported relatively low gains by their senior year. Only 56 percent of first-generation, and 59 percent of second-generation students, reported very good or excellent analytical and critical thinking abilities, compared to 78 percent among students whose parents were both born in the US. These findings may reflect the fact that many students from these backgrounds grew up in homes in which English was not their first language.

Reading and Comprehension Skills

We find similar patterns of self-reported gains related to reading and comprehension skills (Figure 5.2). Male and female undergraduates reported a slight difference in their abilities in these two skill areas as entering freshmen, and women reported a substantively higher gain.

Among the ethnic groups, Black/African-American and Chicano/Latino students reported the largest overall gains, and again, the lowest gains were reported by Asian/Asian-American students. In terms of the sense of competency (very good to excellent) as entering freshmen, students in the humanities/arts fields reported the greatest ability (32 percent), and at their senior year (77 percent), followed by students in the social sciences, biological sciences, and physical sciences/engineering.

Students with recent immigrant experiences again show a relatively lower sense of their abilities at the entering freshman

level, and by their senior year. Seniors not born in the US reported very good to excellent skills in reading and comprehension at a rate of 59 percent, and only slightly higher at 64 percent for second generation students; while students with parents born in the US reported 78 percent with this skill level – mirroring the results in the variable of analytical and critical thinking skills.

Writing Skills

Numerous national studies have shown that writing skills are critical for student success and for success in the labor market. UC has consequently increasingly emphasized writing ability as a factor in admitting students and in the undergraduate curriculum.

Even though women tend to score higher in standardized tests of writing, men reported higher abilities in writing as freshmen than women. Women reported a larger net gain in their writing abilities by the senior year when compared to men: 5 percent more women than men reported having very good or excellent writing skills as seniors.

The UCUES data indicates that overall writing skills among men and women by the senior year were relatively lower than in the areas of analytical and critical thinking, or reading and comprehension skills. This is an area that may consequently be in need of further attention.

Significant differences in self-assessed writing abilities at the senior year were also found by the field of study, among ethnic groups, and by immigrant status. Perhaps not surprisingly, students majoring in humanities/arts and social sciences fields reported the overall largest gains in writing skills, and the highest abilities when compared to science fields. On average, writing is more deeply integrated into the curricula and expectations of faculty in these fields.

Asian/Asian-American students show the lowest self-assessed writing skills as both entering freshmen, and reported relatively low abilities by the senior year. Only 47 percent of students of Asian/Asian-American backgrounds stated they have very good or excellent writing skills by the fourth year at UC; Chicano/Latino students indicate only a quarter of students with a high level of skills in this critical area as entering freshmen, but improve to 64 percent by the senior year.

Figure 5.3 Writing Skills by Gender, Race/Ethnicity, Field of Study, and Immigrant Status

■ Percent Rating Skills a “Very Good” or “Excellent” as Entering Freshmen
 ■ Percent Rating Skills a “Very Good” or “Excellent” in Senior Year

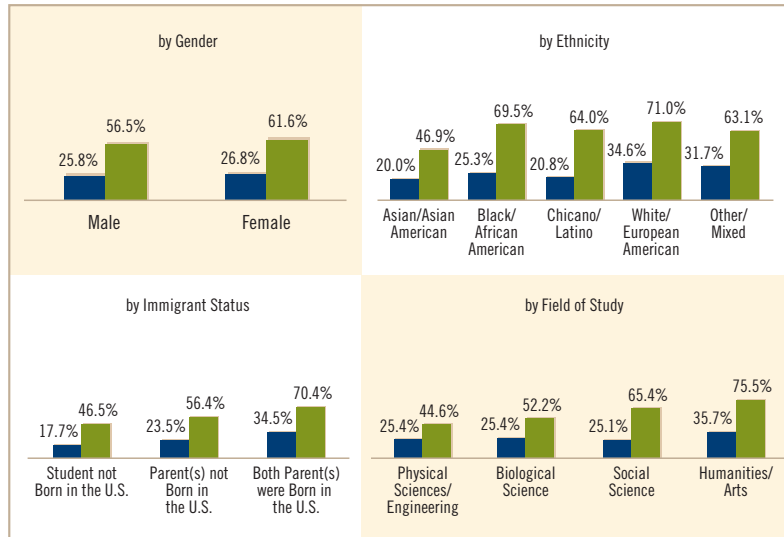
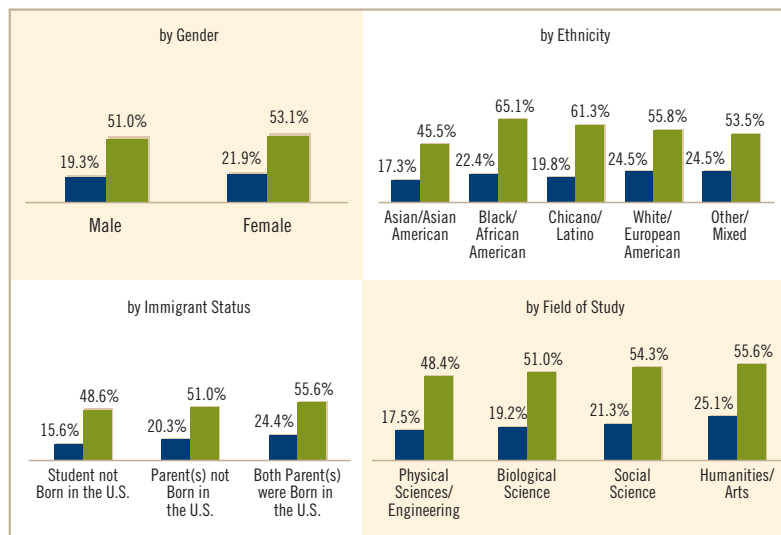


Figure 5.4 Ability to Make and Prepare a Presentation by Gender, Race/Ethnicity, Field of Study Immigrant Status and GPA

■ Percent Rating Skills a “Very Good” or “Excellent” as Entering Freshmen
 ■ Percent Rating Skills a “Very Good” or “Excellent” in Senior Year



Oral Presentation Skills

Preparing and making presentations is another important expressive skill. We find in this measure of academic ability rather similar results, across gender, field of study, and immigrant status. Black/African-American students followed by Chicano/Latino students show the greatest net gain, with Asian/Asian-American students again providing the lowest assessment of their skill level as entering freshman and by the senior year.

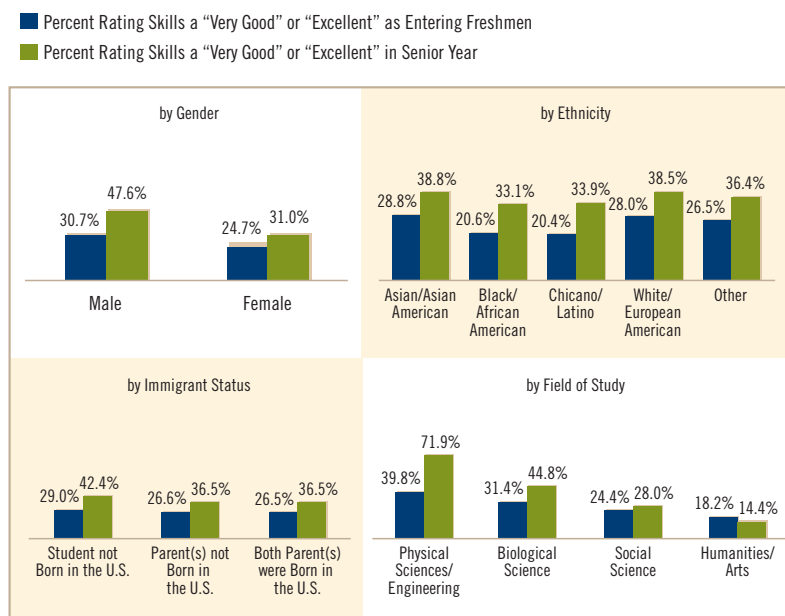
These results may mask some real differences in the importance of oral presentation abilities and demands within different fields of study, and how often students are required to demonstrate these skills in the course of their undergraduate careers.

Students in impacted fields (such as biology, economics, and psychology) may have few opportunities to practice their oral presentation skills.

Quantitative Skills

Quantitative skills showed the weakest pattern of gains. Whereas self-reported gains between freshmen and senior years were almost threefold in the other academic skill areas, the average increase in the percent reporting very good or excellent levels of quantitative skill was just 10 percent in all disciplines other than physical sciences/engineering. Notably, students in the humanities/arts were 4 percent less likely as seniors to report very good or excellent quantitative skills than as freshmen.

Figure 5.5 Quantitative (Mathematical and Statistical) Skills by Gender, Race/Ethnicity, Field of Study, and Immigrant Status



Male students tend to have higher quantitative scores on standardized tests used in admissions, and we see their higher sense of their abilities as entering freshman, and in their net gain by the senior year. In this skill area, Asian/Asian-American students also reported the highest ability at the beginning of their undergraduate experience, and the highest level of ability as seniors, followed by White/European-American students.

But students on average reported relatively low skills. Only 39 percent of Asian/Asian-American students stated that they were very good or excellent in their math and statistical abilities, and only 38.5 percent of White/European American students reported skills at this level.

