

PRE-COLLEGE PROGRAMS (AY 2016-2017)

EXECUTIVE SUMMARY

The Pre-College Program at UC San Diego Extension offers five pre-college programs to encourage students to explore academic interests and prepare for the rigors of college. Extension also offers the LAUNCH program and undergraduate test prep courses (LSAT, MCAT, GMAT, and GRE) which prepares UC San Diego undergraduate students for success in entering graduate studies and in the workplace.

Academic Connections: Academic Connections continued to attract a diverse student body. From 2012 to 2017, Academic Connections has provided a total of \$1,748,287 in aid for underserved students in the community. For the 2017 program, 36 percent of participants received financial assistance. These scholarships are obtained from donors, partnerships, and funds raised from regular enrollments. The research team also obtained post-secondary enrollment data for 1,153 participating students. Findings illustrate that 86 percent of these students enrolled in a four-year institution. Furthermore, 35 percent attended UC schools.

College Credit: College Credit experienced a decline in enrollments due to the recent economic downturn. However, Extension's partnership with the San Diego Unified School District has continued to provide students of participating high schools the opportunity to explore an academic interest and obtain college credit in high school at no cost.

Test Prep: During the 2016-17 academic year, Test Prep offered 77 courses and enrolled 1,947 high school and undergraduate students. The partnership with the San Diego Unified School District and the Student Grant Program at UC San Diego further expanded the accessibility of the program to students. Students received \$326,390 in financial assistance during the academic year.

LAUNCH: UC San Diego Extension continued to provide undergraduate students the opportunity to complete their degree and an applied certificate during their junior and senior year. Certificates with the greatest active enrollments include: 1) Teaching English as a Foreign Language (TEFL), 2) Paralegal, 3) User Experience (UX) Design, 4) Geographical Information Systems, and 5) Marketing.

STEAM: The STEAM program experienced a 60 percent growth in student enrollment during the 2016-17 academic year. This increase can be attributed to the partnership with the San Diego Public Library. In addition to the expansion of course offerings, the STEAM Channel also provided 50 programs in research, policy, education, and industry, with videos obtaining an average of 129,195 views.

Sally Ride Science: With the launch of the program in 2016, Sally Ride Science was able to expand in terms of course offerings, locations, program content, and number of participants. In the 2016-17 academic year, the program offered 59 courses and enrolled 528 participants.

INTRODUCTION

The Pre-College Programs at UC San Diego Extension introduces middle and high school students to a variety of academic subjects and prepares them for college. The department also encourages UC San Diego undergraduate students to obtain an applied certificate during their junior and senior year through LAUNCH and provides test prep courses for entrance into graduate courses. Since its establishment in 2010, Pre-College has expanded programmatic categories, has offered an increasing variety of courses, and has attracted increasing numbers of program participants.

The Institutional Research Department at UC San Diego Extension conducted an evaluation of the various Pre-College offerings and the LAUNCH program to measure their impact and value on participating students during the 2016-17 academic year. The research team distributed a series of surveys to better understand the demographic and socioeconomic composition of participants, and to receive feedback regarding their experiences. Internal data were also analyzed to ensure a comprehensive understanding of outcomes.

This evaluation presents a summary of the number of enrollments and course offerings, and the availability of financial assistance for each program. It also examines college readiness of students enrolled in Pre-College Programs and assesses workforce preparedness and career trajectories of those participating in LAUNCH. Each section concludes with a brief overview of student and administrator feedback, if available.

DASHBOARD

Number of Students Enrolled

UC San Diego Extension offers a wide-range of Pre-College Programs to prepare students for the rigors of college. Extension also provides a program, LAUNCH, for undergraduate UC San Diego students to obtain valuable skills to better position themselves for the workforce and test prep courses for gaining entrance into graduate student programs. Figure 1 shows student enrollment for each program area by year. Please note that analysis for years denoted with an asterisk is based on the calendar year. Starting 2015 data analysis has been conducted based on academic year.

Figure 1: Enrollment Numbers by Program

Program Area	2011*	2012*	2013*	2014*	2015*	2016	2017
Academic Connections	-	362	396	375	377	445	384
Test Prep	23	545	1,735	1,729	1,926	2,199	1,947
STEAM Courses	419	304	277	626	746	620	990
College Credit	--	--	34	238	487	562	272
Launch Program*	--	--	168	9	17	106	44
Sally Ride Science	--	--	--	--	--	463	528

* Student acceptances

Scholarship Impact

UC San Diego Extension awards scholarships to first generation, low income, and foster youth participating in Academic Connections. Figure 2 shows the number of students impacted by scholarships by year.

Figure 2: Academic Connections Scholarships

Year	# Students	Amount	Total # of students attending	% of scholarships
2012	100	\$117,900	362	28%
2013	106	\$192,400	396	27%
2014	141	\$332,200	375	38%
2015	155	\$323,540	377	41%
2016	158	\$420,840	445	36%
2017	138	\$361,407	384	36%
Totals	798	\$1,748,287	2,339	34%

Outreach Partners

UC San Diego Extension continues to partner with a variety of community organizations and non-profits. The following is a list of outreach partners participating in Academic Connections:

- Reality Changers
- Viejas Band of Kumeyaay Indians
- Sycuan Band of the Kumeyaay Nation
- Barrio Logan College Institute
- San Diego County Foster Youth
- Promises2Kids
- The Preuss School
- Imperial Valley and the Imperial County Office of Education
- Life Sciences Summer Institute
- Migrant Students
- Vicenti Fox Scholars – Mexico
- Central Valley and Kern County District

ACADEMIC CONNECTIONS

Mission and Goals

The goal of Academic Connections is to provide high school students with hands-on experience in college subject-matter courses, leadership skills, as well as how to live in a diverse community. Students have the opportunity to immerse themselves in college life and learning at UC San Diego, a top-ranked research university.

Program Description

Academic Connections is a pre-college summer academic and residential experience for high school students. The program offers both academic and real-world experiences to participants, and is offered in five locations: San Diego, Hawaii, Arizona, Catalina Island, and Washington DC. Students can apply for Research Studies or Research Scholars, with the former focusing on college subject matter courses and the latter providing hands-on experience working in faculty-led labs.

Research Studies participants choose one of approximately 30 three-week courses taught by UC San Diego doctoral students. Courses vary by session but have included disciplines such as archaeology, bioinformatics, cognitive science, game development, marine microbiology, neuroscience, philosophy, and sociology. Appendix A lists course offerings for the 2017 program. Students can also enroll in SAT preparation courses to develop effective test-taking strategies; many also participate in supplementary workshops and study sessions. For students admitted to Research Scholars, courses are led by UC San Diego faculty researchers and provide the opportunity to work in research labs five hours per day. Research Studies classes meet five hours a day, with a maximum of 25 students per class to ensure quality interaction with instructors and instructional assistants.

Students that complete the program receive three to six units of UC San Diego Extension credit, which are accepted by most high schools and colleges. Participants of both Research Studies and Research Scholars live on-campus and experience firsthand a college environment. Residence halls are staffed by experienced and qualified personnel with supervision at all times by the Resident Dean, Assistant Resident Dean, office staff, and residential assistants. Students also participate in recreational and social activities, such as arts and crafts, dances, sports, and off-campus excursions. All activities are planned and supervised by trained personnel.

Caliber and Number of Student Participants

Caliber of Participants

Students must be accepted to participate in the Research Studies and Research Scholars programs. Applicants for the Research Studies component must have a weighted cumulative GPA of 3.3 or higher while those for the Research Scholars component must have a weighted cumulative GPA of 3.8 or higher. Applicants for both programs must provide a recommendation from a teacher or counselor.¹ The average weighted cumulative GPA for students that attended the 2017 program was 3.87, a 0.08 increase from the previous year. The average weighted cumulative GPA for Research Studies and for Research Scholars were 3.85 and 4.09, respectively.

Number of Participants

Figure 3 shows the number of students participating in Academic Connections from 2012 to 2017, a 6 percent growth. The program experienced a slight decrease in the number of participants from 2016 and 2017 because of the economic downturn. Academic Connections continues to maintain partnerships with numerous non-profits and community organizations in order to make the program accessible to more students.

Figure 3: Number of Participants by Year

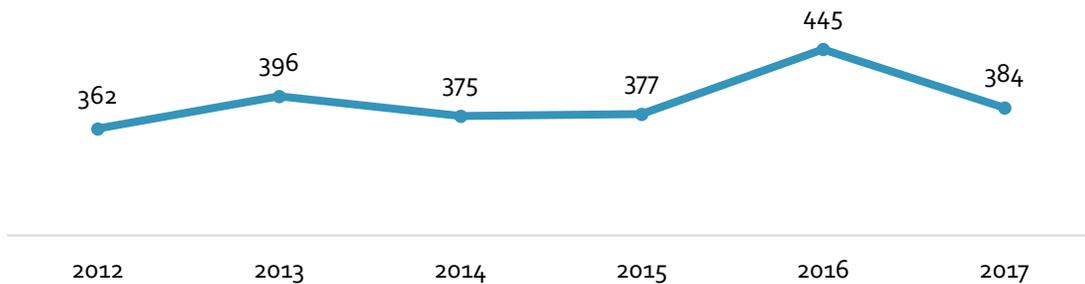


Figure 4: Number of Participants by Program by Year



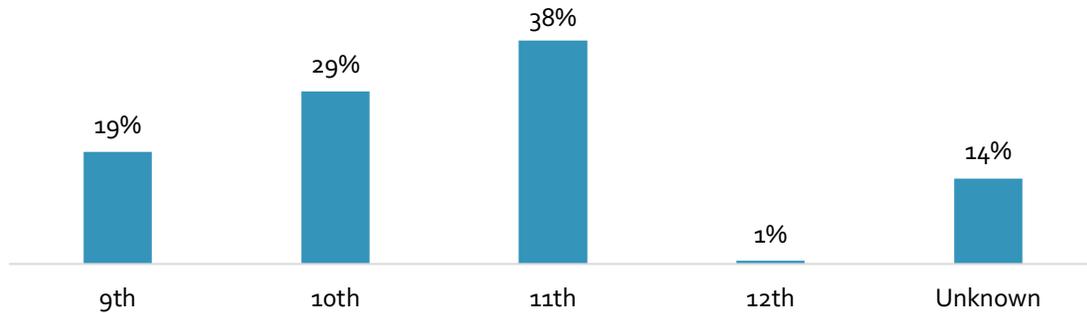
¹ Weighted cumulative GPA data was unavailable for 34 participants.

Demographics of Student Participants

Grade Level of Participants

Students entering or in high school are eligible for Academic Connections. Figure 5 shows the reported grade levels of participants for the 2017 program. Nineteen percent applied as freshmen, 29 percent as sophomores, 38 percent as juniors, and 1 percent as seniors. Suspect or missing data were categorized as unknown.²

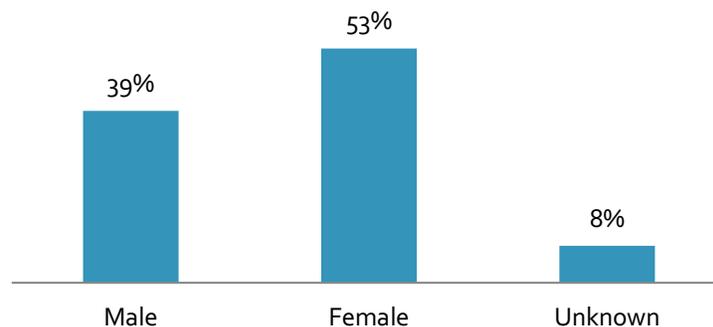
Figure 5: Academic Connections Participants by Grade Levels (n=384)³



Gender of Participants

A greater proportion of female than male students participated in Academic Connections (Figure 6). Eight percent of participants did not report gender data, and were therefore categorized as unknown.

Figure 6: Academic Connections Participants by Gender (n=384)



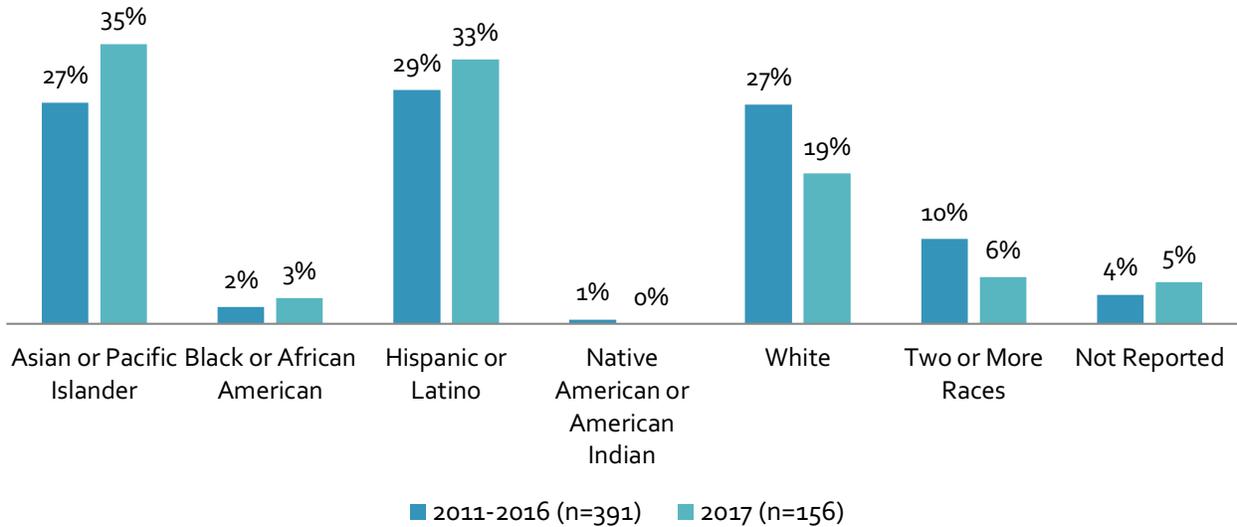
² Applicants were asked to report their highest level of education during the application process. The research team was informed that a number of students inaccurately reported their grade levels and were thus categorized as unknown. The research team also did not have access to demographic data for students that attended the Catalina program.

³ Percentages may not equal 100 due to rounding.

Ethnicity of Participants

The research team distributed a survey to program participants to obtain additional demographic information. Figure 7 is a breakdown of participants by ethnicity. Responses illustrated a greater proportion of Asian or Pacific Islander, and Hispanic or Latino enrollments in 2017 compared to previous years. Extension continually strives to improve outreach efforts in order to increase inclusivity and diversity of its program participants.

Figure 7: Participants by Ethnicity ⁴



⁴ Percentages may not equal 100 due to rounding.

College Readiness Factors

Parental educational attainment and annual household income significantly impact the quality of academic achievement and college readiness in children.⁵ According to a study conducted by the U.S. Department of Education, children with parents who have a higher level of educational attainment score better on the National Assessment of Educational Progress compared to their counterparts. Similarly, studies demonstrate that parents with higher educational attainment levels are more likely to possess the experiences and resources necessary to help their children also achieve post-secondary enrollment.⁶ This also influences the pursuit of prestigious occupational prospects.⁷ Parental wealth is also a strong indicator of post-secondary enrollment and completion in children.⁸ By distributing a follow-up survey, the research team obtained information about students' parental educational attainment levels and annual household income to assess college readiness.

⁵ Aud, S., Fox, M., and KewalRamani, A. (2010). *Status and Trends in the Education of Racial and Ethnic Groups 2010* (NCES 2010-015). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

⁶ Spera, Christopher, Kathryn R. Wentzel and Holly C. Matto. "Parental Aspirations for Their Children's Educational Attainment: Relations to Ethnicity, Parental Education, Children's Academic Performance, and Parental Perceptions of School Climate." *J Youth Adolescence*, vol. 38, 2009, pp. 1140-1152.

⁷ Dubow, Eric F., Paul Boxer, and L. Rowell Huesmann. "Long-Term Effects of Parents' Education on Children's Educational and Occupational Success: Mediation by Family Interactions, Child Aggression, and Teenage Aspirations." *Merrill-Palmer quarterly (Wayne State University. Press)* 55.3 (2009): 224-249. *PMC*. Web. 6 Oct. 2016.

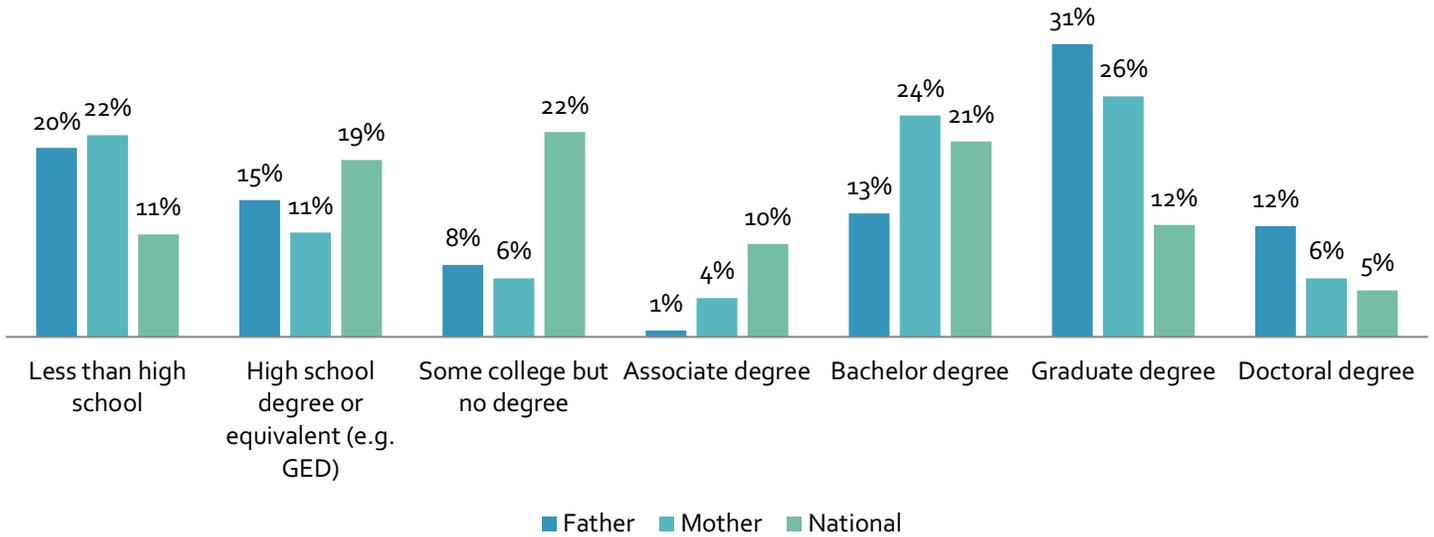
⁸ Conley, Dalton. "Capital for College: Parental Assets and Postsecondary Schooling." *Sociology of Education*, vol. 74, no. 1, 2001, pp. 59-72.

Educational Attainment of Parents

Respondents reported that 56 percent of fathers and mothers obtained a bachelor’s degree or higher, greater than national educational attainment levels.

Figure 8: Highest Level of Educational Attainment of Parents⁹

(Father n=143, Mother n=143)¹⁰



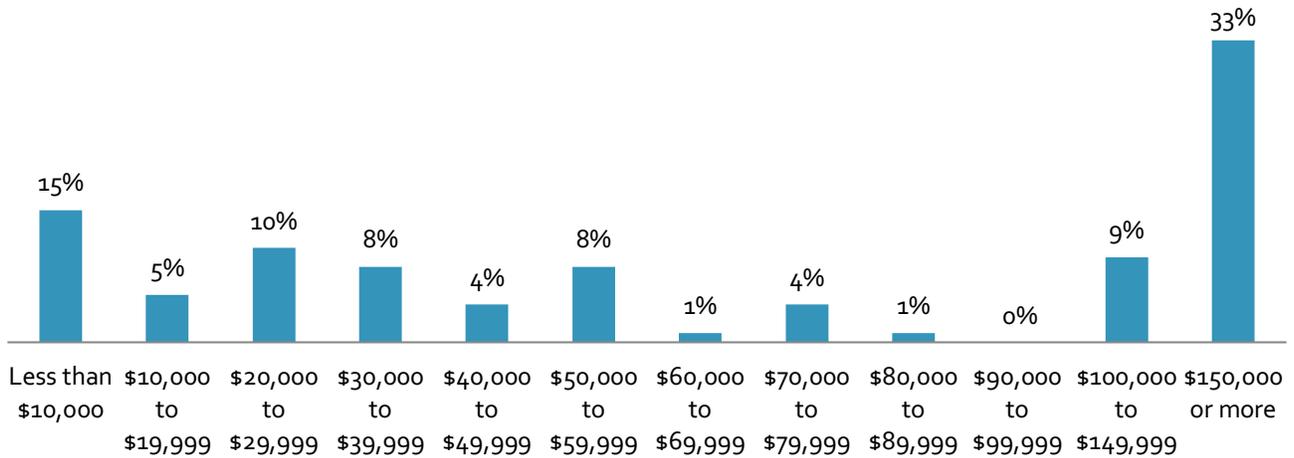
⁹ Percentages may not equal 100 due to rounding.

¹⁰ National data obtained from U.S. Department of Commerce, Census Bureau, American Community Survey (ACS), 2014. Digest of Education Statistics 2015, table 104.70.

Household Income

The follow-up survey also asked program participants to report their parents’ annual household income (Figure 9). According to the Self-Sufficiency Standard, the required annual income for a family of two adults and one teenager to adequately meet basic necessities is \$43,354 in California and \$47,232 in San Diego County.¹¹ Under this assumption, approximately 38 percent of participants did not meet San Diego County’s Self-Sufficiency Standard. Alternatively, 42 percent of respondents reported an annual household income of \$100,000 or more.

Figure 9: Academic Connections Participants by Household Income (n=96)¹²



Academic Connections’ core business model enrolls students from wealthier neighborhoods at full price. As the majority of participants pay full tuition for the program, the department is able to subsidize and expand the number of scholarship opportunities for low-income students. The program actively ensures that students from diverse backgrounds and socioeconomic statuses can participate and integrate into a single community.

¹¹ [California Family Economic Self-Sufficiency Standard](#). (2014). Insight Center for Community Economic Development and Dr. Diana Pearce, Center for Women’s Welfare, School of Social Work, University of Washington.

¹² Percentages may not equal 100 due to rounding.

Geographic Diversity of Participants

Academic Connections continues to attract students from a variety of geographic locations. Eighty-three percent of students were California residents, primarily residing in San Diego, San Jose, Cupertino, Imperial, and La Jolla. The program also attracted a number of non-California residents from cities such as Portland and Manitowoc. Academic Connections' reach also expanded overseas with participants from India, South Korea, and Brazil. Figures 10, 11, and 12 illustrate the domestic geographic clusters of 2017 program participants.¹³

Figure 10: Map of the United States (n=349)

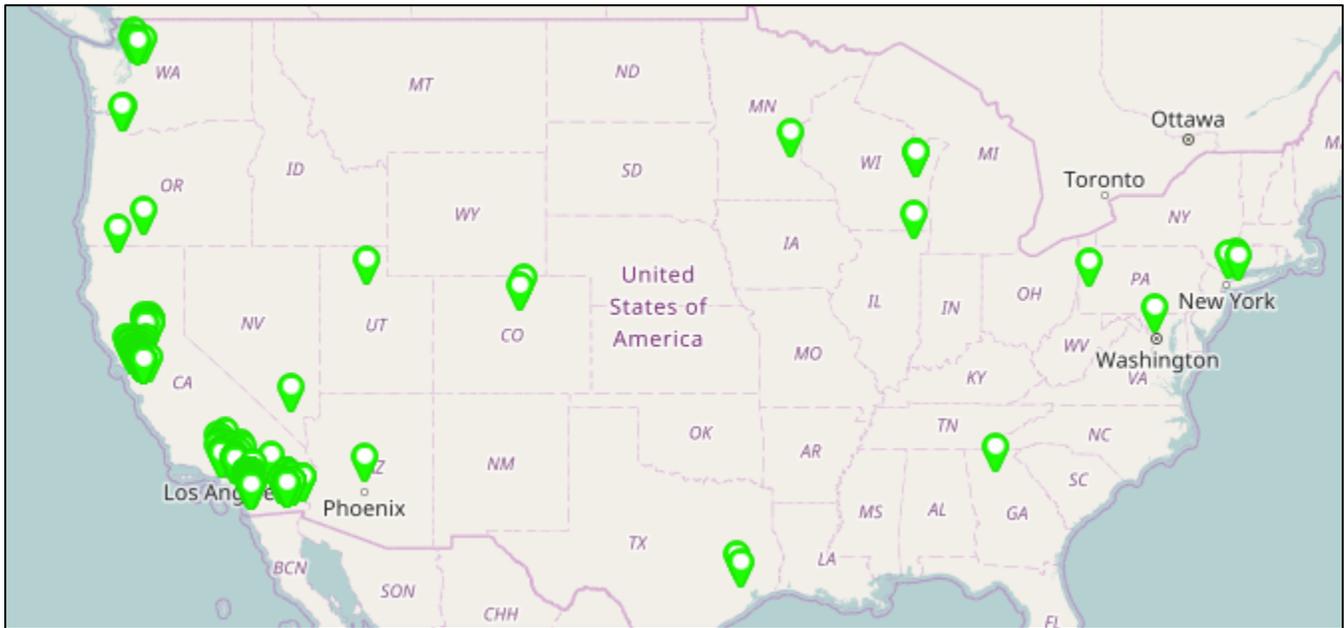


Figure 11: Map of North San Diego (n=349)

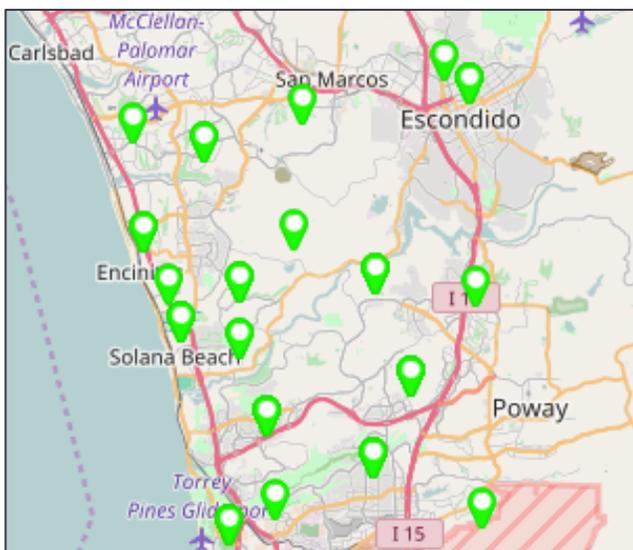
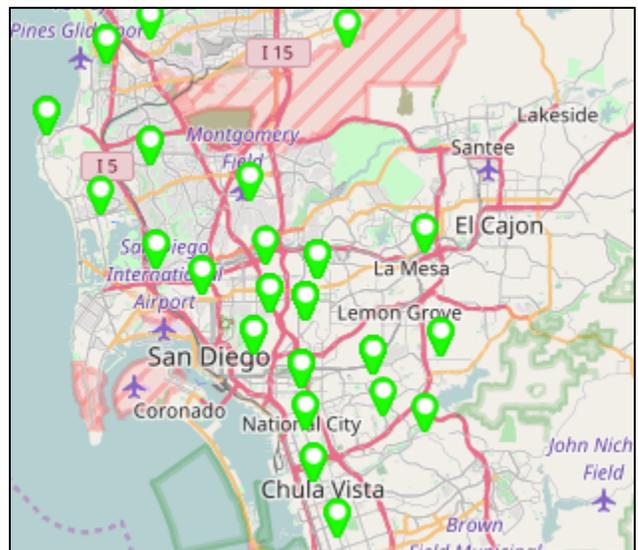


Figure 12: Map of South San Diego (n=349)



¹³ MapLine

In addition to geographic diversity, Academic Connections participants attend a variety of high schools. Among participants of the 2017 program, 80 percent attended public schools and 11 percent private schools. Data was unavailable for eight percent of participants. Figure 13 exhibits the number of unique schools represented by year.¹⁴ Schools with the greatest representation of students were Hoover High School, Imperial High School, University City High School, Monta Vista High School, and Preuss UCSD.

Figure 13: Number of Unique Schools by Year



¹⁴ Number of unique schools based on self-reported data.

Program Funding, Costs, and Partners

Academic Connections is a self-supported program that does not receive any State or Federal funding. The Department will continue to solicit donors and funders to contribute to established on-campus endowment.

Program Costs

Tuition for Academic Connections varies based on the session (Figure 14). International students are required to pay \$6,300 for all programs. Fees include tuition, housing, meals, field trips, and extra-curricular activities. Students can also request single rooms, airport shuttles, or SAT preparation at an additional cost.

Figure 14: Program Costs

Program	Fee
San Diego	\$4,200
Hawaii	\$3,100
Arizona	\$3,000
Catalina Island	\$ 500
San Diego/Washington, DC	\$4,800
International Students	\$6,300

Scholarships and Partners

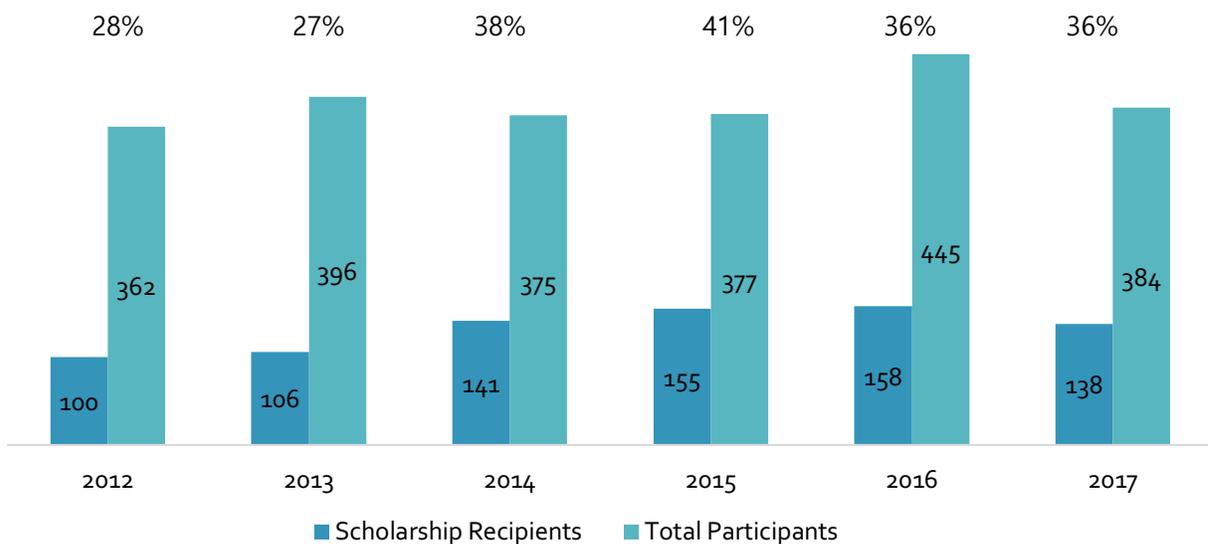
Academic Connections provides scholarships and financial assistance for underserved students in the community. From 2012 to 2017, a total of \$1,748,287 in aid was distributed. Please refer to Figure 15.

Figure 15: Scholarships by Year



The program has provided financial assistance to 34 percent of attendees during the past six years. For the 2017 program, 36 percent of program participants received funding. Figure 16 presents the number of program participants and the number of scholarship recipients by year. Academic Connections continually endeavors to expand the availability of financial assistance in order to encourage participation of students from all socioeconomic backgrounds. These funds are provided by donors and partnerships, as well as from students that pay full program tuition.

Figure 16: Scholarship Recipients



Academic Connections has established fundamental partnerships with numerous nonprofit and community organizations. The following is a brief description of Academic Connections' key partners:



REALITY CHANGERS transforms lives, schools, and communities by providing youth from disadvantaged backgrounds with the academic support, financial assistance, and leadership training to become first-generation college students.



PROMISES2KIDS

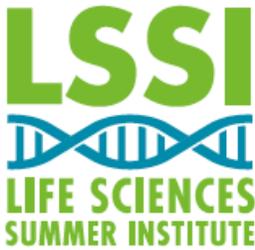
PROMISES2KIDS is a nonprofit organization originally founded over 30 years ago as the Child Abuse Prevention Foundation of San Diego County. Since 1981, Promises2Kids has responded to the needs of foster children and provided support to children removed from their home due to abuse and neglect.

Barrio Logan

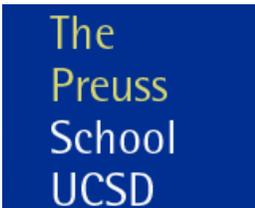


College Institute

BARRIO LOGAN COLLEGE INSTITUTE is located in Barrio Logan, a part of the San Diego community that is rich in both culture and pride but that is grossly underserved. Located in a traditionally low-income community BLCI promotes higher education as a ticket out of poverty. Working together with disadvantaged families, BLCI ensures that 100% of its students enroll in college. BLCI also helps students succeed in college programs across the nation!



LIFE SCIENCES SUMMER INSTITUTE nourishes a passion for science and math in San Diego's next generation of scientists. The program was created by San Diego Workforce Partnership in collaboration with BIOCUM and the Southern California Biotechnology Center at Miramar College to strengthen science and math education in San Diego County and develop a future workforce for the region's burgeoning life sciences industry.



THE PREUSS SCHOOL is a unique charter middle and high school for low-income students who strive to become the first in their families to graduate from college. Located on the UC San Diego campus, students come from throughout San Diego County to take advantage of an environment that encourages intellectual risk-taking while offering an array of academic supports.



VIEJAS BAND OF KUMEYAAY INDIANS is one of the remaining 12 bands of the Kumeyaay Indian Nation, residing on a 1,600-acre reservation in the Viejas Valley, east of the community of Alpine in San Diego County, California.



SYCUAN BAND OF THE KUMEYAAY NATION is one of the remaining 12 bands of the Kumeyaay Indian Nation, residing in the unincorporated area of San Diego, east of El Cajon in San Diego County, California.



THE UNIVERSITY OF HAWAII, HILO is located on the Big Island of Hawai'i, the largest island in the Hawaiian Archipelago. UC San Diego and the University of Hawai'i, Hilo have been collaborating to provide high-achieving high school students the opportunity to work hand-in-hand with prominent faculty researchers and graduate students around the Big Island of Hawai'i, exploring the causes and effects of climate change on earth's systems.



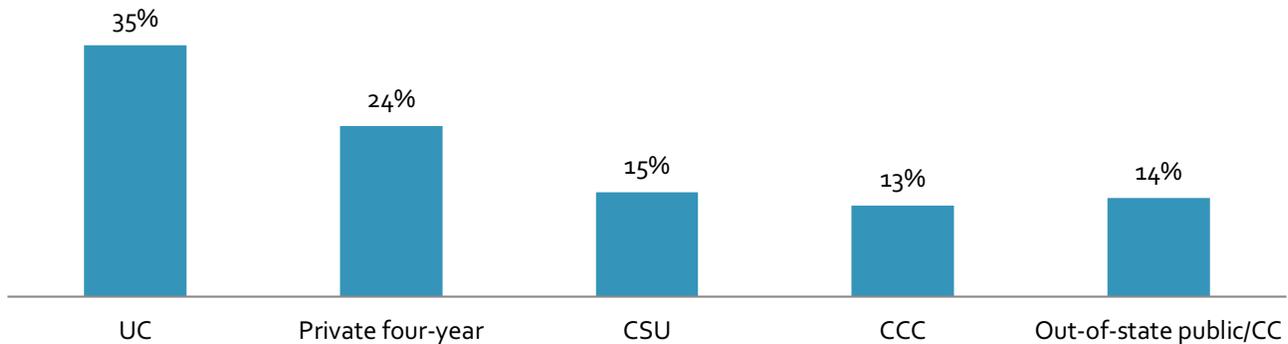
UNIVERSITY OF ARIZONA is a public research university in Tucson, Arizona, United States. UC San Diego and the University of Arizona have been collaborating to provide high-achieving high school students the opportunity to work hand-in-hand with prominent faculty researchers and graduate students in the biomes and labs of the Biosphere 2 complex, exploring causes and effects of climate change on earth's systems.

Academic Development

Enrollment in Higher Education

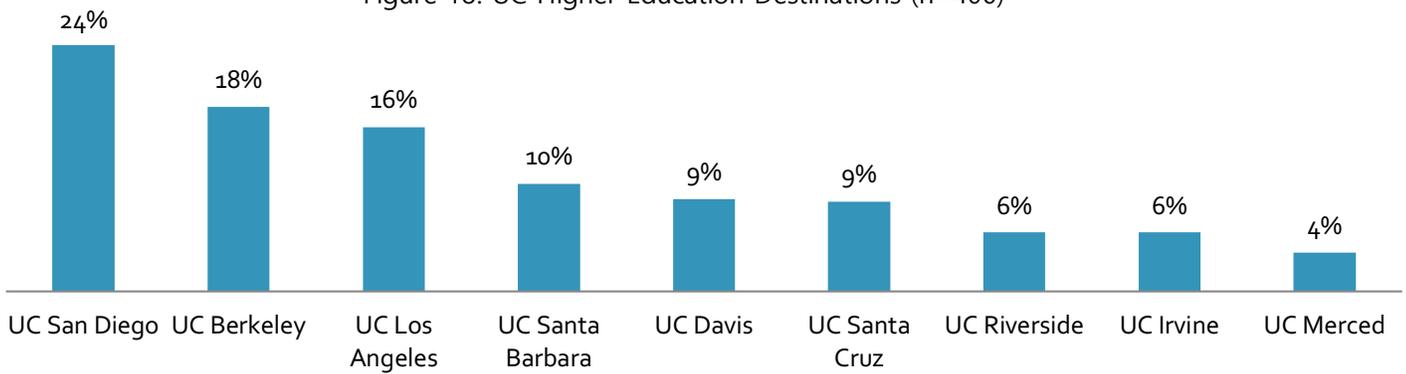
Of the 2,070 unique students that participated in Academic Connections from 2012 to 2017, UC San Diego Extension obtained higher education enrollment data for 1,153 students.¹⁵ The research team utilized National Student Clearinghouse, a database that provides student enrollment and degree verification for colleges and universities in the United States. Of the program participants that enrolled in higher education, 35 percent enrolled at UC campuses, 24 percent at private four-year universities, 15 percent at California State University campuses, and 13 percent at California Community College campuses. Additionally, 14 percent enrolled in either an out-of-state public two-year or an out-of-state four-year institution. Of these individuals, 8 percent attended a two-year and 92 percent a four-year institution.

Figure 17: Higher Education Destinations (n=1,155)¹⁶



Among those enrolled at UC campuses, 24 percent enrolled at UC San Diego, 18 percent at UC Berkeley, 16 percent at UC Los Angeles, 10 percent at UC Santa Barbara, 9 percent at UC Davis, 9 percent at UC Santa Cruz, 6 percent at UC Riverside, 5 percent at UC Irvine, and 4 percent at UC Merced

Figure 18: UC Higher Education Destinations (n=406)



¹⁵ Higher education enrollment data unavailable for individuals: 1) still attending middle or high school; 2) that opted out of disclosing information with third parties; and 3) not pursuing a higher education degree.

¹⁶ Percentages may not equal 100 due to rounding.

After UC and CSU, the 15 universities at which Academic Connections participants most often enrolled were:

1. University of Southern California
2. New York University
3. University of San Diego
4. University of Washington – Seattle
5. Purdue University – West Lafayette
6. University of Oregon
7. University of Illinois at Urbana
8. Johns Hopkins University
9. University of Colorado Boulder
10. University of Arizona
11. University of Texas at Austin
12. Rice University
13. University of Michigan
14. Santa Clara University
15. Brown University
16. Point Loma Nazarene University

Program Evaluation

Student Satisfaction¹⁷

A survey was distributed to program participants to better understand the value and impact of Academic Connections. Nearly 96 percent of participants believed the program was valuable academically, maintain the same degree of satisfaction as the previous year. Furthermore, 97 percent indicated that the program influenced their overall educational goals, with 51 percent reporting a significant impact.

Through participation students developed skill sets critical to succeeding in college, such as strong work ethic, time management, public speaking, and writing. Students were also exposed to the rigor and expectations of a college environment. Additionally, many found the coursework challenging and stimulating, and were able to obtain technical skills by conducting scientific research in faculty-led labs. The program also introduced students to a variety of fields and helped narrow down their target major. Many also described the positive impact of Academic Connections on their high school coursework with improvements in grades and performance. These findings demonstrate not only the academic value of the program but also its practical impact on participants.

Ninety-nine percent believed that Academic Connections was an overall valuable opportunity and would recommend the program to others. Further, 90 percent would be inclined to participate in Academic Connections had they been making the decision today, a six percent increase compared to previous cohort. According to the course evaluations submitted by students after completing the program, 95 percent of respondents were pleased with the course and 97 percent with the instructor.¹⁸

"I attend a high school where academics aren't the best, and students aren't always seeking after the best educational opportunities. This can wear down people like me who have a drive for education and overall improvement. Thus, attending AC helped me, and it reinvigorated my love for my education and my drive to take it to college level."

"Academic Connections made me a more curious and outgoing student. Since then I have noticed that I have been more interactive in class with my teachers and fellow classmates by asking questions and discussing what we're taught in class."

¹⁷ n=156

¹⁸ Responses were translated into percentages for the report.

COLLEGE CREDIT

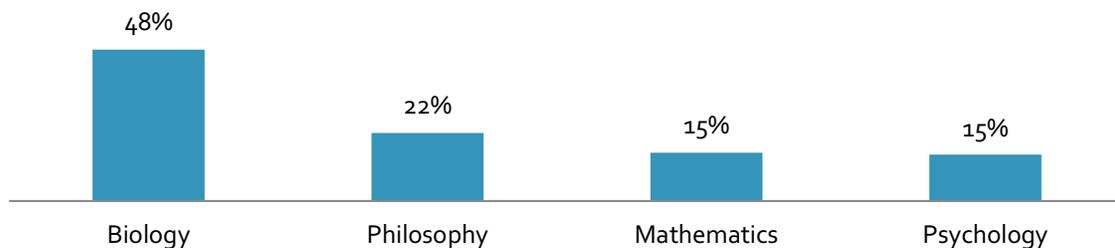
Program Description

College Credit allows qualified high school students to enroll in lower division UC San Diego courses for college credit. These courses are equivalent to a main campus undergraduate course and are transferable for units/subject credits towards a bachelor's degree at all UC campuses. Students who have successfully completed course prerequisites are eligible for enrollment in the program.

The benefits of this initiative include: (1) providing the opportunity for students to explore and learn about their academic interests, (2) increasing the number of college credits students can obtain while still in high school, (3) making higher education more accessible, affordable, and attractive by bridging the divide between high school and college, (4) facilitating the transition of motivated students to higher education, (5) creating an outreach mechanism to the broader San Diego region, and (6) challenging talented high school students to utilize their academic year in a more productive manner.

As of 2017, 17 courses in a variety of disciplines have been approved for the program. During the 2016-17 academic year, courses with the largest enrollments were biology (48 percent) and philosophy (22 percent). College Credit courses are taught by UC San Diego graduate or doctoral students vetted by UC San Diego. Each course had an average of 23 students, with class sizes ranging from 9 to 35.

Figure 19: Distribution of Students per Discipline (n=272)¹⁹



Students completed evaluations for courses taken during the College Credit program.²⁰ Respondents were asked whether they were satisfied with their experiences in the program. Eighty-one percent of respondents were satisfied with the course and 81 percent with the instructor for the academic year.

¹⁹ Percentages may not equal 100 percent due to rounding.

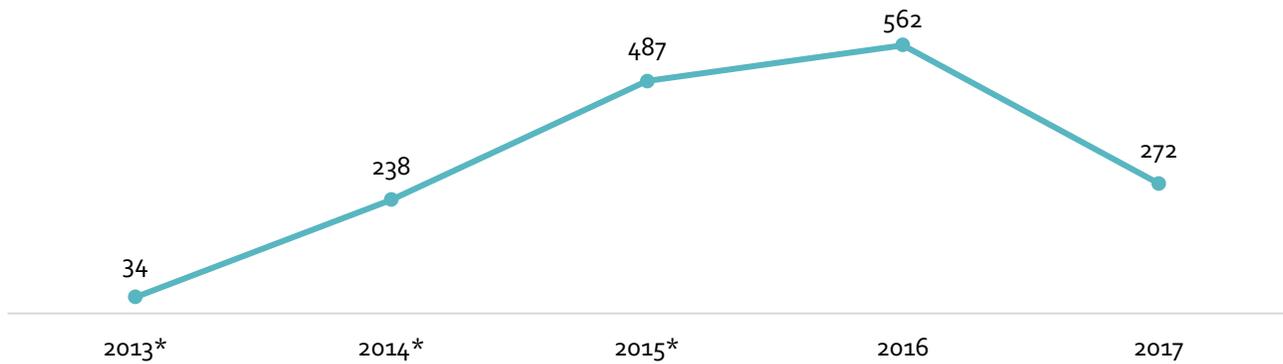
²⁰ n=96

Number and Demographics of Student Participants

Number of Participants

College Credit experienced significant growth in the number of participants between 2013 and 2016. However, financial hardship of a number of partner schools resulted in the decrease of course offerings to students. This also consequently impacted the number of participants. Please refer to Figure 20.

Figure 20: Number of Participants by Year ²¹

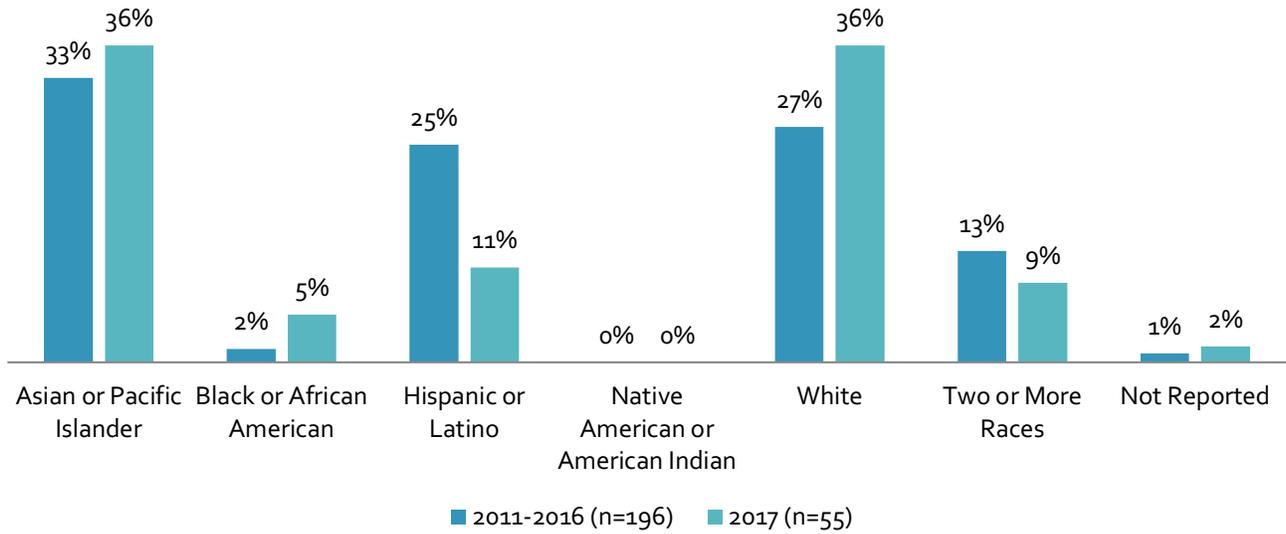


²¹ Analysis for years denoted with an asterisk is based on the calendar year. Starting 2015 data analysis has been conducted based on academic year and is thus denoted without an asterisk.

Demographics of Participants

Students that enrolled in College Credit were distributed a follow-up survey to obtain additional demographic information.²² Figure 21 is breakdown of participants by ethnicity.

Figure 21: Participants by Ethnicity ²³



²² Only students that directly signed up for College Credit via Extension were sent the follow-up survey, as the research team did not have access to the e-mail addresses of other participants.

²³ Percentages may not equal 100 due to rounding.

College Readiness Factors

Parental educational attainment and annual household income significantly impact the quality of academic achievement and college readiness in children.²⁴ According to a study conducted by the U.S. Department of Education, children with parents who have a higher level of educational attainment score better on the National Assessment of Educational Progress compared to their counterparts. Similarly, studies demonstrate that parents with higher educational attainment levels are more likely to possess the experiences and resources necessary to help their children also achieve post-secondary enrollment.²⁵ This also influences the pursuit of prestigious occupational prospects.²⁶ Parental wealth is also a strong indicator of post-secondary enrollment and completion in children.²⁷ By distributing a follow-up survey, the research team obtained information about students' parental educational attainment levels and annual household income to assess college readiness.

²⁴ Aud, S., Fox, M., and KewalRamani, A. (2010). *Status and Trends in the Education of Racial and Ethnic Groups 2010* (NCES 2010-015). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

²⁵ Spera, Christopher, Kathryn R. Wentzel and Holly C. Matto. "Parental Aspirations for Their Children's Educational Attainment: Relations to Ethnicity, Parental Education, Children's Academic Performance, and Parental Perceptions of School Climate." *J Youth Adolescence*, vol. 38, 2009, pp. 1140-1152.

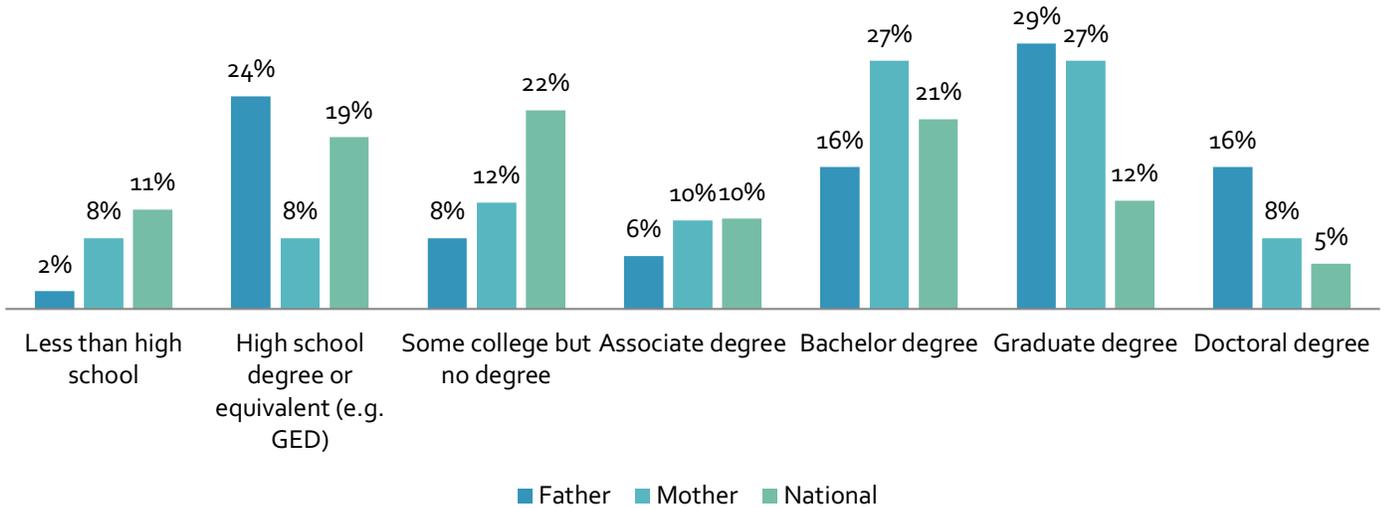
²⁶ Dubow, Eric F., Paul Boxer, and L. Rowell Huesmann. "Long-Term Effects of Parents' Education on Children's Educational and Occupational Success: Mediation by Family Interactions, Child Aggression, and Teenage Aspirations." *Merrill-Palmer quarterly (Wayne State University. Press)* 55.3 (2009): 224-249. *PMC*. Web. 6 Oct. 2016.

²⁷ Conley, Dalton. "Capital for College: Parental Assets and Postsecondary Schooling." *Sociology of Education*, vol. 74, no. 1, 2001, pp. 59-72.

Educational Attainment of Parents

Respondents reported that 61 percent of fathers and 62 percent of mothers obtained a bachelor’s degree or higher. This is approximately 23 percent greater than national educational attainment levels.

Figure 22: Highest Level of Educational Attainment of Parents ²⁸
 (Father n=51, Mother n=51) ²⁹



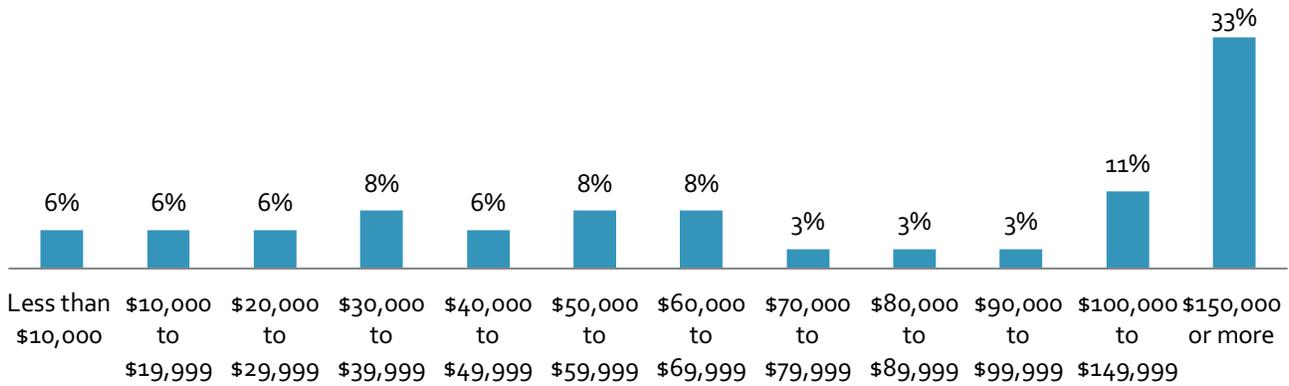
²⁸ Percentages may not equal 100 due to rounding.

²⁹ National data obtained from U.S. Department of Commerce, Census Bureau, American Community Survey (ACS), 2014. Digest of Education Statistics 2015, table 104.70.

Household Income

Students were asked to report their parents' annual household income to better understand the socioeconomic landscape of College Credit participants (Figure 23). According to the Self-Sufficiency Standard, the required annual income for a family of two adults and one teenager to adequately meet basic necessities is \$43,354 in California and \$47,232 in San Diego County.³⁰ Based on this assumption, 26 percent had a household income lower than San Diego County's Self-Sufficiency Standard while 44 percent had an income of \$100,000 or greater.

Figure 23: Participants by Household Income (n=36)³¹



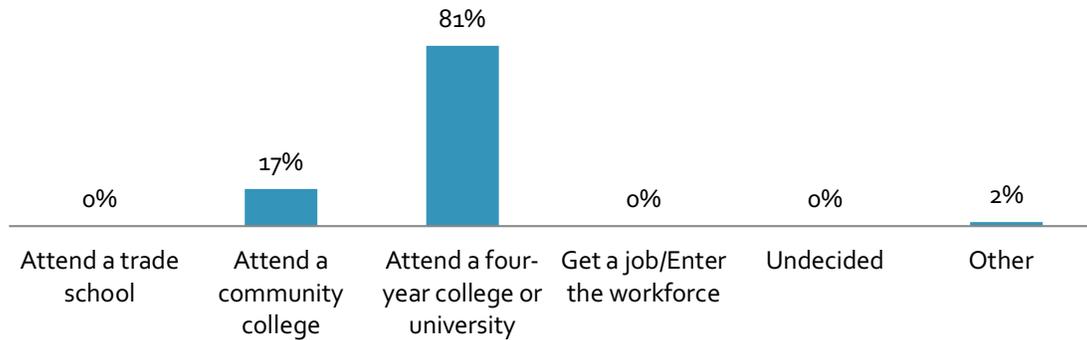
³⁰ California Family Economic Self-Sufficiency Standard. (2014). Insight Center for Community Economic Development and Dr. Diana Pearce, Center for Women's Welfare, School of Social Work, University of Washington.

³¹ Percentages may not equal 100 due to rounding.

Post-High School Plans

Students were asked about their educational goals upon graduating from high school. Most respondents had the intent to pursue post-secondary education, with 81 percent planning to attend a four-year college or university and 17 percent a community college. Two percent reported other plans. Of these respondents, 96 percent felt ready for to attend college or university.

Figure 24: Post-High School Plans (n=54)



Previous literature, parental educational attainment levels, annual household income, and post-high school plans of program participants suggest a greater probability of post-secondary educational attainment plans compared to the average high school student in the nation.

Program Costs and Partners

Tuition for College Credit varies based on enrollment methods. Students that enroll directly via Extension are charged \$400 per course. Alternatively, students that attend select high schools within San Diego Unified School District are eligible to participate at no cost due to a partnership established in 2015. These courses are hosted at the sites of participating schools for students to attend during school hours or after school in some cases.

TEST PREP

Program Description

Test Prep prepares high school and undergraduate students with test preparation in a condensed amount of time. Courses are designed to increase test scores by equipping students with effective test-taking strategies. Extension offers Test Prep courses for the following standardized tests: ACT, SAT, GRE, GMAT, LSAT, and MCAT.

Figure 25 shows the number of courses offered by year from 2 in 2011 to 77 in 2017. There was a 16 percent decrease in course offerings between 2016 and 2017 due to the economic downturn.

Figure 25: Number of Courses by Year ³²



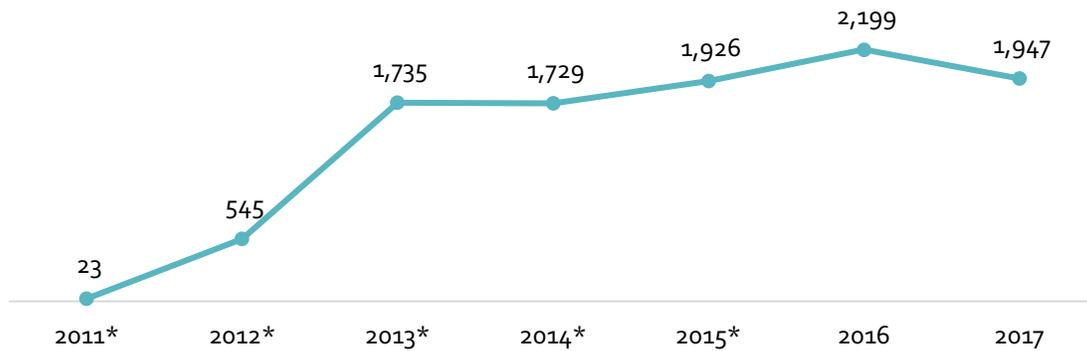
³² Analysis for years denoted with an asterisk is based on the calendar year. Starting 2015 data analysis has been conducted based on academic year and is thus denoted without an asterisk.

Number and Demographics of Student Participants

Number of Participants

Test Prep experienced an overall growth in the number of participants during the last seven years. Enrollments especially increased from 2011 to 2013 after Test Prep became available to students outside of Academic Connections. Additionally, the establishment of two contracts with the San Diego Unified School District further expanded enrollments from 2015 to 2016. The program, however, experienced an 11 percent decrease in participants from 2016 to 2017. This trend can be attributed to the reduction in the number of courses offered.

Figure 26: Number of Participants by Year ³³



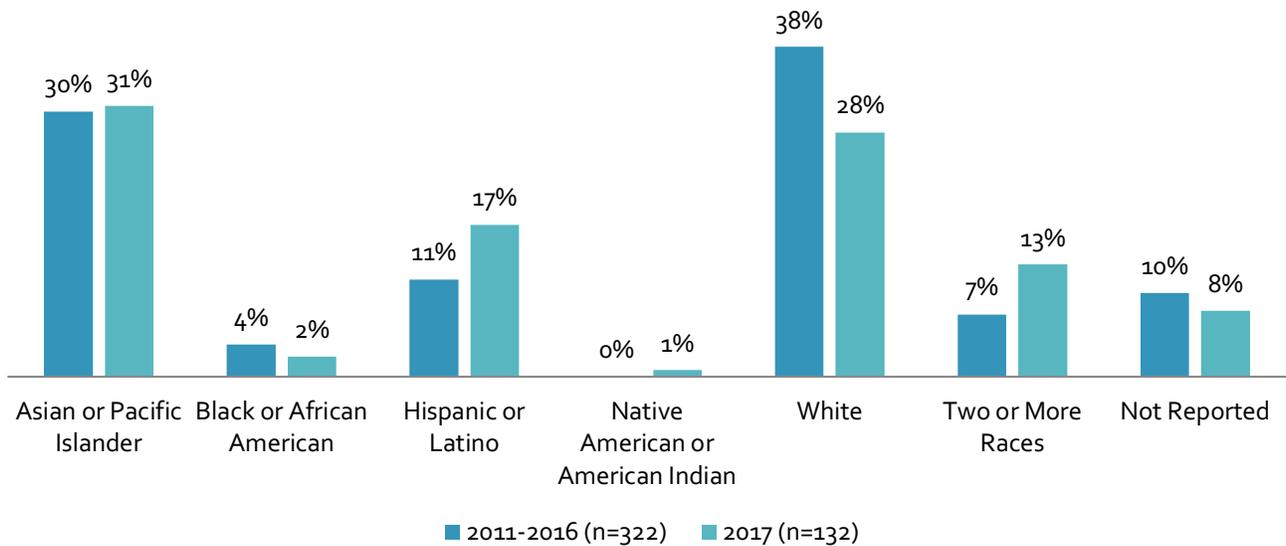
³³ Analysis for years denoted with an asterisk is based on the calendar year. Starting 2015 data analysis has been conducted based on academic year and is thus denoted without an asterisk.

Demographics of Participants

Of the 1,947 students that participated in the program, Extension only had access to contact information for students that enrolled in Test Prep courses via Extension. The research team emailed 758 students a follow-up survey that included questions to better understand the demographic landscape and college readiness of program participants. Of the students emailed, 132 respondents completed this survey.

Students that enrolled in Test Prep were distributed a follow-up survey to obtain additional demographic information.³⁴ Figure 27 is breakdown of participants by ethnicity.

Figure 27: Participants by Ethnicity ³⁵



³⁴ Only students that enrolled in Test Prep courses via Extension were asked to complete the evaluation, as the research team did not have access to the e-mail addresses of other participants.

³⁵ Percentages may not equal 100 due to rounding.

College Readiness Factors

Parental educational attainment and annual household income significantly impact the quality of academic achievement and college readiness in children.³⁶ According to a study conducted by the U.S. Department of Education, children with parents who have a higher level of educational attainment score better on the National Assessment of Educational Progress compared to their counterparts. Similarly, studies demonstrate that parents with higher educational attainment levels are more likely to possess the experiences and resources necessary to help their children also achieve post-secondary enrollment.³⁷ This also influences the pursuit of prestigious occupational prospects.³⁸ Parental wealth is also a strong indicator of post-secondary enrollment and completion in children.³⁹ By distributing a follow-up survey, the research team obtained information about students' parental educational attainment levels and annual household income to assess college readiness.

³⁶ Aud, S., Fox, M., and KewalRamani, A. (2010). *Status and Trends in the Education of Racial and Ethnic Groups 2010* (NCES 2010-015). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

³⁷ Spera, Christopher, Kathryn R. Wentzel and Holly C. Matto. "Parental Aspirations for Their Children's Educational Attainment: Relations to Ethnicity, Parental Education, Children's Academic Performance, and Parental Perceptions of School Climate." *J Youth Adolescence*, vol. 38, 2009, pp. 1140-1152.

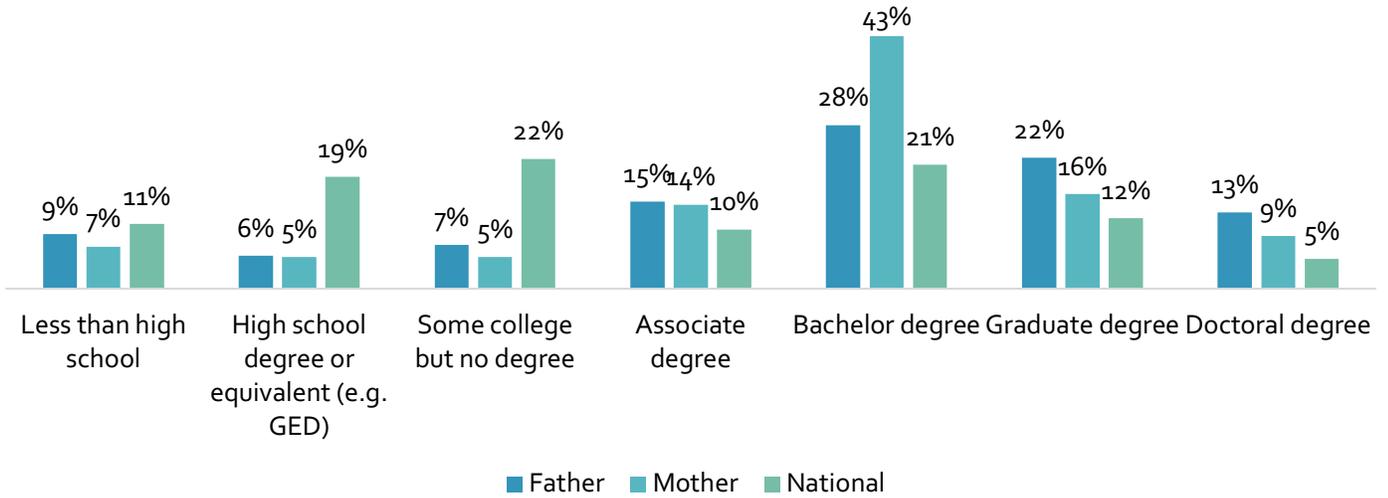
³⁸ Dubow, Eric F., Paul Boxer, and L. Rowell Huesmann. "Long-Term Effects of Parents' Education on Children's Educational and Occupational Success: Mediation by Family Interactions, Child Aggression, and Teenage Aspirations." *Merrill-Palmer quarterly (Wayne State University. Press)* 55.3 (2009): 224-249. *PMC*. Web. 6 Oct. 2016.

³⁹ Conley, Dalton. "Capital for College: Parental Assets and Postsecondary Schooling." *Sociology of Education*, vol. 74, no. 1, 2001, pp. 59-72.

Educational Attainment of Parents

Questions regarding educational attainment of parents were asked to high school program participants to better understand factors impacting college readiness. Responses show that 63 percent of fathers and 68 percent of mothers obtained a bachelor’s degree or higher.

Figure 28: Highest Level of Educational Attainment of Parents ⁴⁰
 (Father n=54, Mother n=56) ⁴¹



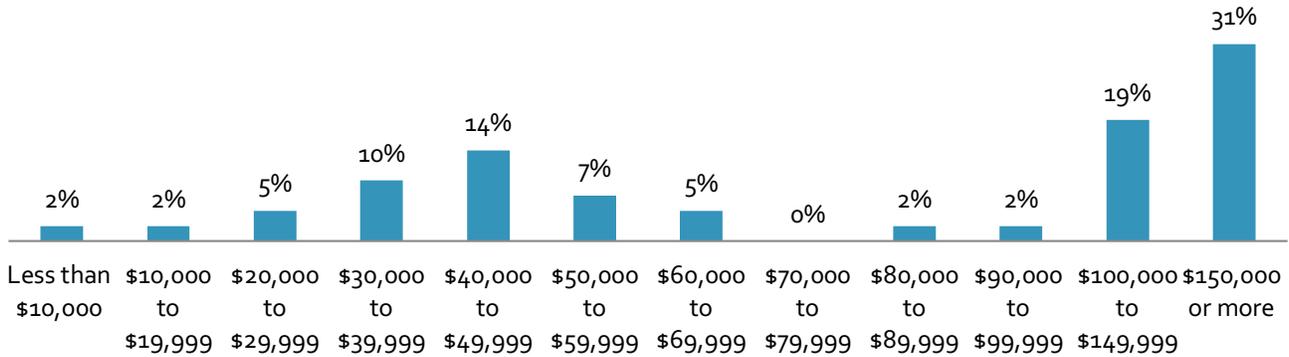
⁴⁰ Percentages may not equal 100 due to rounding.

⁴¹ National data obtained from U.S. Department of Commerce, Census Bureau, American Community Survey (ACS), 2014. Digest of Education Statistics 2015, table 104.70.

Household Income

High school students were also asked to report their parents’ annual household income to better understand the socioeconomic landscape of Test Prep participants (Figure 29). According to the Self-Sufficiency Standard, the required annual income for a family of two adults and one teenager to adequately meet basic necessities is \$43,354 in California and \$47,232 in San Diego County.⁴² Using this assumption, 19 percent of participants had a household income lower than San Diego County’s Self-Sufficiency Standard; 50 percent had an income of \$100,000 or greater.

Figure 29: Participants by Household Income (n=42)



Previous literature, parental educational attainment levels, annual household income, and post-high school plans of high school program participants suggest an increased likelihood of post-secondary pursuit than the average high school student in the nation. Participation in SAT/ACT courses further supports this finding.

⁴² [California Family Economic Self-Sufficiency Standard](#). (2014). Insight Center for Community Economic Development and Dr. Diana Pearce, Center for Women's Welfare, School of Social Work, University of Washington.

Program Funding, Costs, and Partners

Program Costs

Tuition for Test Prep varies based on enrollment methods. High school students independently pursuing SAT or ACT courses are required to pay \$350 per course; undergraduate students pursuing test preparation courses are charged \$500 per course. Students attending partner high schools can enroll in Test Prep courses at a significantly reduced cost or at no cost depending on the institution. Extension also offers Test Prep courses at no cost to undergraduate students through partnerships and scholarships. Active UC San Diego undergraduate students can also register for complimentary Test Prep courses through UC San Diego's Student Grant Program.

Scholarships and Partners

Figure 30 shows scholarships awarded by year. These funds make Test Prep more accessible to the local student population and provide individuals from all socioeconomic backgrounds greater opportunities for preparation. Grants also help undergraduate students better prepare for admission to graduate programs.

Figure 30: Scholarship Amounts by Year ⁴³



⁴³ Analysis for years denoted with an asterisk is based on the calendar year. Starting 2015 data analysis has been conducted based on academic year and is thus denoted without an asterisk.

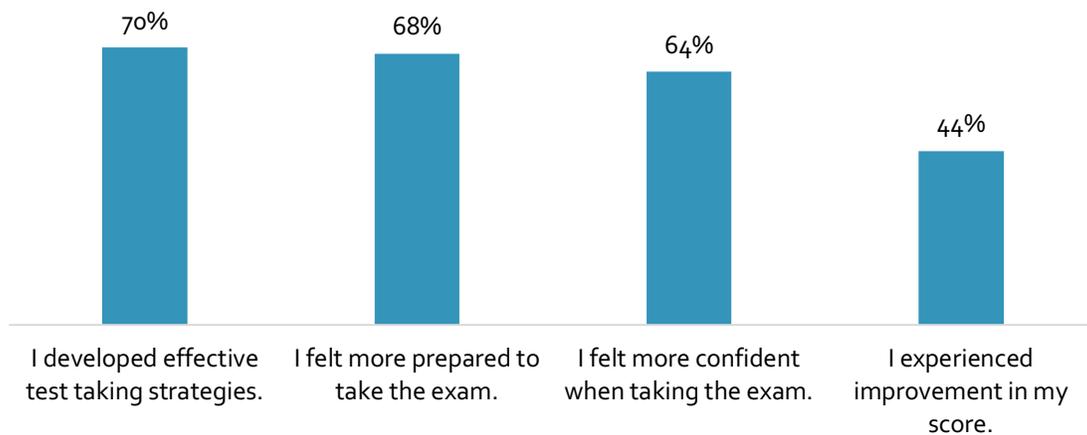
Program Satisfaction

Student Satisfaction (n=132)

Eighty-three percent of survey respondents believed that Test Prep was valuable, a 17 percent increase in student satisfaction compared to the previous cohort. Students believed the program equipped them with effective test-taking strategies, time management skills without impacting accuracy and speed, and technical concepts. Students also found the explanation of test materials and the practice problems beneficial, as it helped many recognize patterns within the tests. Overall, 80 percent would recommend Test Prep to others.

Figure 31 provides a breakdown of programmatic outcomes. Seventy percent of respondents developed effective test taking strategies, 68 percent felt more prepared to take the exam, and 64 percent felt more confident when taking the exam. Forty-four percent also experienced an improvement in score.

Figure 31: Programmatic Outcomes (n=132)



Participants that enrolled directly via Extension were asked to complete a course evaluation upon completing the program.⁴⁴ Extension did not have access to the contact information of students that enrolled through partner schools. In the course evaluation, students were asked to rate levels of satisfaction regarding their experiences in the Test Prep course. Eighty-seven percent of respondents were satisfied with the course and 88 percent with the instructor.⁴⁵ Course and instructor satisfaction ratings experienced a 10 percent and five percent positive increase, respectively, compared to the previous year.

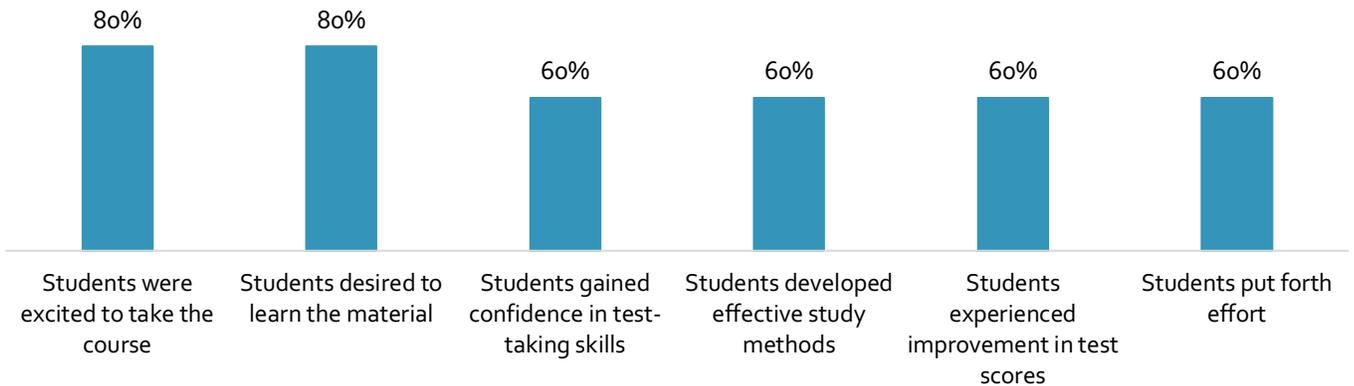
⁴⁴ n=114

⁴⁵ Responses were translated into percentages for the report.

Administrator Satisfaction

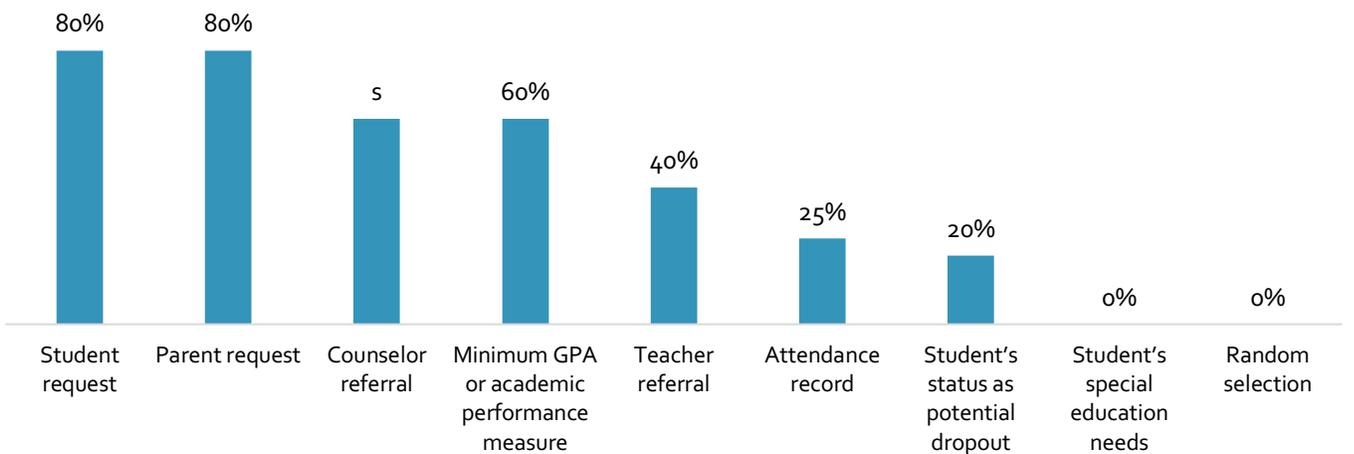
Partner schools that offer contract Test Prep courses were surveyed to obtain administrator input regarding student outcomes and implementation logistics. Of the 11 program administrators for the 2016-17 academic year, five completed the survey. All respondents found Test Prep valuable and would recommend the program to others. Administrators were asked to rate a series of statements to better understand student engagement levels (Figure 32). Eighty percent believed students were excited to take the course and desired to learn the material. Additionally, 60 percent of respondents reported students put forth effort, gained confidence in test-taking skills, developed effective study methods, and experienced improvement in test scores.

Figure 32: Student Engagement (n=5)



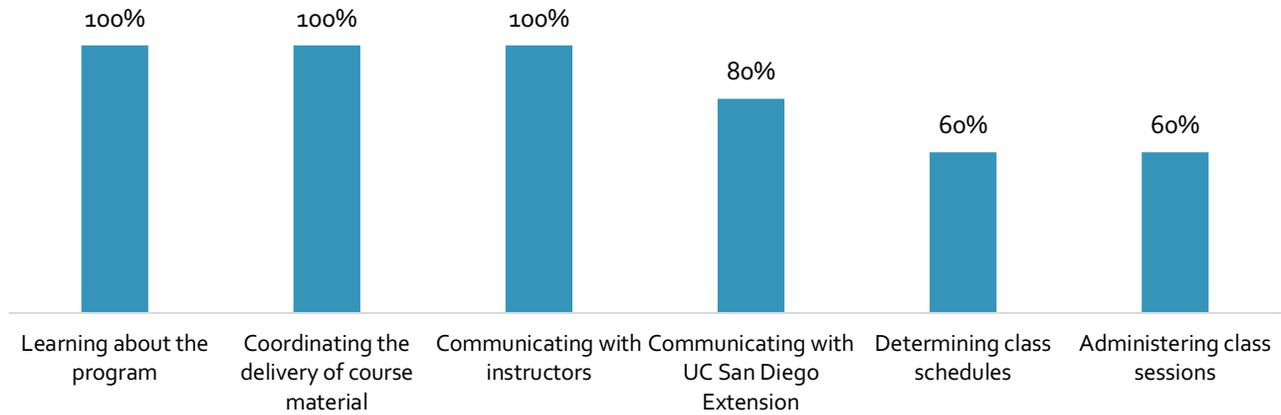
Administrators also identified how students were selected for Test Prep courses. Responses of 'often used' and 'always used' were translated into percentages (Figure 33). Frequently cited determinants were student request, parent request, counselor referral, and minimum GPA or academic performance measure.

Figure 33: Student Enrollment Determinants (n=5)



In addition to student outcomes, administrators were asked to rate a series of statements regarding the ease of program implementation (Figure 34). Respondents were asked to rate the level of ease on a scale from 1 to 5, with 1 being 'extremely difficult' and 5 being 'extremely easy'. Responses of 'somewhat easy' and 'extremely easy' were translated into percentages and are denoted below. Administrators positively rated their perception of UC San Diego, a mean score of 4.6 out of 5.0.

Figure 34: Ease of Program Implementation (n=5)



LAUNCH

Program Description

The LAUNCH program provides UC San Diego undergraduate students the opportunity to complete a UC San Diego Extension certificate through concurrent enrollment during their junior and/or senior year. Through participation full-time undergraduate students learn marketable skills essential for success in today's job market.

The program complements a student's undergraduate study and transition into the workforce upon graduation. In addition to acquiring practical and technical skill sets, students also develop essential soft skills by working with a coach who serves as a mentor throughout the program. These meetings occur quarterly to help participants plan and prepare themselves with the skills, knowledge, and abilities that will make the difference in landing that all-important first job upon graduation. Some of these abilities include:

- Communication on a personal and group level – electronically, in print, and face-to-face
- Research and analysis to find and interpret information about companies and jobs
- Networking with employers, working professionals, and alumni
- Attitudes and expectations regarding work that makes students a desirable new hire

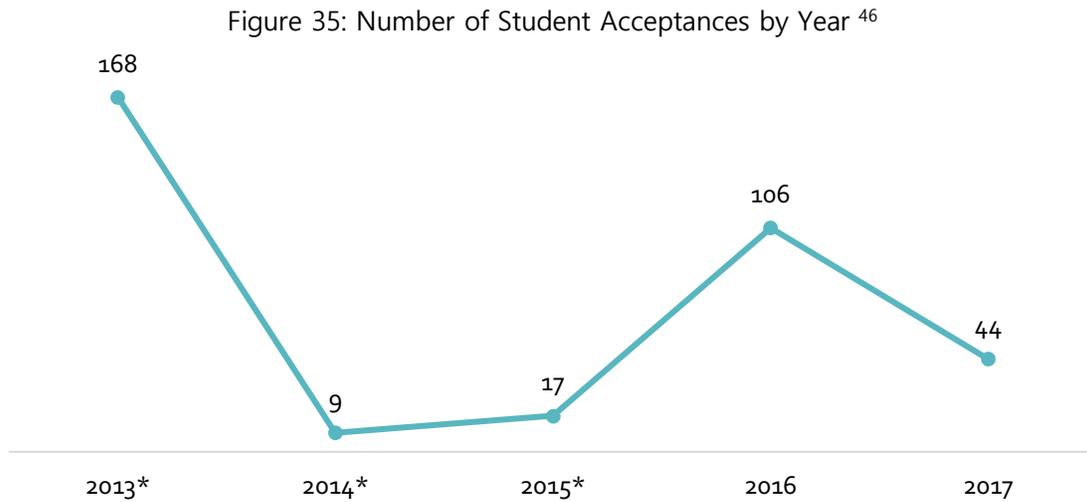
This program enables students to obtain tangible and practical industry knowledge, communicate and network with working professionals during class sessions, and increase confidence through mentorship. All of these programmatic facets help participating students become more competitive job candidates.

Students enrolled in LAUNCH are required to complete the Extension certificate even if it is after their graduation from UC San Diego. Students are also encouraged to participate in data gathering via surveys.

Number and Demographics of Student Participants

Number of Participants

There were 151 students enrolled in 36 different Extension certificate programs during the 2016-17 academic year. Figure 35 lists the number of students accepted into the program by year.



Certificates with the greatest active enrollments include: 1) Teaching English as a Foreign Language (TEFL), 2) Paralegal, 3) User Experience (UX) Design, 4) Geographical Information Systems, and 5) Marketing.

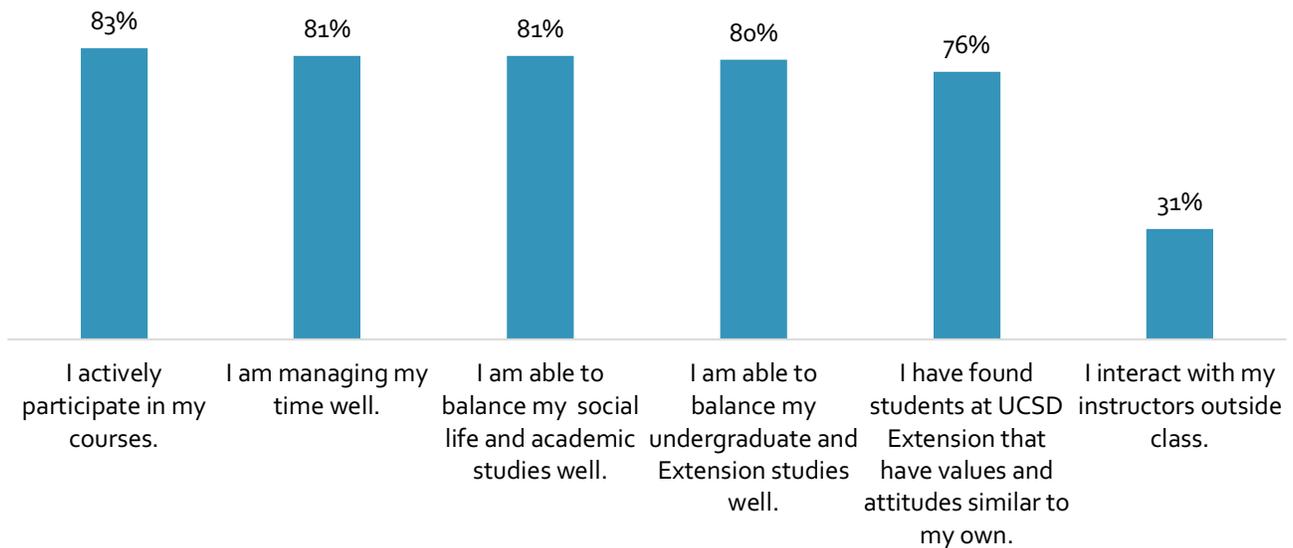
⁴⁶ Analysis for years denoted with an asterisk is based on the calendar year. Starting 2015 data analysis has been conducted based on academic year and is thus denoted without an asterisk.

Employment Readiness

Students participating in the LAUNCH program are encouraged to complete a mid-assessment and a post-two year survey to better understand the value and impact of the program on career trajectories. Ninety-four percent of survey respondents believed that the courses at Extension were preparing them for the workplace. Through enrollment in an Extension certificate, 39 percent reported a change in their thoughts about the industry and specific position they wish to pursue. Student were able to obtain additional information about their field of interest, gain insight on areas in which they were previously uninformed or misinformed, and expanded their knowledge about new careers.

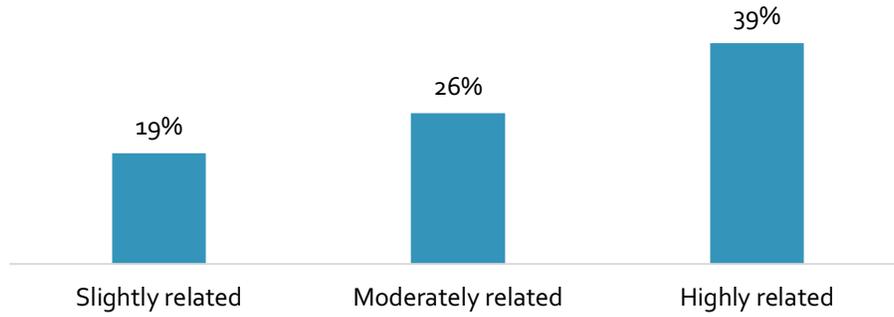
Participants were asked a series of questions to gauge their level of involvement and participation in the LAUNCH program (Figure 36). Eighty-three percent of respondents actively participated in courses. Furthermore, 81 percent successfully managed their time and balanced their social life and academic studies, and 80 percent balanced their undergraduate and Extension studies. Responses indicate that students were largely able to actively participate in the program while managing academic studies and extracurricular activities. Only 31 percent of participants, however, reported interacting with their instructors outside of class.

Figure 36: Level of Involvement and Participation in LAUNCH Program (n=89)



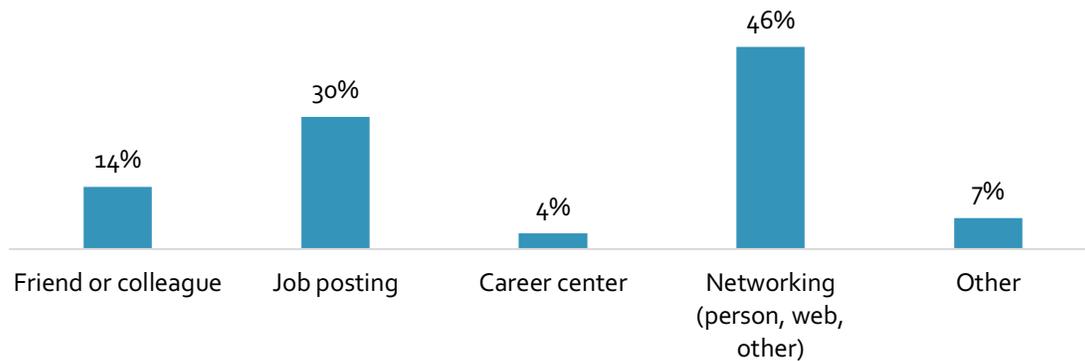
Students were also asked questions regarding employment upon completing graduating from UC San Diego (Figure 37). Thirty-nine percent of respondents reported that their occupation at the time of the survey was highly related to the occupation they had planned to pursue while attending UC San Diego.

Figure 37: Relevance of Occupation (n=57)



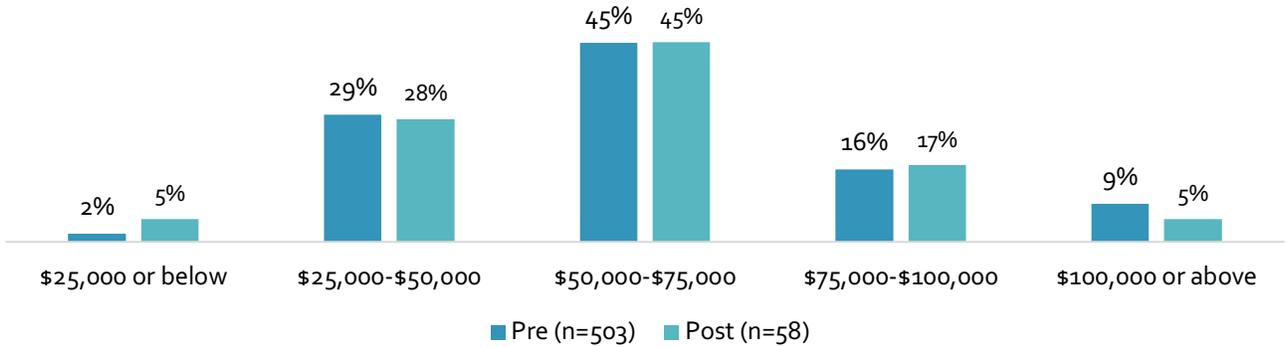
Forty-six percent of respondents obtained their employment at the time through networking (Figure 38). A number of students became aware of opportunities by networking with working professionals in Extension courses. Applying through job postings was the subsequent method of obtaining employment.

Figure 38: Method of Obtaining Employment (n=57)



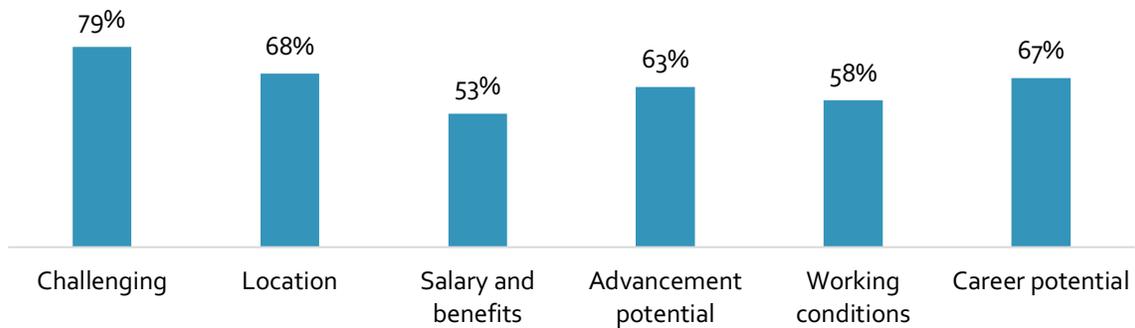
Fifty-eight percent of respondents had one full-time job since completing the program, followed by 25 percent with two full-time jobs and 18 percent with three full-time jobs. Students also reported their income level at the time of completing the survey. Figure 39 shows a breakdown of respondents' desired income level prior to enrolling in the program and income levels upon graduating. Thirty-three percent of students believed that the program enabled them to reach their desired income level upon graduation.⁴⁷

Figure 39: Personal Income Levels



Respondents were asked to rate the level of satisfaction with their job at the time of the survey. Figure 40 shows a breakdown of responses by element. Respondents were most satisfied with the degree of challenge, with 79 percent reporting 'satisfied' and 'very satisfied'. Location and career potential followed. Alternatively, individuals were least satisfied with the salary and benefits of their position.

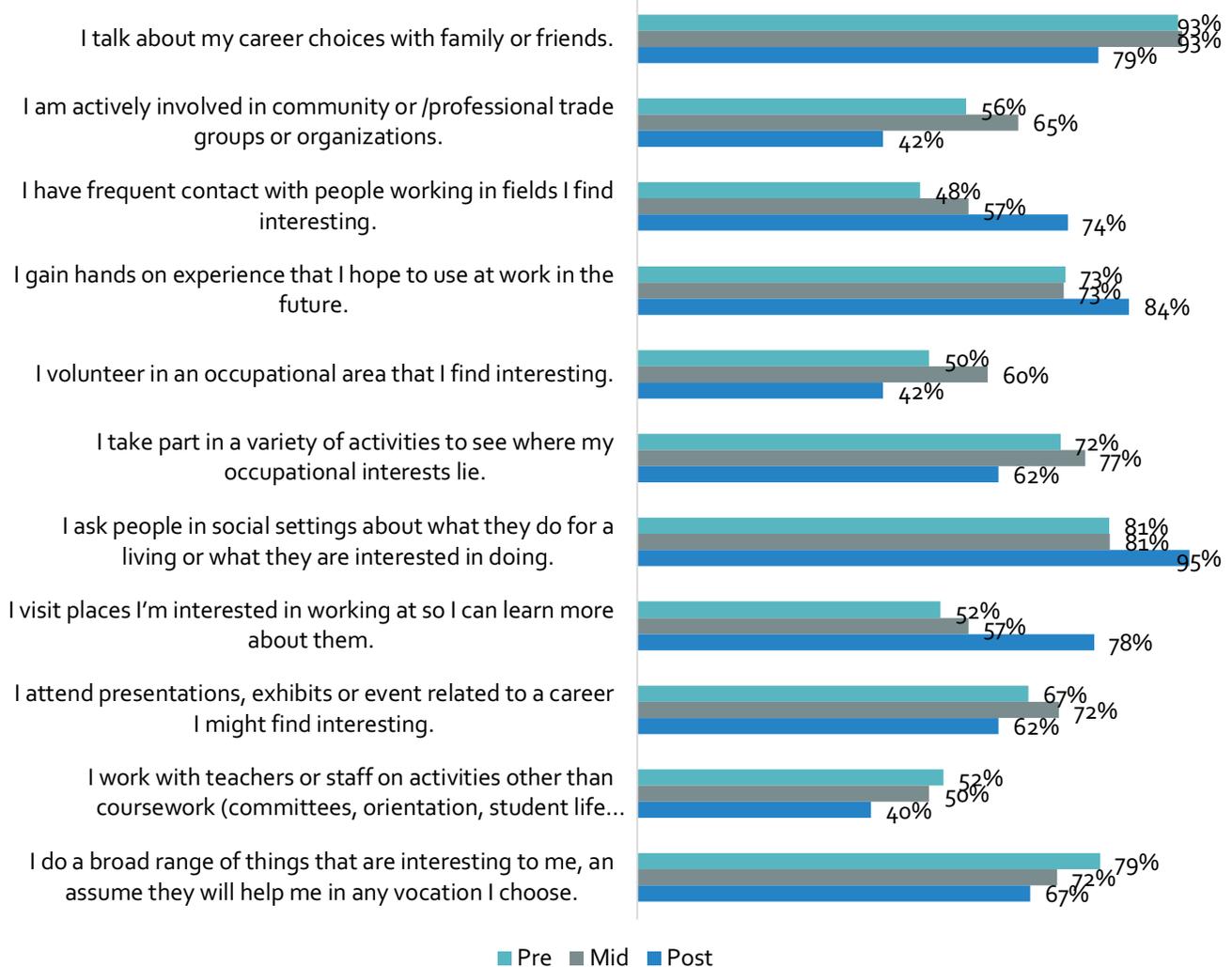
Figure 40: Level of Satisfaction with Job Elements (n=57)



⁴⁷ n=58

Extension measured students' level of occupational pursuit prior to enrolling in the program, during the completion of a certificate, and from a vantage of two years out. Figure 41 shows student responses by statement during each aforementioned timeframe. Once enrolled in a certificate, students demonstrated greater commitment towards uncovering occupational interest and building a foundation for employment in the future. This includes greater volunteering in an occupational area of interest, frequent contact with people working in fields of interest, and involvement in community/professional trade groups or organizations. Upon graduating from the certificate and from UC San Diego, students generally illustrated continual pursuit towards developing their skills and knowledge, as well as building networks in their industry of interest.

Figure 41: Level of Occupational Pursuit ⁴⁸



⁴⁸ Pre n=501, 501, 500, 499, 500, 501, 501, 501, 499, 500, 501, respectively
 Mid n=90, 89, 90, 89, 90, 90, 89, 90, 90, 90, 89, respectively
 Post n=57, 57, 57, 57, 57, 55, 55, 55, 55, 55, 55, respectively

Program Funding, Costs, and Partners

Program Costs

The LAUNCH program covers tuition for all UC San Diego Extension certificates, coaching services, and skill workshops. Upon acceptance into the program, undergraduate students at UC San Diego receive a subsidy award from Extension's Student Grant Program. Students are responsible for purchasing textbooks, required course material, and the \$60 certificate fee at the beginning of the program.

Scholarships

Figure 42 shows scholarships awarded to undergraduate students by year. During the past six years, Extension has provided \$1,500,185 in financial assistance. There has been a steady increase in the availability of funds, with a 153 percent growth between 2015 and 2017. These funds are used to offer Extension certificates to UC San Diego undergraduate students at no cost.

Figure 42: Grants by Year ⁴⁹

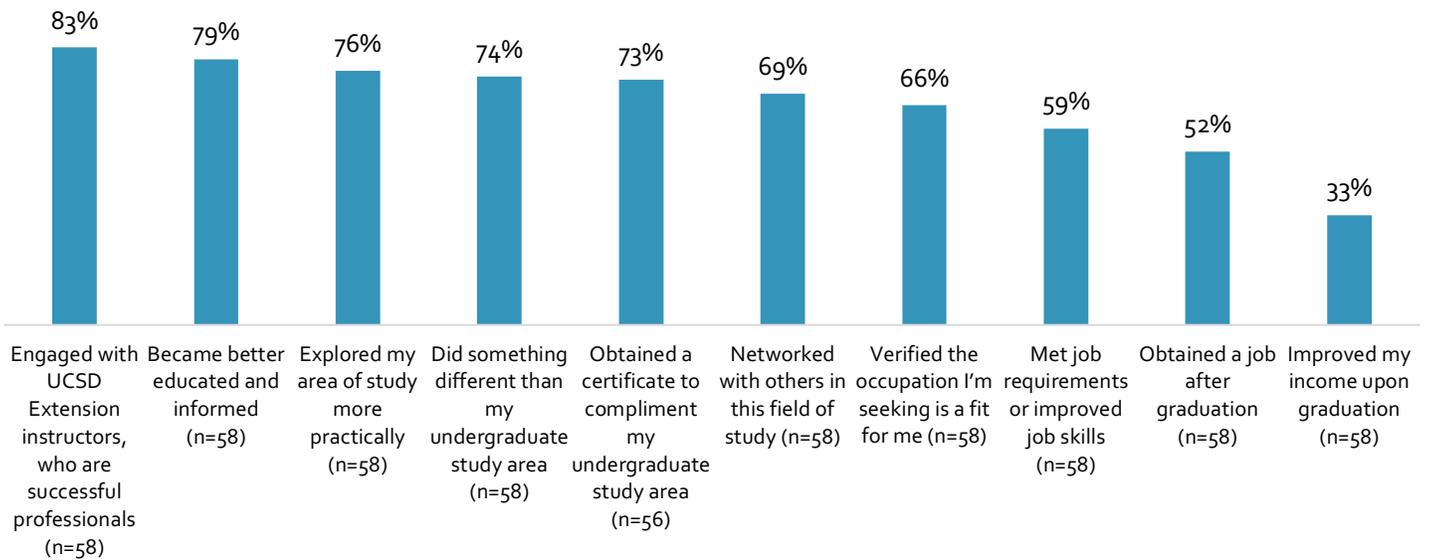


⁴⁹ Analysis for years denoted with an asterisk is based on the calendar year. Starting 2015 data analysis has been conducted based on academic year and is thus denoted without an asterisk.

Student Satisfaction

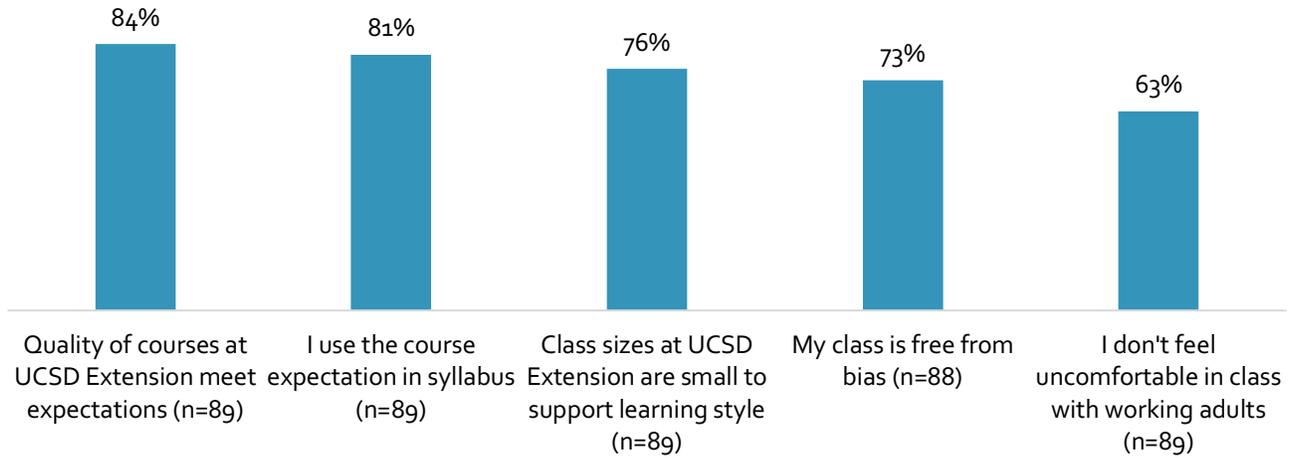
The majority of survey respondents believed that the LAUNCH program was a valuable experience that equipped them with the knowledge and skill sets to successfully transition into the workforce. Students received a survey approximately two years after graduating from UC San Diego, and were asked to rate a series of statements to discern the tangible impacts of LAUNCH. Figure 43 shows the percentage of ‘agree’ and ‘strongly agree’ responses for each statement. Eighty-three percent of respondents engaged with Extension instructors, 79 percent became better educated and informed, and 76 explored their area of study more practically. Fifty-two percent believed that the LAUNCH program was key in obtaining a job after graduation.

Figure 43: Value and Impact of LAUNCH Program



Additionally, participants rated Extension's learning environment (Figure 44). Eighty-four percent of respondents believed that the quality of courses met their expectations. Seventy-six percent agreed that the smaller class sizes supported learning styles; respondents appreciated the interactive format of Extension classes and mentioned learning from the personal experiences of other classmates.

Figure 44: Learning Environment

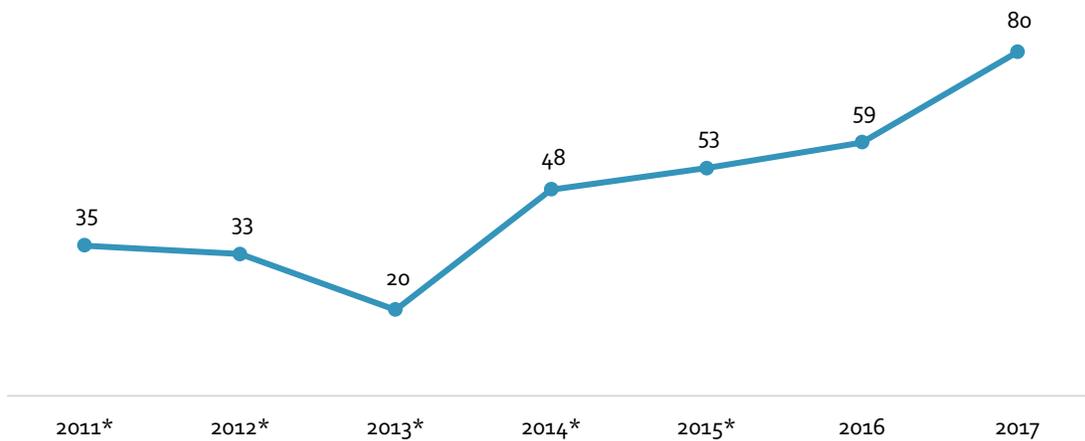


STE[+a]M™

Program Description

The STE[+a]M™ program is an innovative approach to student learning with the goal of fostering and promoting creativity in solving problems and equipping students with key skills, knowledge, and abilities needed in the workforce. The foundation of the program is based on the use of both sides of the brain where convergent and divergent thinking are able to occur. Extension offers courses in a variety of disciplines, such as biology, computer science, humanities, mathematics, and political science, to achieve this goal. Participants can also attend workshops and events ranging from public speaking to job preparation. Elementary, middle, and high school students are eligible to enroll in STEAM courses.

Figure 45: Number of Courses ⁵⁰



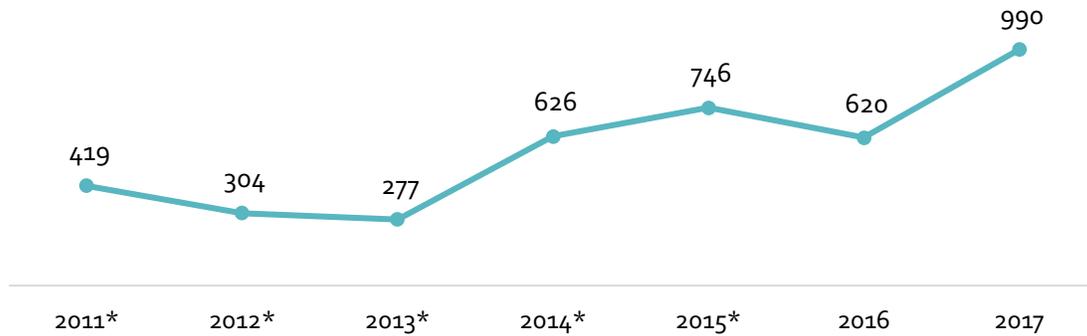
⁵⁰ Analysis for years denoted with an asterisk is based on the calendar year. Starting 2015 data analysis has been conducted based on academic year and is thus denoted without an asterisk.

Number and Demographics of Student Participants

Number of Participants

The program experienced a 60 percent growth in the number of participants, from 620 students in 2016 to 990 students in 2017. This increase can be attributed to the expansion of the program to local libraries.

Figure 46: Number of Students ⁵¹



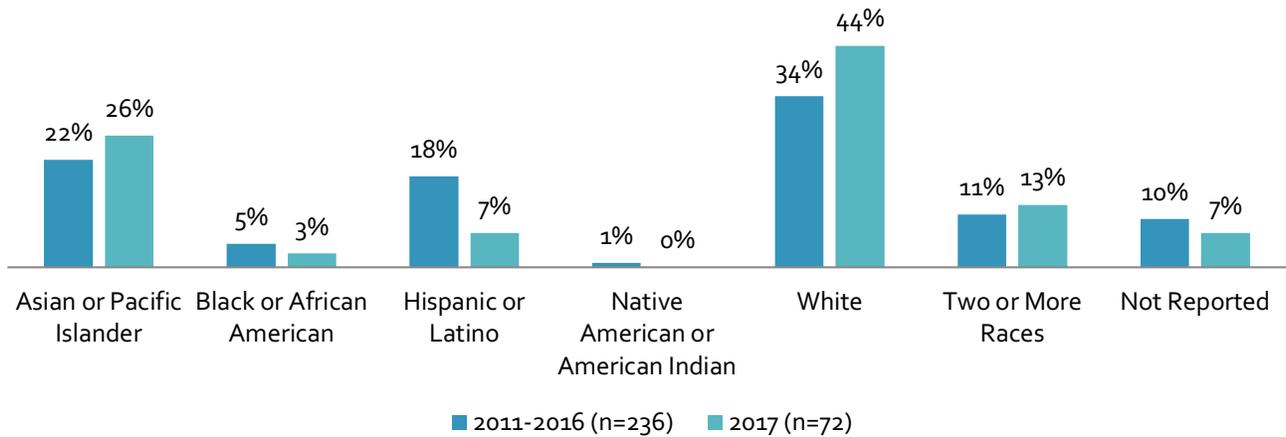
⁵¹ Analysis for years denoted with an asterisk is based on the calendar year. Starting 2015 data analysis has been conducted based on academic year and is thus denoted without an asterisk.

Demographics of Participants

Of the 990 students that participated in the program, Extension only had access to contact information for students that enrolled in STEAM courses via Extension. The research team emailed 344 students a follow-up survey that included questions to better understand the demographic landscape and college readiness of program participants. Of the students emailed, 72 respondents completed this survey.

Students that enrolled in STEAM programs were distributed a follow-up survey to obtain additional demographic information. Figure 47 is breakdown of participants by ethnicity.

Figure 47: Participants by Ethnicity ⁵²



⁵² Percentages may not equal 100 due to rounding.

College Readiness Factors

Parental educational attainment and annual household income significantly impact the quality of academic achievement and college readiness in children.⁵³ According to a study conducted by the U.S. Department of Education, children with parents who have a higher level of educational attainment score better on the National Assessment of Educational Progress compared to their counterparts. Similarly, studies demonstrate that parents with higher educational attainment levels are more likely to possess the experiences and resources necessary to help their children also achieve post-secondary enrollment.⁵⁴ This also influences the pursuit of prestigious occupational prospects.⁵⁵ Similarly, parental wealth is also a strong indicator of post-secondary enrollment and completion in children.⁵⁶ By distributing a follow-up survey, the research team obtained information about students' parental educational attainment levels and annual household income to assess college readiness.

⁵³ Aud, S., Fox, M., and KewalRamani, A. (2010). *Status and Trends in the Education of Racial and Ethnic Groups 2010* (NCES 2010-015). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

⁵⁴ Spera, Christopher, Kathryn R. Wentzel and Holly C. Matto. "Parental Aspirations for Their Children's Educational Attainment: Relations to Ethnicity, Parental Education, Children's Academic Performance, and Parental Perceptions of School Climate." *J Youth Adolescence*, vol. 38, 2009, pp. 1140-1152.

⁵⁵ Dubow, Eric F., Paul Boxer, and L. Rowell Huesmann. "Long-Term Effects of Parents' Education on Children's Educational and Occupational Success: Mediation by Family Interactions, Child Aggression, and Teenage Aspirations." *Merrill-Palmer quarterly (Wayne State University. Press)* 55.3 (2009): 224-249. *PMC*. Web. 6 Oct. 2016.

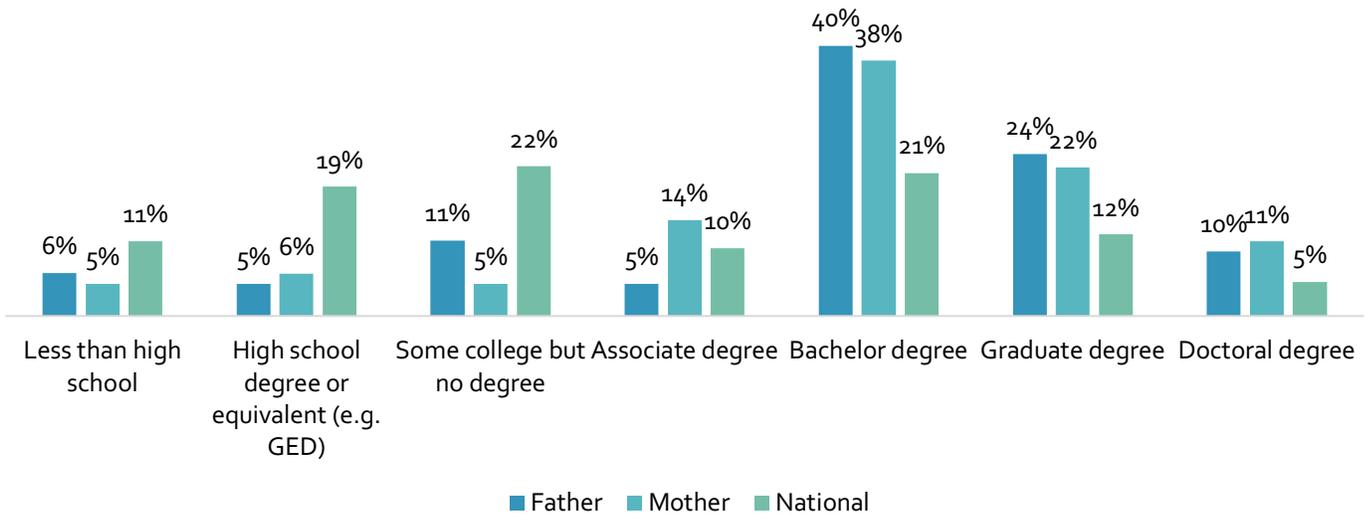
⁵⁶ Conley, Dalton. "Capital for College: Parental Assets and Postsecondary Schooling." *Sociology of Education*, vol. 74, no. 1, 2001, pp. 59-72.

Educational Attainment of Parents

According to survey results, 74 percent of fathers and 71 percent of mothers obtained a bachelor’s degree or higher compared to 38 percent nationwide.

Figure 48: Highest Level of Educational Attainment of Parents ⁵⁷

(Father n=63, Mother n=64)

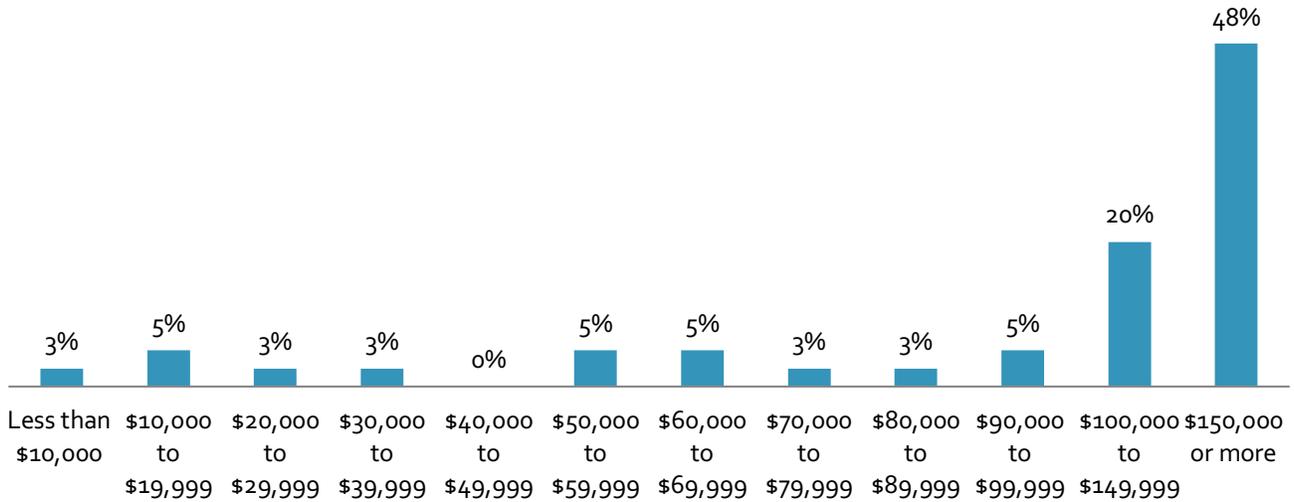


⁵⁷ Percentages may not equal 100 due to rounding.

Household Income

Students were asked to report their parents' annual household income to better understand the socioeconomic landscape of program participants and to assess college readiness (Figure 49). According to the Self-Sufficiency Standard, the required annual income for a family of two adults and one teenager to adequately meet basic necessities is \$43,354 in California and \$47,232 in San Diego County.⁵⁸ Under this assumption, 14 percent of participants had a household income lower than San Diego County's Self-Sufficiency Standard. On the other hand, 68 percent had an income of \$100,000 or greater.

Figure 49: Participants by Household Income (n=40)

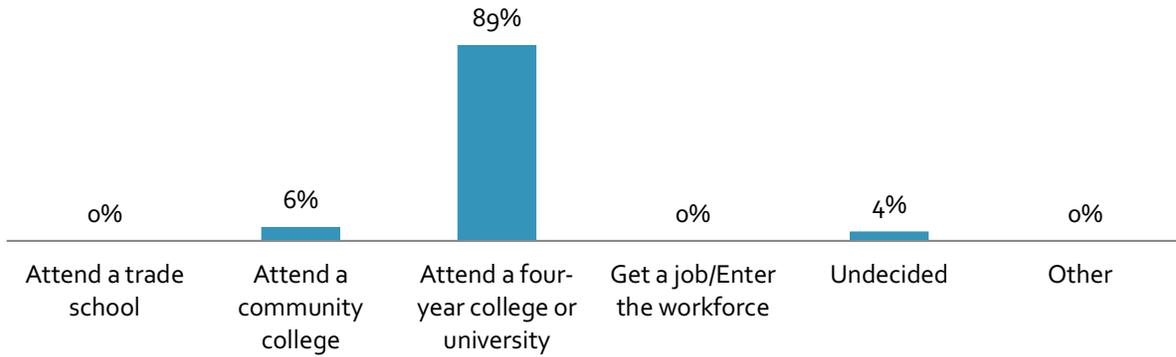


⁵⁸ [California Family Economic Self-Sufficiency Standard](#). (2014). Insight Center for Community Economic Development and Dr. Diana Pearce, Center for Women's Welfare, School of Social Work, University of Washington.

Post-High School Plans

Students participating in the program were asked about their educational goals upon graduating from high school. Figure 50 demonstrates that 89 percent of respondents plan to attend a four-year college or university and 6 percent a community college. Of these individuals, 96 percent of respondents felt prepared for college.

Figure 50: Post-High School Plans (n=47)



Previous literature, reported parental educational attainment levels, annual household income, and post-high school plans of program participants suggest an amplified likelihood of enrollment in a post-secondary education compared to the average high school student in the nation.

STEAM Channel Analytics

The STEAM Channel is part of UCTV that has provided 50 programs in research, policy, education, and industry. Appendix B lists the shows available. Content is available in various formats, such as video podcast, audio podcast, YouTube videos, and Flash. STEAM Channel shows have had an average of 129,195 views, a six percent increase from the previous academic year. Furthermore, 97 percent of views were accessed as video podcasts. Figure 51 shows the top 5 shows based on combined view count.

Figure 51: Top 5 Videos by View Count

Title	Views
Blue Oceans, Sustainable Seafood, Humans and the Sea	563,207
From the Skies to the Streets: STEAM Leaders Aboard the USS Midway	546,474
Beth Simon -- The Constellation: Sally Ride Science Conversations	427,809
The Art of Science Learning with Harvey Seifter	298,736
Fernando Aguerre -- Riding the Wave of Ingenuity	276,725

SALLY RIDE SCIENCE JUNIOR ACADEMY

Program Description

The Sally Ride Science Junior Academy at UC San Diego Extension launched in 2016. The program offers courses and workshops that provide a fascinating learning experience in science, technology and engineering, with applied mathematics and art design (STEAM), primarily targeting females in middle and high school. During the program, students are immersed in hands-on projects, assuming a variety of roles, such as space explorer or computer scientist. Courses and workshops incorporate real-life stories of vibrant women conducting research in each field with the goal of inspiring students and making STEAM careers more accessible.

During the 2016-2017 academic year, the Sally Ride Science Junior Academy offered 59 courses (Figure 52). This is a 31 percent increase compared to the previous academic year when the program launched.

Figure 52: Number of Courses by Year



Students completed evaluations for Sally Ride Science Junior Academy courses. Survey respondents were asked to rate whether they were satisfied with their experience in the program. Ninety percent were pleased with the course and 90 percent with the instructor for the academic year.^{59 60}

⁵⁹ Responses were translated into percentages for the report.

⁶⁰ n=89

Number and Demographics of Student Participants

Number of Participants

Coupled with the increase in course offerings, the Sally Ride Science Junior Academy also experienced a 14 percent growth in the number of participants during the 2016-17 academic year.

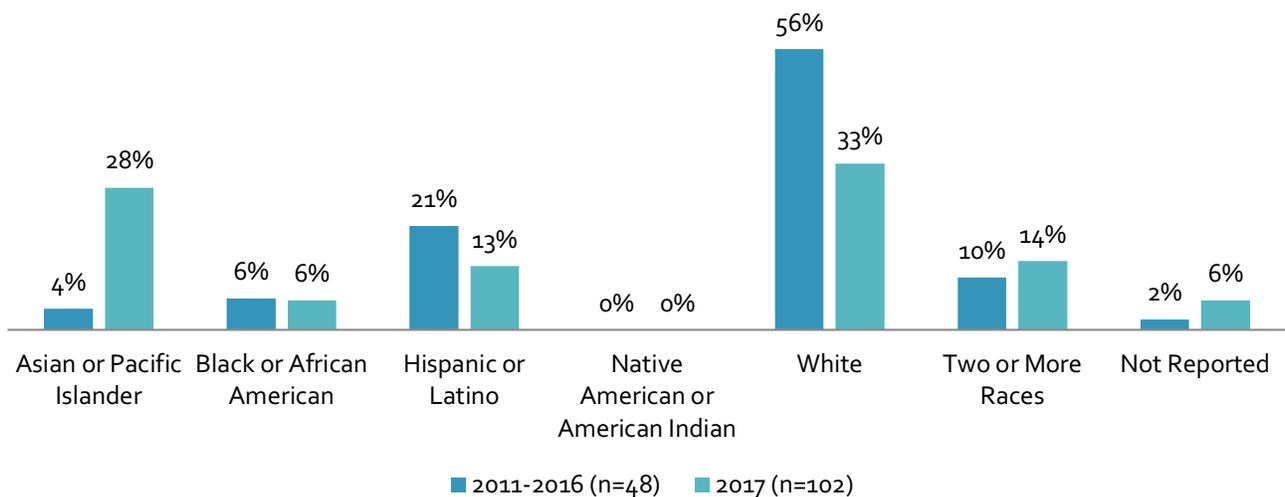
Figure 53: Number of Participants by Year



Demographics of Participants

Students that participated in the Sally Ride Science Junior Academy were distributed a follow-up survey to obtain additional demographic information. Figure 54 is breakdown of students by ethnicity.

Figure 54: Participants by Ethnicity ⁶¹



⁶¹ Percentages may not equal 100 due to rounding.

College Readiness Factors

Parental educational attainment and annual household income significantly impact the quality of academic achievement and college readiness in children.⁶² According to a study conducted by the U.S. Department of Education, children with parents who have a higher level of educational attainment score better on the National Assessment of Educational Progress compared to their counterparts. Similarly, studies demonstrate that parents with higher educational attainment levels are more likely to possess the experiences and resources necessary to help their children also achieve post-secondary enrollment.⁶³ This also influences the pursuit of prestigious occupational prospects.⁶⁴ Parental wealth is also a strong indicator of post-secondary enrollment and completion in children.⁶⁵ By distributing a follow-up survey, the research team obtained information about students' parental educational attainment levels and annual household income to assess college readiness.

⁶² Aud, S., Fox, M., and KewalRamani, A. (2010). *Status and Trends in the Education of Racial and Ethnic Groups 2010* (NCES 2010-015). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

⁶³ Spera, Christopher, Kathryn R. Wentzel and Holly C. Matto. "Parental Aspirations for Their Children's Educational Attainment: Relations to Ethnicity, Parental Education, Children's Academic Performance, and Parental Perceptions of School Climate." *J Youth Adolescence*, vol. 38, 2009, pp. 1140-1152.

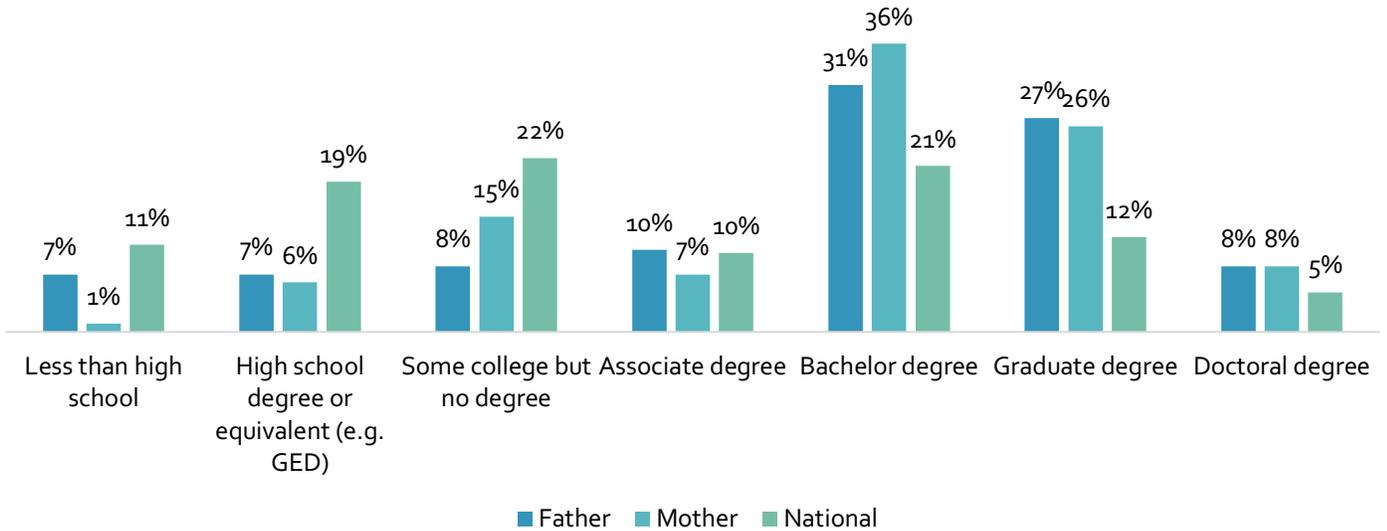
⁶⁴ Dubow, Eric F., Paul Boxer, and L. Rowell Huesmann. "Long-Term Effects of Parents' Education on Children's Educational and Occupational Success: Mediation by Family Interactions, Child Aggression, and Teenage Aspirations." *Merrill-Palmer quarterly (Wayne State University. Press)* 55.3 (2009): 224-249. *PMC*. Web. 6 Oct. 2016.

⁶⁵ Conley, Dalton. "Capital for College: Parental Assets and Postsecondary Schooling." *Sociology of Education*, vol. 74, no. s1, 2001, pp. 59-72.

Educational Attainment of Parents

According to survey responses, 66 percent of fathers and 70 percent of mothers obtained a bachelor’s degree. This is significantly higher than the nationwide statistic of 38 percent.

Figure 55: Highest Level of Educational Attainment of Parents ⁶⁶
(Father n=96, Mother n=96)

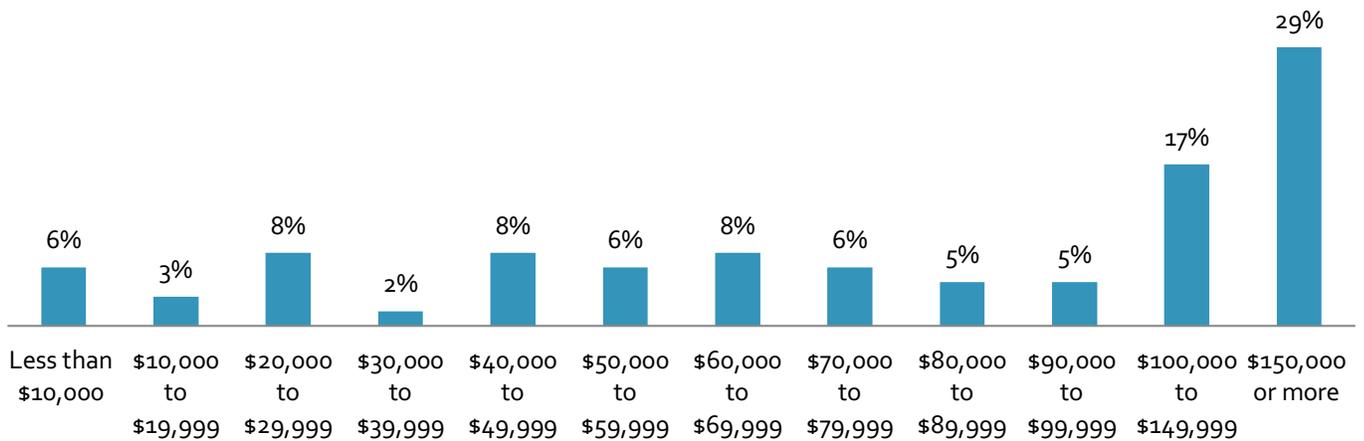


⁶⁶ Percentages may not equal 100 due to rounding.

Household Income

Students were asked to report their parents' annual household income to better understand the socioeconomic landscape of program participants and to assess college readiness (Figure 56). According to the Self-Sufficiency Standard, the required annual income for a family of two adults and one teenager to adequately meet basic necessities is \$43,354 in California and \$47,232 in San Diego County.⁶⁷ Under this assumption, 19 percent of participants reported a household income lower than San Diego County's Self-Sufficiency Standard. On the other hand, 46 percent of respondents indicated an income of \$100,000 or greater.

Figure 56: Participants by Household Income (n=66)

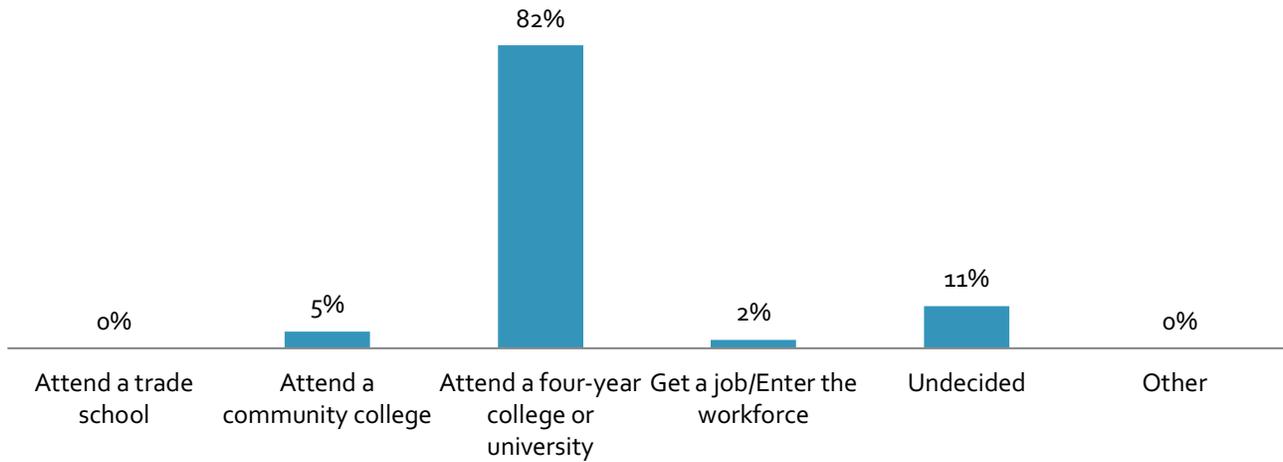


⁶⁷ [California Family Economic Self-Sufficiency Standard](#). (2014). Insight Center for Community Economic Development and Dr. Diana Pearce, Center for Women's Welfare, School of Social Work, University of Washington.

Post-High School Plans

Students were asked about their educational goals upon completing high school. Eighty-two percent of respondents planned to attend a four-year college or university and 5 percent a community college. Two percent intended to enter the workforce. Of these respondents, 77 percent felt ready for college or university.

Figure 57: Post-High School Plans (n=44)



Based on previous literature, reported parental educational attainment levels, annual household income, and post-high school plans of program participants suggest an increased likelihood of enrollment in a post-secondary education compared to the average high school student in the nation.

Appendix A: 2017 Academic Connections Course Offerings

Course Name

Audiovisual: Music's Place in Film Television and Art

Code Switching: Experimenting with Bilingual Creative Writing

Critical Thinking

Disease Detectives: An Introduction to Epidemiology

Exploring Youth Sub-Cultures

Foundations of Creative Writing

Innovative Writing Across Media: An Introduction to the College Workshop

Introduction to Bioinformatics

Introduction to Cognitive Science

Introduction to Electrical Engineering: Digital Signal Processing

Introduction to Ethics

Introduction to Fluid Mechanical Engineering: From a Straw to An Airplane

Introduction to Logic: From Aristotle to the Information Age

Introduction to Mechanical Engineering and Materials Science

Language and Identity for Bilingual Writers (English/Spanish)

Media Matters: Stereotypes and Social Change in Popular Media

Neuroscience: From Brains to Behaviors

SIO: Introduction to Marine Biology

SIO: Marine Invertebrates

SIO: The Invisible Life in the Oceans: Introduction to Marine Microbiology

Appendix B: STEAM Channel Shows

1. A California Perspective: STEAMConnect Ascend Conference 2015
2. A National Perspective: STEAMConnect Ascend Conference 2015
3. Berkeley Students Mentor Future Engineers
4. Beth Simon -- The Constellation: Sally Ride Science Conversations
5. Blue Oceans, Sustainable Seafood, Humans and the Sea -- Steam Leadership Series
6. Bringing Arts into Science - STEAM Case Studies: STEAMConnect Ascend Conference 2015
7. Catherine Rains: A Personal Story About The Strong Interest Inventory
8. Chris Mackey: A Personal Story About The Strong Interest Inventory
9. Cindy Marten on the USS Midway
10. Darrell Mockus: A Personal Story About The SuperStrong
11. Diego Miralles, MD: The STEAM Leadership Series -- The STEAM Channel
12. Drones on the USS Midway: STEAM Leadership Series -- The STEAM Channel
13. Education By Design -- Sally Ride Science STEAM Series
14. Equity in STEAM Education -- Sally Ride Science STEAM Series
15. Fernando Aguerre -- Riding the Wave of Ingenuity - The STEAM Leadership Series -- The STEAM Channel
16. From the Skies to the Streets: STEAM Leaders Aboard the USS Midway -- The STEAM Leadership Series -- STEAM Channel
17. Going STRONG: Using Personal Assessment Tools To Chart Your Path
18. High Notes: The Case for Music Education -- The STEAM Channel
19. Industry Engagement: STEAMConnect Ascend Conference 2015
20. John Gartman -- Riding the Wave of Ingenuity: Part 2 The STEAM Leadership Series -- The STEAM Channel
21. Karen Gonzalez: A Personal Story About The Strong Interest Inventory
22. KidsEcoClub and Anti-Poaching on the USS Midway
23. Margaret Leinen of the Scripps Institution of Oceanography -- The Constellation: Sally Ride Science Conversations
24. Nest-inspired 3D Printed Architecture Installation
25. Pay Attention - The Stuart Collection at UC San Diego
26. PGK Dance Performance: STEAMConnect Ascend Conference 2015
27. Qualcomm Thinkabit Lab Presents: How to Make an LED Light Up and Blink Using Arduino
28. Qualcomm Thinkabit Lab Presents: Programming Servos
29. Qualcomm Thinkabit Lab Presents: World of Work
30. Research and Action that Goes Beyond the University: The 27th Annual Urban Expo

31. SALTO - Berkeley's Leaping Robot
32. STEAM Channel Welcome - Winter 2016
33. STEaM Connect Ascend Conference 2014: Creative Collaborations
34. STEaM Connect Ascend Conference 2014: Navrina Singh
35. STEaM Connect Ascend Conference 2014: Quality STEM / STEaM Criteria
36. STEaM Connect Ascend Conference 2014: Research Updates
37. STEaM Connect Ascend Conference 2014: Spotlight on Teachers
38. STEaM Connect Ascend Conference 2014: Welcome and Introduction, Christopher Roe, Craig Watson
39. STEAM in Pre-K and High School - STEAM Case Studies: STEAMConnect Ascend Conference 2015
40. STEAM in San Diego: From Sup. to Nuts and Bolts: STEAMConnect Ascend Conference 2015
41. STEAM Powered: Fueling Student Interest in Engineering -- The Thinkabit Lab at Qualcomm
42. The Art of Science Learning with Harvey Seifter
43. The Job Landscape Today and Tomorrow: The San Diego View
44. The Neuroplastic Brain, Sung by M.A. Greenstein
45. The New Frontiers of Design
46. Tiger Math
47. Welcome and Qualcomm Executive Commentary: STEAMConnect Ascend Conference 2015
48. Welcome to the STEAM Channel
49. Women in Biotech: STEAM Leadership Series -- The STEAM Channel
50. Women in Biotech: Tina Nova