

Where do High Achieving Students go after leaving UC Merced?

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This report describes the characteristics and subsequent enrollments of High Achieving Leavers (HALs) who left UC Merced while in good academic standing, and with a high cumulative GPA (over 3.5). In this report, we found that HALs represented 16% of the students who voluntarily left UC Merced, and HALs were slightly more likely to leave than their peers in good academic standing. HALs tended to leave between the fourth and fifth semester, were on track to graduate within 4 years, typically enrolled at other UC campuses, and were not first-generation college going students. HALs who had not declared a major by their last enrolled term were more likely to choose 2-year campuses as their next destination compared to HALs who had declared majors.

Overview

In general, retention research finds that higher college GPA is associated with increased rates of retention; for example, reviews by Reason (2009)¹, and Pascarella and Terenzini (2005)² found that higher first year college GPA was associated with higher retention.

This project was prompted by local interest in whether UC Merced was able to successfully retain high achieving students, or if these students tended to view the campus as a “transfer” institution. We were only able to source one study that specifically looked for a non-linear relationship between retention and academic performance; Herzog (2005)³ found that higher college GPA was associated with higher retention, though he also found that students with higher high school preparation were more likely to leave.

A small number of high achieving students have opted to leave UC Merced prior to finishing their degree. From the 2013-15 fall cohorts, 19% of the high achieving students with GPAs above 3.5 voluntarily left UC Merced without obtaining a degree, while 13% of students with GPAs between 2.0 and 3.49 did so. To understand why successful students might leave, we investigated the demographic characteristics and majors of HALs, in addition to their destination institutions, majors, and earned degrees.

Academic Success and Leaving

High achieving students, for the purposes of this study, were defined as students with a cumulative GPA from the last enrolled term at UC Merced of 3.50 or higher, while medium achieving students were defined as those with a cumulative GPA

between 2.00 and 3.49. High achievers made up 9% of students within the Fall 2013-15 cohorts, while medium achievers made up 74%, as shown in Table 1.

Table 1: Number of students in each GPA level across cohorts.

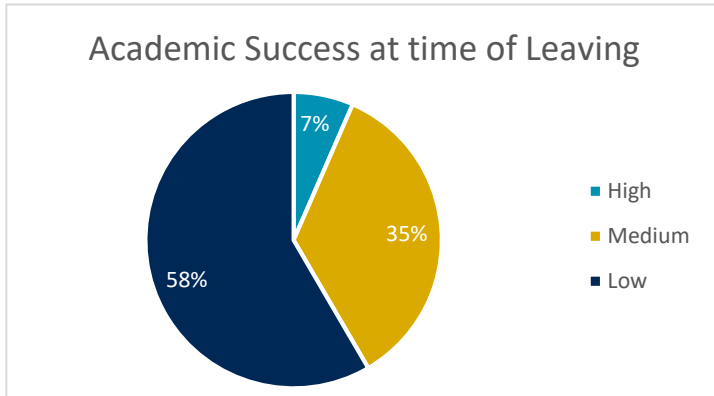
GPA levels	Fall 2013	Fall 2014	Fall 2015	Total	% of Total
High	142	134	190	466	9%
Medium	1208	1157	1333	3698	74%
Low	298	254	259	811	16%
Total	1648	1545	1782	4975	100%

We left low achieving students with a GPA at or below 1.99 out of the analysis, as nearly all left, and not voluntarily: they were either subject to Academic Dismissal or on Academic Probation. In this report, we focused on those who opted to leave despite being high achieving students, because retaining these students may require a different approach from traditional retention efforts.

For overall context on students who left UC Merced without graduating, Chart 1 on the following page shows all students who left, and their level of academic success at that time. Only 6.5% of all students exiting the university without a degree were high achieving, while the majority were low achieving, involuntary leavers.

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Chart 1: Academic Success of students who do not complete a UC Merced degree



Among students with GPAs above 2.0, the high achievers were significantly more likely⁴ to leave UC Merced compared to medium achieving students.

Chart 2 shows that 19% of high achievers, and 13% of medium achieving students voluntarily left UC Merced.

Chart 2: Proportion of Leavers in each GPA level

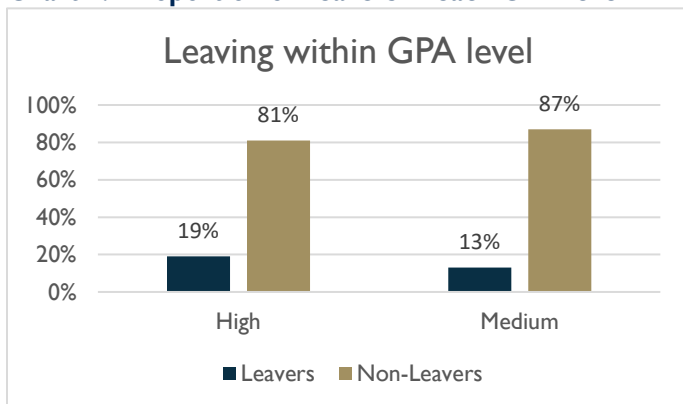


Table 2, at the top of the following column, has overall counts of voluntary leavers by GPA level for context; though high achievers were slightly more likely to leave, the HALs made up only 87 of the 554 voluntary leavers.

Table 2: GPA levels of Leavers, relative to GPA level and Overall totals.

GPA levels	Total	Leavers	% Leavers per GPA
High	466	87	19%
Medium	3698	467	13%
Overall Total	4164	554	13%

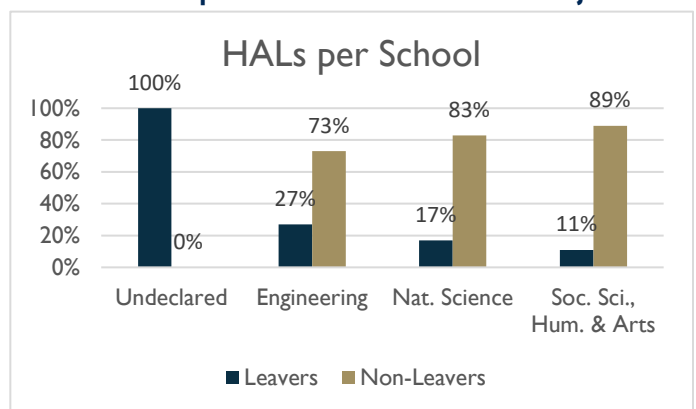
The High Achievers who leave

To understand more about their potential motivations for leaving, we examined the academic and demographic characteristics of the HALs in relation to the high achievers who remained at UC Merced to learn more about those who left.

Academic Characteristics

School Because most majors had small cell sizes, we first investigated the relationship between the school of the most recent major and leaving. Undeclared students (who had not declared a major, including the undeclared majors within the schools) and students in the School of Engineering were more often HALs⁵, as shown in Chart 3. The association between Undeclared and leaving is unsurprising, as students must declare a major in the junior year, prior to graduation.

Chart 3: HALs per School of last declared major



Majors Table 3 (on the following page) lists the most recent majors of the high achieving leavers, and the proportion of high achievers who leave from each major. “Undeclared” includes

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students who had not declared a major, including the undeclared majors within the Schools, as students may opt to enroll within a school without yet declaring a major. We expected students whose most recent major was Undeclared to leave, as students are required to declare a specific major prior to completing 60 units; as such, any student that did not leave from these cohorts would be required to have a major.

All High Achievers who were Undeclared in their last enrolled semester left UC Merced

We see that the top three major programs that disproportionately lost their high achievers were Undeclared, Mechanical Engineering, and Computer Science & Engineering. In contrast, Psychology, Sociology, and Cognitive Science were the most likely to retain their high achieving students.

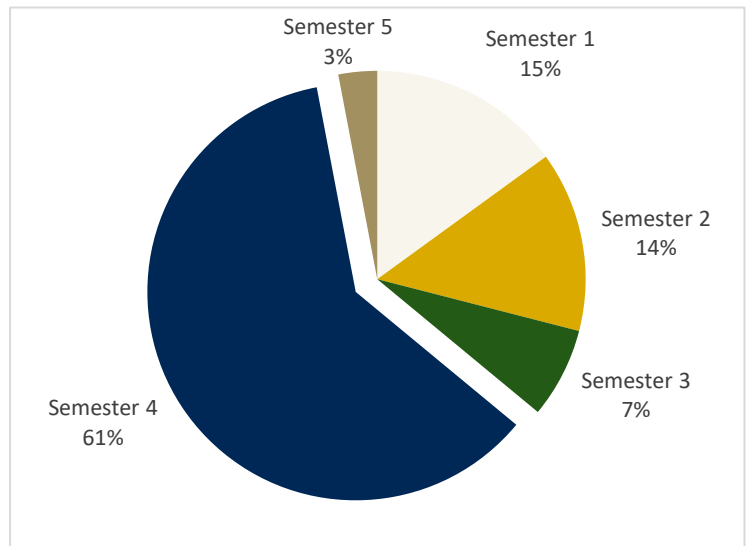
Table 3: HAL Last Enrolled Majors at UC Merced

	Percent of High Achievers in major that leave	Count of HALs
Undeclared	100%	14
Spanish	50%	1
Mechanical Engineering	29%	10
Computer Science & Engineering	29%	13
English	29%	2
Bioengineering	25%	2
Applied Mathematics	25%	3
Economics	24%	4
Political Science	19%	6
Biological Sciences	17%	19
Anthropology	17%	1
Chemical Sciences	14%	1
Management & Business Economics	12%	6
Public Health	11%	2
Cognitive Science	7%	1
Sociology	7%	1
Psychology	2%	1
Total	100%	87

Major Changes Major changing behavior while at UC Merced was not an indicator of leaving, as leavers were equally likely as non-leavers to have changed majors (39% of leavers, and 44% of non-leavers had changed majors while at UC Merced).

Last Term Chart 4 shows that HALs tended to leave before the fifth semester, with 97% having left by the end of the fourth semester, and 61% specifically having left just after semester 4, a common time for students to transfer to another institution. Of this group, nearly all (94%) were on track to graduate within 4 years.

Chart 4: HAL Last Term Enrolled



Demographic Characteristics

While sample sizes were too small to find statistical significance in observed differences by gender⁴ and ethnicity⁵, the trends in Chart 5 (next page) and Table 3 show that HALs were disproportionately male and Asian, which is consistent with what we know about the concentration of students with these characteristics in our STEM major programs.

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Chart 5: Gender and Leaving

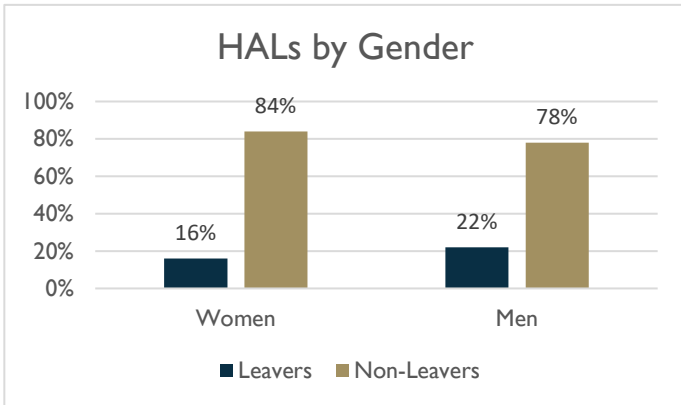


Table 3: High Achiever Demographics

	Non Leavers		Leavers	
Female	204	54.0%	38	43.7%
Male	174	46.0%	49	56.3%
Unknown*	-	-	-	-
First gen¹	212	55.9%	35	40.2%
Non First gen¹	167	44.1%	52	59.8%
International	19	5.1%	2	2.3%
Hispanic	138	37.2%	29	33.3%
African American	12	3.2%	1	1.1%
Asian	103	27.8%	32	36.8%
White	70	18.9%	16	18.4%
Multi-racial	29	7.8%	6	6.9%
Other*	-	-	-	-

*We removed Unknown gender from analysis due to small cell count.

**We Removed Unknown, American Indian and Pacific Islander categories from this analysis due to small cell counts.

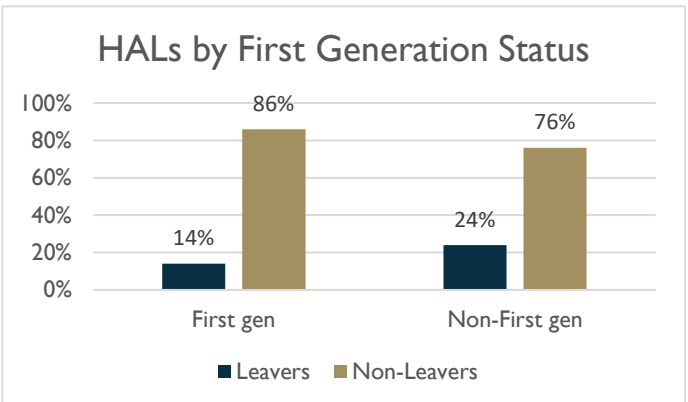
¹Statistically significant difference

First Generation Status Students with first generation status are those who reported that neither parent earned a four-year college degree. First generation students were less

First Generation High Achievers were less likely to leave UC Merced

likely to be HALs compared to non – first generation students (14% of first gen students were HALs, compared to 24% of non – first gen students⁴), as shown in Chart 6, below, and Table 3 (previous column).

Chart 6: First Generation Status and Leaving

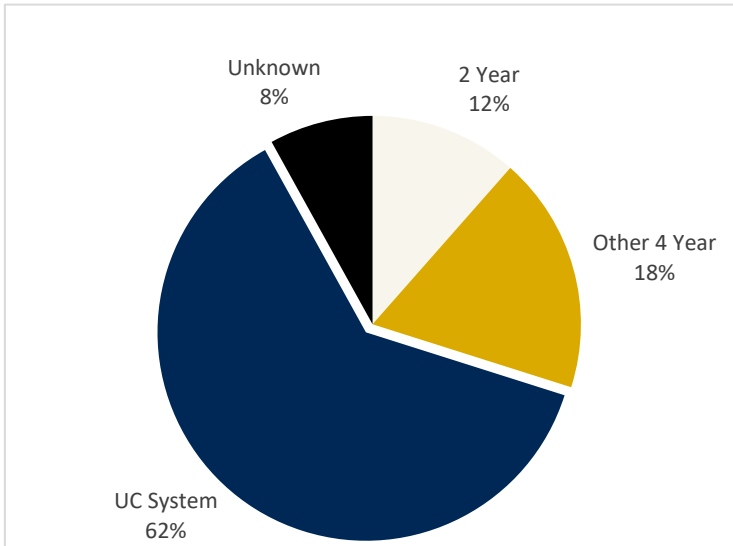


Destinations and Outcomes

We examined the most recent enrollment destinations of the HAL students from the combined 2013-15 fall cohorts. We were able to track the destinations of 92% of these leavers. We found that our students took a variety of paths, ranging from enrollment at 2-year institutions, 4-year institutions, and other UC campuses (See Chart 7, top of next page), with other UC campuses being the favored destination, with 62 percent of the HALs remaining in the UC System.

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Chart 7: HAL Most Recent Enrollments



2-year institutions We found that 12% of HALs were most recently enrolled at a 2-year institution. Of those students, 33% went on to complete an associate degree, and 20% later enrolled at a 4-year campus.

HALs most likely to choose 2-year institutions were those that left UC Merced without declared majors; undeclared HALs were significantly more likely⁵ to enroll at a 2-year institution (50%) compared to their peers with declared majors in the three schools (10%).

The majority of HALs remained within the University of California System

4-year institutions 18% of HALs were most recently enrolled at other, Non-UC four-year institutions. These ranged from CSU campuses to private 4-year institutions. HALs across schools were equally likely to choose other 4-year institutions.

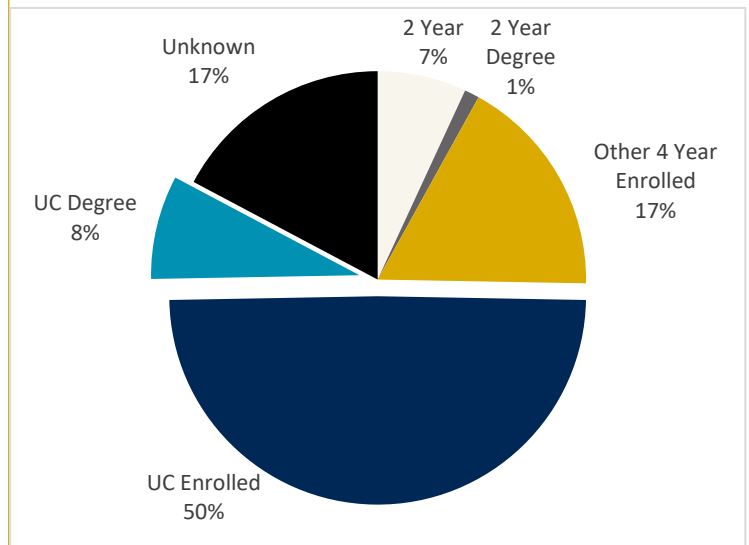
Other UC Campuses Sister UC Campuses were the most popular destinations for HALs, with 62% of HALs most recently enrolled within the UC system. HALs most likely to

choose other UCs were those with declared majors within the three schools, particularly the School of Engineering.

HALs from the School of Engineering were significantly more likely to enroll at other UC campuses (84%) than HALs from the School of Social Sciences, Humanities and Arts (77%), from the School of Natural Sciences (67%), or HALs without declared majors (17%).

Current Educational Status The current educational status of the HALs is illustrated in Chart 8. The current enrollment status differs from the most recent enrollment figures, as some of students have finished their degrees, or have left higher education.

Chart 8: HAL Current Educational Status



Of the combined 2013-15 fall cohorts, as of spring 2018, 8% of HALs had finished a bachelor's degree, and all degrees were at other UC campuses. 74% remain currently enrolled, and 17% have left higher education (are not currently enrolled and have not obtained a degree)⁶. Of the students who have left higher education, 53% had current enrollments of 2017 or prior, 13% were on record as withdrawals, and 47% did not have any educational records after UC Merced⁶. The clear majority (89%) of the currently enrolled students were at 4-year institutions, with most of them within the UC system.

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The most popular HAL institutions and majors are listed in Table 5, below; HALs largely preferred to remain at a University of California campus, most commonly UC San Diego, Berkeley, Davis, and Los Angeles.

Table 5: Popular HAL Destination Institutions & Majors

Institutions	Currently Enrolled	Earned Degree
University of California:		
San Diego	13	3
Berkeley	8	1
Davis	6	1
Los Angeles	5	2
Irvine	5	0
Santa Barbara	4	0
University of Southern California	3	0
Majors		
No Listed Major **	24	
Computer Science	4	N
Mechanical Engineering	4	Y
Mathematics & Computer Science	3	N
Behavioral Aspects of Health	2	N
Economics	2	Y

*determined by 4-digit CIP.

**Students enrolled at UC Berkeley, Irvine, or Los Angeles did not have majors listed.

Popular majors included those offered by UC Merced (Mechanical Engineering and Economics), and similar (Computer Science). While both the Computer Science and Mathematics & Computer Science majors are similar to UC Merced’s Computer Science & Engineering major, the campuses (San Diego and Santa Barbara) where students enroll in these majors also offer other Computer Science programs with the same CIP classification as UC Merced’s major, indicating that these students may have been looking for a Computer Science major with a slightly different focus.

Conclusion

In this report, we found that high achieving students were slightly more likely to voluntarily leave UC Merced but made up a relatively small percentage of our voluntary leavers. We tended to see our high achievers retained in SSHA but leaving Engineering. Our high achieving leavers were more likely to be non-first-generation college students and typically left at a traditional transfer time between their 4th and 5th semesters and were on track for timely graduation.

HALs preferred to re-enroll within the UC system, with 8% of the HALs in the 2013-15 cohorts having earned bachelor’s degrees from sister UC campuses, and 50% maintaining current enrollments within the UC system. This information supports the idea that some students may see UC Merced as a transfer institution to get in the door of the UC system, with the goal of transferring and completing their degrees at other UC campuses.

Major programs that HALs typically enroll in are frequently offered at UC Merced; majors that differ from UC Merced majors had enrollments of 1-2, with the only exception being Computer Science.

While we can count graduation at another institution as a successful outcome for the student, and retention within the University of California is certainly a success at the system-wide level, retaining our high-achievers is a goal of the campus and the results of this report may provide insights into improving our retention of high-achieving students.

High achieving students may require a different retention strategy than traditional retention programs; these students were doing well academically, and were not first generation; as such, it may be harder to identify the potential HALs. We recommend focusing on students with cumulative UC Merced GPA above 3.5 who have an undeclared major (including undeclared within the schools), and majors in the School of Engineering, as these students have the highest likelihood of leaving.

Future reports will focus on the remaining population of voluntary leavers, their characteristics, and destinations.

Comparative Analysis

Compared to other factors influencing retention, we find that the problem of the High Achieving Leavers has a small relative contribution to retention rates – relative to all other voluntary leavers, there was a six-percentage point difference in the rate of leaving between high achieving and medium achieving students, which translates to losing 28 extra high achieving students over a three-year period over what would be expected for all voluntary leavers.

For broader context, retention issues are also found by region of student origin; students from Southern California graduate at lower rates than those from Central or Northern California, ranging from 4 to 10 percentage point differences in 6-year graduation rates. If we compare graduation rates between students from Southern California to those from Central California, we find that over the past three years, 89 fewer students graduated from Southern California than they would if graduation rates were brought up to the Central California rates.

Contact Us

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ENDNOTES

1. Reason, R.D. (2009). Student Variables that Predict Retention: Recent Research and New Developments, *NASPA Journal*, 46:3, 482-501.
2. Pascarella, E.T., and Terenzini, P.T. (2005). How College Affects Students: A Third decade of research (Vol 2).
3. Herzog, S. (2005). Measuring Determinants of Student Return vs. Dropout/Stopout vs. Transfer: A First-to-Second Year Analysis of New Freshmen. *Research in Higher Education*, 46(8).
4. Based on Chi-Square analysis, $p < .05$
5. Based on Chi-Square analysis, Pairwise Comparisons of Column Proportions with Bonferroni Correction.
6. As per the National Student Clearinghouse data, which may not capture students pursuing education in other countries or at a small number of domestic non-participating institutions.