

**RPIE**

Program Evaluation

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# **EOPS QUANTITATIVE OUTCOMES ASSESSMENT**

A quantitative analysis of the effect of participation in the EOPS program on student outcomes



**GAVILAN COLLEGE**

*Research, Planning, and Institutional Effectiveness*

*"Institutional Research – Use it for good, never for evil."*

## Overview

At the request of the Associate Dean for EOPS and CalWORKs, the Division of Research, Planning, and Institutional Effectiveness conducted a comprehensive quantitative outcomes analysis to evaluate effectiveness of the EOPS program on improving student outcomes. After roughly one hundred iterations, three statistical models are used in the final analysis. After accounting for a variety of other factors, participation in the EOPS program is associated with an increase in student persistence, course success, and award completion.

## Basic Design

The Extended Opportunity Program and Services (EOPS) is a state funded program under SB 164 which operates following Title V Education Code, Article 8 sections 69640-69656. The EOPS program's primary goal is to encourage the enrollment, retention and transfer of students disadvantaged by language, social, economic and educational circumstances, and to facilitate the successful completion of their educational goals and objectives in college. EOPS offers academic and support counseling, financial aid and other support services, including assistance with their admission, registration, financial aid, book purchases, educational planning, academic and personal counseling, workshops, and other support services from counselors and administrative staff.

To be eligible for EOPS services, student must be a California resident, be enrolled full-time when accepted into the EOPS program, not have completed more than 70 units of degree applicable credit course work, qualify to receive a California Promise Grant (formerly BOG fee waiver) and be educationally disadvantaged as determined by meeting one of the following criteria:

- Not qualified for enrollment in minimum level English or Math applicable to Associate Degree
- Did not graduate from high school or obtain GED
- Graduated from high school with a GPA 2.5 or lower on a 4.0 scale
- Previously enrolled in remedial education
- First in family to graduate College
- Member of under-represented student group
- Primary language spoken in home is not English
- Emancipated foster care youth

Given the design of the program, three main student dependent variables are considered. These are persistence, success, and award completion. Persistence is defined as a student completing a course in which they are enrolled, regardless of the outcome. Success is defined as students earning a C or better in a course in which they are enrolled. Award conferred is defined as a student receiving a California Community Colleges Chancellor's Office approved degree or certificate. Each key dependent variable is analyzed in a single model for a total of three models.

The key independent variable in all three analyses is participation in the EOPS program. However, another key independent variable – receiving a College Promise (formerly BOG) fee waiver but NOT participating in the EOPS program – is included in all three models.<sup>1</sup>

A large number of covariates are included in the analysis. These include a variety of student demographic characteristics and statuses and participation in other programs. For two of the three models, course department and location are also included as controls.<sup>2</sup>

## Findings<sup>3</sup>

Two key findings arise from the research.

### **Participation in the EOPS program increases the odds of a student receiving a degree or certificate by 92%.**

The importance of this finding cannot be overstated. EOPS has a greater effect on the likelihood of receiving a degree or certificate than any other program on campus, including MESA, TRiO, and Puente.<sup>4</sup> This is especially notable given that EOPS serves far more students than these three programs combined. It also has a greater effect than various student statuses, including student athletes, veterans, AEC students, Kickstart participants. The only statuses more predictive of a student receiving an award than EOPS participation were race, age, and basic skills status.

### **There is evidence to suggest that participation in the EOPS program may increase the odds of a student persisting in and passing their courses, but if true, the effect is likely not systematic.**

<sup>1</sup> Including this as a covariate is necessary because EOPS participation and College Promise status are dependent; that is, all EOPS participants receive a fee waiver, but not all fee waiver recipients are EOPS participants. Thus, this second key independent variable attempts to separate the effects of being a low income student from participation in the EOPS program, helping to eliminate a major source of statistical bias.

<sup>2</sup> Data for the three models are drawn from the union of two queries of GIDS tables CLS\_GRADES, BAS\_DEMOGRAPHICS, SECTION, STUDEGREE, and several local results tables comprising six full academic years of data – from 2012-2013 through 2017-2018. Data are reported at the course level; that is, one record exists for each student registered in each course. After eliminating duplicate records, a total of 237,601 unique records are included in the persistence and success models, while a total 21,122 records are included in the award conferred model. Various departments are excluded from the analysis due to their inapplicability. These include AEC, JPA, and various noncredit areas.

<sup>3</sup> Models (1) and (2) are rated at moderate confidence due to significantly higher Bayesian Information Criterion (BIC) values and significantly lower pseudo-R<sup>2</sup> values as compared with model (3). These are significant differences, especially in light of the fact that the total N is much greater in the first two models. There is some risk that models (1) and (2) are over specified. In all three models, multicollinearity is minimal, variance inflation factors are minimal, and the inclusion of an interaction term was not indicated for any combination of variables.

<sup>4</sup> The reader should note that the estimated coefficient for TRiO is greater than that of EOPS, but the estimate is both less statistically significant and falls within the margin of error of the EOPS estimate; in other words, the two are for all intents and purposes mathematically tied.

This finding is equally compelling. In both the persistence and course success models, EOPS was not a statistically significant factor. However, both models were consistent in that the estimates for EOPS students were greater than for other low-income students. Taken in total and net of all of the other factors, what this likely indicates is that some part of the EOPS program does have an effect on the odds of persisting and passing courses, but that not all students within the program consistently realize these benefits. Further investigation is warranted.

It is important to note that these two key findings are not contradictory. In fact, taken together, they actually tell a surprisingly consistent story of student success. At first pass, it may seem reasonable to question how a program can be more successful at graduating students but not at helping students complete classes. However, when situating the various components of the EOPS program in the national research, this likely indicates that what EOPS excels at is helping students identify, enter, and stay on a specific pathway. While non-EOPS students may be roughly as likely to pass their courses, end up taking surplus units, fail to identify or stay on a single path, and end up leaving the institution without an award. EOPS students do not suffer from the same course – they have sufficient supports to stay on their path and graduate. What these findings indicate is that the greatest impact of the EOPS program is realized through intrusive advising, performance check-ins, and support.

The following table represents a summary of the findings from the three models themselves. Complete data tables with detailed findings may be found in Appendix A. The table below is comprised of four columns:

1. Column one references the analysis outlined in the “basic design” section
2. Column two summarizes the finding
3. Column three summarizes the conclusion based upon the finding
4. Column four summarizes the confidence placed in the conclusion based upon the precision of the analysis. RPIE places different levels of confidence in findings based upon the methodology employed and (if applicable) the magnitude of the statistical result. Thus, this column represents the professional recommendation on the weight the reader should give the finding and conclusion.

#	Model / Finding	Conclusion	Confidence
1	Participation in the EOPS program is not associated with a statistically significant increase in the likelihood of course persistence	The EOPS program may increase the odds that a low-income student will persist to the end of their courses, but the effect is not consistent	Moderate
2	Participation in the EOPS program is not associated with a statistically significant increase in the likelihood of course success	The EOPS program may increase the odds that a low-income student will pass their classes, but the effect is not consistent	Moderate

#	Model / Finding	Conclusion	Confidence
3	Participation in the EOPS program is significantly associated with an increase in the likelihood of award conferral	The EOPS program substantially increases the odds that a low-income student will receive an award and the effect is strong and consistent	Very High

Detailed data tables containing the full analysis along with an interpretation aid can be found in an appendix at the end of this document.

## Conclusions

Taken in total, there is sufficient evidence to conclude that Gavilan’s EOPS program has a positive impact on student achievement outcomes.

## Limitations

This comprehensive evaluation has a few major limitations.

As with any evaluation of educational programming, isolating the effect of one particular program is difficult net of all of the other factors in play. The three models do attempt to control for a variety of other factors, and are thus much better models of program effectiveness than simply comparing student success rates or graduation rates. However, with comparatively low fit statistics, the models are limited in their conclusive power.

It is very likely that only one or two components of the EOPS program are driving a significant portion – even most – of the observed effects. For example, national literature would suggest that book vouchers and gas cards are not associated with student achievement, while intrusive advising/counseling is. All three are a part of the existing EOPS program and the effects of these items are not separable mathematically, even if they are jointly severable.

Thus, a logical next step for investigation is to attempt to isolate the effects of certain interventions. This is may prove impossible, however, as students cannot be denied services for the purposes of random assignment to a control group. Two possibilities are relying on national research for drawing conclusions about our local program’s components or attempting additional statistical analyses to create a quasi-experimental design (e.g., propensity score matching).

Related to the previous item, this project is entirely quantitative. Quantitative data are well suited for theory testing, but not for theory formulation. For example, the tested theory is that the EOPS program increases the likelihood of students persisting, succeeding, and receiving an award. The models confirm the theory. However, the models do not suggest what part of the EOPS program may be responsible – thus, qualitative data are required to formulate a new theory, which in turn can be tested using quantitative analysis.

## Recommendations

The effectiveness of the EOPS model is well established. In addition, most of the individual components that make up the EOPS program of services are also well researched on

their own. Thus, for a complete picture of program efficacy, qualitative follow-up is required. Qualitative data are well-suited to drawing out details on particular facets of programs to shed light on those components of programs that are highly utilized and valued by participants. Qualitative follow-up with EOPS and low-income non-EOPS students is highly recommended.

The EOPS program should be celebrated for its successes and the institution should take steps to ensure that EOPS remains adequately supported. Additionally, and where possible, the institution should scale up a true case-management system for student advising/counseling and adopt an intrusive model resembling the EOPS program. It is neither possible nor appropriate to provide all EOPS supports to all students; however, certain parts of the program are certainly worth scaling whenever possible.

Detailed data tables follow on next page.

# Gavilan College EOPS Quantitative Outcomes Assessment

## Binary Logistic Regression of Course Success, 2012-2018

This sheet shows a binary logistic regression of the course success rates of EOPS students as compared with non-EOPS students

N = 237,601

Table 1

Variable	Odds Ratio	Std. Err.	z	P> z	Sigfnciant?	[95% Conf. Interval]	Interpretation
Female	1.27	0.01	24.33	0.000	Yes	1.25 1.30	Holding all other factors constant, being female is associated with a 27% increase in the odds of passing a course as compared to male students, give or take about 2%
Non-white	0.78	0.01	-17.77	0.000	Yes	0.76 0.80	Holding all other factors constant, being nonwhite is associated with a 22% decrease in the odds of passing a course as compared to white students, give or take about 3%
Age under 21	1.21	0.01	15.81	0.000	Yes	1.18 1.23	Holding all other factors constant, being under age 21 is associated with a 20% increase in the odds of passing a course as compared to students age 21 to 25, give or take about 3%
Age 26-30	1.11	0.02	5.53	0.000	Yes	1.07 1.15	Holding all other factors constant, being age 26 to 30 is associated with a 10% increase in the odds of passing a course as compared to students age 21 to 25, give or take about 4%
Age 31-40	1.19	0.02	8.81	0.000	Yes	1.14 1.23	Holding all other factors constant, being age 31 to 40 is associated with a 19% increase in the odds of passing a course as compared to students age 21 to 25, give or take about 5%
Age 41-50	1.33	0.03	11.41	0.000	Yes	1.27 1.40	Holding all other factors constant, being age 41 to 50 is associated with a 33% increase in the odds of passing a course as compared to students age 21 to 25, give or take about 6%
Age over 51	1.00	0.03	-0.12	0.905	No	0.94 1.06	There is insufficient evidence to suggest that being over age 51 has an effect on the odds of course success.
Student Was Placed in Basic Skills	0.39	0.01	-66.72	0.000	Yes	0.38 0.40	Holding all other factors constant, being a basic skills student is associated with a 61% decrease in the odds of passing a course as compared to non-basic skills students, give or take about 1%
Course not held on Gilroy campus	0.67	0.01	-38.25	0.000	Yes	0.65 0.68	Holding all other factors constant, courses held off of the main campus are associated with a 33% decrease in the odds of course success as compared to courses on the Gilroy campus, give or take about 2%
EOPS student	0.99	0.02	-0.82	0.412	No	0.95 1.02	While not statistically significant, there is some evidence to suggest that EOPS participation results in a modest increase in the odds of passing a course as compared with students who are low income but are not in EOPS
AEC student	1.18	0.02	9.15	0.000	Yes	1.14 1.22	Holding all other factors constant, being an AEC student is associated with a 18% increase in the odds of passing a course as compared to non-AEC students, give or take about 4%
College Promise grant recipient	0.87	0.01	-13.40	0.000	Yes	0.85 0.89	Holding all other factors constant, receiving a College Promise grant is associated with a 14% decrease in the odds of passing a course as compared to other students, give or take about 1%
Veteran	1.35	0.05	8.61	0.000	Yes	1.26 1.45	Holding all other factors constant, being a veteran is associated with a 35% increase in the odds of passing a course as compared to non-veterans, give or take about 9%
MESA student	1.14	0.03	4.48	0.000	Yes	1.08 1.21	Holding all other factors constant, being a MESA student is associated with a 14% increase in the odds of passing a course as compared to non-MESA students, give or take about 7%
TRiO student	1.20	0.04	6.14	0.000	Yes	1.13 1.27	Holding all other factors constant, being a TRiO student is associated with a 20% increase in the odds of passing a course as compared to non-TRiO students, give or take about 7%
Puente student	1.22	0.05	4.86	0.000	Yes	1.12 1.32	Holding all other factors constant, being a Puente student is associated with a 22% increase in the odds of passing a course as compared to non-Puente students, give or take about 10%

Foster Youth	0.61	0.02	-17.35	0.000	Yes	0.57	0.64	Holding all other factors constant, being a foster youth is associated with a 40% decrease in the odds of passing a course as compared to non-foster youth, give or take about 3%
Participation in Kickstart	1.01	0.03	0.19	0.847	No	0.95	1.07	There is insufficient evidence to suggest that participation in Kick Start increases the odds of passing a course.
Student Athlete	1.04	0.03	1.59	0.112	Yes	0.99	1.10	Because the margin of error spans 1, there is insufficient evidence to suggest that being a student athlete increases the odds of passing a course even though the estimate is statistically significant
CalWORKs student	0.41	0.01	-37.25	0.000	Yes	0.39	0.43	Holding all other factors constant, being a CalWORKs student is associated with a 60% decrease in the odds of passing a course as compared to non-CalWORKs students, give or take about 2%
Allied health department course	2.52	0.08	27.35	0.000	Yes	2.36	2.69	Holding all other factors constant, the odds of passing an Allied Health course are about 150% greater than the odds of passing a Kinesology department course, give or take 15%.
Business department course	1.11	0.02	5.96	0.000	Yes	1.07	1.15	Holding all other factors constant, the odds of passing a Business department course are about 11% greater than the odds of passing a Kinesology department course, give or take 4%.
English department course	1.04	0.02	2.56	0.010	Yes	1.01	1.08	Holding all other factors constant, the odds of passing an English department course are about 4% greater than the odds of passing a Kinesology department course, give or take 3%.
Fine Arts department course	1.45	0.03	20.66	0.000	Yes	1.40	1.51	Holding all other factors constant, the odds of passing a Fine Arts department course are about 45% greater than the odds of passing a Kinesology department course, give or take 5%.
Natural Sciences department course	1.19	0.02	11.06	0.000	Yes	1.15	1.22	Holding all other factors constant, the odds of passing a Natural Sciences department course are about 18% greater than the odds of passing a Kinesology department course, give or take 3%.
Social Sciences department course	0.85	0.01	-9.47	0.000	Yes	0.82	0.88	Holding all other factors constant, the odds of passing a Social Sciences department course are about 15% lower than the odds of passing a Kinesology department course, give or take 2%.
Constant	3.18	0.06	57.79	0.000	Yes	3.06	3.31	Constant

Success is defined as the % of students earning a grade of C or better or P

Data are reported at the course level; that is, one record exists for each student registered in each course. Various departments are excluded from the analysis due to their inapplicability. These include AEC, JPA, and various noncredit areas.

Data for the three models are drawn from the union of two queries of GIDS tables CLS\_GRADES, BAS\_DEMOGRAPHICS, SECTION, STUDEGREE, and several local results tables comprising six full academic years of data – from 2012-2013 through 2017-2018

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**This report has three tables.**

- 1 Sheet one is a binary logistic regression showing the odds of course success given various factors and statuses
- 2 Sheet two is a binary logistic regression showing the odds of course persistence given various factors and statuses
- 3 Sheet three is a binary logistic regression showing the odds of receiving an award given various factors and statuses



# Gavilan College EOPS Quantitative Outcomes Assessment

## Binary Logistic Regression of Course Persistence, 2012-2018

This sheet shows a binary logistic regression of the course persistence rates of EOPS students as compared with non-EOPS students

N = 237,601

Table 2

Variable	Odds Ratio	Std. Err.	z	P> z	Significant?	[95% Conf. Interval]	Interpretation
Female	1.13	0.01	9.50	0.000	Yes	1.10 1.15	Holding all other factors constant, being female is associated with a 13% increase in the odds of persisting in the course as compared to male students, give or take about 3%
Non-white	0.91	0.02	-5.51	0.000	Yes	0.88 0.94	Holding all other factors constant, being nonwhite is associated with a 9% decrease in the odds of persisting in the course as compared to white students, give or take about 3%
Age under 21	1.44	0.02	24.30	0.000	Yes	1.39 1.48	Holding all other factors constant, being under age 21 is associated with a 44% increase in the odds of persisting in the course as compared to students age 21 to 25, give or take about 5%
Age 26-30	0.96	0.02	-1.93	0.054	No	0.92 1.00	There is insufficient evidence to suggest that being age 26 to 30 has an effect on the odds of course persistence.
Age 31-40	0.98	0.02	-0.68	0.495	No	0.94 1.03	There is insufficient evidence to suggest that being age 31 to 40 has an effect on course persistence.
Age 41-50	1.02	0.03	0.56	0.576	No	0.96 1.08	There is insufficient evidence to suggest that being age 41 to 50 has an effect on course persistence.
Age over 51	0.72	0.02	-9.59	0.000	Yes	0.67 0.77	Holding all other factors constant, being over age 50 is associated with a 28% decrease in the odds of persisting in the course as compared to students age 21 to 25, give or take about 5%
Student Was Placed in Basic Skills	0.40	0.01	-54.27	0.000	Yes	0.39 0.42	Holding all other factors constant, being a basic skills student is associated with a 60% decrease in the odds of persisting in the course as compared to non-basic skills students, give or take about 1%
Course not held on Gilroy campus	0.61	0.01	-38.05	0.000	Yes	0.60 0.63	Holding all other factors constant, courses held off of the main campus are associated with a 39% decrease in the odds of persistence as compared to courses on the Gilroy campus, give or take about 1%
EOPS student	0.98	0.02	-0.81	0.418	No	0.94 1.03	While not statistically significant, there is some evidence to suggest that EOPS participation results in a modest increase in the odds of persisting in a course as compared with students who are low income but are not in EOPS
AEC student	1.41	0.03	15.33	0.000	Yes	1.35 1.47	Holding all other factors constant, being an AEC student is associated with a 41% increase in the odds of persisting in the course as compared to non-AEC students, give or take about 6%
College Promise grant recipient	0.91	0.01	-6.70	0.000	Yes	0.89 0.94	Holding all other factors constant, receiving a College Promise grant is associated with a 9% decrease in the odds of persisting in the course as compared other students, give or take about 2%
Veteran	2.11	0.11	14.56	0.000	Yes	1.91 2.33	Holding all other factors constant, being a veteran is associated with a 111% increase in the odds of persisting in the course as compared to non-veterans, give or take about 20%
MESA student	0.98	0.04	-0.50	0.618	No	0.91 1.06	There is insufficient evidence to suggest that participation in the MESA program has an impact on persistence
TRiO student	1.11	0.04	2.85	0.004	Yes	1.03 1.20	Holding all other factors constant, being a TRiO student is associated with a 11% increase in the odds of persisting in the course as compared to non-TRiO students, give or take about 8%
Puente student	1.46	0.09	6.56	0.000	Yes	1.31 1.64	Holding all other factors constant, being a Puente student is associated with a 46% increase in the odds of persisting in the course as compared to non-Puente students, give or take about 15%

Foster Youth	0.68	0.02	-11.28	0.000	Yes	0.64	0.73	Holding all other factors constant, being a foster youth is associated with a 32% decrease in the odds of persisting in the course as compared to non-foster youth, give or take about 4%
Participation in Kickstart	1.16	0.04	4.03	0.000	Yes	1.08	1.25	Holding all other factors constant, participation in Kickstart is associated with a 16% increase in the odds of persisting in the course as compared to students not taking part in Kickstart, give or take about 8%
Student Athlete	1.38	0.05	8.66	0.000	Yes	1.28	1.49	Holding all other factors constant, being a student athlete is associated with a 38% increase in the odds of persisting in the course as compared to non-athletes, give or take about 10%
CalWORKs student	0.35	0.01	-41.03	0.000	Yes	0.33	0.36	Holding all other factors constant, being a CalWORKs student is associated with a 65% decrease in the odds of persisting in the course as compared to non-CalWORKs students, give or take about 2%
Allied health department course	3.44	0.15	27.51	0.000	Yes	3.15	3.76	Holding all other factors constant, the odds of persisting in an Allied Health course are about 244% greater than the odds of persisting in a Kinesology department course, give or take 29%.
Business department course	1.60	0.04	21.30	0.000	Yes	1.53	1.67	Holding all other factors constant, the odds of persisting in a Business department course are about 60% greater than the odds of persisting in a Kinesology department course, give or take 7%.
English department course	1.41	0.03	17.35	0.000	Yes	1.36	1.47	Holding all other factors constant, the odds of persisting in an English department course are about 41% greater than the odds of persisting in a Kinesology department course, give or take 5%.
Fine Arts department course	1.84	0.04	26.51	0.000	Yes	1.76	1.93	Holding all other factors constant, the odds of persisting in a Fine Arts department course are about 84% greater than the odds of persisting in a Kinesology department course, give or take 8%.
Natural Sciences department course	1.70	0.03	27.89	0.000	Yes	1.63	1.76	Holding all other factors constant, the odds of persisting in a Natural Sciences department course are about 70% greater than the odds of persisting in a Kinesology department course, give or take 7%.
Social Sciences department course	1.19	0.03	8.17	0.000	Yes	1.14	1.24	Holding all other factors constant, the odds of persisting in a Social Sciences department course are about 19% greater than the odds of persisting in a Kinesology department course, give or take 5%.
Constant	4.94	0.12	65.92	0.000	Yes	4.71	5.18	Constant

Persistence is defined as maintaining active registration until the end of a course, regardless of the final received

Data are reported at the course level; that is, one record exists for each student registered in each course. Various departments are excluded from the analysis due to their inapplicability. These include AEC, JPA, and various noncredit areas.

Data for the three models are drawn from the union of two queries of GIDS tables CLS\_GRADES, BAS\_DEMOGRAPHICS, SECTION, STUDEGREE, and several local results tables comprising six full academic years of data – from 2012-2013 through 2017-2018

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**This report has three tables.**

- 1 Sheet one is a binary logistic regression showing the odds of course persistence given various factors and statuses
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- 3 Sheet three is a binary logistic regression showing the odds of receiving an award given various factors and statuses

# Gavilan College EOPS Quantitative Outcomes Assessment

## Binary Logistic Regression of Award Conferral, 2012-2018

This sheet shows a binary logistic regression of the odds of receiving an award for EOPS and non-EOPS students

N = 21,122

Table 3

Variable	Odds Ratio	Std. Err.	z	P> z	Significant?	[95% Conf. Interval]	Interpretation
Female	1.46	0.06	9.35	0.000	Yes	1.35 1.58	Holding all other factors constant, being female is associated with a 46% increase in the odds of receiving an award as compared to male students, give or take about 12%
Non-white	0.50	0.02	-14.38	0.000	Yes	0.45 0.55	Holding all other factors constant, being nonwhite is associated with a 50% decrease in the odds of receiving an award as compared to white students, give or take about 4%
Age under 21	0.55	0.03	-12.05	0.000	Yes	0.50 0.61	Holding all other factors constant, being age under 21 is associated with a 45% decrease in the odds of receiving an award as compared to students age 21 to 25, give or take about 6%
Age 26-30	0.97	0.06	-0.53	0.599	No	0.85 1.10	There is insufficient evidence to suggest that being age 26-30 has an effect on the odds of receiving an award.
Age 31-40	1.03	0.07	0.43	0.664	No	0.90 1.17	There is insufficient evidence to suggest that being age 31-40 has an effect on the odds of receiving an award.
Age 41-50	0.98	0.08	-0.29	0.775	No	0.84 1.14	There is insufficient evidence to suggest that being age 41-50 has an effect on the odds of receiving an award.
Age over 51	0.54	0.05	-6.19	0.000	Yes	0.45 0.66	Holding all other factors constant, being over age 50 is associated with a 46% decrease in the odds of receiving an award as compared to students age 21 to 25, give or take about 10%
Student Was Placed in Basic Skills	0.13	0.01	-23.85	0.000	Yes	0.11 0.15	Holding all other factors constant, being a basic skills student is associated with a 87% decrease in the odds of receiving an award as compared to non-basic skills students, give or take about 2%
EOPS student	1.92	0.16	7.58	0.000	Yes	1.62 2.27	Holding all other factors constant, being an EOPS student is associated with a 92% increase in the odds of receiving an award as compared to non-EOPS students, give or take about 32%
AEC student	1.80	0.15	6.94	0.000	Yes	1.52 2.12	Holding all other factors constant, being an AEC student is associated with a 80% increase in the odds of receiving an award as compared to non-AEC students, give or take about 30%
College Promise grant recipient	1.51	0.06	9.95	0.000	Yes	1.39 1.64	Holding all other factors constant, receiving a College Promise grant is associated with a 51% increase in the odds of receiving an award as compared to other students, give or take about 12%
Veteran	1.30	0.18	1.94	0.052	No	1.00 1.70	There is insufficient evidence to suggest that being a veteran has an effect on the odds of receiving an award.

MESA student	1.13	0.16	0.87	0.387	No	0.86	1.48	There is insufficient evidence to suggest that participation in MESA has an effect on the odds of receiving an award.
TRiO student	2.37	0.31	6.62	0.000	Yes	1.84	3.06	Holding all other factors constant, being a TRiO student is associated with a 137% increase in the odds of receiving an award as compared to non-TRiO students, give or take about 62%
Puente student	1.87	0.36	3.25	0.001	Yes	1.28	2.72	Holding all other factors constant, being a Puente student is associated with a 87% increase in the odds of receiving an award as compared to non-Puente students, give or take about 72%
Foster Youth	0.48	0.07	-5.03	0.000	Yes	0.36	0.64	Holding all other factors constant, being a foster youth is associated with a 52% decrease in the odds of receiving an award as compared to non-foster youth, give or take about 14%
Participation in Kickstart	0.19	0.05	-6.17	0.000	Yes	0.11	0.33	There is insufficient evidence to suggest that participation in Kick Start increases the odds of receiving an award.
Student Athlete	1.42	0.19	2.59	0.114	No	1.09	1.86	There is insufficient evidence to suggest that being a student athlete increases the odds of receiving an award.
CalWORKs student	1.70	0.22	4.13	0.000	Yes	1.32	2.18	Holding all other factors constant, being a CalWORKs student is associated with a 70% increase in the odds of receiving an award as compared to non-CalWORKs students, give or take about 44%
Constant	0.37	0.02	-17.17	0.000	Yes	0.33	0.41	Constant

Data for the three models are drawn from the union of two queries of GIDS tables CLS\_GRADES, BAS\_DEMOGRAPHICS, SECTION, STUDEGREE, and several local results tables comprising six full academic years of data – from 2012-2013 through 2017-2018

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*"Institutional Research - Use it for good, never for evil."*

**This report has three tables.**

- 1 Sheet one is a binary logistic regression showing the odds of receiving an award given various factors and statuses
- 2 Sheet two is a binary logistic regression showing the odds of course persistence given various factors and statuses
- 3 Sheet three is a binary logistic regression showing the odds of receiving an award given various factors and statuses