



Washington State GEAR UP Impact Analysis

Vela Institute



About Vela Institute

Vela Institute is a nonprofit organization dedicated to increasing access to evaluation, analytics, and data tracking to education partners to improve student and community outcomes. Established in 2017, Vela Institute accomplishes its mission through applied research, data analytics, and the use of evidence-based practices.

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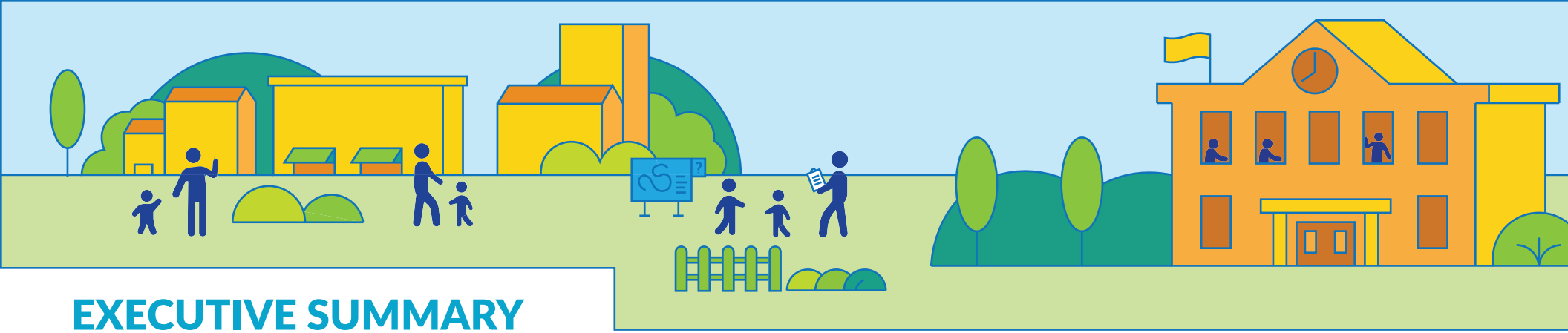
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EXECUTIVE SUMMARY

Washington was awarded a State GEAR UP grant in September of 2011 by the U.S. Department of Education. This 7-year program is a discretionary grant program that supports efforts to increase the number of low-income students that obtain a secondary school diploma and prepare for and succeed in postsecondary education. The Washington GEAR UP State Grant (WAGU) served 4209 students across 20 GEAR UP schools who graduated in 2017 through a range of services offered to students and families including tutoring, mentoring, counseling and advising, college visits, workshops, and family events.

As a part of a broader effort to move towards an understanding of GEAR UP services' connection with student outcomes, WAGU commissioned a study to explore the relationship GEAR UP services had with key college access outcomes. The current report describes FAFSA completion and postsecondary outcomes of enrollment, persistence, and completion for the class of 2017. In addition, the report explores the relationship of GEAR UP services to FAFSA completion and first-year postsecondary enrollment controlling for a variety of student-level variables include grade point average.

The WAGU class of 2017 FAFSA completion rate was 68%. FAFSA completion rates for WAGU students exceeded both state and national averages. The specific GEAR UP services most strongly associated with increased FAFSA completion were College Visits/College Student Shadowing, Financial Aid Counseling/Advising, Student Workshops, Parent/Family College Visit, Parent/Family Counseling/Advising, and Parent/Family workshops of College Preparation/Financial Aid.

WAGU students first-year postsecondary enrollment rate was 57% compared to 48% for students eligible for free and reduced lunch across the state of Washington and the overall Washington state enrollment rate of 61%. The specific GEAR UP services most strongly associated with increased first-year enrollment were College Preparation/Financial Aid, Parent/Family Counseling/Advising, Counseling/Advising/Academic Planning/Career Counseling, and Family Events.

The postsecondary persistence rate for the WAGU class of 2017 students was 78% compared to a statewide persistence rate of 75.7%. The completion rate, as of Fall 2022, is 46%. Given only five years has lapsed since initial enrollment, a statewide comparison is not available using the widely-accepted completion rate of six years.

These collective results help to quantify WAGU's impact in the schools and communities served across the state of Washington.

There were positive relationships between GEAR UP services and postsecondary outcomes that affirm the work of WAGU.

The more students participated in GEAR UP services the more likely they were to complete the FAFSA and enroll in postsecondary education.

GUIDING QUESTIONS



Washington was awarded a State GEAR UP grant in September of 2011 by the U.S. Department of Education. This 7-year program is a discretionary grant program that supports efforts to increase the number of low-income students that obtain a secondary school diploma and prepare for and succeed in postsecondary education.

The Washington GEAR UP State Grant (WAGU) served 4209 students across 20 GEAR UP schools who graduated in 2017 through a range of services to students and parents including tutoring, mentoring, counseling and advising, college visits, workshops, and family events.

As a part of a broader effort to better document and understand GEAR UP services' connection with student outcomes, WAGU commissioned an analysis that explored the relationship between WAGU and key college access outcomes.

The first guiding question of the evaluation was to determine the extent to which WAGU students did each of the following: completed the FAFSA, enrolled in first-year postsecondary education, and persisted in and completed their postsecondary education.

The second guiding question of the evaluation sought to determine the extent to which overall levels of student participation within WAGU services were

related to FAFSA completion and enrollment in postsecondary education.¹

Finally, the evaluation explored the extent to which participation in specific services was associated with FAFSA completion and first-year postsecondary enrollment.

Guiding Questions:

1. What percentage of WAGU students...

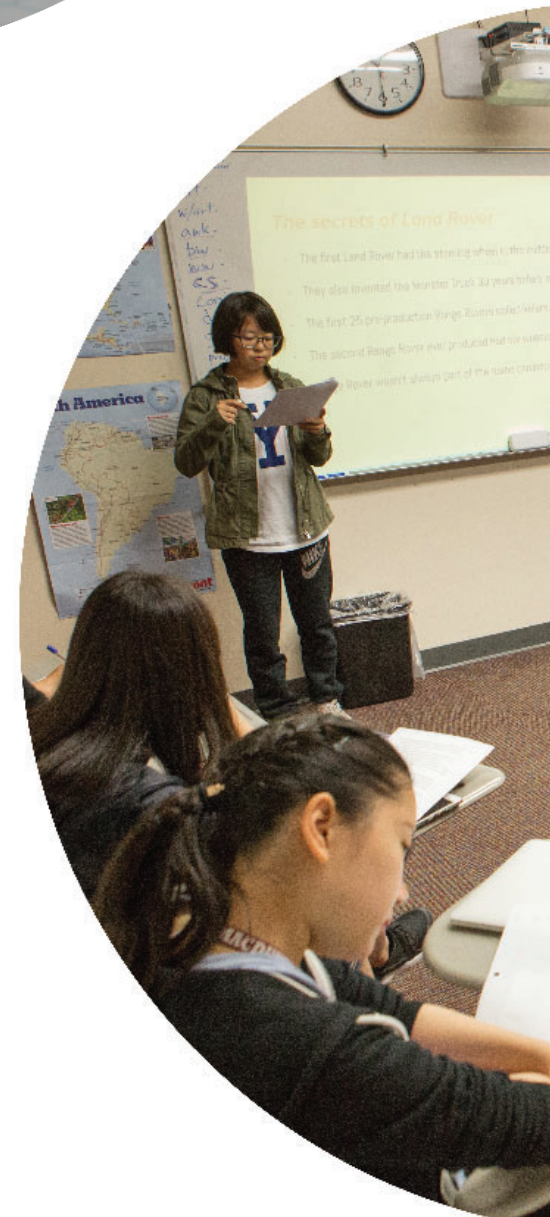
- Completed FAFSA?
- Enrolled in postsecondary education within a year of high school graduation?
- Persisted in postsecondary education?
- Completed postsecondary education?

2. Were students who participated in *more* WAGU services more likely to...

- Complete FAFSA?
- Enroll in postsecondary education within a year of high school graduation?

3. Was participation in *specific* WAGU services associated with an increased likelihood of...

- Completing FAFSA?
- Enrolling in postsecondary education within a year of high school graduation?



PROJECT DATA

GEAR UP student and service data was provided by WAGU for the high school graduating class of 2017. Data included GEAR UP services along with student attributes including school attending, race-ethnicity, gender, and senior year grade-point-average.

Washington GEAR UP services are defined as any service or activity that is documented by WAGU using GEAR UP funds and coded for evaluation and reporting purposes. GEAR UP service data included students, the type of activity and duration of the event.

Student financial aid data was provided for students who completed the Free Application for Federal Student Assistance (FAFSA). FAFSA data was provided by WAGU using state verified completion data from the Washington Student Achievement Council (WSAC). The National Student Clearinghouse (NSC) provided third party verification for postsecondary outcomes.

There were 4209 students who graduated from a WAGU school in 2017 that comprised the final data set used in analysis. Twenty schools were represented in the data set – each school having participated in and provided students GEAR UP services. A breakdown of the students' gender and race-ethnicities are provided in Figure 1.0 and 1.1.

Furthermore, student academic data contained grade-point-averages provided by WAGU. Grade-point-average (GPA) was included as a statistical control variable given its documented significance in predicting postsecondary success.¹¹ The average GPA for GEAR UP students was 2.9 on a four-point scale.

A student participation variable was created dependent on the range of participation in GEAR UP. "Full participants" (2086, 49.6%), were students who were enrolled in a GEAR UP school for the entire duration of the project and who graduated high school in 2017. "Partial participants" (2123, 50.4%) either transferred into or out of a GEAR UP school during the performance period. This provided another control variable to use in analysis and to help tease out potential relationships between GEAR UP service participation and postsecondary outcomes.

Figure 1.0 Distribution of Student Race

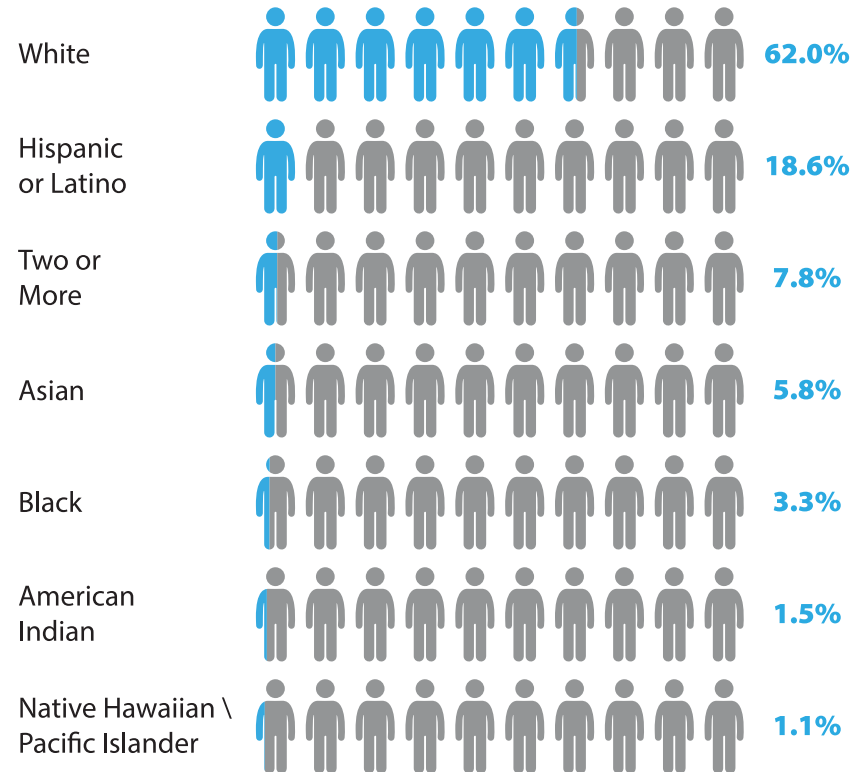
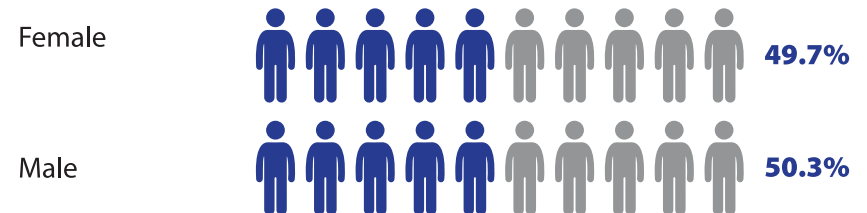


Figure 1.1 Distribution of Student Gender



WAGU SERVICE SUMMARY

The service information provided by WAGU was categorized according to common definitions used by the College and Career Readiness Evaluation Consortium (CCREC).¹¹¹

These service definitions have been adopted by GEAR UP programs across the country in an effort to allow for common measures and consistency in describing and reporting GEAR UP's impact.

Services Count

Figure 2.0 to the right shows the total count of student services provided in each service category. Total counts for all WAGU services provided were calculated by taking the total number of students who received a service and multiplying the number of events each student received.

Service Distribution

All 4209 students in the data set received GEAR UP services. The average service hours GEAR UP students received was 105.2 hours. All students in the data set received at least one GEAR UP service. Students on average participated in 71.6 GEAR UP events before high school graduation.

While all WAGU students participated in at least one service, the distribution of service participation was heavily skewed, indicating that a large number of students received a relatively low dosage of services during the full project performance period (beginning in 6th Grade) as shown in Figure 2.1.

Service participation per student ranged from 1 event to 721 events. Half of all students participated in 45 services or fewer, well below the 71.6 average. Service hours saw a similar distribution – ranging from .33 hours to 1258.8 hours.

Figure 2.0 Count of GU Services

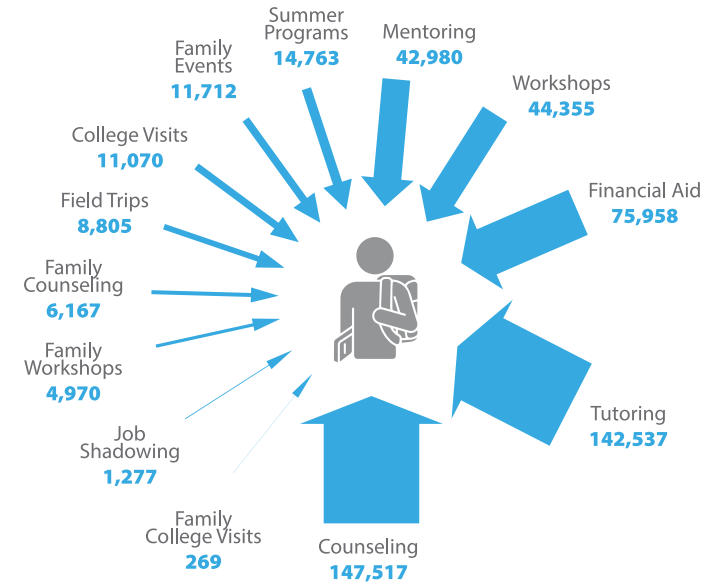
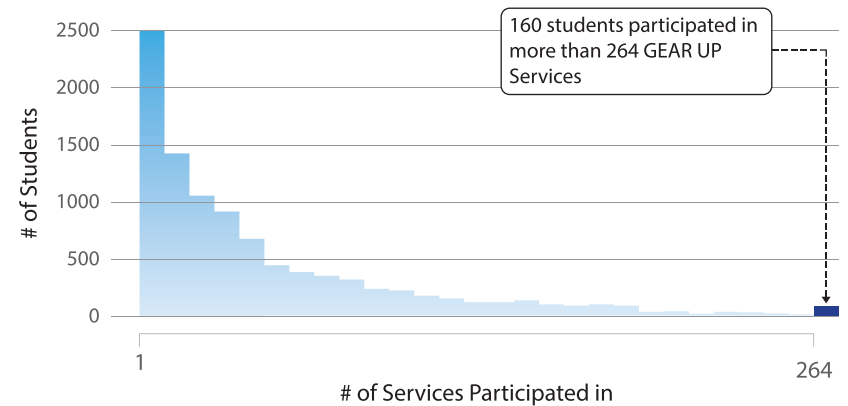


Figure 2.1 Distribution of GU Services



ANALYSIS METHODOLOGY

Univariate descriptive statistics were used to answer the evaluation's first guiding question. Given that each of the outcomes of interest were dichotomous, the number and percentage of students who did and did not complete each of the project outcomes were first reported. These percentages were then compared against Washington State^{IV} to determine how WAGU students compared to state and/or national standards.

A series of logistic regression analyses^V were used to answer the project's remaining two guiding questions. Regression models controlled for school attended, gender, race, and GPA. These analyses examined the associations between WAGU services and two outcomes of interest (i.e., FAFSA completion and postsecondary enrollment). Logistic regression analyses allowed for these relationships to be examined in several meaningful ways and allowed for the statistical control of students' location (school attended), race-ethnicity, gender, and academic performance (GPA), and "full" or "partial" participation. Multiple logistic regression analyses with these statistical controls provided a stronger level of evidence of the service-to-outcome associations compared with bi-variate analyses. An alpha of .10 was used to determine if a meaningful association existed between WAGU services and the outcomes of interest.^{VI}

Student WAGU service data was positively skewed with most students receiving a relatively low dosage of services and fewer students receiving larger dosages. As a result, service counts were transformed by taking the natural log of the service metric prior to entering these metrics into the logistic regression analyses.^{VII} Regression results were

then "back translated" so interpretations are presented in the original service count.^{VIII} In examining the relationship between GEAR UP services and postsecondary enrollment outcomes, GEAR UP service counts were used over GEAR UP service hours due to slightly better prediction.

Guiding Questions for the Evaluation:

1. What percentage of WAGU students...

- Completed FAFSA?
- Enrolled in postsecondary education within a year of high school graduation?
- Persisted in postsecondary education?
- Completed postsecondary education?

2. Were students who participated in more WAGU services more likely to...

- Complete FAFSA?
- Enroll in postsecondary education within a year of high school graduation?

3. Was participation in specific WAGU services associated with an increased likelihood of...

- Completing FAFSA?
- Enrolling in postsecondary education within a year of high school graduation?

FAFSA COMPLETIONS

WAGU FAFSA Completion Percentage

Sixty-eight percent of the 4209 students in WAGU's 2017 graduating class completed the FAFSA. This was significantly higher than the Washington state average for the class of 2017 and for the country as a whole. These results indicated that the majority of 2017 graduating WAGU students completed the FAFSA.

FAFSA completion for the class of 2017

National Avg.:	50.5%
Washington State Avg.:	53.5%
GEAR UP :	67.8%

GEAR UP Participation and FAFSA Completion

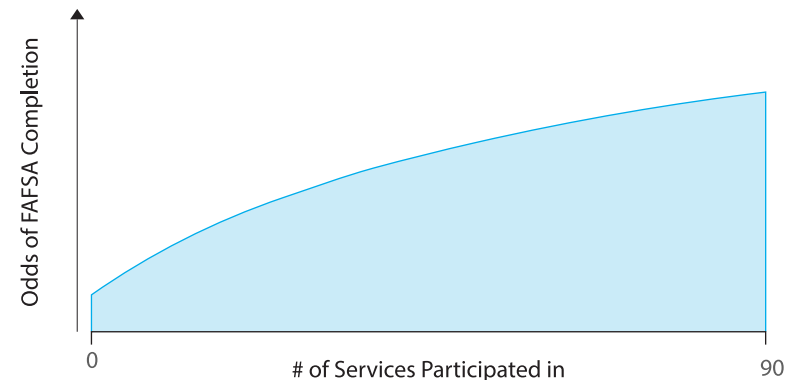
The results of the logistic regression indicated that students who participated in more WAGU services had an increased likelihood of FAFSA completion. Figure 3.0 shows the positive relationship between the number of WAGU services a student received and the model implied odds of completing the FAFSA.

Specific WAGU Services and FAFSA Completion

The results of a sequential backwards regression were examined to determine which specific WAGU services were the most strongly associated with FAFSA completion.^{ix} Results indicated that six specific WAGU services (College Visits/College Student Shadowing, Financial Aid Counseling/Advising, Student Workshops, Parent/Family College Visit, Parent/Family Counseling/Advising, and Parent/Family workshops of College Preparation/Financial Aid) were most strongly associated with FAFSA completion.^x Student participation in these specific WAGU services had the strongest associated with an increased likelihood of FAFSA completion.

Research from the National College Attainment Network suggests that completing the FAFSA can increase the likelihood of postsecondary enrollment by 84%.^{xi} WAGU offered six services that were related to increased FAFSA completion, and therefore increased the likelihood of enrolling in postsecondary education. The figures show the positive relationship between the number of WAGU services a student received and the model implied odds of FAFSA completion.

Figure 3.0: Overall GU Participation & Odds of Completing FAFSA



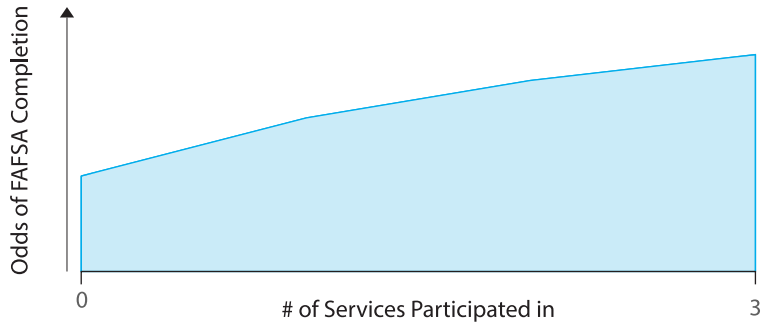
Note: Graphic shows the model implied odds of completing the FAFSA. The model implied odds presented on the y-axis were calculated using median-centered, log-transformed data with the corresponding dosage amount presented in the original scale on the x-axis. The intercept was set at the average of the overall sample such that a student receiving a typical amount of the service would have an odds equal to that of the typical expected FAFSA completion.

WAGU SERVICES THAT IMPACTED FAFSA COMPLETION

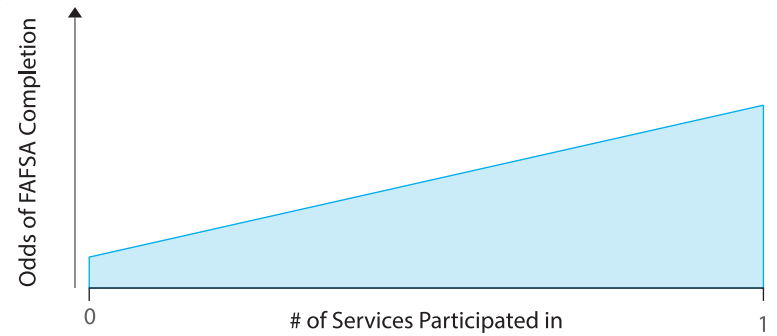


FIGURES 3.1-3.6: SPECIFIC WAGU SERVICES AND ODDS OF FAFSA COMPLETION

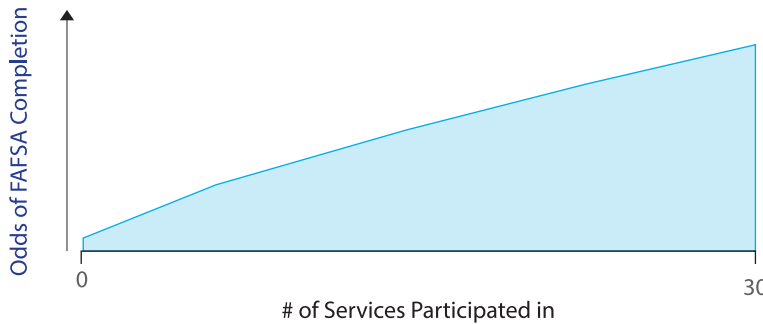
 **Figure 3.1: College Visits & Odds of Completing FAFSA**




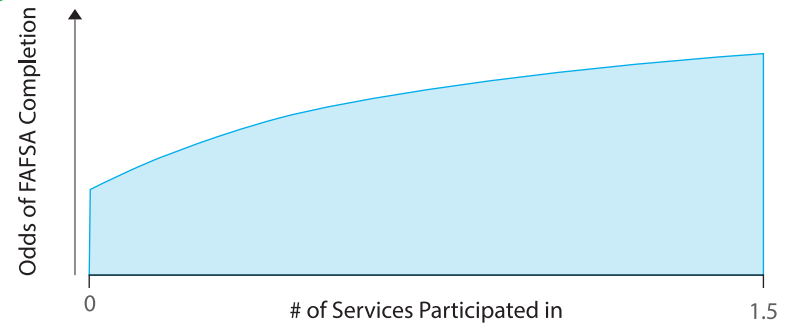
 **Figure 3.4: Family Counseling & Odds of Completing FAFSA**



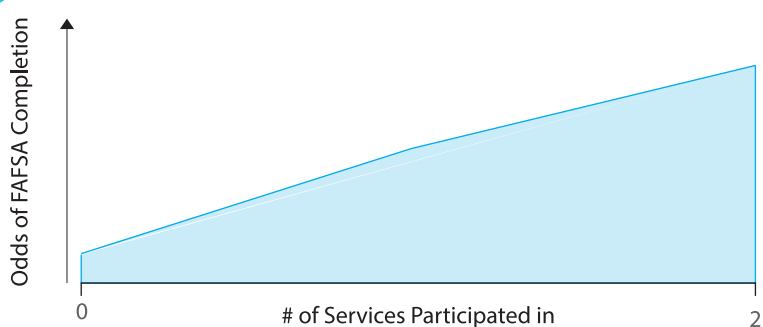
 **Figure 3.2: Family College Visits & Odds of Completing FAFSA**



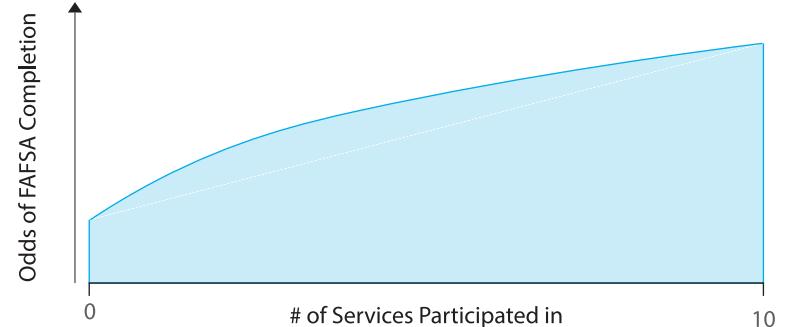
 **Figure 3.5: Financial Aid & Odds of Completing FAFSA**



 **Figure 3.3: Family Workshops & Odds of Completing FAFSA**



 **Figure 3.6: GU Workshops & Odds of Completing FAFSA**



FIRST-YEAR ENROLLMENT RATES

First-Year Enrollment Percentages:

First-year enrollment was defined as a student who enrolled in a postsecondary institution during the academic year immediately following high school graduation. The first-year postsecondary enrollment rate for WAGU students was 57%. For comparison, students in Washington who qualified for free or reduced lunch enrolled in postsecondary education within a year of graduation after high school at a rate of 48%. The rate of first-year enrollment for the entire state of Washington for 2017 high school graduates was 61%.^{XII}

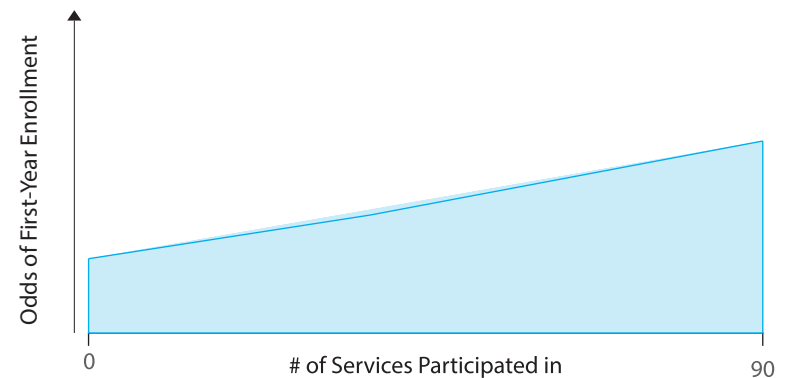
WAGU GEAR UP Participation and First-Year Enrollment

The results of the logistic regression indicated that students who participated in more WAGU services had an increased likelihood of First-Year Enrollment.^{XIII} Figure 4.0 shows the positive relationship between the number of WAGU services a student received and the model implied odds of First-Year Enrollment.

Specific WAGU Services and First-Year Enrollment

The results of a sequential backwards regression were examined to determine which specific WAGU services were the most strongly associated with First-Year Enrollment. Results indicated that four specific WAGU services (Parent/Family workshops of College Preparation/Financial Aid, Parent/Family Counseling/Advising, Counseling/Advising/Academic Planning/Career Counseling, and Family Events) were the specific services most strongly associated with First-Year Enrollment.^{XIV} Student participation in these specific WAGU services had the strongest associated with an increased likelihood of First-Year Enrollment. The figures show the positive relationship between the number of WAGU services a student received and the model implied odds of FAFSA completion.

Figure 4.0: Overall GU Participation & First-Year Enrollment Odds



Note: Graphic shows the model implied odds of completing the First-Year postsecondary enrollment. The model implied odds presented on the y-axis were calculated using median-centered, log-transformed data with the corresponding dosage amount presented in the original scale on the x-axis. The intercept was set at the average of the overall sample such that a student receiving a typical amount of the service would have an odds equal to that of the typical expected First-Year Enrollment.

WAGU SERVICES THAT IMPACTED FIRST-YEAR ENROLLMENT



FIGURES 4.1-4.4: SPECIFIC WAGU SERVICES AND ODDS OF FIRST-YEAR ENROLLMENT



Figure 4.1: Counseling & First-Year Enrollment Odds

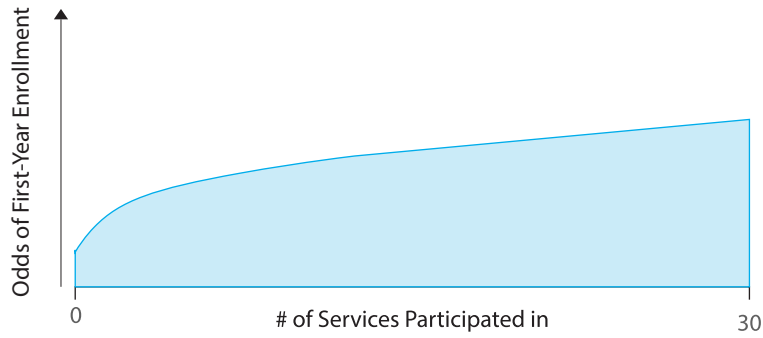


Figure 4.3: Family Counseling & First-Year Enrollment Odds

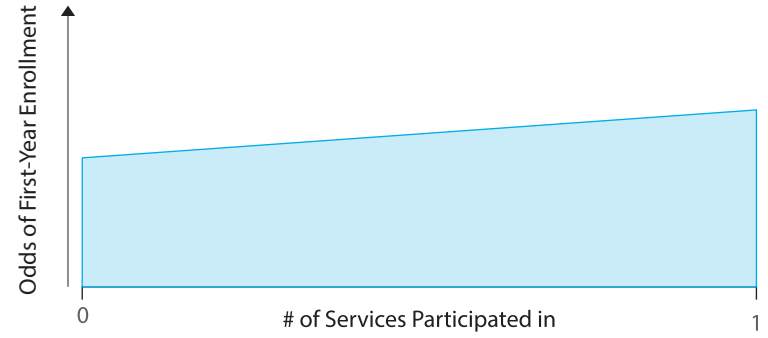


Figure 4.2: Family Events & First-Year Enrollment Odds

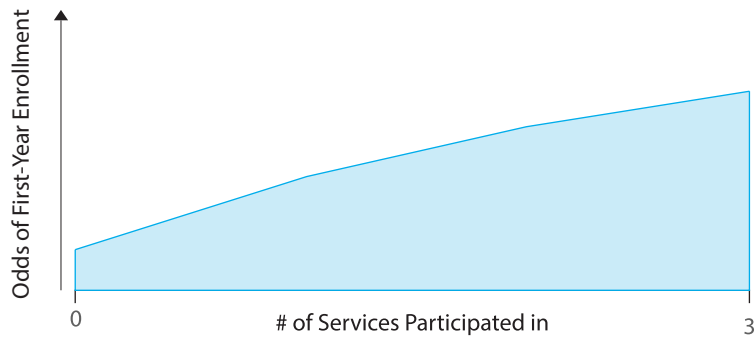
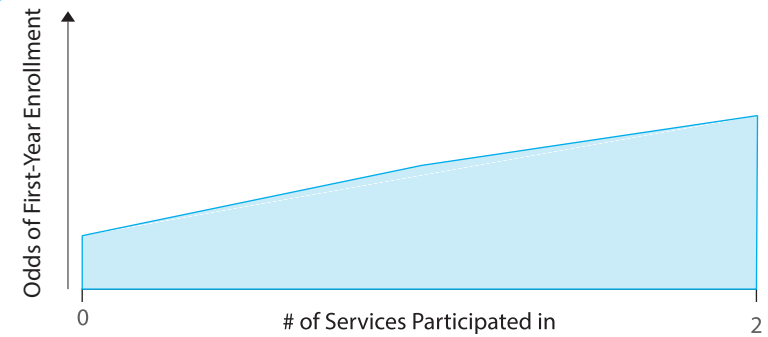


Figure 4.4: Family Workshops & First-Year Enrollment Odds

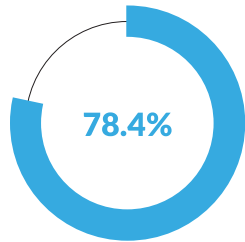


POSTSECONDARY PERSISTENCE AND COMPLETION

Postsecondary data provided an opportunity to determine persistence and completion records for GEAR UP students.



Persistence was defined as a student enrolling in the first-year after high school graduation and the second-year after high school graduation.

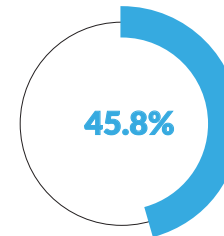


The persistence rate for WAGU students was 78.4%.

*The statewide persistence rate for Washington was 75.7% during the same period. ^{xv}



Completion was defined as a student who enrolled in postsecondary education and completed any postsecondary credential following high school graduation as of Fall 2022.



The completion rate for WAGU students who enrolled in college was 45.8% as of Fall 2022.

CONCLUSIONS

Overall, the results suggest that participation in WAGU services were positively related to FAFSA completion. Additionally, results suggest that participation in WAGU services were positively related to first-year enrollment. A further encouraging finding is that additional WAGU services increased the likelihood of both FAFSA completion and first-year postsecondary enrollment. The more GEAR UP services a student received the more likely they were to have completed a FAFSA and enrolled in the

first-year after high school graduation. It is important to note that these results are descriptive and correlational, therefore additional analyses are needed before implying causation. Results from the current evaluation provides encouraging evidence for the WAGU project and its delivery of services to student and families. Results indicate the significance of family services and how participating in just a few of these services substantially impact outcomes.



END NOTES

^IThis research project focused on FAFSA completion and postsecondary enrollment as associated outcomes of services. These measures were chosen because they are proximal actions that occur at the end of the provision of WAGU GEAR UP services. Correlation and causation between such services and postsecondary persistence/ completion were not included as these outcomes are more distant and less tied to high school services when other confounding variables may be present.

^{II}Hein, V.L., Smerdon, B.A., & Sambolt, M. (2013). Predictors of Postsecondary Success. https://ccrcenter.org/sites/default/files/CCRS%20Center_Predictors%20of%20Postsecondary%20Success_final_0.pdf

^{III}College and Career Readiness Evaluation Consortium (CCREC) & National Council for Community and Education Partnerships (NCCEP). (2020, December). GEAR UP Student and Family Definitions: Guidelines for GEAR UP Program Services. Retrieved from https://www.edpartnerships.org/s/CCREC_ServiceDefinitions_2020_Final.pdf.

^{IV}National Student Clearinghouse (NSC). (2020). High School Benchmarks 2020: National College Progression Rates. Retrieved from https://nscresearchcenter.org/wp-content/uploads/2020_HS BenchmarksReport.pdf.

^VLogistic regression is a form of predictive analysis that can be used to describe the association between multiple predictors and a binary or dichotomous outcome (e.g., a student enrolled in postsecondary education or they did not).

^{VI}The $p < .10$ criteria was employed to help increase statistical power of the analyses and avoid Type II errors (i.e., false negatives) given the relatively small expected service-to-outcome associations after accounting for the project's statistical controls.

^{VII}Log transformation tends to make data follow more of a bell-shaped distribution when original data does not follow a typical gaussian distribution. The results from statistical analysis using log-transformed data are more reliable and can be generalized. See Keene, O. N. (1995). The log transformation is special. *Statistics in medicine*, 14(8), 811-819.

^{VIII}The odds ratio is a comparison of the chances of an event occurring (e.g., a student enrolling in postsecondary education) versus not occurring (e.g., a student not enrolling in postsecondary education) with odds of one meaning that both outcomes (e.g., a student enrolling versus not enrolling) are equally likely.

^{IX}Total GEAR UP services and FAFSA completion. OR = 1.71 (95% CI: 1.57, 1.87)

X

First Year Postsecondary Enrollment		
Service	Odds Ratio	95% Confidence Interval
Counseling/Advising Academic Planning/Career Counseling	1.17	1.07, 1.28
Family Events	1.26	1.10, 1.45
Parent/Family Counseling/Advising	1.15	1.01, 1.33
Parent/Family workshops of College Preparation/Financial Aid	1.62	1.41, 1.85

^{XI}Debaun, B. (2019). Survey Data Strengthen Association Between FAFSA Completion and Enrollment. National College Attainment Network.

^{XII}First Year Enrollment rates for Washington State. Retrieved From: <https://erdc.wa.gov/data-dashboards/high-school-graduate-outcomes>

^{XIII}Total GEAR UP services and First Year Enrollment. OR = 1.41 (95% CI: 1.29, 1.53)

XIV

FAFSA Completion		
Service	Odds Ratio	95% Confidence Interval
College Visit/College Student Shadowing	1.21	1.08, 1.35
Financial Aid Counseling/Advising	1.20	1.06, 1.35
Parent/Family College Visit	1.79	1.06, 3.03
Parent/Family Counseling/Advising	1.36	1.18, 1.57
Parent/Family workshops of College Preparation/Financial Aid	1.92	1.66, 2.21
Student Workshops	1.25	1.07, 1.45

^{XV}Persistence and Retention: Fall 2020 beginning postsecondary student cohort. Retrieved from: <https://nscresearchcenter.org/wp-content/uploads/PersistenceRetention2022.pdf>