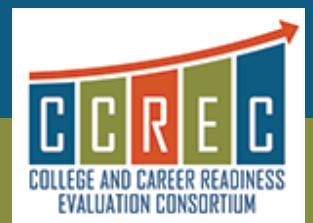
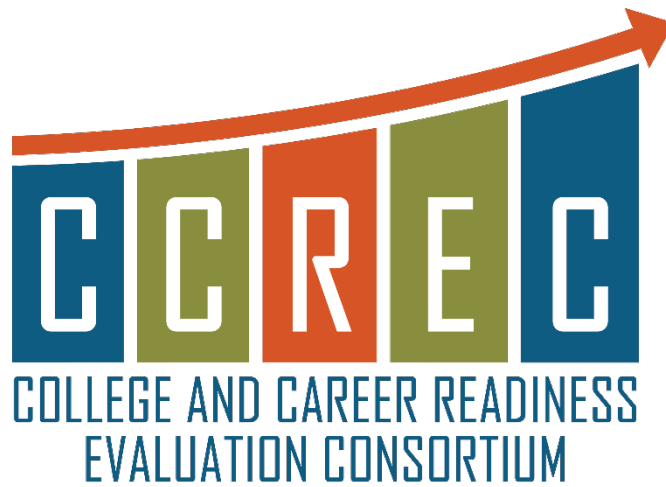


Examining Relationships: Service Activities and FAFSA Completion, High School Graduation, and Postsecondary Enrollment

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Evaluation Report #1

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Introduction

History of College Access, Enrollment, Persistence, and Completion

Expanding access to higher education is vital to an educated and economically competitive society. The work to expand college access is an educational movement that assists students, particularly those who are living in low-income communities, in their pursuit to enroll, persist, and graduate from postsecondary institutions through strategic programming interventions that take place in secondary school. Several federal enactments have contributed to the evolution of college access for underserved students throughout the history of the United States including the Morrill Land Grant Acts of 1862 and 1890, the 1944 G.I. Bill of Rights, the Higher Education Act (HEA) Basic Educational Opportunity Grant/Pell Grants, and the Post-9/11 Veterans Educational Assistance Act which established many landmark universities (Ehrlich et al., 2018) and provided financial support for students to attend postsecondary education (Ghosh et al., 2021; Thomas, 2017).

Furthermore, legislation passed in the 1950s and 1960s led to new postsecondary opportunities for students who had previously been excluded in a segregated society. In 1954, the Supreme Court's ruling in *Brown v. Board of Education* declared state laws establishing separate public schools for African American and White students unconstitutional. A decade later, the Civil Rights Act of 1964, in conjunction with the Economic Opportunity Act of 1964 promoted greater inclusion of underserved populations in the educational and economic life of America (Harvey et al., 2004). Additionally, the Higher Education Act (HEA) of 1965 was intended "to strengthen the educational resources of our colleges and universities and to provide financial assistance for students in postsecondary and higher education" (HEA of 1965, Public Law 89-329, p.1).

Together these acts resulted in the establishment of programs specifically designed to support first-generation and underserved students in low-income communities not only access, but also persist through and complete postsecondary education. Early programs included Upward Bound (1964) and Talent Search (1965), which were created to address the social and cultural impediments to college enrollment for students in poverty (U.S. Department of Education [ED], 2021). Over three decades, these early programs expanded into a wider range of support including the Upward Bound Math/Science Program (designed to increase the number of low-income students pursuing Science, Technology, Engineering, and Mathematics [STEM] degrees), Educational Opportunity Centers (designed to increase the number of adults enrolling in postsecondary education), and the Ronald E. McNair Postbaccalaureate Achievement Program (designed to increase the attainment of doctorate degrees by students from underserved segments of society) (ED, 2021). Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) was added as a separate program under the ED's Student Service suite of programs in 1998 via amendments to the HEA. Most of these college access and persistence programs are funded through discretionary federal grant projects and encompass several research-based services and interventions directed toward eligible students.

Current Condition of College Access, Enrollment, Persistence, and Completion

While federal support has led to an increase in college access over the last 70 years, the Report on the Condition of Education 2021 (Institute of Education Sciences [IES], 2021) found an overall downward trend and gaps in undergraduate enrollment and persistence when disaggregated on multiple demographics. In

2019, there were 16.6 million undergraduate students enrolled in postsecondary institutions, a decrease of 5% from 2009 (17.5 million) (IES, 2021). Of these students, the majority identified as female (57%) and White (51%) and were enrolled full time (61%). During the ten-year period between 2009 and 2019, enrollment patterns for all but one demographic group matched the overall downward trend of undergraduate enrollment. Both male and female enrollments decreased by 5%, American Indian/Alaskan Native enrollment decreased by 38%, White enrollment decreased by 22%, and African American enrollment decreased by 17% (IES, 2021). Enrollment of Hispanic students, however, increased by 48%. Despite this large increase in overall enrollment of Hispanic students (3.5 million), there still exists a difference of about 5 million students between Hispanic first-time college enrollees and their White peers (IES, 2021).

Data from the National Student Clearinghouse's (NSC) annual *High School Benchmarks Report* (2021) highlighted additional disparities in postsecondary outcomes. In their report of high schools which participated in the StudentTracker service, NSC found that 65% of high school students from higher-income schools enrolled in postsecondary education in the first fall after graduation compared to 49% of high school students at low-income schools. Additionally, students from low minority schools enrolled immediately after high school at a higher rate than their peers attending schools with a higher minority population (64% and 52%, respectively). These data trends track across college persistence and six-year completion rates (NSC, 2021). Eighty-eight percent of students from higher-income high schools persist from the first to second year of college compared to 79% of students from lower-income high schools. When examining completion rates, 51% of students from high-income schools graduate within six years compared to just 29% of students from low-income schools. The size of a high school's minority population was also a strong indicator of persistence and completion. Eighty-seven percent of students from low-minority schools persisted to the second year of college and 51% completed in six years compared to students from high schools with high minority populations which persisted at a rate of 81% and completed at a rate of just 29%. Both income level and minority population of high school were found to be strong correlates to all postsecondary outcomes measured: immediate enrollment, persistence, and completion.

Effective Interventions to Improve Postsecondary Outcomes

There is extant research on effective interventions and strategies that support enrollment in, persistence through, and completion of postsecondary education. Research points to the use of robust, comprehensive college and career readiness programs as opposed to isolated strategies in the support of students, particularly those from low-income or underserved communities (Gee et al., 2020). According to Gee et al. (2020), effective college readiness programs combine active learning of academic content with development of soft skills and meaningful engagement in college and career awareness, goal setting, and visioning. Research also shows that student access to qualified professionals with knowledge of college and career impacts a student's postsecondary decision-making and ultimately postsecondary outcomes (Missaghian, 2021). The frequency and intensity of visits with institutional representatives such as counselors or college advisors is positively associated with alignment and fit of a student's postsecondary education selection (Missaghian, 2021). The environmental supports within which these programs occur also have an impact on student outcomes. The college going culture of the high school which a student attends has been positively associated with student readiness for college (Mwangi et al., 2019). Additionally, research has shown that parental involvement has a positive relationship with a student's ability to be on track to graduate and enroll in college (Mwangi et al., 2019), and parent emotional support is an important predictor of student outcomes in college including GPA, accumulation of credits, and persistence to the second year of postsecondary education (Roksa & Kinsley, 2019). This research collectively suggests that college readiness programs that: a) comprehensively address

both academic and behavioral skills, b) improve access to knowledgeable professionals, and c) create an environment at school and at home that supports students emotionally in their endeavors are more likely to see increased student outcomes in postsecondary education.

History and Purpose of GEAR UP

The GEAR UP initiative was authorized by Title IV of the 1998 Amendments to the HEA of 1965 and was signed into public law (P.L. 105-244) on September 29, 1998, by President Clinton. In signing the law, the President remarked that:

In today's global economy, what you earn depends on what you learn. This bill will make it easier for millions of Americans to get the higher education they need to succeed in the global economy...It responds to the challenge I issued in the State of the Union to create a 'High Hopes' initiative, where colleges reach down to middle school students in high-poverty areas to give them the support they need to be ready for higher education.

Originally established as the High Hopes initiative, GEAR UP was modeled on successful college access programs like I HAVE A DREAM and Project GRAD, as well as several institutional and state system initiatives. Today, GEAR UP is one of the largest programs nationwide¹, focused on college and career readiness services to increase the number of students from low-income communities who are prepared to enroll and succeed in postsecondary education. A highly competitive grant program, GEAR UP helps empower local partnerships comprised of K-12 schools, institutions of higher education, state agencies, and community organizations to achieve three strategic goals: (1) increasing the postsecondary expectations and readiness of students; (2) improving high school graduation and postsecondary enrollment rates; and (3) raising the knowledge of postsecondary options, preparation, and financing among students and families.

Structure of GEAR UP

There are two grant types, one focused on states, and another on local partnerships to ensure both breadth and depth of the program. To be eligible for GEAR UP, a minimum of 50% of a school's student body must be enrolled in the federal Free and Reduced-Price Lunch (FRPL) program. GEAR UP serves either priority students² or cohorts of students³ starting no later than the 7th grade in schools. States and local community-education partnerships are funded for six or seven consecutive years and serve students continuously through either the end of their high school career or their first year of college, depending on the fiscal year they were funded and the program structure. Drawing upon research, GEAR UP engages students early, accelerates their readiness through supplemental programs, and expands the capacity of schools to create a college going culture.

¹ Currently, GEAR UP serves approximately 535,000 students enrolled in over 3,474 secondary schools across 44 states.

² Priority students are defined as any student in secondary school who is eligible to be counted under the Elementary and Secondary Education Act of 1965, eligible for Title IV assistance, eligible for assistance under the McKinney-Vento Homeless Assistance Act, or otherwise considered to be a disconnected student.

³ The cohort or whole-grade model involves providing services to all students in the participating grade levels, rather than a selected group of students. A cohort must start no later than the 7th grade, and services must be provided to the students in the cohort through the 12th grade.

To ensure that GEAR UP merits continued federal funding, the Secretary of Education provides Congress with performance data as mandated by the Government Performance Results Act (GPRA) of 1993. These GPRA indicators are important to GEAR UP professionals as they define the reporting and evaluation mandates of the U.S. Department of Education.

GEAR UP Services

The core of GEAR UP consists of the required and permissible service interventions provided to student and families. The primary goal of GEAR UP is to serve students in middle and high school to prepare them to enroll and succeed in college. GEAR UP offers many service interventions to students and families, as guided by the Higher Education Opportunity Act (HEOA) and outlined in Table 1. The services span noncognitive and academic domains that complement research findings in the field.

While traditionally a college access program focused on students in grades 7 through 12, the 2008 reauthorization of the HEA established regulations in 2009 that allowed grantees to also serve students in their first year of postsecondary education; this allowed the 2011 class of grantees to benefit from this policy shift. This report will only focus on secondary services to students and families but there is a need to evaluate the postsecondary services impact in future studies,

Table 1. GEAR UP Student and Parent/Family Services

GEAR UP Student Services	GEAR UP Parent/Family Services
1. Supportive Services	1. Workshops on college preparation/financial aid*
2. Rigorous Academic Curricula	2. Counseling/advising*
3. Comprehensive Mentoring*	3. College visits*
4. Financial aid counseling/advising*	4. Family events*
5. Counseling/advising/academic planning/career counseling*	
6. College visit/college student shadowing*	
7. Tutoring/Homework Assistance*	
8. Job site visit/job shadowing*	
9. Summer programs*	
10. Educational field trips*	
11. Workshops*	

Note. Sourced from the U.S. Department of Education’s Annual Performance Report (APR) for Partnership and State Projects. Those services marked with an asterisk (*) are reported and analyzed as part of the GEAR UP College and Career Readiness Evaluation Consortium (CCREC) evaluation, which is the focus of this report.

GEAR UP Impact

Given the scope of GEAR UP, educational practitioners and policymakers continue to seek answers on how to best assist students, especially those from historically underserved populations and lower-income schools, in their postsecondary endeavors. Federal and private dollars are invested in myriad college access and readiness programs across the country, and it is increasingly more important that programs like GEAR UP provide evidence about how well these programs work for students, their families, and our national economy. Since its inception in 1998, there have been three national evaluations of the GEAR UP program. The results of these large-scale evaluations found that attending a GEAR UP middle school was positively associated with parents’ and students’ postsecondary knowledge, parent involvement, parent aspirations for their

children to attend college, and students taking above grade-level science courses (Standing et al., 2008; ED, 2003). Additionally, national evaluation studies found that the percent of eligible students that participated in targeted services within a GEAR UP program resulted in a significant positive impact on college awareness, and parent engagement was shown to have positive impact on increasing students' social capital (Terenzini et al., 2005). Beyond national evaluations, there have been additional smaller-scale, localized studies of GEAR UP that have shown positive impacts across indicators for students and families as outlined in the next sections.

College Readiness

Several studies have shown increased postsecondary preparedness for GEAR UP students. Researchers have found that students participating in GEAR UP interventions and services have increased GPA (Yampolskaya et al., 2006), scores in SAT reading and mathematics (Bausmith & France, 2012), and Algebra I, Algebra II, and state mathematics assessment performance (Fetsco et al., 2011) when compared to peers not participating in GEAR UP. Similarly, longitudinal studies have found that, when compared to students in non-GEAR UP schools, students attending GEAR UP schools have increased achievement in reading and English and enroll in college-preparatory high school coursework at a higher rate (ACT, 2007a; ACT, 2007b). In addition to academic outcomes, studies of GEAR UP programs have shown positive behavioral impacts as well. Students participating in GEAR UP show higher postsecondary aspirations (ACT, 2007a; ACT, 2007b), enhanced social competence (Yampolskaya et al., 2006), and additional college knowledge, preparation, and support (Watt et al., 2007) than comparison groups.

In a recent, rigorous study of GEAR UP students in Iowa, researchers found that participation in GEAR UP had strong impact on attendance, proficiency, and college readiness. The impacts were particularly significant for students eligible for the FRPL program. Leuwerke et al. (2021) found that lower-income students who participated in GEAR UP programming in Iowa attended school 3.3 more days per academic year, had higher proficiency rates on state standardized reading and math tests, and were significantly more college ready in reading than their statistically matched non-participating peers. While the study results were mixed for students participating in GEAR UP who were not eligible for FRPL, the results of this study suggest that, particularly for low-income students, GEAR UP interventions and services positively impact attendance which, in turn, has been shown to impact a broader range of outcomes.

Service Interventions and Secondary Outcomes

The core services of GEAR UP consists of the required and permissible service interventions provided to students and families. While there are some GEAR UP studies that focus on the relationship between participation in a GEAR UP program and secondary outcomes, there are fewer studies on the influence of specific interventions and services within GEAR UP programs. Studies focused on participation levels are integral to understanding the overall effectiveness of GEAR UP; unfortunately, they provide little insight into the specific services that are most beneficial for students. In recent years, a growing body of research has emerged to examine the impact of GEAR UP at the service level. For example, Schaeffle (2018) found that students who participated in more hours of GEAR UP services in mentoring and summer programs saw increased improvement in math and writing test scores from the 7th to 10th grade. Other researchers have found that near-peer tutoring is a cost effective and beneficial means to assist students in GEAR UP schools, particularly in programs that use teachers who understand problems faced by underserved students (Prickett, 2004), and strategic academic advisors significantly improve outcomes for GEAR UP middle school students in core academic courses (Van Kannel-Ray et al., 2008). Multiple studies of GEAR UP summer programs

have revealed positive impacts on students. Beer et al. (2008) found that summer programs have positive impacts on students' academic awareness and ACT Explore mathematics scores. Additionally, students participating in summer transition programs have also been found to have higher 9th grade passing rates in Algebra I and were more likely to be on track to graduate (Stack et al., 2014).

Family/Parent Service Interventions

Central to GEAR UP students' success is parental involvement or engagement (Terenzini et al., 2005). However, even with the requirement to serve parents and the knowledge that their involvement is critical, GEAR UP grantees struggle to find ways to reach parents in low-income communities and as such, the existing body of literature lacks data on parental involvement and outcomes. One study with adequate data (Stack, 2010) examined the relationship between parent involvement and student success in the Chicago GEAR UP Alliance grant. Stack found a statistically significant relationship between parent involvement and 9th grade GPA and ACT Plan composite scores but did not find a significant relationship between parent involvement and postsecondary aspirations. Another study by Gibson and Jefferson (2006) examined GEAR UP and non-GEAR UP comparison groups and found that increased parental involvement, even if perceived, led to increased self-concept for students.

Postsecondary Outcomes

Increased postsecondary enrollment, persistence, and completion are the intended outcomes of GEAR UP nationally; however, there are few studies related to GEAR UP's influence on these outcomes. The available evaluations, though, show promising trends for students participating in GEAR UP interventions and services. The Kentucky Council on Postsecondary Education (2013), for example, found that students from their 2005-2011 state grant graduated high school at comparable rates to matched non-GEAR UP students, but enrolled in college at significantly higher rates (44% compared to non-GEAR UP postsecondary enrollment of 36%). Similar results were found in Rhode Island's GEAR UP program, College Crusade. In a study of high school graduating classes participating in College Crusade from 2006 to 2010, researchers found that 68% of the 1,508 students enrolled in college and 49% did so immediately after high school (Fogg & Harrington, 2013). Further, these students had an 84% postsecondary persistence rate (Fogg & Harrington, 2013). Mann (2012) conducted an evaluation of the Washington State GEAR UP program and found that among a cohort of 769 GEAR UP postsecondary students, they were more likely than comparison peers to enroll in (84% compared to 59%), persist in (83% compared to 74%), and complete a degree or certificate at (38% compared to 32%) a postsecondary institution. More recent studies of GEAR UP showed that despite the documented challenges facing underserved students, students participating in GEAR UP services performed as well as their non-participating peers the first semester of college and were as likely to persist to the second year of postsecondary education (Sanchez et al., 2018). In Iowa, researchers found that GEAR UP improved college enrollment rates immediately after high school graduation and reduced the gap in college enrollment between low- and high-income high schools by approximately half (Bowman et al., 2018).

Service Interventions and Postsecondary Outcomes

A longstanding gap in the understanding of the GEAR UP program is evaluating linkages between service interventions and postsecondary outcomes. However, due to a collaborative focus on comprehensive analyses and improvements in data infrastructure, more studies are emerging on the positive relationship between service interventions and postsecondary enrollment, persistence, and completion. An evaluation of GEAR UP North Carolina linked service intervention data to postsecondary enrollment and found that select student services (counseling/advising and college visits) and parent/family services (workshops, college visits,

and family events) led to significantly higher postsecondary enrollment rates (Tillery, 2013). While Tillery did not find parent services had an aggregate impact on postsecondary enrollment, the study did show that those services where parents are most likely to self-initiate had positive impacts on student enrollment. Furthermore, Dais et al. (2013) found positive relationships between taking Advanced Placement (AP) courses, taking a GEAR UP project-specific course, FAFSA completion, and postsecondary enrollment. Dais et al. (2013) found that, overall, 81% of GEAR UP students who had enrolled in postsecondary education persisted. In addition, Dais et al. (2013) found that 91% of students who enrolled in AP courses and 82% of students who had GEAR UP targeted tutoring returned for a second year of college, though there was little correlation between years in GEAR UP and persistence to a second year of college. Kim et al. (2021) found that college visits and financial aid counseling showed positive effects on college enrollment within two years of high school graduation. Students who participated in campus visits were nine percentage points more likely to enroll in college and 13 percentage points more likely to persist in college than students who did not participate in these services. Similarly, students who participated in financial aid counseling were 17 percentage points more likely to enroll and persist (Kim et al., 2021). Kim et al. (2021) also found that the specific services of campus visit activities, ACT/SAT preparation, and academic assistance (e.g., one-on-one tutoring) were also significantly related to college enrollment. These collective findings begin to establish the importance of specific GEAR UP interventions, noting that just being a GEAR UP student may not be as impactful as receiving targeted GEAR UP interventions.

While each of the studies presented in this literature review provides insight into the effectiveness of the GEAR UP program, none of them span the full spectrum of the six- or seven-year program services and examine the impact of those services on postsecondary outcomes. The work of the College and Career Readiness Evaluation Consortium (CCREC) is intended to address this gap in the literature and provide a more robust, comprehensive multi-grant analysis of the GEAR UP program and the specific services that students and families receive.

History and Purpose of CCREC

Established in 2010, CCREC is a voluntary, grantee-led response to both gaps in existing evaluation of the GEAR UP program and the urging of policymakers to develop a solution to overcome the limitations that have inhibited ED from conducting additional national evaluations of GEAR UP. Working with the National Council for Community and Education Partnerships (NCCEP), the NSC, and ACT, Inc., the founding 13-member states established the necessary infrastructure to conduct a longitudinal, multi-state, collaborative grant evaluation. These 13 state programs were: Arizona, Idaho, Kentucky, Minnesota, Montana, North Carolina, New Mexico, Nevada, Oklahoma⁴, Tennessee, Utah, Washington, and Wyoming. The initial CCREC evaluation effort encompasses 188,677 GEAR UP students in 643 participating secondary schools as they progress from 7th grade through postsecondary completion.

In the broader landscape of federally funded programs, the grantee-led CCREC initiative is unique. CCREC has not only continued to grow and develop by capitalizing on lessons learned, but six years ago, transitioned to a project that onboards GEAR UP grantees each fiscal year. The inherent challenges CCREC faces require structural and procedural solutions to accommodate the scale of students, scope of services, and complex

⁴ While Oklahoma participated in the consortium, they did not upload data into the repository due to their lack of access to a statewide longitudinal K-12 student data system. As such, they are not included in this longitudinal evaluation.

variation among participating GEAR UP grant programs. CCREC, by design, is well-suited for addressing these multi-grant evaluation challenges.

With student success at the center, the CCREC evaluation design examines the impact of GEAR UP service interventions on key student outcomes. Effectively responding to the research questions requires a substantial effort to coordinate around specific practices and standards. This includes adhering to common definitions; establishing data-sharing agreements; collecting, validating, and uploading student-level data to the CCREC data repository housed at NSC; working with NSC to incorporate postsecondary data; and providing expert insight to shape reporting. Importantly, CCREC is not designed to replace the local evaluation work of individual GEAR UP programs; rather, it enhances a framework for data collection, analyses, and reporting as well as provides a platform for an ever-growing learning community. This unique effort illustrates the desire of the GEAR UP community to be on the forefront of innovation, research, and evaluation. Additionally, while the underlying needs of policymakers endure, the formidable efforts of CCREC have elevated GEAR UP's standing on Capitol Hill where the program is considered an example of what is possible when committed leaders collaborate effectively.

CCREC 1.0 Evaluation

Purpose of the Study

The purpose of this longitudinal study is to conduct a multi-state evaluation of the GEAR UP program to assess the impact of required and permissible student and family services provided by GEAR UP programs on student outcomes related to FAFSA completion, secondary school graduation, and postsecondary enrollment. The research questions address the relationships between duration of time in the program, services delivered, and service dosage with student secondary and postsecondary outcomes.

Research Questions

This study seeks to examine the extent to which (1) aggregate GEAR UP services and (2) individual GEAR UP services relate to the following outcomes:

- a. FAFSA completion
- b. high school graduation
- c. postsecondary enrollment

This evaluation was conducted before any persistence or completion data were available. A future supplementary evaluation will examine the relationships between (1) aggregate GEAR UP services and (2) individual GEAR UP services relate to the following outcomes:

- d. postsecondary persistence
- e. postsecondary completion

Purpose of This Report

This report is the first of two culminating from a longitudinal study of the federal program GEAR UP. The multi-state, longitudinal study seeks to assess the impact of required and permissible student and family services provided by GEAR UP projects. This evaluation report aims to address the gap in the literature on the impact of services on secondary and postsecondary outcomes, and therein, contribute to the growing body of knowledge on college access generally and GEAR UP specifically.

Methodology

To determine whether there were any relationships (and their extent) between the GEAR UP services and the three outcomes of interest, several methodological considerations had to be addressed. This methodology section includes descriptions of the three analytic samples, descriptions of the predictor and outcome variables collected and analyzed, and the quantitative procedures employed. The three samples, as outlined in Figure 1, include: (1) the Full Sample; (2) the 6-Year Sample - middle and high school; and (3) the 4-Year Sample - high-school.

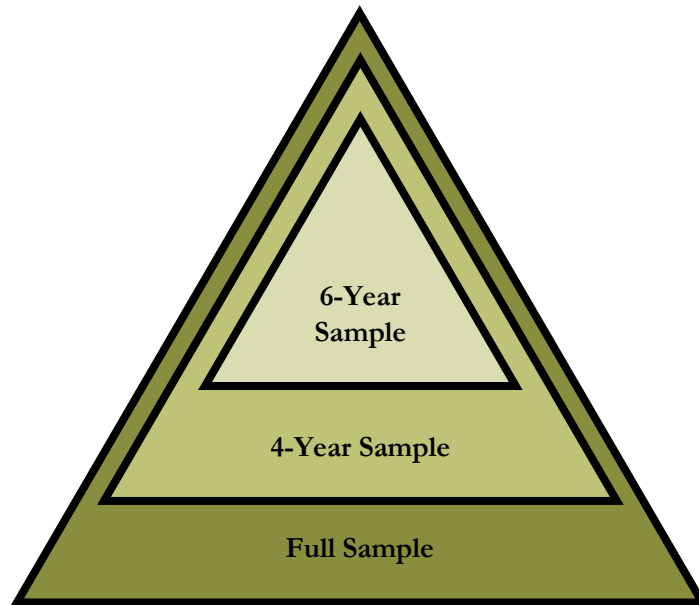


Figure 1. Relationships between the three samples analyzed in this report.

Analytic Samples

Full Sample

The Full Sample consists of all CCREC students who attended participating GEAR UP schools, regardless of how long they were enrolled in those schools (i.e., a student would be included if they had participated in GEAR UP for any amount of time), whether they were in a cohort or priority program, or whether they received any GEAR UP services. Inclusion required that a student remained at the same GEAR UP program and did not transfer to a different program. The Full Sample consists of 139,089 students from twelve states (i.e., AZ, ID, KY, MN, MT, NC, NM, NV, TN, UT, WA, and WY) who had an expected high school graduation year of either 2017 or 2018. The frequency of students by state included in the Full Sample can be found in Table 2.

Middle School and High School Sample (6-Year Sample)

The second sample (a subset of the Full Sample) is the middle school and high school sample. Throughout the rest of this report, this sample will be referred to as the 6-Year Sample – denoting that. Specifically, this sample is comprised of students who attended participating GEAR UP schools for both their middle and

high school years and had an expected high school graduation year of either 2017 or 2018. Students were included regardless of whether they had received any services (i.e., a student could have received zero hours of services and still be included in this sample). Additionally, inclusion required that a student attended a participating GEAR UP middle school (both the 7th and 8th grades) and high school (9th grade through 12th grade) and was promoted to the next grade at the end of each academic year. Any deviation, including grade level retention or multiple promotions, resulted in exclusion from the sample. Students who were in a GEAR UP program for less than six years are also excluded from this sample. Finally, inclusion required that a student remained at the same GEAR UP program and did not transfer to a different program. The 6-Year sample consisted of 21,176 students from eleven states (i.e., AZ, ID, KY, MN, MT, NC, NM, NV, TN, UT, and WA). One exception to the above inclusion factors is the New Mexico state grant, which was unable to upload data in their first year (for NM, inclusion required that students were in GEAR UP between 8th and 12th grades). The count of students by state for this sample are outlined in Table 2. This sample does not include students from WY as they were a priority model which served a small number of students who were not served for a full six years as a result of student mobility.

High School Sample (4-Year Sample)

The third and final sample (also a subset of the Full Sample) is the high school sample. Throughout the rest of this report this sample will be referred to as the 4-Year Sample. Specifically, this sample is made up of students who attended participating GEAR UP schools for at least the high school years (9th through 12th grade) and had an expected high school graduation year of either 2017 or 2018. Students who were in a GEAR UP program for only a portion of high school are excluded from this sample. Any deviation, including grade retention or multiple promotions, resulted in exclusion from the sample. Finally, inclusion required that a student remained at the same GEAR UP program and did not transfer to a different program. The 4-Year Sample consisted of 30,451 students from twelve states (i.e., AZ, ID, KY, MN, MT, NC, NM, NV, TN, UT, WA, and WY). The count of students per state included in this sample are presented in Table 2.

Table 2. Analytic samples disaggregated by state

State	Full Sample	6-Year Sample	4-Year Sample
AZ	6,398	1,852	3,053
ID	7,561	2,752	3,168
KY	12,010	2,861	4,179
MN	4,508	228	657
MT	5,043	948	1,510
NC	23,557	2,464	2,908
NM	10,858	1,620	1,977
NV	3,605	1,478	1,715
TN	43,237	4,016	5,186
UT	10,233	284	1,640
WA	9,687	2,673	4,056
WY	2,392	-	425
Total	139,089	21,176	30,451

* These student sample total counts include students who may have missing data.

Evaluation Variables

The control variables used in the analyses are further described in Table 3. The categorical variables (gender, race, program model, and student type) are demographic in nature. The primary variables of interest, the student and family service variables, are continuous measures of the aggregate time (in hours) that the student and family members participated in GEAR UP services. The nine student and four family services are explored individually. The outcome variable measures include whether the student (1) completed the FAFSA, (2) graduated from high school on-time, and (3) enrolled at a postsecondary institution. This evaluation was conducted before any persistence or completion data were available. A future supplementary evaluation will examine the relationships between services and postsecondary retention and completion.

Table 3. Control variables explored in this analytic report.

Variables	Values
Gender	Male; Female; Unknown
Race	American Indian/Alaska Native; Asian; Black or African American; White; Hispanic; Native Hawaiian or Pacific Islander; Two or More Races; Unknown
Program Type	Cohort; Priority; Hybrid
Student Type	Cohort; Priority
Tutoring (S)	Continuous Variable in Hours
Comprehensive Mentoring (S)	Continuous Variable in Hours
Financial Aid Counseling (S)	Continuous Variable in Hours
Counseling/Advising (S)	Continuous Variable in Hours
College Visit (S)	Continuous Variable in Hours
Job Site Visit (S)	Continuous Variable in Hours
Summer Program (S)	Continuous Variable in Hours
Educational Field Trips (S)	Continuous Variable in Hours
Workshop (S)	Continuous Variable in Hours
Financial Aid Workshops (F)	Continuous Variable in Hours
Advising/Counseling (F)	Continuous Variable in Hours
College Visit (F)	Continuous Variable in Hours
Events (F)	Continuous Variable in Hours

Outcome Variables

For the purpose of the CCREC project, FAFSA completion is a dichotomous student-level variable derived from State Grant Agencies participating in the FAFSA Completion Collective Impact Initiative launched by the U.S. Department of Education, Office of Student Federal Aid, in July 2014. This Initiative allows State Grant Agencies to release verified FAFSA Filing Status to GEAR UP staff as authorized under Chapter 2 of Subpart 2 of Part A of Title IV of the HEA to receive such data.⁵

⁵ As is the case for the release of FAFSA Filing Status Information to secondary schools and to LEAs, designated entities may receive FAFSA Filing Status Information from a state grant agency only if: (1) the state grant agency has submitted to the Department the completed (Student Aid Internet Gateway) SAIG Participation Agreement (Part Two of the SAIG Application); (2) the state grant agency has executed a written agreement with the designated entity as provided in Section G of the SAIG Participation Agreement; and (3) the designated entity has an established relationship with the student, as defined in Section C (Definitions) of the SAIG Participation Agreement.

The dichotomous high school graduation outcome variable is defined as on-time graduation. Unlike FAFSA completion, high school graduation did not require additional verification. High school graduation status was applied to students who received a high school diploma. Students who completed the 12th grade but did not receive a high school diploma are not included; students who complete summer courses to receive a high school diploma are included.

The third dichotomous outcome variable of interest in this report is postsecondary enrollment and is defined as at least part-time enrollment in a postsecondary, degree-granting institution by the fall semester after high school graduation, or earlier. Postsecondary enrollment also includes students if they attained a degree concurrent with their high school diploma, which suggests that a student enrolled in postsecondary education during their secondary school career. A future analysis will further analyze postsecondary persistence and completion, which are not analyzed in this report.

Control Variables

In better answering the research questions, control variables are used to enhance the internal validity by limiting the influence of confounding and other extraneous variables. This enables the analyses to establish correlational relationships between the service variables and the outcomes. This evaluation accounts for four demographic variables gender, race, program type, and student type for each student.

Gender and Race

The gender and race of the student were captured and controlled for in the analyses conducted. The gender variable consisted of male, female, and unknown. The CCREC data reporting protocols followed the existing ED protocols regarding gender, which did not include non-binary as an option for federal reporting.

The race variable consisted of American Indian/Alaska Native; Asian; Black or African American; White; Hispanic; Native Hawaiian or Pacific Islander; Two or More Races; and Unknown.

Program Type

The program type variable is indicative of the specific type of GEAR UP program by which CCREC students were served. As per the federal definition, a program can either be a cohort model or a priority model; however, a program can also operate as a hybrid model serving both as a cohort and priority model. Each of the definitions for the three program types are outlined in Table 4. This variable is critical as it is one of the only differentiating descriptors of GEAR UP programs.

Student Type

While there are three different program models there are only two types of GEAR UP students – cohort and priority. A hybrid program model serves both cohort and priority students. As such, this evaluation controls for both the student type and the program type by which the student is served.

Table 4. GEAR UP Program Models

Cohort Model

The cohort or whole-grade model provides services to all students in the participating grade levels rather than a selected group of students. By law, a cohort must start no later than the 7th grade and services must be provided to the cohort through the 12th grade. Each cohort must include either: (1) all of the students in a particular grade level at a participating school that has a 7th grade and in which at least 50 percent of the students are eligible for free or reduced-price lunch under the Richard B. Russell National School Lunch Act; or (2) all of the students in a particular grade level, who reside in public housing, as defined in section 3(b) (1) of the United States Housing Act of 1937.

Priority Student Model

Priority students are defined in the law as any student in secondary school who is eligible to be counted under section 1124 (c) of the Elementary and Secondary Education Act of 1965, eligible for assistance under a State program funded under part A or E of Title IV of the Social Security Act, eligible for assistance under subtitle B of title VII of the McKinney-Vento Homeless Assistance Act, or otherwise considered by the applicant to be a disconnected student.

Hybrid Model

The hybrid model uses a cohort approach in addition to serving priority students in grades that are not in the cohort.

Service Variables

As the predictors of interest, thirteen GEAR UP services were defined and operationalized. Of these thirteen services, nine were directed at students while four were directed at family members of students. These student and family services are outlined below. These service variables are further discussed and defined in the *GEAR UP Student and Parent/Family Definitions: Guidelines for GEAR UP Program Services* found in Appendix II. The participating grant recipients collected and submitted to CCREC the number of hours each student participated in each of the thirteen service areas. In addition to the individual service variables, an aggregate GEAR UP service variable was calculated by summing all service categories for each student. This aggregate GEAR UP variable is used to answer the first research question.

Student Services

The nine student services consist of *Tutoring, Comprehensive Mentoring, Financial Aid Counseling, Counseling/ Advising, College Visits, Job Site Visits, Summer Program, Educational Field Trips, and Workshops*.

- *Tutoring* services are defined as providing additional academic instruction designed to increase the academic achievement of students.
- *Comprehensive Mentoring* services are defined as those provided to students identified by a trained, caring adult or older student who maintain an ongoing, supportive relationship with a GEAR UP student.
- *Financial Aid Counseling* services assist students in understanding and navigating the complexities of financial aid, including providing hands-on assistance with the FAFSA and scholarship applications, presentations on financial aid or literacy, using financial aid or literacy curriculum, and the benefits and how-tos of participation in college savings plans.
- *Counseling/ Advising* services span a spectrum of activities with individual or small groups of students.
- *College Visit* services take place on college campuses.

- *Job Site Visit* services offer students exposure to the workplace in an occupational area of interest and reinforce the links between classroom learning, work requirements, and the need for a postsecondary education.
- *Summer Programs* are services that include an experience over one or multiple days during the summer (or other extended school year).
- *Educational Field Trips* are services during which students leave their school to travel to another location and include an academic component that is linked to classroom activities.
- *Student Workshops* are services that include interactive informational classroom-level or large- or small-group sessions that involve hands-on experience for each student in the workshop.

Family Services

The four family services consist of *Financial Aid Workshops*, *Advising/Counseling*, *College Visits*, and *Events*.

- *Family Financial Aid Workshops* services include a parent/guardian or adult family member's attendance with or without their child(ren). Workshops provide information related to assisting and supporting their student with college preparation or financial aid information.
- *Family Advising/Counseling* services span a spectrum of activities that can include one-on-one or small group advising for parents/guardians/adult family members designed to meet the specific needs of the individuals engaged in the activity.
- *Family College Visits* services take place on college campuses and include a parent/guardian, with or without a student, and facilitated or supervised by GEAR UP staff, teachers, college representatives, or other school staff.
- *Family Events* are services in which parents/guardians or families participate. These services involve GEAR UP students and their families/guardians or just their parents/guardians.

Quantitative Procedures

Data Transformation

All the GEAR UP service data were zero-inflated, over-dispersed, and positively skewed with most students receiving a relatively low dosage with a small number of students receiving high dosages. The service dosage variables were transformed by taking the natural log of hour. The lack of normally distributed predictor variables is consistent among the three analytic samples. When continuous data do not follow the bell curve, log transformation can make the data as "normal" as possible so that the statistical analysis results from this data become more valid by reducing the skewness of the data. Log transformations resulted in service distributions that were approximately normal and appropriate for the analyses conducted in this report.

Missing Data

The three outcome variables (FAFSA completion, high school graduation, and postsecondary enrollment) had missing data that were list-wise deleted for analyses. The FAFSA completion indicator had the highest rate of missingness with 52.7% of students missing this datapoint in the Full Sample, 14.1% in the 6-Year sample, and 16.6% in the 4-Year Sample. The high rate of missingness is largely due, in conjunction with other factors, to an early decision made by the CCREC members regarding the definition and collection of high-quality student-level FAFSA completion data. This definition and agreement to collect high quality data required that grantees collect these data from the state agency. Additionally, FAFSA completion data are

often protected and therefore not available to all grantees. Students whose data were not verified by the state agency were reported as such and ultimately these outcome data are missing for these students as they were not verified by a state agency. The high school graduation variable was missing at a 31.3% rate in the Full Sample. This missingness rate drops dramatically for the 6- and 4-Year Samples with missingness at 5.3% and 6.3%, respectively. The postsecondary enrollment indicator also had some missing data. Of the three variables with missing data, this was the least impacted of all the variables. The Full Sample was missing this outcome at a rate of 1.0%. The 6- and 4-Year Samples also had missingness rates of 1.0% and 1.2%, respectively. The control variables did not have any missing data.

Analyses

The analyses for this report were conducted using R version 4.1.0 (R Core Team, 2020). The preliminary analyses were conducted on the longitudinal GEAR UP services (in hours) that a student or family received. Prior to any inferential analyses, descriptive (or zero-order) analyses - which did not control for other factors - were conducted. The conclusions for this report were not based on the zero-order analyses but are important in better understanding the patterns of outcomes. These descriptive analyses are best understood when considering the inferential statistical analyses that were conducted.

Logistic regression was next employed to examine the impact of individual student and family services on the three available outcomes. More specifically, the relationship between GEAR UP service dosage and secondary/postsecondary outcomes, fixed effects logistic multiple regression analyses were employed to account for each dichotomous (Yes/No) outcome variable. Logistic multiple regression allows for the relationship with the control variables to be considered alongside the GEAR UP services. This means that the relationships between GEAR UP services and the postsecondary outcomes are examined beyond the other variables in the model. Employing these types of statistical controls provides stronger evidence between the relationship between GEAR UP services and the postsecondary outcomes and helps account for some extraneous variables (Kleinbaum et. al., 2002). These analyses first conducted a multicollinearity test to determine the extent to which the control and service variables were providing redundant information to the model. The results indicated that all control and service variables had a variance inflation factor (VIF) value of well below five, which suggested that the variables included in the model were not correlated at a level that would adversely impact the study's results and conclusions (Mansfield & Helms, 1982).

The logistic regression models in this evaluation included one full model with all service predictors included as well as 13 separate regression models, each with controls and one service variable as a predictor. The omnibus fit of each model was assessed by examining the associated model Chi-Square, sensitivity (true positive rate), specificity (true negative rate), the receiver operating characteristic (ROC) curves, and the area under the curve (AUC), see Appendix I. The ROC and AUC indicate how much a model can distinguish between students falling into the Yes and No categories for each outcome. The higher the AUC, the better the model is at predicting the correct outcome with 0.5 indicating no ability to distinguish between Yes and No and 1.0 indicating perfect distinction (Fawcett, 2006).

After the omnibus model fit statistics were examined, the specific results from the services predictors were examined to determine the extent to which each GEAR UP service predicted the outcome after accounting for the control variables in the model. Services were considered to have contributed to the prediction of a secondary or postsecondary outcome if the p -value was less than or equal to .05. The odds ratios from the logistic regression analyses were used as an estimate the size of the effect of a service. The larger the odds

ratio, the more likely students receiving that service were to be in the Yes category of the outcome with 1.0 indicating no effect and the likelihood of being in the Yes or No category is equally the same.

Results

Descriptive Analysis: Demographic Variables

Table 5 illustrates the descriptive statistics including frequencies and percentages of the demographic variables for the Full, 6-Year, and 4-Year CCREC samples. The three samples as it relates to these demographic variables were largely similar in distribution. Each of the demographic variables are explored in further detail for each of the analytic samples with Tables 6-8 showing the breakdown of the demographic variables by the three outcomes examined.

Table 5. Demographic and programmatic descriptives for the CCREC samples

	Full Sample (N=139,089)	6-Year Sample (N=21,176)	4-Year Sample (N=30,451)
Gender			
Female	68,267 (49.1%)	10,470 (49.4%)	15,052 (49.4%)
Male	70,502 (50.7%)	10,706 (50.6%)	15,399 (50.6%)
Unknown	320 (0.2%)	0 (0.0%)	0 (0%)
Race			
American Indian/Alaskan Native	8,801 (6.3%)	1,416 (6.7%)	2,272 (7.5%)
Asian	4,056 (2.9%)	432 (2.0%)	893 (2.9%)
Black or African American	24,620 (17.7%)	2,064 (9.7%)	2,996 (9.8%)
Native Hawaiian or Pacific Islander	853 (0.6%)	74 (0.3%)	162 (0.5%)
White	72,802 (52.3%)	11,921 (56.3%)	16,482 (54.1%)
Two or More Races	6,414 (4.6%)	570 (2.7%)	1,297 (4.3%)
Race Unknown	2,014 (1.4%)	683 (3.2%)	770 (2.5%)
Hispanic	19,529 (14.0%)	4,016 (19.0%)	5,581 (18.3%)
Program Type			
Cohort	39,261 (28.2%)	11,616 (54.9%)	16,166 (53.1%)
Priority	12,625 (9.1%)	284 (1.3%)	2,062 (6.8%)
Hybrid	87,203 (62.7%)	9,276 (43.8%)	12,225 (40.1%)
Student Type			
Cohort	69,821 (50.2%)	19,972 (94.3%)	26,908 (88.4%)
Priority	69,268 (49.8%)	1,204 (5.7%)	3,545 (11.6%)
FAFSA Completion			
Yes	37,426 (26.9%)	11,122 (52.5%)	15,320 (50.3%)
No	28,343 (20.4%)	7,078 (33.4%)	10,083 (33.1%)
Missing	73,320 (52.7%)	2,976 (14.1%)	5,050 (16.6%)
High School Graduation			
Yes	86,173 (62%)	18,785 (88.7%)	26,550 (87.2%)
No	9,312 (6.7%)	1,275 (6.0%)	1,996 (6.6%)
Missing	43,604 (31.3%)	1116 (5.3%)	1,907 (6.3%)
Postsecondary Enrollment			
Yes	66,335 (47.7%)	11,285 (53.3%)	16,356 (53.7%)
No	71,377 (51.3%)	9,675 (45.7%)	13,739 (45.1%)
Missing	1,377 (1.0%)	216 (1.0%)	358 (1.2%)

Gender

The three analytic samples were nearly identical in their distribution of gender (males ranging from 50.6% to 50.7%; females ranging from 49.1% to 49.4%). The primary difference lies in the Full Sample which included 319 (0.2%) students identify identity as unknown gender. Neither the 6-Year Sample nor the 4-Year Sample included any student's identity as unknown gender.

Tables 6-8 suggest that across the three samples, students who were identified as female not only completed the FAFSA, but also graduated high school and enrolled in postsecondary institutions at rates higher than their male counterparts. Compared to their male counterparts in the Full Sample, 11.7% more female students completed the FAFSA, 1.9% more graduated from high school, and 15.0% more enrolled at a postsecondary institution following high school graduation. The 6- and 4-Year Samples are similar in that females had higher rates for all outcomes. For both the 6- and 4-Year longitudinal samples, over 15% more females enrolled at a postsecondary institution.

Race

As seen in Table 5, all three samples were relatively similar in their distribution of racial identity with the exception that African American students were more represented in the Full Sample as compared to either the 6-Year Sample or the 4-Year Sample. Specifically, African American students comprised 17.7% of the Full Sample, but only 9.7% and 9.8% of the 6-Year and 4-Year Samples, respectively. Conversely, White students comprised 52.3% of the Full Sample which increased to 56.3% and 54.1% of the 6-Year and 4-Year Samples, respectively.

Tables 6-8 highlight that the FAFSA completion, high school graduation, and postsecondary enrollment rates varied by race across all three analytic samples. FAFSA completion in the Full Sample ranged from 35.6% among Hispanic and Latino students up to 69.4% among African American students. High school graduation rates in the Full Sample of students were less varied at a range of less than 10% (ranging from 84% - 92%). The postsecondary enrollment outcome was again highly varied ranging from 37.6% enrolled for Native Hawaiian or Pacific Islanders up to 62.9% for Asian students. The 6- and 4-Year Samples are similarly varied in their distribution of FAFSA completion and postsecondary enrollment among the racial makeup of the student samples.

Program Type

As presented in Table 5, the students in the Full Sample were mostly served by a hybrid program (62.7%). However, the 6-Year and 4-Year Samples were primarily comprised of students served by programs operating under the cohort model (54.9% and 53.1%, respectively).

Tables 6-8 suggest that students from hybrid programs completed the FAFSA at higher rates than did students from cohort programs. Among hybrid programs, FAFSA completion was 60.2% in the Full Sample, 72.7% in the 6-Year Sample, and 70.8% in the 4-Year Sample, which were higher than rates found for the cohort program types⁶. Students graduated high school and enrolled at postsecondary institutions at relatively equivalent rates regardless of the program type or analytic sample.

⁶ FAFSA completion data were missing for all students from priority programs.

Student Type

The Full Sample was nearly split in the percent of cohort students and priority students served (50.2% and 49.8%, respectively), see Table 5. Unlike the Full Sample, the 6-Year Sample consisted of nearly all cohort students (94.3%) with very few priority students served (5.7%), proportionally. Similarly, the 4-Year Sample consisted of mostly cohort students (88.4%) and fewer priority students (11.6%).

Tables 6-8 indicate that students in the Full Sample, regardless of student type, completed the FAFSA and graduated high school at similar rates; however, priority students enrolled in postsecondary institutions nearly 15% more than cohort students. The definition of priority student excludes many of these students from the 6- and 4-Year Samples, as priority students do not follow the typical cohort model approach and, in some programs, can only be served during their senior year, for example. While the FAFSA completion rates varied between these two student types for these two samples, the high school graduation and postsecondary enrollment rates are similar.

Table 6. Descriptive results of the student demographics disaggregated by outcome rates for the Full Sample.

	Total Full Sample Size		FAFSA Completion Sample			High School Graduation Sample			Postsecondary Enrollment Sample					
			Subsample Size (%)		FAFSA Completion Rate	Subsample Size (%)		High School Graduation Rate	Subsample Size (%)		Postsecondary Enrollment Rate			
Sample Size	139,089		65,769 (47.3%)		56.9%	95,485 (68.7%)		90.2%	137,712 (99.0%)		48.2%			
Gender														
Female	68,267	(49.1%)	32,135	(48.9%)	20,194	(62.8%)	47,715	(50.0%)	43,514	(91.2%)	67,739	(49.2%)	37,768	(55.8%)
Male	70,502	(50.7%)	33,504	(50.9%)	17,124	(51.1%)	47,627	(49.9%)	42,527	(89.3%)	69,653	(50.6%)	28,386	(40.8%)
Unknown	320	(0.2%)	130	(0.2%)	108	(83.1%)	143	(0.1%)	132	(92.3%)	320	(0.2%)	181	(56.6%)
Race														
American Indian/Alaskan Native	8,801	(6.3%)	4,654	(7.1%)	1,904	(40.9%)	5,640	(5.9%)	5,159	(91.5%)	8,516	(6.2%)	3,272	(38.4%)
Asian	4,056	(2.9%)	1,521	(2.3%)	1,005	(66.1%)	2,255	(2.4%)	2,067	(91.7%)	4,045	(2.9%)	2,546	(62.9%)
Black or African American	24,620	(17.7%)	10,942	(16.6%)	7,597	(69.4%)	17,991	(18.8%)	16,065	(89.3%)	24,469	(17.8%)	11,913	(48.7%)
Native Hawaiian or Pacific Islander	853	(0.6%)	205	(0.3%)	85	(41.5%)	546	(0.6%)	467	(85.5%)	852	(0.6%)	320	(37.6%)
White	72,802	(52.3%)	36,677	(55.8%)	22,292	(60.8%)	51,452	(53.9%)	46,651	(90.7%)	72,342	(52.5%)	35,746	(49.4%)
Two or More Races	6,414	(4.6%)	1,386	(2.1%)	794	(57.3%)	4,554	(4.8%)	3,959	(86.9%)	6,370	(4.6%)	3,170	(49.8%)
Race Unknown	2,014	(1.4%)	875	(1.3%)	367	(41.9%)	1,370	(1.4%)	1,146	(83.6%)	1,991	(1.4%)	938	(47.1%)
Hispanic	19,529	(14.0%)	9,509	(14.5%)	3,382	(35.6%)	11,677	(12.2%)	10,659	(91.3%)	19,127	(13.9%)	8,430	(44.1%)
Program Type														
Cohort	39,261	(28.2%)	20,700	(31.5%)	10,193	(49.2%)	17,891	(18.7%)	15,995	(89.4%)	38,658	(28.1%)	16,179	(41.9%)
Priority	12,625	(9.1%)	1,446	(2.2%)	953	(65.9%)	9,697	(10.2%)	8,679	(89.5%)	12,596	(9.1%)	6,489	(51.5%)
Hybrid	87,203	(62.7%)	43,623	(66.3%)	26,280	(60.2%)	67,897	(71.1%)	61,499	(90.6%)	86,458	(62.8%)	43,667	(50.5%)
Student Type														
Cohort	69,821	(50.2%)	30,504	(46.4%)	17,203	(56.4%)	35,787	(37.5%)	31,976	(89.4%)	68,651	(49.9%)	28,041	(40.8%)
Priority	69,268	(49.8%)	35,265	(53.6%)	20,223	(57.3%)	59,698	(62.5%)	54,197	(90.8%)	69,061	(50.1%)	38,294	(55.4%)

Table 7. Descriptive results of the student demographics disaggregated by outcome rates for the 6-Year Sample.

Sample Size	Total 6-Year Sample Size (%)		FAFSA Completion Sample		High School Graduation Sample		Postsecondary Enrollment Sample	
	Subsample Size (%)	FAFSA Completion Rate	Subsample Size (%)	High School Graduation Rate	Subsample Size (%)	Postsecondary Enrollment Rate		
Sample Size	21,176	18,200 (85.9%)	61.1%	20,060 (94.7%)	93.6%	20,960 (99.0%)	53.8%	
Gender								
Female	10,470 (49.4%)	8,988 (49.4%)	6,130 (68.2%)	9,983 (49.8%)	9,419 (94.4%)	10,388 (49.6%)	6,455 (62.1%)	
Male	10,706 (50.6%)	9,212 (50.6%)	4,992 (54.2%)	10,077 (50.2%)	9,366 (92.9%)	10,572 (50.4%)	4,830 (45.7%)	
Unknown	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	0 (0.0%)	
Race								
American Indian/Alaskan Native	1,416 (6.7%)	1,263 (6.9%)	655 (51.9%)	1,324 (6.6%)	1,251 (94.5%)	1,356 (6.5%)	654 (48.2%)	
Asian	432 (2.0%)	290 (1.6%)	189 (65.2%)	422 (2.1%)	388 (91.9%)	430 (2.1%)	306 (71.2%)	
Black or African American	2,064 (9.7%)	1,247 (6.9%)	990 (79.4%)	2,010 (10.0%)	1,894 (94.2%)	2,062 (9.8%)	1,067 (51.7%)	
Native Hawaiian or Pacific Islander	74 (0.3%)	71 (0.4%)	45 (63.4%)	69 (0.3%)	58 (84.1%)	74 (0.4%)	36 (48.6%)	
White	11,921 (56.3%)	10,603 (58.3%)	6,944 (65.5%)	11,232 (56.0%)	10,494 (93.4%)	11,864 (56.6%)	6,486 (54.7%)	
Two or More Races	570 (2.7%)	426 (2.3%)	257 (60.3%)	533 (2.7%)	501 (94.0%)	565 (2.7%)	301 (53.3%)	
Race Unknown	683 (3.2%)	637 (3.5%)	302 (47.4%)	682 (3.4%)	576 (84.5%)	668 (3.2%)	348 (52.1%)	
Hispanic	4,016 (19.0%)	3,663 (20.1%)	1,740 (47.5%)	3,788 (18.9%)	3,623 (95.6%)	3,941 (18.8%)	2,087 (53.0%)	
Program Type								
Cohort	11,616 (54.9%)	11,616 (63.8%)	6,337 (54.6%)	10,651 (53.1%)	9,791 (91.9%)	11,475 (54.7%)	6,134 (53.5%)	
Priority	284 (1.3%)	0 (0.0%)	0 (0.0%)	284 (1.4%)	261 (91.9%)	284 (1.4%)	137 (48.2%)	
Hybrid	9,276 (43.8%)	6,584 (36.2%)	4,785 (72.7%)	9,125 (45.5%)	8,733 (95.7%)	9,201 (43.9%)	5,014 (54.5%)	
Student Type								
Cohort	19,972 (94.3%)	17,280 (94.9%)	10,867 (62.9%)	18,895 (94.2%)	17,670 (93.5%)	19,756 (94.3%)	10,582 (53.6%)	
Priority	1,204 (5.7%)	920 (5.1%)	255 (27.7%)	1,165 (5.8%)	1,115 (95.7%)	1,204 (5.7%)	703 (58.4%)	

Table 8. Descriptive results of the student demographics disaggregated by outcome rates for the 4-Year Sample.

Sample Size	Total 4-Year Sample Size (%)		FAFSA Completion Sample		FAFSA Completion Rate		High School Graduation Sample		High School Graduation Rate		Postsecondary Enrollment Sample		Postsecondary Enrollment Rate	
	Sample Size	(%)	Subsample Size (%)	(%)	Subsample Size (%)	(%)	Subsample Size (%)	(%)	Subsample Size (%)	(%)	Subsample Size (%)	(%)	Subsample Size (%)	(%)
Sample Size	30,453		25,403 (83.4%)		60.3%		28,546 (93.7%)		93.0%		30,095 (98.8%)		54.3%	
Gender														
Female	15,054	(49.4%)	12,451	(49.0%)	8,404	(67.5%)	14,235	(49.9%)	13,368	(93.9%)	14,924	(49.6%)	9,294	(62.3%)
Male	15,399	(50.6%)	12,952	(51.0%)	6,916	(53.4%)	14,313	(50.1%)	13,182	(92.1%)	15,171	(50.4%)	7,062	(46.5%)
Unknown	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
Race														
American Indian/Alaskan Native	2,272	(7.5%)	1,899	(7.5%)	955	(50.3%)	2,116	(7.4%)	1,957	(92.5%)	2,170	(7.2%)	971	(44.7%)
Asian	893	(2.9%)	634	(2.5%)	427	(67.4%)	858	(3.0%)	808	(94.2%)	890	(3.0%)	644	(72.4%)
Black or African American	2,996	(9.8%)	1,915	(7.5%)	1,484	(77.5%)	2,875	(10.1%)	2,660	(92.5%)	2,992	(9.9%)	1,548	(51.7%)
Native Hawaiian or Pacific Islander	162	(0.5%)	100	(0.4%)	60	(60.0%)	157	(0.5%)	134	(85.4%)	162	(0.5%)	75	(46.3%)
White	16,482	(54.1%)	14,284	(56.2%)	9,142	(64.0%)	15,362	(53.8%)	14,290	(93.0%)	16,395	(54.5%)	9,094	(55.5%)
Two or More Races	1,297	(4.3%)	726	(2.9%)	455	(62.7%)	1,234	(4.3%)	1,120	(90.8%)	1,289	(4.3%)	694	(53.8%)
Race Unknown	770	(2.5%)	672	(2.6%)	314	(46.7%)	769	(2.7%)	654	(85.0%)	753	(2.5%)	394	(52.3%)
Hispanic	5,581	(18.3%)	5,173	(20.4%)	2,483	(48.0%)	5,175	(18.1%)	4,927	(95.2%)	5,444	(18.1%)	2,936	(53.9%)
Program Type														
Cohort	16,166	(53.1%)	16,166	(63.6%)	8,814	(54.5%)	14,503	(50.8%)	13,354	(92.1%)	15,941	(53.0%)	8,772	(55.0%)
Priority	2,062	(6.8%)	346	(1.4%)	213	(61.6%)	2,062	(7.2%)	1,849	(89.7%)	2,058	(6.8%)	1,139	(55.3%)
Hybrid	12,225	(40.1%)	8,891	(35.0%)	6,293	(70.8%)	11,981	(42.0%)	11,347	(94.7%)	12,096	(40.2%)	6,445	(53.3%)
Student Type														
Cohort	26,908	(88.4%)	23,574	(92.8%)	14,506	(61.5%)	25,065	(87.8%)	23,317	(93.0%)	26,554	(88.2%)	14,339	(54.0%)
Priority	3,545	(11.6%)	1,829	(7.2%)	814	(44.5%)	3,481	(12.2%)	3,233	(92.9%)	3,541	(11.8%)	2,017	(57.0%)

Descriptive Analysis: Service Variables

In much the same way that disaggregating the outcome variables differ based on the demographic variable and the analytic sample, the further disaggregation of the service variables by outcome variable and analytic sample can also provide initial insight before conducting the regression analyses. When reviewing the descriptive analysis of services below, it is important to recognize that these are zero-order relationships and as such they are not correlational.

Full Sample Services

The average time a student spent in individual GEAR UP services broken out by the three outcome variables is outlined in Table 9. The average total time a student spent in both student and family GEAR UP services was higher for students who completed the FAFSA, graduated high school, and enrolled in a postsecondary institution as compared to those students who did not. Students who completed the FAFSA spent 36% more time participating in GEAR UP student services and 76% more time participating in GEAR UP family services than students who did not complete their FAFSA. Similarly, students who graduated high school participated in 41% more GEAR UP student service hours and 81% more family service hours than students who did not graduate. Finally, students in the Full Sample who enrolled in a postsecondary institution had participated in 15% more GEAR UP student service hours but 62% more family service hours than those who did not enroll. A further disaggregation of the individual services finds that students who did not enroll in a postsecondary institution engaged in an average of an hour and 45 minutes of additional tutoring than those who enrolled. Tutoring is the only service category where the non-outcome service hour average was higher than the outcome average. It is important to note that not all services showed appreciable differences and that these zero-order descriptive results do not control for other factors and should not be overinterpreted. The results of these zero-order descriptives will be discussed further in the next subsection considering the logistic multiple regression results.

Table 9. Average hours spent in GEAR UP services for the Full Sample of students disaggregated by outcome.

	FAFSA Completion (n = 65,769)		High School Graduation (n = 95,485)		Postsecondary Enrollment (n = 137,712)	
	Completed FAFSA	FAFSA Not Complete	Graduated	Did Not Graduate	Enrolled	Did Not Enroll
Student Services	67.12	49.48	48.83	34.51	47.05	41.02
Tutoring	12.43	10.90	10.86	8.69	8.65	10.42
Comprehensive Mentoring	4.41	2.57	2.59	1.26	3.51	3.30
Financial Aid Counseling	4.05	3.31	2.96	2.19	3.07	2.33
Counseling/Advising	13.76	12.46	11.20	8.51	11.29	9.17
College Visit	7.11	5.05	5.37	3.95	5.23	3.74
Job Site Visit	1.41	0.52	0.81	0.37	0.70	0.52
Summer Program	7.28	4.63	4.65	2.70	4.83	3.36
Educational Field Trip	1.96	1.27	1.25	1.05	1.29	0.95
Workshop	14.71	8.77	9.14	5.77	8.48	7.24
Family Services	3.21	1.82	2.21	1.22	2.23	1.37
Financial Aid Workshop	1.12	0.55	0.74	0.39	0.75	0.40
Advising/Counseling	0.59	0.44	0.44	0.19	0.41	0.32
College Visit	0.13	0.08	0.11	0.05	0.13	0.05
Events	1.36	0.75	0.92	0.58	0.94	0.60

6-Year Sample Services

Table 10 presents the average time a student in the 6-Year Sample spent in individual GEAR UP services broken out by the three outcome variables. The average time a student spent in both total student and family GEAR UP services was higher for students who completed the FAFSA, graduated high school, and enrolled in a postsecondary institution as compared to those students who did not. Students who completed the FAFSA spent 25% more time participating in GEAR UP student services and 58% more time participating in GEAR UP family services than students who did not complete their FAFSA. Students who graduated high school only participated in 7% more GEAR UP student service hours and 17% more family service hours than students who did not graduate. Finally, students in the 6-Year Sample who enrolled in a postsecondary institution had participated in only 8% more GEAR UP student service hours but 48% more family service hours than those who did not enroll. A further disaggregation of the individual services finds that students who did not enroll in a postsecondary institution engaged in an average of about five hours of additional tutoring than did those who enrolled. While not all services show differences between students who completed the FAFSA, graduated from high school, and enrolled in a postsecondary institution, these results provide support for the positive relationship between GEAR UP services and these outcomes. It is important to note that not all services showed appreciable differences and that these zero-order descriptive results do not control for other factors and should not be overinterpreted. The results of these zero-order descriptives will be discussed further in the section considering the logistic multiple regression results.

Table 10. Average hours spent in GEAR UP services for the 6-Year Sample of students disaggregated by the outcomes.

	FAFSA Completion (n = 18,200)		High School Graduation (n = 20,060)		Postsecondary Enrollment (n = 20,960)	
	Completed FAFSA	FAFSA Not Complete	Graduated	Did Not Graduate	Enrolled	Did Not Enroll
Student Services	138.82	110.95	123.66	115.75	125.06	115.72
Tutoring	29.98	27.90	28.81	27.44	25.75	30.68
Comprehensive Mentoring	9.29	5.62	7.00	4.68	7.13	6.86
Financial Aid Counseling	7.57	7.64	6.82	8.47	7.29	6.32
Counseling/Advising	25.90	26.78	26.65	29.62	27.09	25.46
College Visit	14.30	10.88	12.84	13.47	13.51	11.15
Job Site Visit	3.08	1.06	2.34	1.15	2.42	1.90
Summer Program	16.67	11.05	13.68	8.37	15.47	10.64
Educational Field Trips	4.76	3.42	3.85	5.63	4.47	3.19
Workshop	27.27	16.58	21.67	16.92	21.94	19.53
Family Services	6.40	4.05	5.44	4.64	6.16	4.17
Financial Aid Workshops	1.95	1.15	1.55	1.35	1.78	1.14
Advising/Counseling	1.13	0.95	1.03	0.59	1.09	0.87
College Visit	0.32	0.18	0.27	0.12	0.32	0.18
Events	3.00	1.78	2.59	2.58	2.97	1.98

4-Year Sample Services

Table 11 presents the average time a student in the 4-Year Sample spent in individual GEAR UP services broken out by the three outcome variables. The average time a student spent in both total student and family GEAR UP services was higher for students who completed the FAFSA, graduated high school, and enrolled in postsecondary as compared to those students who did not. Students who completed the FAFSA spent 26% more time participating in GEAR UP student services and 61% more time participating in GEAR UP family services than students who did not complete their FAFSA. Similarly, students who graduated high school participated in 13% more GEAR UP student service hours and 35% more family service hours than students who did not graduate. Finally, students in the 4-Year Sample who enrolled in a postsecondary institution had participated in only 8% more GEAR UP student service hours but 46% more family service hours than those who did not enroll. A further disaggregation of the individual services finds that students who did not enroll in a postsecondary institution engaged in an average of about six hours of additional tutoring than did those who enrolled. As with the Full and 6-Year Sample results, not all services show differences between students who completed the FAFSA, graduated from high school, and enrolled in postsecondary education. It is still important to note that not all services showed appreciable differences and that these zero-order descriptive results do not control for other factors and should not be overinterpreted. The results of these zero-order descriptives will be discussed further in the section considering the logistic multiple regression results.

Table 11. Average time (in hours) spent in GEAR UP services for the 4-Year Sample of students disaggregated by the outcomes.

	FAFSA Completion (n = 25,403)		High School Graduation (n = 28,546)		Postsecondary Enrollment (n = 30,095)	
	Completed FAFSA	FAFSA Not Complete	Graduated	Did Not Graduate	Enrolled	Did Not Enroll
Student Services	127.37	100.90	112.78	99.66	113.08	104.28
Tutoring	25.78	23.98	26.19	25.63	22.54	28.46
Comprehensive Mentoring	8.36	5.17	6.16	4.00	6.32	5.88
Financial Aid Counseling	6.77	6.52	6.05	6.54	6.35	5.46
Counseling/Advising	26.90	26.66	25.93	24.76	27.38	23.24
College Visit	12.57	9.17	11.08	11.08	11.43	9.61
Job Site Visit	2.62	0.91	1.93	0.92	1.95	1.57
Summer Program	16.03	10.51	12.93	7.97	14.37	9.91
Educational Field Trips	3.94	2.76	3.20	4.07	3.61	2.62
Workshop	24.41	15.21	19.32	14.69	19.14	17.53
Family Services	5.78	3.60	4.84	3.58	5.34	3.67
Financial Aid Workshops	1.84	1.01	1.45	1.10	1.63	1.04
Advising/Counseling	1.11	0.93	1.01	0.54	1.04	0.85
College Visit	0.26	0.14	0.22	0.10	0.26	0.15
Events	2.57	1.53	2.15	1.84	2.41	1.63

Logistics Regression Analyses

The results of the logistic regression analyses are presented below. First, the results for the first research question, related to the aggregated GEAR UP services, are presented for the three samples and three outcomes of interest. Subsequently, the results for the second research question, related to the disaggregated GEAR UP services, are presented for the three samples and three outcomes of interest.

Full Sample: Aggregate GEAR UP Services and FAFSA Completion Analyses

The logistic regression model was statistically significant, $\chi^2(14) = 10,145.5, p < .001$. The model correctly classified 68.0% of cases. The associated ROC curve and AUC (0.72), which measure model performance, for this model can be found in Figure 2 in the Appendix. Table 18 in the Appendix presents the results of the analytic models that included the aggregate GEAR UP service predictor variable along with the covariates. In addition, Table 18 also presents the associated odds ratios and 95% confidence intervals (CI). The effect sizes and implied probabilities for the statistically significant aggregate GEAR UP service predictor can be found in the Appendix (Figure 20).

Aggregate GEAR UP services. When looking at the results from the model for the aggregate GEAR UP student services variable in Table 12, which adjusts for the covariates (*Gender, Race, Program Type, and Student Type*), the aggregate GEAR UP service variable was found to be statistically significantly related with the FAFSA completion outcome. These results indicate that as students received additional hours of these GEAR UP services, they were more likely to complete the FAFSA. The aggregate GEAR UP service predictor had an odds ratio of 1.66 with a 95% CI between 1.63 and 1.68.

Gender. In addition to the aggregated GEAR UP services, the gender of the students in the Full Sample was found to be statistically significant in predicting student FAFSA completion. After adjusting for the other covariates, the odds ratio for males was 0.61, with a 95% CI between 0.59 and 0.64. This result indicates that the chance of completing the FAFSA was 39% lower for male GEAR UP students than female students. If, alternatively, the student was identified as unknown, they were more likely to complete the FAFSA as compared to female students with an odds ratio of 2.04 (95% CI between 1.27 and 3.29). This suggests that students who were identified as unknown gender were 104% more likely to complete the FAFSA than their peers who were identified as female.

Race. Race was a meaningful predictor of FAFSA completion with one of the race categories found not to be statistically different than the reference category of White. Students who were identified as Two or More Races did not meaningfully contribute to predicting FAFSA completion. The other six race categories were found to be statistically significant predictors of completing the FAFSA, indicating they had FAFSA completion rates meaningfully different than White students.

Asian and African American students within the sample were statistically significantly more likely to complete the FAFSA than White students within the sample, with an odds ratio of 1.13 (95% CI between 1.00 and 1.26) and 1.50 (95% CI between 1.43 and 1.58), respectively. Students identified as either Asian or African American were 13% and 50% more likely to complete the FAFSA as compared to their White peers, respectively.

Students in the Full Sample identified as American Indian/Alaska Native, Pacific Islander, Unknown, and Hispanic were less likely to complete the FAFSA as compared to their White peers. After adjusting for the other covariates, the odds ratio for American Indian/Alaska Native students was 0.24, with a 95% CI

between 0.22 and 0.26, indicating the chance of American Indian/Alaska Native students completing the FAFSA was 76% less than that of their White peers. The odds ratio for students identified as Pacific Islander was 0.51, with a 95% CI between 0.38 and 0.68. This result suggests that the chance of Pacific Islander students completing the FAFSA was 49% less than students who identified as White. Students for which race was Unknown had an odds ratio of 0.36, with a 95% CI between 0.32 and 0.42. The chance of students with Unknown race were 64% less likely to complete the FAFSA as compared to White students. Students identified as Hispanic had an odds ratio of 0.33, with a 95% CI of 0.31 and 0.35, suggesting that the chance of Hispanic students completing the FAFSA was 67% less likely than their White peers.

Program type. The priority program category was not found to contribute to predicting FAFSA completion; however, students in cohort programs were statistically less likely to complete the FAFSA than students who were served by hybrid programs. The odds ratios for the cohort programs were 0.42 (95% CI between 0.40 and 0.44). This indicates that the chance of completing the FAFSA for students in cohort programs was 58% less likely as compared to students in hybrid programs.

Student type. Student type was also found to be statistically significant positively related to FAFSA completion, with an odds ratio of 1.07 (95% CI between 1.01 and 1.13). This indicates that the chance of completing the FAFSA for students who were identified as priority student was 7% more likely than their cohort-type peers.

Table 12. Full Sample results for the aggregate GEAR UP services and FAFSA completion, high school graduation, and postsecondary enrollment logistic regression models.

Variable	FAFSA Completion Model			High School Graduation Model			Postsecondary Enrollment Model		
	Odds Ratio	Standard Err.		Odds Ratio	Standard Err.		Odds Ratio	Standard Err.	
Constant	0.53	0.04	***	3.82	0.04	***	0.48	0.02	***
GEAR UP Aggregate Services	1.66	0.01	***	1.37	0.01	***	1.25	0.00	***
Gender (Male)	0.61	0.02	***	0.83	0.02	***	0.55	0.01	***
Gender (Unknown)	2.04	0.24	**	0.89	0.32		0.64	0.12	***
Race (American Native)	0.24	0.04	***	0.83	0.05	***	0.50	0.03	***
Race (Asian)	1.13	0.06	*	1.06	0.08		1.68	0.04	***
Race (African American)	1.50	0.03	***	0.85	0.03	***	0.95	0.02	**
Race (Pacific Islander)	0.51	0.15	***	0.65	0.13	***	0.62	0.07	***
Race (Two or More Races)	0.92	0.06		0.71	0.05	***	0.98	0.03	
Race (Unknown)	0.36	0.07	***	0.49	0.08	***	0.89	0.05	*
Race (Hispanic)	0.33	0.03	***	1.10	0.04	**	0.84	0.02	***
Program Model (Cohort)	0.42	0.03	***	0.70	0.04	***	0.95	0.02	**
Program Model (Priority)	0.90	0.06		0.71	0.04	***	0.72	0.02	***
Student Type (Priority)	1.07	0.03	**	1.63	0.03	***	2.42	0.02	***
Model Chi-Square [df]	10,145.49 [14]			1,853.60 [14]			10,366.56 [14]		
% Correct Predictions	68.03%			90.25%			61.70%		
Area Under the Curve	0.72			0.63			0.66		

Note: *p < .05. **p < .01. ***p < .001. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

Full Sample: Aggregate GEAR UP Services and High School Graduation Analyses

The logistic regression model was statistically significant, $\chi^2(14) = 1,853.6, p < .001$. The model correctly classified 90.3% of cases. The associated ROC curve and AUC (0.63), which measure model performance, for this model can be found in Figure 3 in the Appendix. Table 18 in the Appendix presents the results of the

analytic models that included the aggregate GEAR UP service predictor variable along with the covariates. In addition, Table 18 also presents the associated odds ratios and 95% CI. The effect sizes and implied probabilities for the statistically significant aggregate GEAR UP service predictor can be found in the Appendix (Figure 21).

Aggregate GEAR UP services. When looking at the results from the model for the aggregate GEAR UP student services variable in Table 12, which adjusts for the covariates (*Gender, Race, Program Type, and Student Type*), the aggregate GEAR UP service variable was found to be statistically significantly related with the high school graduation outcome. These results indicate that as students received additional hours of these GEAR UP services, they were more likely to graduate from high school. The aggregate GEAR UP service predictor had an odds ratio of 1.37 with a 95% CI between 1.35 and 1.40.

Gender. In addition to the aggregated GEAR UP services, the gender of the students in the Full Sample was found to be statistically significant in predicting student high school graduation. After adjusting for the other covariates, the odds ratio for males was 0.83, with a 95% CI between 0.80 and 0.87. This result indicates that the chance of graduating from high school was 17% lower for male GEAR UP students than female students. The unknown gender category was not found to be statistically significant in contributing to predicting high school graduation.

Race. Race was a meaningful predictor of high school graduation with one of the race categories found not to be statistically different than the reference category of White. Students who were identified as Asian did not meaningfully contribute to predicting high school graduation. The other six race categories were found to be statistically significant predictors of graduating from high school, indicating they had high school graduation rates meaningfully different than White students.

Hispanic students within the sample were statistically significantly more likely to graduate from high school than White students within the sample, with an odds ratio of 1.10 (95% CI between 1.03 and 1.19). Students identified as Hispanic were 10% more likely to graduate from high school as compared to their White peers.

Students in the Full Sample identified as American Indian/Alaska Native, African American, Pacific Islander, Two or More Races, and Unknown were less likely to graduate from high school as compared to their White peers. After adjusting for the other covariates, the odds ratio for American Indian/Alaska Native students was 0.83, with a 95% CI between 0.75 and 0.92, indicating the chance of American Indian/Alaska Native students graduating from high school was 17% less than that of their White peers. The odds ratio for students identified as African American was 0.85, with a 95% CI between 0.80 and 0.90. This result suggests that the chance of African American students graduating from high school was 15% less than students who identified as White. The odds ratio for students identified as Pacific Islander was 0.65, with a 95% CI between 0.51 and 0.84. This result suggests that the chance of Pacific Islander students graduating from high school was 35% less than students who identified as White. Students identified as Two or More Races had an odds ratio of 0.71, with a 95% CI of 0.64 and 0.78, suggesting that the chance of Two or More Race students graduating from high school was 29% less likely than their White peers. Students for which race was Unknown had an odds ratio of 0.49, with a 95% CI between 0.42 and 0.57. The chance of students with Unknown race were 51% less likely to graduate high school as compared to White students.

Program type. Students in both cohort and priority programs were statistically less likely to graduate from high school than students who were served by hybrid programs. The odds ratios for the cohort and priority programs were 0.70 (95% CI between 0.65 and 0.76) and 0.71 (95% CI between 0.65 and 0.76), respectively.

This indicates that the chance of graduating from high school for students in cohort and priority programs was 30% and 29%, respectively, less likely as compared to students in hybrid programs.

Student type. Student type was also found to be statistically significant positively related to high school graduation, with an odds ratio of 1.63 (95% CI between 1.53 and 1.72). This indicates that the chance of graduating from high school for students who were identified as priority student was 63% more likely than their cohort-type peers.

Full Sample: Aggregate GEAR UP Services and Postsecondary Enrollment Analyses

The logistic regression model was statistically significant, $\chi^2(14) = 10,366.6, p < .001$. The model correctly classified 61.7% of cases. The associated ROC curve and AUC (0.66), which measure model performance, for this model can be found in Figure 4 in the Appendix. Table 18 in the Appendix presents the results of the analytic models that included the aggregate GEAR UP service predictor variable along with the covariates. In addition, Table 18 also presents the associated odds ratios and 95% CI. The effect sizes and implied probabilities for the statistically significant aggregate GEAR UP service predictor can be found in the Appendix (Figure 22).

Aggregate GEAR UP services. When looking at the results from the model for the aggregate GEAR UP student services variable in Table 12, which adjusts for the covariates (*Gender, Race, Program Type, and Student Type*), the aggregate GEAR UP service variable was found to be statistically significantly related with the postsecondary enrollment outcome. These results indicate that as students received additional hours of these GEAR UP services, they were more likely to enroll in postsecondary education. The aggregate GEAR UP service predictor had an odds ratio of 1.25 with a 95% CI between 1.24 and 1.26.

Gender. In addition to the aggregated GEAR UP services, the gender of the students in the Full Sample was found to be statistically significant in predicting student postsecondary enrollment. After adjusting for the other covariates, the odds ratio for males was 0.55, with a 95% CI between 0.54 and 0.56. This result indicates that the chance of enrolling in postsecondary education was 45% lower for male GEAR UP students than female students. Similarly, students identified as unknown gender were found to be statistically significantly less likely to enroll in postsecondary education with an odds ratio of 0.64 (95% CI between 0.50 and 0.80).

Race. Race was a meaningful predictor of postsecondary enrollment with one of the race categories found not to be statistically different than the reference category of White. Students who were identified as Two or More Races did not meaningfully contribute to predicting postsecondary enrollment. The other six race categories were found to be statistically significant predictors of enrolling in postsecondary education, indicating they had postsecondary enrollment rates meaningfully different than White students.

Asian students within the sample were statistically significantly more likely to enroll in postsecondary education than White students within the sample, with an odds ratio of 1.68 (95% CI between 1.57 and 1.80). Students identified as Asian were 68% more likely to enroll in postsecondary education as compared to their White peers.

Students in the Full Sample identified as American Indian/Alaska Native, African American, Pacific Islander, Unknown, and Hispanic were less likely to enroll in postsecondary education as compared to their White peers. After adjusting for the other covariates, the odds ratio for American Indian/Alaska Native students was 0.50, with a 95% CI between 0.48 and 0.52, indicating the chance of American Indian/Alaska Native students enrolling in postsecondary education was 50% less than that of their White peers. The odds ratio for

students identified as African American was 0.95, with a 95% CI between 0.92 and 0.98. This result suggests that the chance of African American students enrolling in postsecondary education was 5% less than students who identified as White. The odds ratio for students identified as Pacific Islander was 0.62, with a 95% CI between 0.54 and 0.72. This result suggests that the chance of Pacific Islander students enrolling in postsecondary education was 38% less than students who identified as White. Students for which race was Unknown had an odds ratio of 0.89, with a 95% CI between 0.81 and 0.97. The chance of students with Unknown race were 11% less likely to enroll in postsecondary education as compared to White students. Students identified as Hispanic had an odds ratio of 0.84, with a 95% CI of 0.82 and 0.87, suggesting that the chance of Hispanic students enrolling in postsecondary education was 16% less likely than their White peers.

Program type. Students in both cohort and priority programs were statistically less likely to enroll in postsecondary education than students who were served by hybrid programs. The odds ratios for the cohort and priority programs were 0.95 (95% CI between 0.92 and 0.98) and 0.72 (95% CI between 0.69 and 0.75), respectively. This indicates that the chance of enrolling in postsecondary education for students in cohort and priority programs was 5% and 28%, respectively, less likely as compared to students in hybrid programs.

Student type. Student type was also found to be statistically significant positively related to postsecondary enrollment, with an odds ratio of 2.42 (95% CI between 2.35 and 2.49). This indicates that the chance of enrolling in postsecondary education for students who were identified as priority student was 142% more likely than their cohort-type peers.

6-Year Sample: Aggregate GEAR UP Services and FAFSA Completion Analyses

The logistic regression model was statistically significant, $\chi^2(12) = 2,732.9, p < .001$. The model correctly classified 67.5% of cases. The associated ROC curve and AUC (0.72), which measure model performance, for this model can be found in Figure 5 in the Appendix. Table 19 in the Appendix presents the results of the analytic models that included the aggregate GEAR UP service predictor variable along with the covariates. In addition, Table 19 also presents the associated odds ratios and 95% CI. The effect sizes and implied probabilities for the statistically significant aggregate GEAR UP service predictor can be found in the Appendix (Figure 23).

Aggregate GEAR UP services. When looking at the results from the model for the aggregate GEAR UP student services variable in Table 13, which adjusts for the covariates (*Gender, Race, Program Type, and Student Type*), the aggregate GEAR UP service variable was found to be statistically significantly and positively related with the FAFSA completion outcome. These results indicate that as students in the 6-Year Sample received additional hours of these GEAR UP services, they were more likely to complete the FAFSA. The aggregate GEAR UP service predictor had an odds ratio of 1.56 with a 95% CI between 1.50 and 1.62.

Gender. In addition to the aggregated GEAR UP services, the gender of the students in the 6-Year Sample was found to be statistically significant in predicting student FAFSA completion. After adjusting for the other covariates, the odds ratio for males was 0.53, with a 95% CI between 0.50 and 0.57. This result indicates that the chance of completing the FAFSA was 47% lower for male GEAR UP students than female students.

Race. Race was a meaningful predictor of FAFSA completion with three of the race categories found not to be statistically different than the reference category of White. Students who were identified as either Asian, Pacific Islander, or Two or More Races did not meaningfully contribute to predicting FAFSA completion. The other four race categories were found to be statistically significant predictors of completing the FAFSA, indicating they had FAFSA completion rates meaningfully different than White students.

African American students within the sample were statistically significantly more likely to complete the FAFSA than White students within the sample, with an odds ratio of 1.37 (95% CI between 1.17 and 1.50). Students identified as African American were 37% more likely to complete the FAFSA as compared to their White peers.

Students in the 6-Year Sample identified as American Indian/Alaska Native, Unknown, and Hispanic were less likely to complete the FAFSA as compared to their White peers. After adjusting for the other covariates, the odds ratio for American Indian/Alaska Native students was 0.38, with a 95% CI between 0.33 and 0.44, indicating the chance of American Indian/Alaska Native students completing the FAFSA was 62% less than that of their White peers. Students for which race was Unknown had an odds ratio of 0.53, with a 95% CI between 0.45 and 0.62. The chance of students with Unknown race were 47% less likely to complete the FAFSA as compared to White students. Students identified as Hispanic had an odds ratio of 0.64, with a 95% CI of 0.59 and 0.70, suggesting that the chance of Hispanic students completing the FAFSA was 36% less likely than their White peers.

Program type. Students in cohort programs were statistically less likely to complete the FAFSA than students who were served by hybrid programs. The odds ratio for cohort programs was 0.31 (95% CI between 0.28 and 0.34). This indicates that the chance of completing the FAFSA for students in cohort programs was 69% less likely as compared to students in hybrid programs.

Student type. Student type was also found to be statistically significantly related to FAFSA completion, with an odds ratio of 0.20 (95% CI between 0.16 and 0.23). This indicates that the chance of completing the FAFSA for students who were identified as priority student was 80% less likely than their cohort-type peers.

Table 13. 6-Year Sample results for the aggregate GEAR UP services and FAFSA completion, high school graduation, and postsecondary enrollment logistic regression models.

Variable	FAFSA Completion Model			High School Graduation Model			Postsecondary Enrollment Model		
	Odds Ratio	Standard Err.		Odds Ratio	Standard Err.		Odds Ratio	Standard Err.	
Constant	0.84	0.10		21.38	0.18	***	0.67	0.08	***
GEAR UP Aggregate Services	1.56	0.02	***	1.03	0.04		1.24	0.02	***
Gender (Male)	0.53	0.03	***	0.79	0.06	***	0.52	0.03	***
Race (American Native)	0.38	0.07	***	0.99	0.13		0.65	0.06	***
Race (Asian)	1.16	0.13		0.80	0.18		2.12	0.11	***
Race (African American)	1.37	0.08	***	0.85	0.11		0.88	0.05	**
Race (Pacific Islander)	1.11	0.26		0.45	0.33	*	0.76	0.24	
Race (Two or More Races)	0.92	0.11		1.22	0.19		0.98	0.09	
Race (Unknown)	0.53	0.09	***	0.46	0.12	***	0.84	0.08	*
Race (Hispanic)	0.64	0.04	***	1.61	0.09	***	0.88	0.04	**
Program Model (Cohort)	0.31	0.04	***	0.51	0.07	***	0.96	0.03	
Program Model (Priority)	n/a	n/a		0.45	0.30	**	0.49	0.14	***
Student Type (Priority)	0.20	0.09	***	1.13	0.21		1.90	0.08	***
Model Chi-Square [df]	2,732.91 [12]			237.29 [13]			856.06 [13]		
% Correct Predictions	67.50%			93.64%			58.55%		
Area Under the Curve	0.72			0.62			0.62		

Note: *p < .05. **p < .01. ***p < .001. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

6-Year Sample: Aggregate GEAR UP Services and High School Graduation Analyses

The logistic regression model was statistically significant, $\chi^2(13) = 237.3, p < .001$. The model correctly classified 93.6% of cases. The associated ROC curve and AUC (0.62), which measure model performance, for this model can be found in Figure 6 in the Appendix. Table 19 in the Appendix presents the results of the analytic models that included the aggregate GEAR UP service predictor variable along with the covariates. In addition, Table 19 also presents the associated odds ratios and 95% CI. The effect sizes and implied probabilities for the statistically significant aggregate GEAR UP service predictor can be found in the Appendix (Figure 24).

Aggregate GEAR UP services. When looking at the results from the model for the aggregate GEAR UP student services variable in Table 13, which adjusts for the covariates (*Gender, Race, Program Type, and Student Type*), the aggregate GEAR UP service variable was not found to be statistically significantly related with the high school graduation outcome.

Gender. In addition to the aggregated GEAR UP services, the gender of the students in the 6-Year Sample was found to be statistically significant in predicting student high school graduation. After adjusting for the other covariates, the odds ratio for males was 0.79, with a 95% CI between 0.71 and 0.89. This result indicates that the chance of graduating from high school was 21% lower for male GEAR UP students than female students.

Race. Race was a meaningful predictor of high school graduation with four of the race categories found not to be statistically different than the reference category of White. Students who were identified as either American Indian/Alaska Native, Asian, African American, or Two or More Races did not meaningfully contribute to predicting high school graduation. The other three race categories were found to be statistically significant predictors of graduating from high school, indicating they had high school graduation rates meaningfully different than White students.

Hispanic students within the sample were statistically significantly more likely to graduate from high school than White students within the sample, with an odds ratio of 1.61 (95% CI between 1.35 and 1.93). Students identified as Hispanic were 61% more likely to graduate from high school as compared to their White peers.

Students in the 6-Year Sample identified as Pacific Islander and Unknown were less likely to graduate from high school as compared to their White peers. After adjusting for the other covariates, the odds ratio for students identified as Pacific Islander was 0.45, with a 95% CI between 0.24 and 0.87. This result suggests that the chance of Pacific Islander students graduating from high school was 55% less than students who identified as White. Students for which race was Unknown had an odds ratio of 0.46, with a 95% CI between 0.37 and 0.58. The chance of students with Unknown race were 54% less likely to graduate high school as compared to White students.

Program type. Students in both cohort and priority programs were statistically less likely to graduate from high school than students who were served by hybrid programs. The odds ratios for the cohort and priority programs were 0.51 (95% CI between 0.45 and 0.58) and 0.45 (95% CI between 0.25 and 0.81), respectively. This indicates that the chance of graduating from high school for students in cohort and priority programs was 49% and 55%, respectively, less likely as compared to students in hybrid programs.

Student type. Student type was not found to meaningfully contribute to predicting high school graduation for students within the 6-Year Sample.

6-Year Sample: Aggregate GEAR UP Services and Postsecondary Enrollment Analyses

The logistic regression model was statistically significant, $\chi^2(13) = 856.1, p < .001$. The model correctly classified 58.6% of cases. The associated ROC curve and AUC (0.62), which measure model performance, for this model can be found in Figure 7 in the Appendix. Table 19 in the Appendix presents the results of the analytic models that included the aggregate GEAR UP service predictor variable along with the covariates. In addition, Table 19 also presents the associated odds ratios and 95% CI. The effect sizes and implied probabilities for the statistically significant aggregate GEAR UP service predictor can be found in the Appendix (Figure 25).

Aggregate GEAR UP services. When looking at the results from the model for the aggregate GEAR UP student services variable in Table 13, which adjusts for the covariates (*Gender, Race, Program Type, and Student Type*), the aggregate GEAR UP service variable was found to be statistically significantly related with the postsecondary enrollment outcome. These results indicate that as students in the 6-Year Sample received additional hours of these GEAR UP services, they were more likely to enroll in postsecondary education. The aggregate GEAR UP service predictor had an odds ratio of 1.24 with a 95% CI between 1.19 and 1.28.

Gender. In addition to the aggregated GEAR UP services, the gender of the students in the 6-Year Sample was found to be statistically significant in predicting student postsecondary enrollment. After adjusting for the other covariates, the odds ratio for males was 0.52, with a 95% CI between 0.49 and 0.55. This result indicates that the chance of enrolling in postsecondary education was 48% lower for male GEAR UP students than female students.

Race. Race was a meaningful predictor of postsecondary enrollment with two of the race categories found not to be statistically different than the reference category of White. Students who were identified as either Pacific Islander or Two or More Races did not meaningfully contribute to predicting postsecondary enrollment. The other five race categories were found to be statistically significant predictors of enrolling in postsecondary education, indicating they had postsecondary enrollment rates meaningfully different than White students.

Asian students within the 6-Year Sample were statistically significantly more likely to enroll in postsecondary education than White students within the sample, with an odds ratio of 2.12 (95% CI between 1.71 and 2.62). Students identified as Asian were 112% more likely to enroll in postsecondary education as compared to their White peers.

Students in the 6-Year Sample identified as American Indian/Alaska Native, African American, Unknown, and Hispanic were less likely to enroll in postsecondary education as compared to their White peers. After adjusting for the other covariates, the odds ratio for American Indian/Alaska Native students was 0.65, with a 95% CI between 0.58 and 0.73, indicating the chance of American Indian/Alaska Native students enrolling in postsecondary education was 35% less than that of their White peers. The odds ratio for students identified as African American was 0.88, with a 95% CI between 0.79 and 0.97. This result suggests that the chance of African American students enrolling in postsecondary education was 12% less than students who identified as White. Students for which race was Unknown had an odds ratio of 0.84, with a 95% CI between 0.72 and 0.99. The chance of students with Unknown race were 16% less likely to enroll in postsecondary education as compared to White students. Students identified as Hispanic had an odds ratio of 0.88, with a 95% CI of 0.82 and 0.95, suggesting that the chance of Hispanic students enrolling in postsecondary education was 12% less likely than their White peers.

Program type. The cohort program type category was not found to meaningfully contribute to predicting postsecondary enrollment; however, students in priority programs were statistically less likely to enroll in postsecondary education than students who were served by hybrid programs. The odds ratios for the priority programs were 0.49 (95% CI between 0.37 and 0.65). This indicates that the chance of enrolling in postsecondary education for students in priority programs was 51% less likely as compared to students in hybrid programs.

Student type. Student type was also found to be statistically significant positively related to postsecondary enrollment, with an odds ratio of 1.90 (95% CI between 1.63 and 2.22). This indicates that the chance of enrolling in postsecondary education for students who were identified as priority student was 90% more likely than their cohort-type peers.

4-Year Sample: Aggregate GEAR UP Services and FAFSA Completion Analyses

The logistic regression model was statistically significant, $\chi^2(13) = 3,319.1, p < .001$. The model correctly classified 65.7% of cases. The associated ROC curve and AUC (0.70), which measure model performance, for this model can be found in Figure 8 in the Appendix. Table 20 in the Appendix presents the results of the analytic models that included the aggregate GEAR UP service predictor variable along with the covariates. In addition, Table 20 also presents the associated odds ratios and 95% CI. The effect sizes and implied probabilities for the statistically significant aggregate GEAR UP service predictor can be found in the Appendix (Figure 26).

Aggregate GEAR UP services. When looking at the results from the model for the aggregate GEAR UP student services variable in Table 14, which adjusts for the covariates (*Gender, Race, Program Type, and Student Type*), the aggregate GEAR UP service variable was found to be statistically significantly and positively related with the FAFSA completion outcome. These results indicate that as students in the 4-Year Sample received additional hours of these GEAR UP services, they were more likely to complete the FAFSA. The aggregate GEAR UP service predictor had an odds ratio of 1.54 with a 95% CI between 1.50 and 1.59.

Gender. In addition to the aggregated GEAR UP services, the gender of the students in the 4-Year Sample was found to be statistically significant in predicting student FAFSA completion. After adjusting for the other covariates, the odds ratio for males was 0.54, with a 95% CI between 0.52 and 0.57. This result indicates that the chance of completing the FAFSA was 46% lower for male GEAR UP students than female students.

Race. Race was a meaningful predictor of FAFSA completion with two of the race categories found not to be statistically different than the reference category of White. Students who were identified as either Pacific Islander or Two or More Races did not meaningfully contribute to predicting FAFSA completion. The other five race categories were found to be statistically significant predictors of completing the FAFSA, indicating they had FAFSA completion rates meaningfully different than White students.

Asian and African American students within the sample were statistically significantly more likely to complete the FAFSA than White students within the sample, with an odds ratio of 1.54 (95% CI between 1.29 and 1.84) and 1.40 (95% CI between 1.24 and 1.58), respectively. Students identified as either Asian or African American were 54% and 40% more likely to complete the FAFSA as compared to their White peers, respectively.

Students in the 4-Year Sample identified as American Indian/Alaska Native, Unknown, and Hispanic were less likely to complete the FAFSA as compared to their White peers. After adjusting for the other covariates, the odds ratio for American Indian/Alaska Native students was 0.41, with a 95% CI between 0.37 and 0.45,

indicating the chance of American Indian/Alaska Native students completing the FAFSA was 63% less than that of their White peers. Students for which race was Unknown had an odds ratio of 0.48, with a 95% CI between 0.41 and 0.57. The chance of students with Unknown race were 52% less likely to complete the FAFSA as compared to White students. Students identified as Hispanic had an odds ratio of 0.63, with a 95% CI of 0.58 and 0.67, suggesting that the chance of Hispanic students completing the FAFSA was 37% less likely than their White peers.

Program type. Students in cohort programs were statistically less likely to complete the FAFSA than students who were served by hybrid programs. The odds ratio for cohort programs was 0.39 (95% CI between 0.36 and 0.41). This indicates that the chance of completing the FAFSA for students in cohort programs was 61% less likely as compared to students in hybrid programs. Students in priority programs were statistically more likely to complete the FAFSA than students served by hybrid programs. The odds ratio for priority programs was 1.71 (95% CI between 1.32 and 2.21). This indicates that the chance of completing the FAFSA for students in priority programs was 71% more likely as compared to students in hybrid programs.

Student type. Student type was also found to be statistically significantly related to FAFSA completion, with an odds ratio of 0.33 (95% CI between 0.29 and 0.38). This indicates that the chance of completing the FAFSA for students who were identified as priority student was 67% less likely than their cohort-type peers.

Table 14. 4-Year Sample results for the aggregate GEAR UP services and FAFSA completion, high school graduation, and postsecondary enrollment logistic regression models.

Variable	FAFSA Completion Model			High School Graduation Model			Postsecondary Enrollment Model		
	Odds Ratio	Standard Err.		Odds Ratio	Standard Err.		Odds Ratio	Standard Err.	
Constant	0.76	0.08	***	14.27	0.12	***	0.77	0.06	***
GEAR UP Aggregate Services	1.54	0.02	***	1.10	0.03	***	1.19	0.01	***
Gender (Male)	0.54	0.03	***	0.75	0.05	***	0.53	0.02	***
Race (American Native)	0.41	0.06	***	0.72	0.09	***	0.56	0.05	***
Race (Asian)	1.54	0.09	***	1.10	0.15		2.08	0.08	***
Race (African American)	1.40	0.06	***	0.74	0.08	***	0.89	0.04	**
Race (Pacific Islander)	0.90	0.21		0.54	0.23	**	0.67	0.16	*
Race (Two or More Races)	1.07	0.08		0.84	0.11		0.89	0.06	
Race (Unknown)	0.48	0.08	***	0.45	0.11	***	0.80	0.08	**
Race (Hispanic)	0.63	0.04	***	1.48	0.07	***	0.92	0.03	*
Program Model (Cohort)	0.39	0.04	***	0.63	0.06	***	1.07	0.03	**
Program Model (Priority)	1.71	0.13	***	0.25	0.19	***	0.81	0.07	**
Student Type (Priority)	0.33	0.07	***	2.23	0.18	***	1.57	0.06	***
Model Chi-Square [df]	3,319.05 [13]			306.53 [13]			1,249.82 [13]		
% Correct Predictions	65.74%			93.01%			58.77%		
Area Under the Curve	0.70			0.61			0.62		

Note: *p < .05. **p < .01. ***p < .001. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

4-Year Sample: Aggregate GEAR UP Services and High School Graduation Analyses

The logistic regression model was statistically significant, $\chi^2(13) = 306.5, p < .001$. The model correctly classified 93.0% of cases. The associated ROC curve and AUC (0.61), which measure model performance, for this model can be found in Figure 9 in the Appendix. Table 20 in the Appendix presents the results of the analytic models that included the aggregate GEAR UP service predictor variable along with the covariates. In addition, Table 20 also presents the associated odds ratios and 95% CI. The effect sizes and implied probabilities for the statistically significant aggregate GEAR UP service predictor can be found in the Appendix (Figure 27).

Aggregate GEAR UP services. When looking at the results from the model for the aggregate GEAR UP student services variable in Table 14, which adjusts for the covariates (*Gender, Race, Program Type, and Student Type*), the aggregate GEAR UP service variable was found to be statistically significantly related with the high school graduation outcome. These results indicate that as students in the 4-Year Sample received additional hours of these GEAR UP services, they were more likely to graduate from high school. The aggregate GEAR UP service predictor had an odds ratio of 1.10 with a 95% CI between 1.04 and 1.15.

Gender. In addition to the aggregated GEAR UP services, the gender of the students in the 4-Year Sample was found to be statistically significant in predicting student high school graduation. After adjusting for the other covariates, the odds ratio for males was 0.75, with a 95% CI between 0.69 and 0.82. This result indicates that the chance of graduating from high school was 25% lower for male GEAR UP students than female students.

Race. Race was a meaningful predictor of high school graduation with two of the race categories found not to be statistically different than the reference category of White. Students who were identified as either Asian or Two or More Races did not meaningfully contribute to predicting high school graduation. The other five race categories were found to be statistically significant predictors of graduating from high school, indicating they had high school graduation rates meaningfully different than White students.

Hispanic students within the sample were statistically significantly more likely to graduate from high school than White students within the sample, with an odds ratio of 1.48 (95% CI between 1.28 and 1.71). Students identified as Hispanic were 48% more likely to graduate from high school as compared to their White peers.

Students in the 4-Year Sample identified as American Indian/Alaska Native, African American, Pacific Islander, and Unknown were less likely to graduate from high school as compared to their White peers. After adjusting for the other covariates, the odds ratio for American Indian/Alaska Native students was 0.72, with a 95% CI between 0.60 and 0.86, indicating the chance of American Indian/Alaska Native students graduating from high school was 28% less than that of their White peers. The odds ratio for students identified as African American was 0.74, with a 95% CI between 0.63 and 0.87. This result suggests that the chance of African American students graduating from high school was 26% less than students who identified as White. The odds ratio for students identified as Pacific Islander was 0.54, with a 95% CI between 0.34 and 0.84. This result suggests that the chance of Pacific Islander students graduating from high school was 46% less than students who identified as White. Students for which race was Unknown had an odds ratio of 0.45, with a 95% CI between 0.37 and 0.56. The chance of students with Unknown race were 55% less likely to graduate high school as compared to White students.

Program type. Students in both cohort and priority programs were statistically less likely to graduate from high school than students who were served by hybrid programs. The odds ratios for the cohort and priority

programs were 0.63 (95% CI between 0.56 and 0.70) and 0.25 (95% CI between 0.18 and 0.37), respectively. This indicates that the chance of graduating from high school for students in cohort and priority programs was 37% and 75%, respectively, less likely as compared to students in hybrid programs.

Student type. Student type was also found to be statistically significant positively related to high school graduation, with an odds ratio of 2.23 (95% CI between 1.56 and 3.18). This indicates that the chance of graduating from high school for students who were identified as priority student was 123% more likely than their cohort-type peers.

4-Year Sample: Aggregate GEAR UP Services and Postsecondary Enrollment Analyses

The logistic regression model was statistically significant, $\chi^2(13) = 1,249.8, p < .001$. The model correctly classified 58.8% of cases. The associated ROC curve and AUC (0.62), which measure model performance, for this model can be found in Figure 10 in the Appendix. Table 20 in the Appendix presents the results of the analytic models that included the aggregate GEAR UP service predictor variable along with the covariates. In addition, Table 20 also presents the associated odds ratios and 95% CI. The effect sizes and implied probabilities for the statistically significant aggregate GEAR UP service predictor can be found in the Appendix (Figure 28).

Aggregate GEAR UP services. When looking at the results from the model for the aggregate GEAR UP student services variable in Table 14, which adjusts for the covariates (*Gender, Race, Program Type, and Student Type*), the aggregate GEAR UP service variable was found to be statistically significantly related with the postsecondary enrollment outcome. These results indicate that as students in the 4-Year Sample received additional hours of these GEAR UP services, they were more likely to enroll in postsecondary education. The aggregate GEAR UP service predictor had an odds ratio of 1.19 with a 95% CI between 1.17 and 1.22.

Gender. In addition to the aggregated GEAR UP services, the gender of the students in the 4-Year Sample was found to be statistically significant in predicting student postsecondary enrollment. After adjusting for the other covariates, the odds ratio for males was 0.53, with a 95% CI between 0.51 and 0.56. This result indicates that the chance of enrolling in postsecondary education was 47% lower for male GEAR UP students than female students.

Race. Race was a meaningful predictor of postsecondary enrollment with one of the race categories found not to be statistically different than the reference category of White. Students who were identified as Two or More Races did not meaningfully contribute to predicting postsecondary enrollment. The other six race categories were found to be statistically significant predictors of enrolling in postsecondary education, indicating they had postsecondary enrollment rates meaningfully different than White students.

Asian students within the 4-Year Sample were statistically significantly more likely to enroll in postsecondary education than White students within the sample, with an odds ratio of 2.08 (95% CI between 1.79 and 2.43). Students identified as Asian were 108% more likely to enroll in postsecondary education as compared to their White peers.

Students in the 4-Year Sample identified as American Indian/Alaska Native, African American, Pacific Islander, Unknown, and Hispanic were less likely to enroll in postsecondary education as compared to their White peers. After adjusting for the other covariates, the odds ratio for American Indian/Alaska Native students was 0.56, with a 95% CI between 0.50 and 0.61, indicating the chance of American Indian/Alaska Native students enrolling in postsecondary education was 44% less than that of their White peers. The odds ratio for students identified as African American was 0.89, with a 95% CI between 0.82 and 0.96. This result

suggests that the chance of African American students enrolling in postsecondary education was 11% less than students who identified as White. The odds ratio for students identified as Pacific Islander was 0.67, with a 95% CI between 0.48 and 0.91. This result suggests that the chance of Pacific Islander students enrolling in postsecondary education was 33% less than students who identified as White. Students for which race was Unknown had an odds ratio of 0.80, with a 95% CI between 0.69 and 0.93. The chance of students with Unknown race were 20% less likely to enroll in postsecondary education as compared to White students. Students identified as Hispanic had an odds ratio of 0.92, with a 95% CI of 0.86 and 0.98, suggesting that the chance of Hispanic students enrolling in postsecondary education was 8% less likely than their White peers.

Program type. Students in cohort programs were statistically more likely to enroll in postsecondary education than students who were served by hybrid programs. The odds ratio for cohort programs was 1.07 (95% CI between 1.02 and 1.13). This indicates that the chance of enrolling in postsecondary education for students in cohort programs was 7% more likely as compared to students in hybrid programs. Students in priority programs were statistically less likely to enroll in postsecondary education than students served by hybrid programs. The odds ratio for priority programs was 0.81 (95% CI between 0.70 and 0.94). This indicates that the chance of enrolling in postsecondary education for students in priority programs was 19% less likely as compared to students in hybrid programs.

Student type. Student type was also found to be statistically significant positively related to postsecondary enrollment, with an odds ratio of 1.57 (95% CI between 1.40 and 1.78). This indicates that the chance of enrolling in postsecondary education for students who were identified as priority student was 57% more likely than their cohort-type peers.

Full Sample: Individual GEAR UP Services and FAFSA Completion Analyses

The GEAR UP service predictor variables were found to contribute to the model. The logistic regression model was statistically significant, $\chi^2(25) = 12,495.6, p < .001$. The model correctly classified 69.8% of cases. The associated ROC curve and AUC (0.75), which measure model performance, for this model can be found in Figure 11 in the Appendix. Table 21 in the Appendix presents the results of the analytic models that included only the individual GEAR UP service predictor variable along with the covariates. In addition, Table 21 also presents the full model and the associated odds ratios and 95% CI. The effect sizes and implied probabilities for each of the statistically significant student and family service predictors can be found in the Appendix (Figure 29 and 30).

Student services. When looking at the results from the full model for the student services variables in Table 15, which adjusts for the covariates (*Gender, Race, Program Type, and Student Type*), only two of the student services (*Counseling/Advising and Educational Field Trips*) did not meaningfully contribute to predicting FAFSA completion. The other seven student services were found to be statistically significant predictors of FAFSA completion.

Of the statistically significant services, six student services (*Comprehensive Mentoring, Financial Aid Counseling, College Visits, Job Site Visits, Summer Programs, and Workshops*) were found to be positively related with FAFSA completion. These results indicate that as students received additional hours of these services, they were more likely to complete the FAFSA. The *Comprehensive Mentoring* service predictor had an odds ratio of 1.22 with a 95% CI between 1.20 and 1.24. This indicates that students who participated in greater amounts of comprehensive mentoring services were more likely to complete the FAFSA. The odds ratio for the *Financial Aid Counseling* service predictor was 1.48 (95% CI between 1.44 and 1.51), which translated to increasing the chance of completing the FAFSA for every additional hour of counseling received. The odds ratio for the

College Visits service predictor was 1.09 with the 95% CI between 1.07 and 1.11 with every additional hour on a college visit translating to a predicted increase in FAFSA completion. The odds ratio for the *Job Site Visits* service predictor was 1.17 with the 95% CI between 1.13 and 1.21 with an additional hour of this service predicting an increase in the chances of completing a FAFSA. The odds ratio for the *Summer Programs* service predictor was 1.07 with the 95% CI between 1.06 and 1.09, indicating that every additional hour of summer programming resulted in a predicted increase in completing the FAFSA. Finally, the odds ratio for the *Workshops* service predictor was 1.27 with the 95% CI between 1.25 and 1.30, which suggested each additional hour in a student workshop predicted an increase in the chance a student would complete the FAFSA.

The remaining statistically significant student service, *Tutoring*, was the only service predictor that was negatively related to FAFSA completion, meaning the more hours of tutoring in which the student participated in, the less likely they were to complete the FAFSA. The odds ratio for *Tutoring* was 0.92 with a 95% CI between 0.91 and 0.94. This indicates that for every hour of additional tutoring a student received, the less likely they were to complete the FAFSA.

Family services. All four GEAR UP family services were found to be statistically significant predictors of FAFSA completion. *Family Financial Aid Workshops* and *Family Events* were both positively and statistically significantly related to student's completing the FAFSA, with odds ratios of 1.54 (95% CI between 1.49 and 1.59) and 1.22 (95% CI between 1.19 and 1.26), respectively. This indicates that every additional hour of family financial aid workshops and family events results in an increased chance of completing the FAFSA.

Family Advising/Counseling and *Family College Visits* were statistically significantly negatively related with FAFSA completion. The odds ratio associated with the *Family Advising/Counseling* services was 0.93, with the 95% CI between 0.89 and 0.96, indicating that for every hour of additional family advising/counseling received, students were less likely to complete the FAFSA. The *Family College Visits* services odds ratio was 0.89, with the 95% CI between 0.82 and 0.96. This suggests that for every additional hour of family college visits received, the chance of completing the FAFSA decreased.

Gender. In addition to the student and family services, the gender of the students in the Full Sample were found to be statistically significant in predicting student FAFSA completion. After adjusting for the other covariates, the odds ratio for males was 0.62, with a 95% CI between 0.60 and 0.64. This result indicates that the chance of completing the FAFSA was 38% lower for male GEAR UP students than female students. If, alternatively, the student was identified as unknown, they were more likely to complete the FAFSA as compared to female students with an odds ratio of 2.66 (95% CI between 1.69 and 4.39). This suggests that students who were identified as unknown gender were 166% more likely to complete the FAFSA than their peers who were identified as female.

Race. Race was a meaningful predictor of FAFSA completion with one of the race categories found not to be statistically different than the reference category of White. Students who identified as Two or More Races did not meaningfully contribute to FAFSA completion. The other six race categories were found to be statistically significant predictors of completing the FAFSA, indicating they had FAFSA completion rates meaningfully different than White students.

Asian and African American students within the sample were statistically significantly more likely to complete the FAFSA than White students within the sample, with an odds ratio of 1.26 (95% CI between 1.12 and 1.42) and 1.71 (95% CI between 1.63 and 1.80), respectively. Students who identified as Asian or African American were 26% and 71% more likely to complete the FAFSA as compared to their White peers, respectively.

Students in the Full Sample who identified as American Indian/Alaska Native, Pacific Islander, Unknown, and Hispanic were less likely to complete the FAFSA as compared to their White peers. After adjusting for the other covariates, the odds ratio for American Indian/Alaska Native students was 0.31, with a 95% CI between 0.29 and 0.34, indicating the chance of American Indian/Alaska Native students completing the FAFSA was 69% less than that of their White peers. The odds ratio for students identified as Pacific Islanders was 0.57, with a 95% CI between 0.42 and 0.78. This result suggests that the chance of Pacific Islander students completing the FAFSA was 43% less than students who identified as White. Students for which race was Unknown had an odds ratio of 0.40, with a 95% CI between 0.34 and 0.46. The chance of students with Unknown race were 60% less likely to complete the FAFSA as compared to White students. Students identified as Hispanic had an odds ratio of 0.39, with a 95% CI of 0.37 and 0.41, suggesting that the chance of Hispanic students completing the FAFSA was 61% less likely than their White peers.

Program type. Students in both cohort and priority programs were statistically less likely to complete the FAFSA than students who were served by hybrid programs. The odds ratios for the cohort and priority programs were 0.43 (95% CI between 0.40 and 0.46) and 0.81 (95% CI between 0.72 and 0.93), respectively. This indicates that the chance of completing the FAFSA for students in cohort and priority programs was 57% and 19%, respectively, less likely as compared to students in hybrid programs.

Student type. Student type was also found to be statistically significant positively related to FAFSA completion, with an odds ratio of 1.20 (95% CI between 1.12 and 1.28). This indicates that the chance of completing the FAFSA for students who were identified as priority student was 20% more likely than their cohort-type peers.

Table 15. Full Sample results for the individual GEAR UP services and FAFSA completion, high school graduation, and postsecondary enrollment logistic regression models⁷

Variable	FAFSA Completion Model			High School Graduation Model			Postsecondary Enrollment Model		
	Odds Ratio	Standard Err.		Odds Ratio	Standard Err.		Odds Ratio	Standard Err.	
Constant	0.70	0.04	***	4.29	0.04	***	0.57	0.02	***
Tutoring (S)	0.92	0.01	***	0.95	0.01	***	0.91	0.01	***
Comprehensive Mentoring (S)	1.22	0.01	***	1.24	0.02	***	1.10	0.01	***
Financial Aid Counseling (S)	1.48	0.01	***	1.38	0.02	***	1.20	0.01	***
Counseling/Advising (S)	1.00	0.01		1.15	0.01	***	1.12	0.01	***
College Visit (S)	1.09	0.01	***	1.12	0.01	***	1.15	0.01	***
Job Site Visit (S)	1.17	0.02	***	1.07	0.03	**	0.94	0.01	***
Summer Program (S)	1.07	0.01	***	1.00	0.01		1.03	0.01	***
Educational Field Trips (S)	1.02	0.01		0.87	0.02	***	1.00	0.01	
Workshop (S)	1.27	0.01	***	1.01	0.01		0.93	0.01	***
Financial Aid Workshops (F)	1.54	0.02	***	1.27	0.03	***	1.47	0.01	***
Advising/Counseling (F)	0.93	0.02	***	1.44	0.04	***	0.96	0.02	*
College Visit (F)	0.89	0.04	**	1.03	0.07		1.13	0.03	***
Events (F)	1.22	0.02	***	1.07	0.02	**	1.22	0.01	***
Gender (Male)	0.62	0.02	***	0.84	0.02	***	0.56	0.01	***
Gender (Unknown)	2.66	0.24	***	0.94	0.32		0.67	0.12	***
Race (American Native)	0.31	0.04	***	0.95	0.05		0.56	0.03	***
Race (Asian)	1.26	0.06	***	1.19	0.08	*	1.90	0.04	***
Race (African American)	1.71	0.03	***	0.91	0.03	**	1.00	0.02	
Race (Pacific Islander)	0.57	0.16	***	0.77	0.13	*	0.71	0.07	***
Race (Two or More Races)	1.00	0.06		0.74	0.05	***	1.01	0.03	
Race (Unknown)	0.40	0.08	***	0.50	0.08	***	0.79	0.05	***
Race (Hispanic)	0.39	0.03	***	1.26	0.04	***	0.91	0.02	***
Program Model (Cohort)	0.43	0.04	***	0.58	0.04	***	0.84	0.02	***
Program Model (Priority)	0.81	0.07	**	0.78	0.04	***	0.80	0.02	***
Student Type (Priority)	1.20	0.03	***	1.75	0.03	***	2.42	0.02	***
Model Chi-Square [df]	12,495.60 [25]			2,549.69 [25]			13,785.81 [25]		
% Correct Predictions	69.8%			90.2%			63.0%		
Area Under the Curve	0.75			0.66			0.68		

Note: *p < .05. **p < .01. ***p < .001. (S) = Student Service; (F) = Family Service. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

Full Sample: Individual GEAR UP Services and High School Graduation Analyses

The logistic regression model for predicting high school graduation was statistically significant, $\chi^2(25) = 2,549.7, p < .001$. The model correctly classified 90.2% of cases. The ROC curve and associated AUC (0.66), which measure model performance, for this model can be found in Figure 12 in the Appendix. Table 22 in the Appendix presents the results of the analytic models that included only the individual GEAR UP service predictor variable along with the covariates. In addition, Table 22 also presents the full model and the associated odds ratios and 95% confidence intervals. The effect sizes and implied probabilities for each of the statistically significant student and family service predictors can be found in the Appendix (Figure 31 and 32).

Student services. Much like the Full Sample FAFSA completion results, the GEAR UP student services were found to be statistically significant in predicting student high school graduation. When examining the student service variables in Table 15, after adjusting for covariates (*Gender, Race, Program Type, and Student Type*), the GEAR UP student service predictors that were not found to be statistically significant were *Summer*

⁷ The table presents the model results that are associated with the model where all covariates and services were entered simultaneously into the regression analysis.

Programs and Workshops. Seven of the GEAR UP student service variables were found to be statistically significant predictors of high school graduation.

Of the seven statistically significant student services, five student services (*Comprehensive Mentoring, Financial Aid Counseling, Counseling/ Advising, College Visits, and Job Site Visits*) were found to be positively related to high school graduation in the regression analysis. These results indicate that, as students received additional hours of these services, they were more likely to graduate from high school. The *Comprehensive Mentoring* service predictor had an odds ratio of 1.24 with a 95% CI between 1.20 and 1.28. This indicates that students who participated in greater amounts of comprehensive mentoring services were more likely to graduate from high school. The odds ratio for the *Financial Aid Counseling* service predictor was 1.38 with the 95% CI between 1.33 and 1.44, which translates to an increase in the chance of graduation from high school for every additional hour of counseling received. The odds ratio for the *Counseling/ Advising Service* predictor was 1.15 with the 95% CI between 1.12 and 1.18. This indicates that an additional hour of Counseling/ Advising led to an increase in the chance of graduating from high school. The odds ratio for *College Visits* was 1.12 with the 95% CI between 1.09 and 1.15 with every additional hour on a college visit predicting an increase in high school graduation. Finally, the odds ratio for *Job Site Visits* was 1.07 with the 95% CI between 1.02 and 1.13 with an additional hour of this service predicting an increase in the chances of graduating from high school.

The remaining two statistically significantly related student services, *Tutoring* and *Educational Field Trips*, were negatively related to high school graduation, meaning the more hours of tutoring and educational field trips the student participated in the less likely they were to graduate from high school. The odds ratios for *Tutoring* and *Educational Field Trips* were 0.95 (95% CI between 0.93 and 0.97) and 0.87 (95% CI between 0.84 and 0.91), respectively. This indicates that for every hour of additional *Tutoring* and *Educational Field Trips* a student received, the student's chances of graduating from high school were lower.

Family services. Of the four GEAR UP family services, only one (*Family College Visits*) was not found to be statistically significant in predicting high school graduation. *Family Financial Aid Workshops, Family Advising/ Counseling, and Family Events* were found to be statistically significant and positively related to high school graduation, meaning students whose family participated in these services were also more likely to graduate from high school. The odds ratio associated with the *Family Financial Aid Workshops* services predictor was 1.27, with the 95% CI between 1.20 and 1.34 indicating that for every hour of additional family financial aid workshops received, students were more likely to graduate from high school. The odds ratio associated with the *Family Advising/ Counseling* services was 1.44, with the 95% CI between 1.33 and 1.57 indicating that for every hour of additional family advising/counseling received, students were more likely to graduate from high school. The *Family Events* service predictor odds ratio was 1.07, with the 95% CI between 1.02 and 1.12 with every additional hour of this service predicting an increase in the chance of graduating from high school.

Gender. In addition to the student and family services, the gender of the students in the Full Sample were found to be statistically significant in predicting student high school graduation. After adjusting for the other covariates, the odds ratio for males was 0.84, with a 95% CI between 0.81 and 0.88. This result indicates that the odds of graduating high school were 16% lower for male GEAR UP students than female students. The results for students whose gender was Unknown were not found to be statistically significant, indicating that these students did not have a different graduation rate compared to female students.

Race. Race was a meaningful predictor of high school graduation with two of the race categories found not to be statistically different than the reference category of White. Students who identified as American Indian/Alaska Native had the same graduation rates compared with White students. The remaining six race categories were found to have high school graduation rates meaningfully different than White students.

Students within the sample who either identified as Asian or Hispanic/Latino were statistically significantly more likely to enroll in postsecondary education than White students, with an odds ratio of 1.19 (95% CI between 1.02 and 1.40) and 1.26 (95% CI between 1.17 and 1.36), respectively. These indicate that the chance of graduating high school for these students was 19% and 26%, respectively, more likely than White students.

Students in the Full Sample who identified as African American, Pacific Islander, Two or More Races, and Unknown were less likely to graduate from high school than their White peers. After adjusting for the other covariates and GEAR UP services in the model, the odds ratio for African American students was 0.91, with a 95% CI between 0.86 and 0.97, indicating the chance of African American students graduating from high school was 9% less than that of their White peers. The odds ratio for students identified as Pacific Islanders was 0.77, with a 95% CI between 0.60 and 0.99. This result suggests that the chance of a Pacific Islander student graduating from high school was 23% less than students who were identified as White. The odds ratio for students identified as Two or More Races was 0.74, with a 95% CI between 0.68 and 0.82. This result suggests that the chance of a Two or More Race student graduating from high school was 26% less than students who were identified as White. Finally, students whose race was Unknown had an odds ratio of 0.50, with a 95% CI between 0.43 and 0.58 indicating that students whose race was identified as Unknown were 50% less likely to graduate high school than their White peers.

Program type. Program type was found to be statistically significant with high school graduation. Students in both cohort and priority programs were less likely to graduate from high school than students who were in hybrid programs, with an odds ratio of 0.58 (95% CI between 0.54 and 0.63) and 0.78 (95% CI between 0.71 and 0.85), respectively. This indicates that the chance of graduating from high school for students in cohort and priority programs was 42% and 22%, respectively, less likely than students in hybrid programs.

Student type. The student type indicator was also found to be to a statistically significant predictor in the model. Priority students were more likely than cohort students to graduate from high school with an odds ratio of 1.75 (95% CI between 1.64 and 1.86). Suggesting that, all else equal, the chance that priority student graduated from high school was 75% more than their cohort-type peers.

Full Sample: Individual GEAR UP Services and Postsecondary Enrollment Analyses

The logistic regression model was statistically significant, $\chi^2(25) = 13,785.81, p < .001$. The model correctly classified 63.0% of cases. The ROC curve and associated AUC (0.68), which measure model performance, for this model can be found in Figure 13 in the Appendix. Table 23 in the Appendix presents the results of the analytic models that included only the individual GEAR UP service predictor variable along with the covariates. In addition, Table 23 also presents the full model and the associated odds ratios and 95% confidence intervals. The effect sizes and implied probabilities for each of the statistically significant student and family service predictors can be found in the Appendix (Figure 33 and 34).

Student services. When examining the student service variables in Table 15, after adjusting for covariates (*Gender, Race, Program Type, and Student Type*), eight of the predictors of the GEAR UP student service variables were found to be statistically significant in predicting postsecondary enrollment. The single GEAR

UP student service predictor which failed to meaningfully contribute to predicting postsecondary enrollment was *Educational Field Trips*.

Of the eight statistically significant student services, five student services (*Comprehensive Mentoring*, *Financial Aid Counseling*, *Counseling/Advising*, *College Visits*, and *Summer Programs*) were found to be positively correlated with postsecondary enrollment. The *Comprehensive Mentoring* service predictor had an odds ratio of 1.10 with a 95% CI between 1.08 and 1.11. This indicates that students who participated in greater amounts of comprehensive mentoring services were more likely to enroll in postsecondary education. The odds ratio for the *Financial Aid Counseling* service predictor was 1.20 with the 95% CI between 1.18 and 1.22 indicating that for every additional hour of this service predicted an increase in the chance of enrolling at a postsecondary institution. The odds ratio for the *Counseling/Advising Service* predictor was 1.12 with the 95% CI between 1.11 and 1.14 with every additional hour of Counseling/Advising translating to a predicted increase in the chance of postsecondary enrollment. The odds ratio for *College Visits* was 1.15 with the 95% CI between 1.14 and 1.17 with every additional hour on a college visit translating to a predicted increase in the chance of enrolling at a postsecondary institution. Finally, the odds ratio for *Summer Programs* was 1.03 with the 95% CI between 1.02 and 1.05 indicating that for every additional hour of summer programs, a student's chance of enrolling at a postsecondary institution increased.

The remaining statistically significant student service predictors (*Tutoring*, *Job Site Visits*, and *Workshops*) were negatively related to enrollment in a postsecondary institution after high school. Therefore, the students who spent fewer hours participating in tutoring, job site visits, and workshops, the more likely they were to enroll at a postsecondary institution. The odds ratios for *Tutoring*, *Job Site Visits*, and *Workshops* were 0.91 (95% CI between 0.90 and 0.92), 0.94 (95% CI between 0.92 and 0.96), and 0.93 (95% CI between 0.92 and 0.94), respectively. This indicates that for every additional hour of *Tutoring*, *Job Site Visits*, and *Workshops* students received, the less likely they were to enroll at a postsecondary institution.

Family services. Of the four GEAR UP family services, *Family Financial Aid Workshops*, *Family College Visits*, and *Family Events* were found to be statistically significant and positively related to postsecondary enrollment. Meaning students who participated in these services more were likely to enroll in postsecondary education. The odds ratio associated with the family *Financial Aid Workshops* services predictor was 1.47, with the 95% CI between 1.44 and 1.51 indicating every additional hour resulted in an increase in the chance of enrolling at a postsecondary institution. The odds ratio associated with the *Family College Visits* services was 1.13, with the 95% CI between 1.07 and 1.20 indicating that for every hour of additional family college visits received, students were more likely to enroll at a postsecondary institution. The *Family Events* service predictor odds ratio was 1.22, with the 95% CI between 1.19 and 1.25. This suggests that for every additional hour of family events received, the chance of enrolling at a postsecondary institution increased.

Students whose family members participated in *Family Advising/Counseling* services were less likely to enroll in a postsecondary institution with an odds ratio of 0.96 and a 95% CI between 0.93 and 0.99. Indicating that every additional hour of family advising/counseling predicts a decrease in the chance of enrollment at a postsecondary institution.

Gender. In addition to the student and family services, the gender of the students in the Full Sample was found to be statistically significant in predicting student postsecondary enrollment. After adjusting for the other covariates, the odds ratio for males was 0.56, with a 95% CI between 0.54 and 0.57. This result indicates that the odds of enrolling in a postsecondary institution were 44% lower for male GEAR UP students than female students. Students whose gender was Unknown were also less likely to enroll in a

postsecondary institution as compared to students identified as female. The odds ratio for Unknown students was 0.67, with a 95% CI between 0.53 and 0.84 indicating that they were 33% less likely to enroll in postsecondary education as compared to female students.

Race. Race was a meaningful predictor of postsecondary enrollment with two of the race categories found not to be statistically different than the reference category of White. Students who identified as either African American or Two or More Races were not statistically significantly different than the White students in terms of postsecondary enrollment.

Asian students within the sample were statistically significantly more likely to enroll in postsecondary education than White students within the sample, with an odds ratio of 1.90 (95% CI between 1.77 and 2.04). This indicates that the chance an Asian student would enroll at a postsecondary institution was 90% higher than White students.

Students in the Full Sample who identified as American Indian/Alaska Native, Pacific Islander, Unknown, and Hispanic were less likely to enroll in postsecondary education than White students. After adjusting for the other covariates, the odds ratio for American Indian/Alaska Native students was 0.56, with a 95% CI between 0.53 and 0.59 indicating that American Indian/Alaska Native students were 44% less likely to enroll at a postsecondary institution as compared to White students. The odds ratio for students identified as Pacific Islanders was 0.71, with a 95% CI between 0.61 and 0.82 indicating they were 29% less likely to enroll in postsecondary as compared to White students. Unknown students had an odds ratio of 0.79, with a 95% CI between 0.72 and 0.87. Students whose race was Unknown were 21% less likely to enroll at a postsecondary institution as compared to White students. Students identified as Hispanic had an odds ratio of 0.91, with a 95% CI of 0.88 and 0.94 suggesting that the chance of Hispanic students enrolling at a postsecondary institution was 9% less likely than their White peers.

Program type. Program type was found to be a statistically significant predictor of postsecondary enrollment. Students in cohort programs were less likely to enroll in postsecondary education than students who were in hybrid programs, with an odds ratio of 0.84 (95% CI between 0.81 and 0.87). This indicates that the chance of enrolling at a postsecondary institution for students in cohort programs was 16% less likely as compared to students in hybrid programs. Additionally, students who were in a priority program type were statistically less likely to enroll than their hybrid program type peers, with an odds ratio of 0.80 (95% CI between 0.76 and 0.83). This indicates that the chance of enrolling at a postsecondary institution for students in priority programs was 20% less likely as compared to students in hybrid programs.

Student type. The student type was also found to be a statistically significant predictor in the model. Priority students were more likely than cohort students to enrolled in postsecondary education, with an odds ratio of 2.42 (95% CI between 2.35 and 2.50). Suggesting that, all else being equal, the chance of priority student being enrolled in postsecondary education was 142% more likely than their cohort-type peers.

6-Year Sample: Individual GEAR UP Services and FAFSA Completion Analyses

The logistic regression model was statistically significant, $\chi^2(24) = 3,619.93, p < .001$. The model correctly classified 70.0% of cases. The ROC curve and associated AUC (0.75), which measure model performance for this model can be found in Figure 14 in the Appendix. Table 24 in the Appendix presents the results of the analytic models that included only the individual GEAR UP service predictor variable along with the covariates. In addition, Table 24 presents the full model and the associated odds ratios and 95% confidence

intervals. The effect sizes and implied probabilities for each of the statistically significant student and family service predictors can be found in the Appendix (Figure 35 and 36).

Student services. When looking at the student services variables in Table 16, after adjusting the covariates (*Gender, Race, Program Type, and Student Type*), one GEAR UP student service predictors (*Counseling/ Advising*) did not meaningfully contribute to FAFSA completion. Eight of the nine GEAR UP student service predictors were statistically significant in predicting FAFSA completion.

Of the statistically significant student services, seven student services (*Comprehensive Mentoring, Financial Aid Counseling, College Visits, Job Site Visits, Summer Programs, Educational Field Trips, and Workshops*) were found to be statistically significant and positively correlated with FAFSA completion. The *Comprehensive Mentoring* service predictor had an odds ratio of 1.18 with a 95% CI between 1.15 and 1.22. This indicates that students who participated in greater amounts of comprehensive mentoring services were more likely to complete the FAFSA. The odds ratio for the *Financial Aid Counseling* service predictor was 1.27 with the 95% CI between 1.21 and 1.33, which translated to increasing the chance of completing the FAFSA for every additional hour of financial aid counseling received. The odds ratio for the *College Visits* service predictor was 1.14 with the 95% CI between 1.11 and 1.18 with every additional hour on a college visit translating to a predicted increase in FAFSA completion. The odds ratio for the *Job Site Visits* service predictor was 1.17 with the 95% CI between 1.11 and 1.23 with an additional hour of this service predicting an increase in the chances of completing the FAFSA. The odds ratio for the *Educational Field Trips* service predictor was 1.04 with the 95% CI between 1.01 and 1.08, indicating that additional hour of educational field trips resulted in an increase in the chance of completing the FAFSA. The odds ratio for the *Summer Programs* service predictor was 1.04 with the 95% CI between 1.02 and 1.07, indicating that additional hour of summer programming resulted in an increase in the chance of completing the FAFSA. Finally, the odds ratio for the *Workshops* service predictor was 1.13 with the 95% CI between 1.09 and 1.18, which suggested each additional hour of a student workshop predicted an increase in the chance a student would complete the FAFSA.

The remaining statistically significant student service predictor, *Tutoring*, was the only student service predictor that was negatively related to FAFSA completion, meaning the more hours of tutoring the student participated in, the less likely they were to complete the FAFSA. The odds ratio for Tutoring was 0.91 with 95% CI between 0.89 and 0.93. This indicates that for every additional hour of tutoring services, the chance a student in the 6-Year Sample completed the FAFSA was less likely.

Family services. Of the four GEAR UP family services, *Family College Visits* were not found to meaningfully contribute to FAFSA completion. *Family Financial Aid Workshops* and *Family Events* were both positively correlated with student's completing the FAFSA, with odds ratios of 1.56 (95% CI between 1.48 and 1.64) and 1.14 (95% CI between 1.09 and 1.19), respectively. This indicates that every additional hour of family financial aid workshops and family events results in an increase in the chance of completing the FAFSA.

One service, *Family Advising/ Counseling*, was found to be statistically significant but negatively related to FAFSA completion. The odds ratio associated with the *Family Advising/ Counseling* services was 0.89, with the 95% CI between 0.84 and 0.95, indicating that for each additional hour of family advising/counseling received, students were less likely to complete the FAFSA.

Gender. In addition to the student and family services, the gender of students in the 6-Year Sample was found to be statistically significant in predicting student FAFSA completion. After adjusting for the other covariates, the odds ratio for males was 0.55, with a 95% CI between 0.52 and 0.59. This result indicates that the odds of completing the FAFSA were 45% lower for male GEAR UP students than female students.

Race. The race was a meaningful predictor of FAFSA completion with three of the race categories found not to be statistically different than the reference category of White. Students who identified as Asian, Pacific Islander, or Two or More Races were not statistically different from their White peers in terms of FAFSA completion. The other four race covariates were found to be meaningfully different in terms of completing the FAFSA compared to their White peers.

African American students within the sample were statistically more likely to complete the FAFSA than White students within the sample, with an odds ratio of 1.47 (95% CI between 1.26 and 1.73). This indicates that African American students had a 47% greater chance of completing the FAFSA than White students in the sample.

Students in the 6-Year Sample who identified as American Indian/Alaska Native, Unknown, and Hispanic were less likely to complete the FAFSA as compared to their White peers. After adjusting for the other covariates, the odds ratio for American Indian/Alaska Native students was 0.52, with a 95% CI between 0.45 and 0.60, indicating that the chance an American Indian/Alaska Native student completed the FAFSA was 48% less than a White student. Students whose race was Unknown had an odds ratio of 0.59, with a 95% CI between 0.49 and 0.71. The chance of an Unknown Unknown race student completing the FAFSA, was 41% less than White students. Students identified as Hispanic had an odds ratio of 0.75, with a 95% CI of 0.68 and 0.81. Hispanic students having an approximately 25% lower chance of completing the FAFSA than their White peers.

Program type. Program type was also found to be a statistically significant predictor of FAFSA completion. Students in cohort programs were less likely to complete the FAFSA than students who were in hybrid programs, with an odds ratio of 0.35 (95% CI between 0.31 and 0.39). The chance a student in a cohort program would complete the FAFSA was 65% less likely than their peers served by hybrid programs.

Student type. Student type was also found to be a statistically significant predictor in the model. Priority students were less likely than cohort students to complete a FAFSA, with an odds ratio of 0.24 (95% CI between 0.20 and 0.29). This indicates that the chance of completing the FAFSA for students who were identified as priority was 76% less likely than their cohort-type peers.

Table 16. 6-Year Sample results for the individual GEAR UP services and FAFSA completion, high school graduation, and postsecondary enrollment logistic regression models.

Variable	FAFSA Completion Model			High School Graduation Model			Postsecondary Enrollment Model		
	Odds Ratio	Standard Err.		Odds Ratio	Standard Err.		Odds Ratio	Standard Err.	
Constant	1.30	0.09	**	24.93	0.15	***	1.09	0.07	
Tutoring (S)	0.91	0.01	***	0.97	0.02		0.91	0.01	***
Comprehensive Mentoring (S)	1.18	0.02	***	1.07	0.03	*	1.05	0.01	***
Financial Aid Counseling (S)	1.27	0.02	***	1.07	0.04		1.11	0.02	***
Counseling/Advising (S)	1.00	0.02		1.06	0.04		1.04	0.02	*
College Visit (S)	1.14	0.02	***	0.91	0.03	**	1.10	0.02	***
Job Site Visit (S)	1.17	0.03	***	1.22	0.05	***	0.96	0.02	*
Summer Program (S)	1.04	0.01	***	1.06	0.02	*	1.03	0.01	*
Educational Field Trips (S)	1.04	0.02	***	0.76	0.03	***	1.03	0.02	*
Workshop (S)	1.13	0.02	***	0.92	0.03	**	0.92	0.01	***
Financial Aid Workshops (F)	1.56	0.03	***	1.21	0.05	***	1.40	0.02	***
Advising/Counseling (F)	0.89	0.03	***	1.73	0.07	***	0.98	0.03	
College Visit (F)	1.02	0.05		1.45	0.13	**	1.06	0.04	
Events (F)	1.14	0.02	***	0.95	0.04		1.20	0.02	***
Gender (Male)	0.55	0.03	***	0.79	0.06	***	0.53	0.03	***
Race (American Native)	0.52	0.07	***	0.97	0.14		0.72	0.07	***
Race (Asian)	1.27	0.13		0.98	0.19		2.13	0.11	***
Race (African American)	1.47	0.08	***	0.81	0.11		0.88	0.05	*
Race (Pacific Islander)	1.27	0.27		0.46	0.34	*	0.74	0.24	
Race (Two or More Races)	1.02	0.11		1.38	0.19		0.95	0.09	
Race (Unknown)	0.59	0.09	***	0.57	0.12	***	0.85	0.09	
Race (Hispanic)	0.75	0.05	***	1.68	0.09	***	0.91	0.04	*
Program Model (Cohort)	0.35	0.06	***	0.48	0.09	***	0.88	0.04	**
Program Model (Priority)	n/a	n/a	n/a	0.48	0.30	*	0.73	0.15	*
Student Type (Priority)	0.24	0.09	***	1.12	0.22		1.83	0.08	***
Model Chi-Square [df]	3,619.93 [24]			495.79 [25]			1,473.62 [25]		
% Correct Predictions	70.0%			93.6%			60.2%		
Area Under the Curve	0.75			0.68			0.65		

Note: *p < .05. **p < .01. ***p < .001. (S) = Student Service; (F) = Family Service. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

6-Year Sample: Individual GEAR UP Services and High School Graduation Analyses

The logistic regression model was statistically significant, $\chi^2(27) = 495.8, p < .001$. The model correctly classified 93.6% of cases. The ROC curve and associated AUC (0.68) for this model can be found in Figure 15 in the Appendix. Table 25 in the Appendix presents the results of the analytic models that included only the individual GEAR UP service predictor variable along with the covariates. In addition, Table 25 also presents the full model and the associated odds ratios and 95% confidence intervals. The effect sizes and implied probabilities for each of the statistically significant student and family service predictors can be found in the Appendix (Figure 37 and 38).

Student services. When examining the student service variables in Table 16, after adjusting for covariates (*Gender, Race, Program Type, and Student Type*), the GEAR UP student service predictors that were not found to be statistically significant were *Tutoring, Financial Aid Counseling, and Counseling/Advising*. Six of the GEAR UP student service variables were found to be statistically significant predicting high school graduation.

Of the six statistically significant student services, three student services (*Comprehensive Mentoring, Job Site Visits, and Summer Programs*) were found to be positively correlated with high school graduation. The *Comprehensive Mentoring* service predictor had an odds ratio of 1.07 with a 95% CI between 1.01 and 1.13. This indicates that

students who participated in greater amounts of comprehensive mentoring services were more likely to graduate from high school. The odds ratio for *Job Site Visits* was 1.22 with the 95% CI between 1.12 and 1.34 indicating an increase in the chance of graduating from high school for every additional hour of services. The odds ratio for *Summer Programs* was 1.06 with the 95% CI between 1.01 and 1.11. This suggests that for every additional hour of these services, the chance of graduating from high school was increased.

The remaining statistically significant student services (*College Visits*, *Educational Field Trips*, and *Workshops*) were negatively related to high school graduation, meaning the more hours of college visits, educational field trips, and workshops the student participated in, the less likely they were to graduate from high school. The odds ratios for *College Visits*, *Educational Field Trips*, and *Workshops* were 0.91 (95% CI between 0.86 and 0.97), 0.76 (95% CI between 0.72 and 0.81), and 0.92 (95% CI between 0.86 and 0.97), respectively. This indicates that for every additional hour in these services, the chances of graduating from high school were lower.

Family services. Of the four GEAR UP family services, only one (*Family Events*) was not found to be statistically significant in predicting high school graduation. *Family Financial Aid Workshops*, *Family Advising/Counseling*, and *Family College Visits* were found to be statistically significant and positively related to high school graduation, meaning students with parents who participated at higher rates in these services, were more likely to graduate from high school. The odds ratio associated with the *Family Financial Aid Workshops* service predictor was 1.21, with the 95% CI between 1.11 and 1.32. This indicates that for every additional hour of family financial aid workshop services, the chance of graduating from high school was increased. The odds ratio associated with the *Family Advising/Counseling* services was 1.73, with the 95% CI between 1.52 and 1.98, with every additional hour of service resulting in an increase in the chance of graduating from high school. Finally, the *Family College Visits* service predictor odds ratio was 1.45, with the 95% CI between 1.15 and 1.89. This suggests that for every additional hour of family college visits received, the chance of graduating from high school increased.

Gender. In addition to the student and family services, the gender of the students in the 6-Year Sample were found to be statistically significant in predicting student high school graduation. After adjusting for the other covariates, the odds ratio for males was 0.79, with a 95% CI between 0.70 and 0.89. This result indicates that the odds of graduating high school were 21% lower for male GEAR UP students than female students.

Race. Race was a meaningful predictor of high school graduation with four of the race categories found not to be statistically different compared to White. Students who were identified as American Indian/Alaska Native, Asian, African American, or Two or More Races were not statistically different than the White students in terms of high school graduation.

Hispanic students within the sample were statistically more likely to graduate from high school than White students within the sample with an odds ratio of 1.68 and a 95% CI between 1.40 and 2.03. This indicates that students who identified as Hispanic were 68% more likely to graduate from high school as compared to their White peers.

Students in the 6-Year Sample who were identified as Pacific Islander or Unknown were less likely to graduate from high school. Pacific Islander and Unknown students had odd ratios of 0.46 (95% CI between 0.25 and 0.95) and 0.57 (95% CI between 0.44 and 0.72), respectively. Students who identified as Pacific Islander or Unknown were 54% and 43%, respectively, less likely to graduate from high school as compared to their White peers.

Program type. Program type was found to be statistically significant with high school graduation. Students in both cohort and priority programs were less likely to graduate from high school than students who were in hybrid programs, with an odds ratio of 0.48 (95% CI between 0.40 and 0.58) and 0.48 (95% CI between 0.26 and 0.87), respectively. This indicates that the chance of graduating from high school for students in cohort and priority programs was 52% and 52%, respectively, less likely than students in hybrid programs.

Student type. The student type covariate was not found to be statistically related to high school graduation. This indicates that students who were identified as priority-type students were no different in terms of high school graduation than their cohort-type peers.

6-Year Sample: Individual GEAR UP Services and Postsecondary Enrollment Analyses

The logistic regression model was statistically significant, $\chi^2(25) = 1,473.62, p < .001$. The model correctly classified 60.2% of cases. The ROC curve and associated AUC (0.65), which measure model performance, can be found in Figure 16 in the Appendix. Table 26 in the Appendix presents the results of the analytic models that included only the individual GEAR UP service predictor variable along with the covariates. In addition, Table 26 also presents the full model and the associated odds ratios and 95% confidence intervals. The effect sizes and implied probabilities for each of the statistically significant student and family service predictors can be found in the Appendix (Figure 39 and 40).

Student services. When examining the student service variables in Table 16, after adjusting for covariates (*Gender, Race, Program Type, and Student Type*), all GEAR UP student service predictor were found to meaningfully contribute to predicting postsecondary enrollment. Nine GEAR UP student service predictor variables were found to be statistically significant in predicting postsecondary enrollment.

Of the nine statistically significant student services, six student services (*Comprehensive Mentoring, Financial Aid Counseling, Counseling/ Advising, College Visits, Educational Field Trips, and Summer Programs*) were found to be positively correlated with postsecondary enrollment. The *Comprehensive Mentoring* service predictor had an odds ratio of 1.05 with a 95% CI between 1.02 and 1.07. This indicates that students who participated in greater amounts of comprehensive mentoring services were more likely to enroll in postsecondary education. The odds ratio for the *Financial Aid Counseling* service predictor was 1.11 with the 95% CI between 1.07 and 1.16. This indicates that, for each additional hour of financial aid counseling services, the chance of enrolling in postsecondary education increased. The odds ratio for the *Counseling/ Advising Service* predictor was 1.04 with the 95% CI between 1.01 and 1.08, with each additional hour of services increasing the chance of enrolling in postsecondary education. The odds ratio for *Educational Field Trips* was 1.03 with the 95% CI between 1.00 and 1.07. This indicates that each additional hour of college visits increased the chance of enrolling in postsecondary education. The odds ratio for *College Visits* was 1.10 with the 95% CI between 1.07 and 1.13. This indicates that each additional hour of college visits increased the chance of enrolling in postsecondary education. The odds ratio for *Summer Programs* was 1.03 with the 95% CI between 1.01 and 1.05 indicating that each additional hour of summer program services predicted an increase in the chance of enrolling in postsecondary education.

The remaining three statistically significant student services (*Tutoring, Job Site Visits, and Workshops*) were negatively related to enrollment in a postsecondary institution after high school, meaning the students with more hours of tutoring, job site visits, and workshops participated in, the less likely they were to enroll at a postsecondary institution. The odds ratios for *Tutoring, Job Site Visits, and Workshops* were 0.91 (95% CI between 0.90 and 0.93), 0.96 (95% CI between 0.92 and 0.99), and 0.92 (95% CI between 0.90 and 0.95),

respectively. This indicates that for every additional hour in these services, the chances of enrolling at a postsecondary institution were reduced.

Family services. Of the four GEAR UP family services, two (*Family Advising/Counseling* and *Family College Visits*) were not found to be statistically significant in predicting postsecondary enrollment. *Family Financial Aid Workshops* and *Family Events* were found to be statistically significant and positively related to postsecondary enrollment. Meaning students whose family members participated in these services more, were likely to enroll in postsecondary education. The odds ratio associated with the *Family Financial Aid Workshops* services predictor was 1.40, with the 95% CI between 1.34 and 1.46. This indicates that each additional hour of this service increases the chance of enrolling in a postsecondary institution. The *Family Events* service predictor odds ratio was 1.20, with the 95% CI between 1.16 and 1.24, with each additional hour predicting an increased chance of enrolling in postsecondary education.

Gender. In addition to the student and family services, the gender of the students in the 6-Year Sample was found to be statistically significant in predicting student postsecondary enrollment. After adjusting for the other covariates and GEAR UP services, the odds ratio for males was 0.53, with a 95% CI between 0.50 and 0.56. This result indicates that the odds of enrolling in a postsecondary institution were 47% lower for male GEAR UP students than female students.

Race. Race was a meaningful predictor of postsecondary enrollment, with three of the race categories found not to be statistically different than the reference category of White. Students who were identified as either Pacific Islander, Two or More Races, or Unknown were not statistically significantly different than the White students in terms of postsecondary enrollment.

Asian students within the sample were statistically significantly more likely to enroll in postsecondary education than White students within the sample, with an odds ratio of 2.13 (95% CI between 1.71 and 2.65). This indicates that the chance of Asian students enrolling in postsecondary education is 113% greater than their White peers within the sample.

Students in the 6-Year Sample who identified as American Indian/Alaska Native, African American, or Hispanic were less likely to enroll in postsecondary education than White students. After adjusting for the other covariates and GEAR UP services, the odds ratio for American Indian/Alaska Native students was 0.72, with a 95% CI between 0.63 and 0.81. This indicates that the chance of American Indian/Alaska Native students enrolling in postsecondary education was 28% lower than for White students. The odds ratio for students identified as African American was 0.88, with a 95% CI between 0.80 and 0.98, with the chance of African American students enrolling in postsecondary education 12% lower than their White peers. Students identified as Hispanic had an odds ratio of 0.91, with a 95% CI of 0.84 and 0.99, or a 9% lower chance of Hispanic students enrolling in postsecondary education as compared to their White peers.

Program type. The program type covariate was found to be a statistically significant predictor in the model. Students in cohort programs were less likely to enroll in a postsecondary institution than students who were in hybrid programs, with an odds ratio of 0.88 (95% CI between 0.81 and 0.95), indicating that the chance of students in cohort programs enrolling in postsecondary education is 12% lower than those in hybrid programs. Students in priority programs were less likely to enroll in a postsecondary institution than students who were in hybrid programs, with an odds ratio of 0.73 (95% CI between 0.55 and 0.97), indicating that the chance of students in cohort programs enrolling in postsecondary education is 27% lower than those in hybrid programs.

Student type. Student type was found to be a statistically significant predictor in the model. The odds ratio for priority students was 1.83 with a 95% CI between 1.56 and 2.14. This indicates that the chance of students who were identified as priority-type students were 56% more likely to enroll in postsecondary education than their cohort-type peers.

4-Year Sample: Individual GEAR UP Services and FAFSA Completion Analyses

The logistic regression model was statistically significant, $\chi^2(25) = 4594.76, p < .001$. The model correctly classified 69.1% of cases. The ROC curve and associated AUC (0.74), which measure model performance, for this model can be found in Figure 17 in the Appendix. Table 27 in the Appendix presents the results of the analytic models that included only the individual GEAR UP service predictor variable along with the covariates. In addition, Table 27 also presents the full model and the associated odds ratios and 95% confidence intervals. The effect sizes and implied probabilities for each of the statistically significant student and family service predictors can be found in the Appendix (Figure 41 and 42).

Student services. When looking at the student services variables in Table 17, after adjusting for covariates (*Gender, Race, Program Type, and Student Type*), one GEAR UP student service predictors (*Educational Field Trips*) failed to meaningfully contribute to predicting FAFSA completion. The analytic results from the logistic regression of the 4-Year Sample model indicates that seven of the GEAR UP student service predictors were statistically significant.

Of the eight significant student services, six student services (*Comprehensive Mentoring, Financial Aid Counseling, College Visits, Job Site Visits, Summer Programs, and Workshops*) were found to be positively correlated with FAFSA completion. The *Comprehensive Mentoring* service predictor had an odds ratio of 1.14 with a 95% CI between 1.11 and 1.17. This indicates that students who participated in greater amounts of comprehensive mentoring services were more likely to complete the FAFSA. The odds ratio for the *Financial Aid Counseling* service predictor was 1.32 with the 95% CI between 1.27 and 1.37. This indicates that each additional hour of financial aid counseling predicted an increased chance of completing the FAFSA. The odds ratio for the *College Visits* service predictor was 1.10 with the 95% CI between 1.07 and 1.13, with every additional hour on a college visit translating to a predicted increase in FAFSA completion. The odds ratio for the *Job Site Visits* service predictor was 1.20 with the 95% CI between 1.14 and 1.25, with an additional hour of this service predicting an increase in the chances of completing a FAFSA. The odds ratio for the *Summer Programs* service predictor was 1.06 with the 95% CI between 1.04 and 1.08, indicating that one additional hour of summer programming resulted in a predicted increase in completing the FAFSA. Finally, the odds ratio for the *Workshops* service predictor was 1.20 with the 95% CI between 1.16 and 1.24, which suggests an additional hour in a student workshop predicted an increase in the chance a student would complete the FAFSA.

The remaining statistically significant student service predictors (*Tutoring and Counseling/ Advising*) were the service predictors that were negatively related to FAFSA completion, meaning the more hours of these services the student participated in, the less likely they were to complete the FAFSA. The odds ratio for *Tutoring* was 0.90 with 95% CI between 0.88 and 0.92, with each additional hour of tutoring a student received, the less likely they were to complete the FAFSA. The odds ratio for *Counseling/ Advising* was 0.97 with 95% CI between 0.94 and 1.00, with each additional hour of counseling/ advising a student received, the less likely they were to complete the FAFSA.

Family services. Of the four GEAR UP family services, *Family College Visit* was the only service that was not found to be statistically significant in predicting FAFSA completion. *Family Financial Aid Workshops* and *Family Events* were both positively correlated with student's completing the FAFSA, with odds ratios of 1.58 (95% CI

between 1.51 and 1.65) and 1.18 (95% CI between 1.13 and 1.22), respectively. This suggests that for every additional hour of family financial aid workshops and events received, the chance of completing the FAFSA increased.

Family Advising/Counseling services were found to be statistically significant but negatively related to FAFSA completion. The odds ratio associated with the *Family Advising/Counseling* services was 0.90, with the 95% CI between 0.86 and 0.95, indicating that for every hour of additional family advising/counseling received, students were less likely to complete the FAFSA.

Gender. In addition to the student and family services, the gender of the students in the 4-Year Sample was found to be statistically significant in predicting student FAFSA completion. After adjusting for the other covariates, the odds ratio for males was 0.56, with a 95% CI between 0.53 and 0.59. This result indicates that the odds of completing the FAFSA were 44% lower for male GEAR UP students than female students.

Race. Race was a meaningful predictor of FAFSA completion with two of the race categories found not to be statistically different than the reference category of White. Students who identified as Pacific Islander or Two or More Races were not statistically significantly different from their White peers in terms of FAFSA completion. The remaining five race categories were found to be statistically significant predictors of FAFSA completion compared to the White reference category.

Asian and African American students within the sample were statistically more likely to complete the FAFSA than White students within the sample, with an odds ratio of 1.54 (95% CI between 1.29 and 1.85) and 1.40 (95% CI between 1.24 and 1.59), respectively. Students who identified as Asian or African American were 54% and 40%, respectively, more likely to complete the FAFSA as compared to their White peers.

Students in the 4-Year Sample who identified as American Indian/Alaska Native, Unknown, or Hispanic were less likely to complete the FAFSA as compared to their White peers. After adjusting for the other covariates and GEAR UP services, the odds ratio for American Indian/Alaska Native students was 0.53, with a 95% CI between 0.47 and 0.60. The chance of American Indian/Alaska Native students completing the FAFSA, was 47% less than their White peers. Students whose race was Unknown had an odds ratio of 0.52, with a 95% CI between 0.44 and 0.62, indicating that the chance of Unknown students completing the FAFSA was 48% less than White students. Students who identified as Hispanic had an odds ratio of 0.72, with a 95% CI of 0.67 and 0.78, with the chance of Hispanic students completing the FAFSA 28% less than White students.

Program type. Program type was found to be a statistically significant predictor in the model. Students in cohort programs were less likely to complete the FAFSA than students who were in hybrid programs, with an odds ratio of 0.43 (95% CI between 0.40 and 0.48). While students in priority programs were more likely to complete the FAFSA than students who were in hybrid programs, with an odds ratio of 1.52 (95% CI between 1.15 and 2.00). This indicates that the chance of completing the FAFSA for students in cohort programs was 57% less likely as compared to students in hybrid programs, while the chance of priority students was 52% more than students served in hybrid programs.

Student type. Student type was found to be a statistically significant predictor in the model. Priority students were less likely than cohort students to complete the FAFSA with an odds ratio for priority students of 0.38 in a 95% CI between 0.33 and 0.43. This indicates that students who were identified as priority students were 62% less likely to complete the FAFSA than their cohort-type peers.

Table 17. 4-Year Sample results for the individual GEAR UP services and FAFSA completion, high school graduation, and postsecondary enrollment logistic regression models.

Variable	FAFSA Completion Model			High School Graduation Model			Postsecondary Enrollment Model		
	Odds Ratio	Standard Err.		Odds Ratio	Standard Err.		Odds Ratio	Standard Err.	
Constant	1.14	0.07	*	16.28	0.10	***	1.08	0.05	
Tutoring (S)	0.90	0.01	***	0.94	0.02	***	0.91	0.01	***
Comprehensive Mentoring (S)	1.14	0.01	***	1.09	0.02	***	1.04	0.01	***
Financial Aid Counseling (S)	1.32	0.02	***	1.15	0.03	***	1.09	0.02	***
Counseling/Advising (S)	0.97	0.02	*	1.05	0.03		1.05	0.01	***
College Visit (S)	1.10	0.01	***	0.92	0.02	***	1.06	0.01	***
Job Site Visit (S)	1.20	0.02	***	1.22	0.04	***	0.95	0.02	**
Summer Program (S)	1.06	0.01	***	1.04	0.02	*	1.04	0.01	***
Educational Field Trips (S)	1.01	0.02		0.81	0.03	***	1.01	0.01	
Workshop (S)	1.20	0.02	***	0.96	0.02		0.96	0.01	**
Financial Aid Workshops (F)	1.58	0.02	***	1.23	0.04	***	1.39	0.02	***
Advising/Counseling (F)	0.90	0.03	***	1.58	0.06	***	0.97	0.02	
College Visit (F)	1.02	0.05		1.37	0.11	**	1.07	0.04	
Events (F)	1.18	0.02	***	1.04	0.03		1.21	0.02	***
Gender (Male)	0.56	0.03	***	0.75	0.05	***	0.54	0.02	***
Race (American Native)	0.53	0.06	***	0.80	0.10	*	0.64	0.05	***
Race (Asian)	1.54	0.09	***	1.29	0.15		2.16	0.08	***
Race (African American)	1.40	0.06	***	0.76	0.08	***	0.92	0.04	
Race (Pacific Islander)	1.01	0.22		0.59	0.23	*	0.70	0.16	*
Race (Two or More Races)	1.15	0.09		0.91	0.11		0.90	0.06	
Race (Unknown)	0.52	0.09	***	0.58	0.11	***	0.83	0.08	*
Race (Hispanic)	0.72	0.04	***	1.59	0.08	***	0.97	0.03	
Program Model (Cohort)	0.43	0.05	***	0.59	0.07	***	1.00	0.04	
Program Model (Priority)	1.52	0.14	**	0.29	0.20	***	0.99	0.08	
Student Type (Priority)	0.38	0.07	***	2.06	0.18	***	1.50	0.06	***
Model Chi-Square [df]	4594.76 [25]			637.66 [25]			2,041.81 [25]		
% Correct Predictions	69.1%			93.0%			61.3%		
Area Under the Curve	0.74			0.67			0.65		

Note: *p < .05. **p < .01. ***p < .001. (S) = Student Service; (F) = Family Service. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

4-Year Sample: Individual GEAR UP Services and High School Graduation Analyses

The logistic regression model was statistically significant, $\chi^2(25) = 637.7, p < .001$. The model correctly classified 93.0% of cases. The ROC curve and associated AUC (0.67), which measure model performance, for this model can be found in Figure 18 in the Appendix. Table 28 in the Appendix presents the results of the analytic models that included only the individual GEAR UP service predictor variable along with the covariates. In addition, Table 28 also presents the full model and the associated odds ratios and 95% confidence intervals. The effect sizes and implied probabilities for each of the statistically significant student and family service predictors can be found in the Appendix (Figure 43 and 44).

Student services. When examining the student service variables in Table 17, after adjusting for covariates (*Gender, Race, Program Type, and Student Type*), the GEAR UP student service predictors which were not found to be statistically significant were *Counseling/Advising* and *Workshops*. Seven of the GEAR UP student service predictor variables were found to be statistically significant in predicting high school graduation.

Of the six statistically significant student services, four student services (*Comprehensive Mentoring, Financial Aid Counseling, Job Site Visits, and Summer Programs*) were found to be positively correlated with high school graduation. The *Comprehensive Mentoring* service predictor had an odds ratio of 1.09 with a 95% CI between

1.04 and 1.14. This indicates that students who participated in greater amounts of comprehensive mentoring services were more likely to graduate from high school. The odds ratio for the *Financial Aid Counseling* service predictor was 1.15 with the 95% CI between 1.08 and 1.22. This indicates that the chance of students graduating high school is increased for each additional hour of financial aid counseling services that a student received. The odds ratio for *Job Site Visits* was 1.22 with the 95% CI between 1.13 and 1.33, with each additional hour of service increasing the chance a student would graduate from high school. The odds ratio for *Summer Programs* was 1.04 with the 95% CI between 1.00 and 1.08, with each additional hour of service increasing the chance a student would graduate from high school.

The remaining statistically significant student service predictors (*Tutoring*, *College Visits*, and *Educational Field Trips*) were negatively related to high school graduation, meaning the more hours of tutoring, college visits and educational field trips the student participated in the less likely they were to graduate from high school. The odds ratios for *Tutoring*, *College Visits*, and *Educational Field Trips* were 0.94 (95% CI between 0.92 and 0.97), 0.92 (95% CI between 0.88 and 0.96), and 0.81 (95% CI between 0.77 and 0.85), respectively. This indicates that every additional hour of these services results in a decrease in the chance of graduating high school.

Family services. Of the four GEAR UP family services, only one (*Family Events*) was not found to be statistically significant in predicting high school graduation. *Family Financial Aid Workshops*, *Family Advising/Counseling*, and *Family College Visits* were found to be statistically significant and positively related to high school graduation, meaning students whose family members participated in these services, were more likely to graduate from high school. The odds ratio associated with the *Family Financial Aid Workshops* services predictor was 1.23, with the 95% CI between 1.14 and 1.33, with each additional hour of service predicting an increase in the chance of graduating high school. The odds ratio associated with the *Family Advising/Counseling* services was 1.58, with the 95% CI between 1.42 and 1.77, indicating that the chance of graduating from high school was increased for each additional hour of service received. The *Family College Visits* service predictor odds ratio was 1.37, with the 95% CI between 1.12 and 1.72. This indicates that for each additional hour of college visit service received, increased the student's chance of graduating high school.

Gender. In addition to the student and family services, the gender of the students in the 4-Year Sample were found to be statistically significant in predicting student high school graduation. After adjusting for the other covariates and GEAR UP services, the odds ratio for males was 0.75, with a 95% CI between 0.68 and 0.82. This result indicates that the odds of graduating high school were 25% lower for male GEAR UP students than female students.

Race. Race was a meaningful predictor of high school graduation with two of the race categories found not to be statistically different than reference category of White. Students who identified as either Asian or Two or More Races were not statistically different than the White students in terms of high school graduation.

Hispanic students within the sample were statistically more likely to graduate from high school than White students within the sample with an odds ratio of 1.59 and a 95% CI between 1.37 and 1.85. This indicates that the chance of Hispanic student graduating high school was 59% greater than White students.

Students in the 4-Year Sample who were identified as American Indian/Alaska Native, African American, Pacific Islander, or Unknown were less likely to graduate from high school than their White peers. American Indian/Alaska Native, African American, Pacific Islander, and Unknown students had odds ratios of 0.80 (95% CI between 0.66 and 0.98), 0.76 (95% CI between 0.64 and 0.89), 0.59 (95% CI between 0.47 and 0.73), and 0.58 (95% CI between 0.47 and 0.73), respectively. This indicates that the chance of an American

Indian/Alaska Native, African American, Pacific Islander, or Unknown student graduating high school was 20%, 24%, 41%, and 42% less than their White peers, respectively.

Program type. Program type was found to be a statistically significant predictor in the model. Students in cohort programs were less likely to graduate high school than students who were in hybrid programs, with an odds ratio of 0.59 (95% CI between 0.51 and 0.67). This indicates that the chances of students in cohort programs graduating from high school was 41% lower than their cohort program peers.

Students who were served by priority programs were less likely to graduate high school than students served by hybrid programs, with an odds ratio of 0.29 (95% CI between 0.20 and 0.43), indicating that the chance of students in priority programs graduating from high school was 71% less than their hybrid program peers.

Student type. The student type indicator was found to be a statistically significant predictor in the model. The odds ratio for priority students was 2.06 with a 95% CI between 1.46 and 3.00. This indicates that students who were identified as priority-type students were 106% more likely to graduate from high school than their cohort-type peers.

4-Year Sample: Individual GEAR UP Services and Postsecondary Enrollment Analyses

The logistic regression model was statistically significant, $\chi^2(25) = 2,041.8, p < .001$. The model correctly classified 61.3% of cases. The ROC curve and associated AUC (0.65), which measure model performance, for this model can be found in Figure 19 in the Appendix. Table 29 in the Appendix presents the results of the analytic models that included only the individual GEAR UP service predictor variable along with the covariates. In addition, Table 29 presents the full model and the associated odds ratios and 95% confidence intervals. The effect sizes and implied probabilities for each of the statistically significant student and family service predictors can be found in the Appendix (Figure 45 and 46).

Student services. When examining the student service variables in Table 17, after adjusting for covariates (*Gender, Race, Program Type, and Student Type*), the GEAR UP student service predictor that not found to be statistically significant was *Educational Field Trips*. The remaining eight of the GEAR UP student service predictor variables were found to be statistically significant in predicting postsecondary enrollment.

Of the eight statistically significant student services, five student services (*Comprehensive Mentoring, Financial Aid Counseling, Counseling/ Advising, College Visits, and Summer Programs*) were found to be statistically significantly and positively correlated with postsecondary enrollment. The *Comprehensive Mentoring* service predictor had an odds ratio of 1.04 with a 95% CI between 1.02 and 1.07. This indicates that students who participated in greater amounts of comprehensive mentoring services were more likely to enroll in postsecondary education. The odds ratio for the *Financial Aid Counseling* service predictor was 1.09 with the 95% CI between 1.05 and 1.12 indicating that the chance of enrolling in postsecondary education increases for each additional hour of service. The odds ratio for the *Counseling/ Advising Service* predictor was 1.05 with the 95% CI between 1.02 and 1.07, with each additional hour of service increasing the chance of postsecondary enrollment. The odds ratio for *College Visits* was 1.06 with the 95% CI between 1.04 and 1.09. This indicates that the chance of postsecondary enrollment increased for each additional hour of college visits received. Last, the odds ratio for *Summer Programs* was 1.04 with the 95% CI between 1.02 and 1.06 with each additional hour of summer programs services increasing the chance of postsecondary enrollment.

The remaining statistically significant student service predictors (*Tutoring, Job Site Visits, and Workshops*) were negatively related to enrollment in a postsecondary institution after high school, meaning students with fewer hours of participation in tutoring, job site visits, and workshops were more likely to enroll at a postsecondary

institution. The odds ratios for *Tutoring*, *Job Site Visits*, and *Workshops* were 0.91 (95% CI between 0.89 and 0.92), 0.95 (95% CI between 0.91 and 0.98), and 0.96 (95% CI between 0.94 and 0.98), respectively. This indicates that for each additional hour of *Tutoring*, *Job Site Visits*, and *Workshop* services, a student's chance of enrolling in postsecondary education was reduced.

Family services. Of the four GEAR UP family services, two categories (*Family Advising/Counseling* and *Family College Visits*) were not found to be statistically significant in predicting postsecondary enrollment. *Family Financial Aid Workshops* and *Family Events* were found to be statistically significant and positively related to postsecondary enrollment, meaning students whose family members participated in these services more, were more likely to enroll in postsecondary education. The odds ratio associated with the *Family Financial Aid Workshops* services predictor was 1.39, with the 95% CI between 1.34 and 1.44 with each additional hour increasing the chance of postsecondary enrollment. The *Family Events* service predictor odds ratio was 1.21, with the 95% CI between 1.18 and 1.25 indicating that the chance of postsecondary enrollment was increased for each additional hour of participation.

Gender. In addition to the student and family services, the gender of the students in the 4-Year Sample were found to be statistically significant in predicting postsecondary enrollment. After adjusting for the other covariates, the odds ratio for males was 0.54, with a 95% CI between 0.51 and 0.56. This result indicates that the odds of enrolling in a postsecondary institution were 46% lower for male GEAR UP students than female students.

Race. Race was a meaningful predictor of postsecondary enrollment with three of the race categories found not to be statistically different than the reference category of White. Students who were identified as African American, Two or More Races, or Hispanic were not statistically different than the White students in terms of postsecondary enrollment.

Asian students within the 4-Year Sample were statistically more likely to enroll in postsecondary education than White students, with an odds ratio of 2.16 (95% CI between 1.85 and 2.53). This indicates that the chance of Asian students enrolling in postsecondary was 116% greater than their White peers.

Students in the 4-Year Sample who identified as American Indian/Alaska Native, Pacific Islander, or Unknown were less likely to enroll in postsecondary education than White students. After adjusting for the other covariates, the odds ratio for American Indian/Alaska Native students was 0.64, with a 95% CI between 0.58 and 0.71, with the chance of enrollment in postsecondary education being 36% less than their White peers. The odds ratio for students identified as Pacific Islanders was 0.70, with a 95% CI between 0.50 and 0.96, indicating that the chance of postsecondary enrollment was 30% less than White students. Students whose race was Unknown had an odds ratio of 0.83, with a 95% CI between 0.71 and 0.97. This indicates that Unknown race students were 17% less likely to enroll in postsecondary enrollment than their White peers.

Program type. Program type was not found to be a significant predictor in the model. The cohort and priority program types were not found to be statistically different than hybrid programs with respect to postsecondary enrollment. Students who were served by either cohort or priority programs were no more likely to enroll at a postsecondary institution than those students served by hybrid programs.

Student type. The student type indicator was found to be a significant predictor in the model. The odds ratio for priority students was 1.50 with a 95% CI between 1.32 and 1.69. This indicates that students who were

identified as priority-type students were 50% more likely to enroll in postsecondary education than their cohort-type peers.

Discussion

Results of the study indicated that students included in this study outperformed their peers nationally when compared on high school graduation and FAFSA completion. Results also indicated that students included in this study were as successful when compared on postsecondary enrollment following high school.

The FAFSA completion rate of students in this study was 60.3% (4-year sample) and 61.1% (6-year sample), which was higher than the national FAFSA completion rate for both 2017 graduates (52.8%) and 2018 graduates (54.2%) (National College Attainment Network [NCAN], 2022). This finding aligns with the research done by NCAN, which showed that investing in targeted FAFSA completion training, workshops, and programs can increase FAFSA completion by an average of 5% (NCAN, 2019).

The high school graduation rate of students in this study (approximately 93% for both the 4-year and 6-year sample) was higher than the national high school graduation rate for the Class of 2017 and 2018 (approximately 85%) (NCES, 2019; NCES, 2020). Interestingly, the race/ethnicity gaps between graduation rates for the 4-year and 6-year samples included in this study were smaller than national statistics. For example, nationally, students who identified as White had an 89% graduation rate compared to their peers who identified as Black (79%), Hispanic (81%) and American Indian or Alaskan Native (74%) (NCES, 2019; NCES, 2020). However, this study found that Black, Hispanic, and American Indian or Alaskan Native students in the 6-year sample had a higher graduation rate than their White peers and in the 4-year sample, Black and American Indian or Alaskan Native students graduated at about the same rate (a .5% difference) and Hispanic students graduated at a higher rate. This is consistent with research that shows mentoring programs, family engagement strategies, and comprehensive approaches addressing multiple risk factors improve high school graduation rates, particularly for students of color and students from low-income communities (Chan et al., 2020; Gil et al., 2021; Freeman & Simonsen, 2015). It is important to note, however, that calculation of high school graduation in this study differs from the four-year cohort graduation rate reported nationally⁸.

While some students included in this study attended schools identified as the persistently lowest achieving in their respective states given this was a competitive priority of the grant application, the results of this study also show that students in the 4-year and 6-year sample performed on par with the national average for students from high poverty schools enrolling in college immediately following high school. This finding aligns with existing research that shows students enrolled in GEAR UP programs, despite their socioeconomic status, enroll in college at the same or higher rate as their peers (Bowman et al., 2018; Fogg & Harrington, 2013; Kentucky Council on Postsecondary Education, 2013). These findings also align with research that shows college awareness and readiness programs that promote a college-going culture in high school, include college counseling, and start college visits as early as middle school can improve college going behaviors and college enrollment for first-generation students and students from lower-income communities (Castleman & Goodman, 2018; Robinson & Roksa, 2016; Swanson et al., 2021).

The results of this study also show that the relationship between participation in these services and these outcomes are mixed. Focusing on the aggregate of all three samples, it was found that comprehensive mentoring was the only student service to have a positive, significant relationship with all three outcomes in this study. However, financial aid counseling, counseling/advising, campus visits, job site visits, summer

⁸ This study did not calculate a four-year cohort graduation rate; based on our data availability we were only able to calculate the number of seniors who graduated high school on time or earlier.

programs, and workshops all showed a positive significant relationship with at least one outcome. Looking at family services, financial aid workshops was the only service that was positively and significantly related to all three outcomes. However, counseling/advising and family events were positively related to at least one outcome. Interestingly, specifically related to family services, campus visits had no significant positive or negative relationship with any of the three outcomes included in this study. These mixed results suggest that the suite of services provided by GEAR UP serve multiple purposes, and there is more research to be done to understand the relationship between service dosage and GEAR UP outcomes.

Limitations

As with any evaluation, there were limitations in this study that may have implications on the findings and the generalizability of this study. These limitations warrant more explanation to better understand the context of the results and implications for future work.

CCREC Compilation

CCREC started as a grassroots, grantee-led member group that wanted to evaluate their work collectively to inform programs regarding best practices and for the betterment of GEAR UP nationally. Members of the group, early-on, came together and were state grantees from the FY 2011 or 2012 funding year who not only had a high degree of trust in one another from the onset, but had also each pledged in their grant applications to administer a standardized suite of student assessments as part of CCREC participation. Consequently, while no partnership grants participated in CCREC during its first several years, that changed over time with the knowledge that GEAR UP could not progress or be ‘whole’ without including the partnership grantee perspective. One key finding that came from the early CCREC work was that the state grants were not as similar as initially thought. They were structured differently, served students differently, and locally, evaluated their programs differently. As such, these conclusions led the group to not only expand CCREC to partnership grants in 2019, but to conduct an extensive, national GEAR UP typology study to define grant archetypes. In future CCREC evaluations studies, these archetypes will be used to disaggregate data based on more appropriate groupings other than state or partnership grant types.

Fidelity of Services

While CCREC pioneered common definitions of student and family services for the evaluation, as well as for use by the GEAR UP community at-large, there were no measures in place in this study to ensure fidelity of service implementation. This lack of fidelity measures occurred on two levels. One, there were no fidelity measures to ensure that the common service definitions developed by CCREC were used by each participating grant’s staff. Two, there were no measures in place to validate the implementation of such services. At a foundational level, CCREC worked to provide clear definitions so that grantees could accurately categorize services for analyses, but there was no measure of their use beyond providing the definitions and accompanying trainings.

Missing Data

As with many studies, there are missing data that impact the analyses. The CCREC evaluation set parameters to ensure that data collection and reporting was systematic across grantees and outcomes. That, in turn, led to some challenges with certain data. The FAFSA data were the most incomplete; this was most likely due to the

stringent definition of the FAFSA outcome⁹. As we aimed to systematize these data, some grantees had challenges collecting the FAFSA data at the required level. The other outcome metric with a high level of incomplete data was high school graduation data. The FAFSA completion indicator had the highest rate of missingness with 52.7% of students missing this datapoint in the Full Sample, 14.1% in the 6-Year sample, and 16.6% in the 4-Year Sample. The high school graduation variable was missing at a 31.3% rate in the Full Sample but dropped dramatically for the 6- and 4-Year Samples with missingness at 5.3% and 6.3%, respectively.

Colleges That Do Not Report To NSC

A primary goal of the CCREC evaluation was to examine postsecondary outcomes, including enrollment, persistence, and completion. However, this report only examines initial enrollment outcomes. By collecting postsecondary data from a verified, third-party source, the NSC, CCREC was able to collect data from the same source, at the same point in time. However, even with the best intentions of collecting standardized postsecondary data, there were some issues encountered. The main issue with these NSC data was that some of the participating grants had students who went to colleges or universities that did not participate with NSC, i.e., these institutions did not share their postsecondary data with the NSC for enrollment verification. While it is not possible to determine the colleges and universities GEAR UP students attended that do not report to the NSC, two known entities in this evaluation are select tribal colleges that served students in one state and select two-year colleges that served students across another state. We worked with these institutions to provide support on how they could work with the NSC, however that did not come to fruition during this evaluation project. Thus, the postsecondary outcomes reported are underreported since any student enrolled in a college or university that did not participate with NSC was reported as ‘not enrolled’. Our intent to have standardized postsecondary data trumped our willingness to supplement these data with information that was not third-party verified.

Lack of a Comparison Group

At the onset of the CCREC work, there was, and remains, a desire from ED to conduct a study of GEAR UP that includes a comparison group. Initial planning between CCREC and ACT indicated that all components for a comparison study would be possible including student-level data on demographics, student and family activities, ACT assessment, FAFSA, high school graduation, and postsecondary outcomes. However, as the design of the study progressed, multiple challenges arose, particularly when attempting to combine the service activity data and the ACT data into one master dataset. There were unforeseen financial and legal challenges based on ownership of the ACT data that could not be overcome without additional evaluation support and resources. As such, a separate study with ACT on the academic and postsecondary trajectory of GEAR UP students with a comparison group was conducted, thus leaving the CCREC evaluation with the only feasible option for a comparison group being a within sample comparison, which did not have merit without an academic outcome. Simply put, we were not able to appropriately match students within the CCREC evaluation sample without some measure of academic readiness and since it was not feasible to merge the ACT data into the CCREC dataset, we were left with an impact evaluation without a comparison group.

⁹For the purpose of the CCREC project, FAFSA completion is defined as data on each GEAR UP student which is derived from State Grant Agencies participating in the FAFSA Completion Initiative launched by the U.S. Department of Education, Office of Student Federal Aid, in July 2014.¹ This Initiative allows State Grant Agencies to release verified FAFSA Filing Status Information to the Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR-UP) authorized under Chapter 2 of Subpart 2 of Part A of Title IV of the HEA to receive such data.

Lack Of an Academic Variable

As outlined in the previous paragraph, ACT assessment data were the academic variable initially planned for this study. As these data were not available for the evaluation, the lack of an academic variable left no options for creating a comparison group or to use academic achievement as a covariate in any analytic models.

Implications

Despite these limitations, the evaluation work that CCREC has done over the last decade conducting and interpreting research and evaluation in the context of GEAR UP, and illuminating best practices learned from a collaborative team has the potential to greatly impact the understanding of the most effective services for preparing students and families for postsecondary opportunities. Therefore, there are several implications that emerge from the findings of this study for GEAR UP and college access research and evaluation, that could ultimately impact the many students in need across the United States.

Student and Family Services

The GEAR UP services provided to students and families are a core requirement of all GEAR UP programs despite funding year, state or partnership designation, or any other distinguishing factor. The CCREC evaluation was centered on examining the impact of services as they related to key GEAR UP outcomes, which are also key outcomes generally of college preparation and success. While federal reporting of GEAR UP services is done annually for the federal APR, there are currently no federally adopted common definitions or means to link services to longitudinal outcomes. This evaluation aimed to do just that—provide service definitions and link services to outcomes. Further, while this evaluation has proven that aggregating data longitudinally takes time and perseverance, with diligent planning, a data repository can be created that links student-level data to services and ultimately to outcomes. Such a longitudinal data system, however, cannot manifest as desired without a policy for common and systematic definitions of services and outcomes.

Data included in this evaluation showed that family services were lacking in terms of the number of families involved. This information, coupled with the results that show some family services have a significant, positive relationship with outcomes of interest in this study, allow GEAR UP grantees to evolve conversations about the importance of family engagement. The results of this evaluation indicate the need for expanded family resources and increased implementation of best practices for engaging families in the postsecondary process.

Tutoring/Homework Assistance

The results of this study bring up many implications for practice. First and foremost, there are multiple implications for the tutoring outcomes. While tutoring had no positive relationships with any of the outcomes of interest (FAFSA completion, high school graduation, and postsecondary enrollment), it would be incorrect to interpret this in a way that found tutoring not to be of value to GEAR UP students. The opposite, in fact, is true. Tutoring is an integral part of the GEAR UP service suite and even while it was not found to be statistically positive, it is an important service for students who are academically unprepared in middle and/or high school. Tutoring may benefit these students in ways that were not examined by this report and as such, a misinterpretation of this outcome would be detrimental to students attempting to improve academically, as well as to families who cannot afford tutoring services outside of school for their children.

While it seems that tutoring may be a service that is targeted for low-performing students, thus causing the negative relationship, these results do provide an opportunity for the larger GEAR UP community to reexamine tutoring as a service. We, as a community, can and should begin a conversation on why tutoring is not just for those most academically at-risk students, but can also bolster students in good academic standing, moving them from average to high achieving students, which could be the difference in the type of college or university to which they are accepted.

Postsecondary Data

This CCREC evaluation would not have been possible without valid, third-party postsecondary data, along with the partnership with NSC. Throughout this project, the NSC developed a unique data repository in collaboration with NCEP to house these longitudinal data and internally match them to postsecondary records, ensuring quality data and FERPA compliance along the way. In a federal grant project that places so much value on postsecondary enrollment and success, there must be a clear path to understanding how collecting longitudinal data actually happens. Additionally, without a data system that can validly and reliably match student-level data and postsecondary enrollment data, it is not possible to identify the relationships between services and intended outcomes. If ED truly wants to know the impact of GEAR UP, such a system must be part of the infrastructure of grant funding.

Future Research and Evaluation

Given the current state of CCREC, there are many opportunities for further studies focused on GEAR UP research and evaluation. This includes opportunities that are based on the results of this report, as well as lessons learned from CCREC in general.

Expansion of Participants

As discussed earlier in this report, this evaluation included 13 participating state GEAR UP grants who self-selected into CCREC. Future research and evaluation would benefit from a larger and more diverse sample of GEAR UP grantees. Not only should research be expanded to include GEAR UP partnership grants but should also include grants from diverse geographic regions; grants with focus on rural, urban, and suburban communities; and grants serving different population sizes. CCREC has already made strides toward expanding the pool of participants by including partnership grants in in 2019 and providing opportunities for smaller GEAR UP grants to participate.

Defining and Distinguishing Postsecondary Services

To date, CCREC has helped to advance the GEAR UP community by developing common definitions for student and family services. There does, however, remain a gap in defining GEAR UP services provided in postsecondary settings. In the 2008 reauthorization of the HEA, when grantees successfully advocated for the authority to include services to students during the first year of postsecondary education, there was no forethought into the identification of those services. Instead, since that time, grantees have been reporting on the same suite of services across middle school, high school, and college. Research from the American Institutes for Research (Hein, Smerdon & Sambolt, 2013) indicates that services should be strategized based on where students are in their educational career. CCREC can be a springboard for this type of study on the identification, distinction, and feasibility of secondary and postsecondary services, as well as their definitions.

Academic Indicator

Over the course of this evaluation, challenges with using standardized assessment data, i.e., ACT or SAT data, as an academic measure emerged. Students do not take the same assessments across GEAR UP programs, and norming assessments brings a host of additional challenges. The ever-changing landscape of standardized tests in the college admissions process has also changed the widespread use of these instruments. As such, future research and evaluation of GEAR UP should include an academic indicator that participating grantees could collect readily and could be normed across grants. In this area, the CCREC has done much research, and moving forward, CCREC evaluation will include grade point average (GPA) as the academic indicator. Formal collection of these data will begin with the 2020-21 academic year and will be reported for the first time in the summer of 2022 for participating grantees.

While the GPA variable has some data collection challenges to work through, it has been found to be a better indicator of postsecondary success. While standardized assessments have been used in CCREC previously, they only measure a student's content knowledge and cognitive skills. GPA, on the other hand, measures a student's content knowledge, cognitive skills, as well as noncognitive skills such as academic behavior (Hodara & Lewis, 2017). GPA is not only predictive of college outcomes (Hansen et al., 2019), but it is also the most readily available academic indicator (York et al., 2015).

Formative Evaluation

The current evaluation focuses on summative outcomes. However, without formative evaluation, GEAR UP grants cannot know whether they are meeting their short- and mid-term goals before the sixth or seventh year of the grant cycle. The overall evaluation would be stronger if outcomes were measured throughout the grant cycle. To meet this evaluation need, CCREC is currently working to embed a formative component into future evaluations, leveraging GPA as a variable of interest in doing so.

Equity Analyses

This evaluation established a foundational dataset and provided an opportunity to examine outcomes across multiple GEAR UP grants, which exposed a number of additional unknowns. A major unknown in this study are the differences that could be uncovered when analyzing data to look at equity/opportunity gaps. Disparities between gender, race (specifically, males of color), first generation status, socioeconomic status, or other factors are often masked by large aggregate analyses. The understanding of the relationships between these factors and outcomes are important, and CCREC is looking to conduct these types of analyses in future projects.

Building Predictive Models

Over time, as more data are amassed from a larger and more diverse sample of grantees, CCREC will have the ability to aggregate results from this study and other similar studies to build predictive models. As we move in that direction, we prepare to conduct mine data to make predictions about outcomes of interest.

Typology

Throughout this evaluation, one major factor that emerged was that, while all participating grants were funded as state GEAR UP grants, there were a number of between-grant differences in even the 13 participants. These differences were not accounted for in the current evaluation. To improve future analyses, CCREC leadership has led an innovative project to conduct a GEAR UP typology study of the entire GEAR UP community. This will allow grants to be grouped by similar characteristics into archetypes. These

archetypes will be developed based on grants that have similar organization, design, implementation, resources or capacity, and evaluation characteristics. Historically, grouping of grants on attributes like grant type (state versus partnership) and grant model (cohort versus priority), alone, has overshadowed differences among grants that are important to evaluation and continuous improvement, as well as effective training and advocacy.

Conclusion

There is so much to learn from the services that had positive impacts on key outcomes. These results have been so long awaited those consumers of this research may naturally want to conclude that these results are generalizable to GEAR UP on whole. However, as noted in the Limitations section, these results were drawn from a sub-sample of state GEAR UP grants from two funding cycles, both of which had a competitive priority to serve persistently lowest-achieving schools. This is the only time, to date, that the persistently lowest-achieving schools' priority was part of the GEAR UP funding decisions. Even if that priority were not in play, these results would still not be generalizable, given the focus on only state grants who self-selected into CCREC. So, while these results are exciting because for the first time since the inception of GEAR UP, we have a longitudinal evaluation of multiple GEAR UP grants looking at systematic variables of interest, we must exercise caution not to apply these results wholly to GEAR UP. There is, simply, more work to be done using CCREC as a foundation to evolve and expand research and evaluation of the GEAR UP program.

The work of CCREC is powerful and needed. The work of CCREC has been built from a dedicated group of committed grantees who had a vision and the fortitude to see it through. As we continue this journey, we seek opportunities and partnerships that can fund, expand, and enhance our efforts. When CCREC began, the project was seen as a great opportunity for grantees to collaborate for targeted research and evaluation. At the onset, we did not anticipate the contributions from grantees to be so engaging, so collaborative, and so beneficial. We found that a learning community evolved from the CCREC work that bridged many gaps—many focused on program implementation—in a community that was unparalleled. As our time drew to the conclusion of the initial project, we found more excitement, more innovation, and more engagement, regarding CCREC's underlying goals, than we could have ever imagined. So, with lots of leaders and thinkers, we forged an evolved CCREC, one where we could continue with quality research and evaluation, one where any grantee could join on a rolling annual basis, and one where we could grow the work that was now foundational. The impetus, however, was that we would grow and learn using what we had done and found in the past as a guidepost for where we are headed in the future.

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Appendix I: Charts and Figures

Table 18. Results of aggregate GEAR UP services on FAFSA completion, high school graduation, and postsecondary enrollment for the Full Sample.

	FAFSA Completion					High School Graduation					Postsecondary Enrollment				
	Estimate		Odds Ratio	Wald 95% Confidence Interval Limits		Estimate		Odds Ratio	Wald 95% Confidence Interval Limits		Estimate		Odds Ratio	Wald 95% Confidence Interval Limits	
Intercept	-0.63	***	0.53	0.49	0.58	1.34	***	3.82	3.55	4.11	-0.74	***	0.48	0.46	0.50
Aggregate GEAR UP Services	0.50	***	1.66	1.63	1.68	0.32	***	1.37	1.35	1.40	0.23	***	1.25	1.24	1.26
Gender (Male)	-0.49	***	0.61	0.59	0.64	-0.19	***	0.83	0.80	0.87	-0.60	***	0.55	0.54	0.56
Gender (Unknown)	0.71	**	2.04	1.27	3.29	-0.12		0.89	0.47	1.66	-0.45	***	0.64	0.50	0.80
Race (American Native)	-1.43	***	0.24	0.22	0.26	-0.19	***	0.83	0.75	0.92	-0.70	***	0.50	0.48	0.52
Race (Asian)	0.12	*	1.13	1.00	1.26	0.06		1.06	0.91	1.24	0.52	***	1.68	1.57	1.80
Race (African American)	0.41	***	1.50	1.43	1.58	-0.17	***	0.85	0.80	0.90	-0.05	**	0.95	0.92	0.98
Race (Pacific Islander)	-0.68	***	0.51	0.38	0.68	-0.42	***	0.65	0.51	0.84	-0.48	***	0.62	0.54	0.72
Race (Two or More Races)	-0.08		0.92	0.82	1.04	-0.35	***	0.71	0.64	0.78	-0.02		0.98	0.93	1.03
Race (Unknown)	-1.01	***	0.36	0.32	0.42	-0.71	***	0.49	0.42	0.57	-0.12	*	0.89	0.81	0.97
Race (Hispanic)	-1.11	***	0.33	0.31	0.35	0.10	**	1.10	1.03	1.19	-0.17	***	0.84	0.82	0.87
Program Model (Cohort)	-0.87	***	0.42	0.40	0.44	-0.35	***	0.70	0.65	0.76	-0.05	**	0.95	0.92	0.98
Program Model (Priority)	-0.10		0.90	0.80	1.02	-0.35	***	0.71	0.65	0.76	-0.33	***	0.72	0.69	0.75
Student Type (Priority)	0.07	**	1.07	1.01	1.13	0.49	***	1.63	1.53	1.72	0.88	***	2.42	2.35	2.49

Note: *p < .05. **p < .01. ***p < .001. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

Table 19. Results of aggregate GEAR UP services on FAFSA completion, high school graduation, and postsecondary enrollment for the 6-Year Sample.

	FAFSA Completion				High School Graduation					Postsecondary Enrollment					
	Estimate	Odds Ratio	Wald 95% Confidence Interval Limits		Estimate	Odds Ratio	Wald 95% Confidence Interval Limits			Estimate	Odds Ratio	Wald 95% Confidence Interval Limits			
Intercept	-0.17	0.84	0.69	1.03	3.06	***	21.38	14.95	30.57	-0.40	***	0.67	0.57	0.79	
Aggregate GEAR UP Services	0.44	***	1.56	1.50	1.62	0.03	1.03	0.96	1.11	0.21	***	1.24	1.19	1.28	
Gender (Male)	-0.63	***	0.53	0.50	0.57	-0.23	***	0.79	0.71	0.89	-0.66	***	0.52	0.49	0.55
Race (American Native)	-0.97	***	0.38	0.33	0.44	-0.01	0.99	0.76	1.28	-0.43	***	0.65	0.58	0.73	
Race (Asian)	0.15		1.16	0.90	1.50	-0.22	0.80	0.56	1.15	0.75	***	2.12	1.71	2.62	
Race (African American)	0.32	***	1.37	1.17	1.60	-0.17	0.85	0.68	1.05	-0.13	**	0.88	0.79	0.97	
Race (Pacific Islander)	0.10		1.11	0.67	1.82	-0.80	*	0.45	0.24	0.87	-0.28		0.76	0.47	1.21
Race (Two or More Races)	-0.08		0.92	0.75	1.14	0.20		1.22	0.84	1.77	-0.02		0.98	0.82	1.16
Race (Unknown)	-0.64	***	0.53	0.45	0.62	-0.78	***	0.46	0.37	0.58	-0.17	*	0.84	0.72	0.99
Race (Hispanic)	-0.45	***	0.64	0.59	0.70	0.48	***	1.61	1.35	1.93	-0.13	**	0.88	0.82	0.95
Program Model (Cohort)	-1.18	***	0.31	0.28	0.34	-0.67	***	0.51	0.45	0.58	-0.04		0.96	0.91	1.03
Program Model (Priority)	n/a		n/a	n/a	n/a	-0.79	**	0.45	0.25	0.81	-0.72	***	0.49	0.37	0.65
Student Type (Priority)	-1.64	***	0.20	0.16	0.23	0.12		1.13	0.74	1.72	0.64	***	1.90	1.63	2.22

Note: *p < .05. **p < .01. ***p < .001. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

Table 20. Results of aggregate GEAR UP services on FAFSA completion, high school graduation, and postsecondary enrollment for the 4-Year Sample.

	FAFSA Completion					High School Graduation					Postsecondary Enrollment				
	Estimate		Odds Ratio	Wald 95% Confidence Interval Limits		Estimate		Odds Ratio	Wald 95% Confidence Interval Limits		Estimate		Odds Ratio	Wald 95% Confidence Interval Limits	
Intercept	-0.28	***	0.76	0.66	0.88	2.66	***	14.27	11.24	18.12	-0.27	***	0.77	0.69	0.86
Aggregate GEAR UP Services	0.43	***	1.54	1.50	1.59	0.09	***	1.10	1.04	1.15	0.18	***	1.19	1.17	1.22
Gender (Male)	-0.61	***	0.54	0.52	0.57	-0.29	***	0.75	0.69	0.82	-0.63	***	0.53	0.51	0.56
Race (American Native)	-0.90	***	0.41	0.37	0.45	-0.33	***	0.72	0.60	0.86	-0.59	***	0.56	0.50	0.61
Race (Asian)	0.43	***	1.54	1.29	1.84	0.10		1.10	0.82	1.48	0.73	***	2.08	1.79	2.43
Race (African American)	0.34	***	1.40	1.24	1.58	-0.31	***	0.74	0.63	0.87	-0.12	**	0.89	0.82	0.96
Race (Pacific Islander)	-0.10		0.90	0.60	1.37	-0.62	**	0.54	0.34	0.84	-0.41	*	0.67	0.48	0.91
Race (Two or More Races)	0.06		1.07	0.91	1.25	-0.17		0.84	0.68	1.04	-0.12		0.89	0.79	1.00
Race (Unknown)	-0.73	***	0.48	0.41	0.57	-0.80	***	0.45	0.37	0.56	-0.22	**	0.80	0.69	0.93
Race (Hispanic)	-0.47	***	0.63	0.58	0.67	0.39	***	1.48	1.28	1.71	-0.09	*	0.92	0.86	0.98
Program Model (Cohort)	-0.95	***	0.39	0.36	0.41	-0.47	***	0.63	0.56	0.70	0.07	**	1.07	1.02	1.13
Program Model (Priority)	0.54	***	1.71	1.32	2.21	-1.37	***	0.25	0.18	0.37	-0.21	**	0.81	0.70	0.94
Student Type (Priority)	-1.10	***	0.33	0.29	0.38	0.80	***	2.23	1.56	3.18	0.45	***	1.57	1.40	1.78

Note: *p < .05. **p < .01. ***p < .001. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

Table 21. Results of individual GEAR UP services on FAFSA completion for the Full Sample (n = 65,769).

	Tutoring	Comp. Mentoring	Financial Aid Counseling	Counseling/Advising	College Visit	Job Site Visit	Summer Program	Educational Field Trips	Workshop	Financial Aid Workshops	Advising/Counseling	College Visit	Events	Full Model	Odds Ratio Estimates for Full Model		
															Odds Ratio	Wald 95% Confidence Interval Limits	
(Intercept)	1.19 ***	1.00 ***	0.86 ***	0.80 ***	0.78 ***	1.03 ***	1.30 ***	1.26 ***	0.11 **	1.06 ***	1.33 ***	1.37 ***	1.08 ***	-0.36 ***	0.70	0.65	0.75
Tutoring (S)	0.14 ***													-0.08 ***	0.92	0.91	0.94
Comprehensive Mentoring (S)		0.28 ***												0.20 ***	1.22	1.20	1.24
Financial Aid Counseling (S)			0.65 ***											0.39 ***	1.48	1.44	1.51
Counseling/Advising (S)				0.28 ***										0.00	1.00	0.98	1.02
College Visit (S)					0.31 ***									0.09 ***	1.09	1.07	1.11
Job Site Visit (S)						0.44 ***								0.16 ***	1.17	1.13	1.21
Summer Program (S)							0.19 ***							0.07 ***	1.07	1.06	1.09
Educational Field Trips (S)								0.26 ***						0.02	1.02	1.00	1.05
Workshop(S)									0.46 ***					0.24 ***	1.27	1.25	1.30
Financial Aid Workshops (F)										0.78 ***				0.43 ***	1.54	1.49	1.59
Advising/Counseling (F)											0.38 ***			-0.08 ***	0.93	0.89	0.96
College Visit (F)												0.35 ***		-0.12 **	0.89	0.82	0.96
Events (F)													0.49 ***	0.20 ***	1.22	1.19	1.26
Gender (Male)	-0.52 ***	-0.51 ***	-0.51 ***	-0.51 ***	-0.48 ***	-0.52 ***	-0.52 ***	-0.51 ***	-0.51 ***	-0.50 ***	-0.52 ***	-0.52 ***	-0.51 ***	-0.48 ***	0.62	0.60	0.64
Gender (Unknown)	0.66 **	0.76 **	0.72 **	0.44	0.83 ***	0.76 **	0.71 **	0.66 **	0.87 ***	0.70 **	0.66 **	0.70 **	0.78 **	0.98 ***	2.66	1.69	4.39
Race (American Native)	-1.13 ***	-0.91 ***	-1.10 ***	-1.10 ***	-1.15 ***	-0.90 ***	-1.07 ***	-1.03 ***	-1.07 ***	-1.11 ***	-1.16 ***	-0.96 ***	-1.11 ***	-1.16 ***	0.31	0.29	0.34
Race (Asian)	0.24 ***	0.31 ***	0.33 ***	0.18 **	0.12 *	0.22 ***	0.21 ***	0.20 ***	0.13 *	0.24 ***	0.22 ***	0.24 ***	0.22 ***	0.23 ***	1.26	1.12	1.42
Race (African American)	0.34 ***	0.42 ***	0.47 ***	0.31 ***	0.30 ***	0.34 ***	0.31 ***	0.34 ***	0.34 ***	0.38 ***	0.33 ***	0.32 ***	0.38 ***	0.54 ***	1.71	1.63	1.80
Race (Pacific Islander)	-0.73 ***	-0.57 ***	-0.70 ***	-0.68 ***	-0.74 ***	-0.69 ***	-0.72 ***	-0.72 ***	-0.63 ***	-0.66 ***	-0.72 ***	-0.69 ***	-0.74 ***	-0.56 ***	0.57	0.42	0.78
Race (Two or More Races)	-0.14 *	-0.08	-0.04	-0.12 *	-0.11	-0.11 *	-0.15 *	-0.17 **	-0.06	-0.11	-0.18 **	-0.13 *	-0.17 **	0.00	1.00	0.89	1.13
Race (Unknown)	-0.79 ***	-0.36 ***	-0.99 ***	-0.92 ***	-1.08 ***	-0.57 ***	-0.58 ***	-0.61 ***	-0.80 ***	-0.91 ***	-0.58 ***	-0.62 ***	-0.61 ***	-0.92 ***	0.40	0.34	0.46
Race (Hispanic)	-1.03 ***	-0.92 ***	-0.91 ***	-1.03 ***	-1.10 ***	-0.97 ***	-1.08 ***	-1.02 ***	-1.04 ***	-0.97 ***	-1.05 ***	-1.00 ***	-1.06 ***	-0.94 ***	0.39	0.37	0.41
Program Model (Cohort)	-0.90 ***	-0.79 ***	-1.45 ***	-1.01 ***	-0.71 ***	-0.60 ***	-0.89 ***	-0.88 ***	-0.57 ***	-0.92 ***	-0.93 ***	-0.89 ***	-0.80 ***	-0.84 ***	0.43	0.40	0.46
Program Model (Priority)	0.27 ***	0.23 ***	-0.54 ***	0.01	0.28 ***	0.35 ***	0.22 ***	0.20 ***	0.77 ***	-0.00	0.22 ***	0.32 ***	0.30 ***	-0.21 **	0.81	0.72	0.93
Student Type (Priority)	-0.56 ***	-0.48 ***	-0.55 ***	-0.36 ***	-0.32 ***	-0.43 ***	-0.62 ***	-0.61 ***	-0.11 ***	-0.56 ***	-0.67 ***	-0.71 ***	-0.49 ***	0.18 ***	1.20	1.12	1.28

Note: *p < .05. **p < .01. ***p < .001; (S) = Student Service; (F) = Family Service. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

Table 22. Results of individual GEAR UP services on high school graduation for the Full Sample (n = 95,485).

	Tutoring	Comp. Mentoring	Financial Aid Counseling	Counseling/ Advising	College Visit	Job Site Visit	Summer Program	Educational Field Trips	Workshop	Financial Aid Workshops	Advising/ Counseling	College Visit	Events	Full Model	Odds Ratio Estimates for Full Model		
															Odds Ratio	Wald 95% Confidence Interval	Limits
(Intercept)	2.12 ***	2.03 ***	1.95 ***	1.73 ***	1.93 ***	2.11 ***	2.26 ***	2.25 ***	1.94 ***	2.12 ***	2.24 ***	2.28 ***	2.14 ***	1.46 ***	4.29	4.00	4.61
Tutoring (S)	0.10 ***													-0.05 ***	0.95	0.93	0.97
Comprehensive Mentoring (S)		0.35 ***												0.22 ***	1.24	1.20	1.28
Financial Aid Counseling (S)			0.55 ***											0.32 ***	1.38	1.33	1.44
Counseling/ Advising (S)				0.33 ***										0.14 ***	1.15	1.12	1.18
College Visit (S)					0.26 ***									0.11 ***	1.12	1.09	1.15
Job Site Visit (S)						0.34 ***								0.07 **	1.07	1.02	1.13
Summer Program (S)							0.11 ***							0.00	1.00	0.97	1.03
Educational Field Trips (S)								0.12 ***						-0.14 ***	0.87	0.84	0.91
Workshop (S)									0.21 ***					0.01	1.01	0.99	1.04
Financial Aid Workshops (F)										0.59 ***				0.24 ***	1.27	1.20	1.34
Advising/ Counseling (F)											0.67 ***			0.37 ***	1.44	1.33	1.57
College Visit (F)												0.41 ***		0.03	1.03	0.91	1.17
Events (F)													0.35 ***	0.07 **	1.07	1.02	1.12
Gender (Male)	-0.22 ***	-0.21 ***	-0.20 ***	-0.20 ***	-0.18 ***	-0.21 ***	-0.22 ***	-0.22 ***	-0.21 ***	-0.20 ***	-0.22 ***	-0.22 ***	-0.21 ***	-0.17 ***	0.84	0.81	0.88
Gender (Unknown)	-0.05	0.01	-0.01	-0.32	0.08	0.00	-0.02	-0.04	-0.05	-0.04	-0.08	-0.02	0.01	-0.06	0.94	0.52	1.88
Race (American Native)	-0.03	0.13 *	0.05	-0.01	-0.05	0.12 *	0.05	0.07	0.01	0.05	-0.09	0.09	0.04	-0.05	0.95	0.86	1.06
Race (Asian)	0.14	0.20 *	0.20 *	0.11	0.05	0.13	0.12	0.12	0.08	0.16 *	0.11	0.13	0.13	0.18 *	1.19	1.02	1.40
Race (African American)	-0.18 ***	-0.10 ***	-0.12 ***	-0.18 ***	-0.20 ***	-0.17 ***	-0.19 ***	-0.17 ***	-0.15 ***	-0.15 ***	-0.17 ***	-0.18 ***	-0.15 ***	-0.09 **	0.91	0.86	0.97
Race (Pacific Islander)	-0.49 ***	-0.37 **	-0.33 **	-0.40 **	-0.42 ***	-0.44 ***	-0.45 ***	-0.45 ***	-0.43 ***	-0.39 **	-0.44 ***	-0.44 ***	-0.46 ***	-0.26	0.77	0.61	1.00
Race (Two or More Races)	-0.38 ***	-0.30 ***	-0.29 ***	-0.39 ***	-0.38 ***	-0.35 ***	-0.38 ***	-0.38 ***	-0.32 ***	-0.35 ***	-0.42 ***	-0.37 ***	-0.38 ***	-0.30 ***	0.74	0.68	0.82
Race (Unknown)	-0.65 ***	-0.39 ***	-0.71 ***	-0.78 ***	-0.85 ***	-0.54 ***	-0.57 ***	-0.59 ***	-0.61 ***	-0.66 ***	-0.56 ***	-0.59 ***	-0.57 ***	-0.70 ***	0.50	0.43	0.58
Race (Hispanic)	0.08 *	0.17 ***	0.19 ***	0.12 **	0.08 *	0.12 ***	0.07	0.09 *	0.11 **	0.15 ***	0.06	0.09 **	0.08 *	0.23 ***	1.26	1.17	1.36
Program Model (Cohort)	-0.08 *	-0.04	-0.58 ***	-0.29 ***	-0.03	0.11 **	-0.03	-0.04	-0.13 ***	-0.11 **	-0.10 **	-0.03	-0.02	-0.54 ***	0.58	0.54	0.63
Program Model (Priority)	-0.28 ***	-0.11 **	-0.34 ***	-0.34 ***	-0.13 ***	-0.13 ***	-0.17 ***	-0.16 ***	-0.06	-0.19 ***	-0.24 ***	-0.15 ***	-0.12 **	-0.25 ***	0.78	0.71	0.85
Student Type (Priority)	0.27 ***	0.34 ***	0.29 ***	0.51 ***	0.40 ***	0.33 ***	0.23 ***	0.23 ***	0.32 ***	0.26 ***	0.23 ***	0.20 ***	0.29 ***	0.56 ***	1.75	1.64	1.86

Note: *p < .05. **p < .01. ***p < .001; (S) = Student Service; (F) = Family Service. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

Table 23. Results of individual GEAR UP services on postsecondary enrollment for the Full Sample (n = 137,712).

	Tutoring	Comp. Mentoring	Financial Aid Counseling	Counseling/ Advising	College Visit	Job Site Visit	Summer Program	Educational Field Trips	Workshop	Financial Aid Workshops	Advising/ Counseling	College Visit	Events	Full Model	Odds Ratio Estimates for Full Model		
															Odds Ratio	Wald 95% Confidence Interval	Limits
(Intercept)	-0.10 ***	-0.19 ***	-0.26 ***	-0.46 ***	-0.37 ***	-0.14 ***	-0.09 ***	-0.11 ***	-0.26 ***	-0.20 ***	-0.08 ***	-0.06 ***	-0.22 ***	-0.56 ***	0.57	0.55	0.59
Tutoring (S)	0.06 ***													-0.09 ***	0.91	0.90	0.92
Comprehensive Mentoring (S)		0.18 ***												0.09 ***	1.10	1.08	1.11
Financial Aid Counseling (S)			0.38 ***											0.18 ***	1.20	1.18	1.22
Counseling/ Advising (S)				0.26 ***										0.12 ***	1.12	1.11	1.14
College Visit (S)					0.24 ***									0.14 ***	1.15	1.14	1.17
Job Site Visit (S)						0.17 ***								-0.06 ***	0.94	0.92	0.96
Summer Program (S)							0.12 ***							0.03 ***	1.03	1.02	1.05
Educational Field Trips (S)								0.19 ***						0.00	1.00	0.98	1.02
Workshop (S)									0.12 ***					-0.07 ***	0.93	0.92	0.94
Financial Aid Workshops (F)										0.62 ***				0.39 ***	1.47	1.44	1.51
Advising/ Counseling (F)											0.32 ***			-0.04 *	0.96	0.93	0.99
College Visit (F)												0.48 ***		0.12 ***	1.13	1.07	1.20
Events (F)													0.39 ***	0.20 ***	1.22	1.19	1.25
Gender (Male)	-0.61 ***	-0.61 ***	-0.61 ***	-0.61 ***	-0.58 ***	-0.61 ***	-0.61 ***	-0.61 ***	-0.61 ***	-0.61 ***	-0.61 ***	-0.61 ***	-0.61 ***	-0.58 ***	0.56	0.54	0.57
Gender (Unknown)	-0.47 ***	-0.44 ***	-0.51 ***	-0.54 ***	-0.39 **	-0.45 ***	-0.46 ***	-0.47 ***	-0.47 ***	-0.45 ***	-0.50 ***	-0.47 ***	-0.41 ***	-0.41 ***	0.67	0.53	0.84
Race (American Native)	-0.59 ***	-0.51 ***	-0.53 ***	-0.59 ***	-0.63 ***	-0.52 ***	-0.57 ***	-0.56 ***	-0.56 ***	-0.59 ***	-0.64 ***	-0.53 ***	-0.62 ***	-0.59 ***	0.56	0.53	0.59
Race (Asian)	0.57 ***	0.63 ***	0.62 ***	0.58 ***	0.50 ***	0.57 ***	0.55 ***	0.54 ***	0.52 ***	0.61 ***	0.55 ***	0.57 ***	0.57 ***	0.64 ***	1.90	1.77	2.04
Race (African American)	-0.07 ***	-0.03	-0.02	-0.06 ***	-0.09 ***	-0.07 ***	-0.08 ***	-0.06 ***	-0.06 ***	-0.03 *	-0.06 ***	-0.07 ***	-0.03	0.00	1.00	0.97	1.03
Race (Pacific Islander)	-0.53 ***	-0.44 ***	-0.41 ***	-0.46 ***	-0.49 ***	-0.50 ***	-0.51 ***	-0.52 ***	-0.49 ***	-0.44 ***	-0.51 ***	-0.50 ***	-0.52 ***	-0.34 ***	0.71	0.61	0.82
Race (Two or More Races)	-0.04	0.01	0.02	-0.04	-0.04	-0.03	-0.05	-0.06 *	-0.01	-0.01	-0.06 *	-0.04	-0.05	0.01	1.01	0.95	1.06
Race (Unknown)	-0.04	0.13 **	-0.07	-0.20 ***	-0.24 ***	0.01	0.00	-0.01	-0.05	-0.20 ***	0.01	-0.01	0.00	-0.24 ***	0.79	0.72	0.87
Race (Hispanic)	-0.20 ***	-0.13 ***	-0.10 ***	-0.16 ***	-0.21 ***	-0.18 ***	-0.22 ***	-0.20 ***	-0.19 ***	-0.14 ***	-0.21 ***	-0.20 ***	-0.21 ***	-0.09 ***	0.91	0.88	0.94
Program Model (Cohort)	0.05 **	0.02	-0.25 ***	-0.08 ***	0.12 ***	0.15 ***	0.07 ***	0.07 ***	0.08 ***	0.00	0.05 **	0.07 ***	0.11 ***	-0.18 ***	0.84	0.81	0.87
Program Model (Priority)	-0.30 ***	-0.20 ***	-0.34 ***	-0.33 ***	-0.20 ***	-0.21 ***	-0.25 ***	-0.24 ***	-0.15 ***	-0.26 ***	-0.26 ***	-0.22 ***	-0.18 ***	-0.23 ***	0.80	0.76	0.83
Student Type (Priority)	0.72 ***	0.75 ***	0.71 ***	0.88 ***	0.85 ***	0.75 ***	0.72 ***	0.73 ***	0.76 ***	0.73 ***	0.71 ***	0.69 ***	0.80 ***	0.89 ***	2.42	2.35	2.50

Note: *p < .05. **p < .01. ***p < .001; (S) = Student Service; (F) = Family Service. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

Table 24. Results of individual GEAR UP services on FAFSA completion for the 6-Year Sample (n = 18,200).

	Tutoring	Comp. Mentoring	Financial Aid Counseling	Counseling/Advising	College Visit	Job Site Visit	Summer Program	Educational Field Trips	Workshop	Financial Aid Workshops	Advising/Counseling	College Visit	Events	Full Model	Odds Ratio Estimates for Full Model		
															Odds Ratio	Wald 95% Confidence Interval Limits	
(Intercept)	1.78 ***	1.67 ***	1.45 ***	1.28 ***	1.29 ***	1.52 ***	1.79 ***	1.77 ***	0.82 ***	1.55 ***	1.83 ***	1.85 ***	1.60 ***	0.25 **	1.28	1.08	1.52
Tutoring (S)	0.05 ***													-0.10 ***	0.91	0.89	0.93
Comprehensive Mentoring (S)		0.12 ***												0.17 ***	1.18	1.15	1.22
Financial Aid Counseling (S)			0.43 ***											0.24 ***	1.27	1.21	1.33
Counseling/Advising (S)				0.23 ***										0.00	1.00	0.96	1.04
College Visit (S)					0.23 ***									0.14 ***	1.14	1.11	1.18
Job Site Visit (S)						0.30 ***								0.15 ***	1.17	1.11	1.23
Summer Program (S)							0.11 ***							0.04 ***	1.04	1.02	1.07
Educational Field Trips (S)								0.13 ***						0.04	1.04	1.00	1.08
Workshop (S)									0.32 ***					0.13 ***	1.13	1.09	1.18
Financial Aid Workshops (F)										0.61 ***				0.44 ***	1.56	1.48	1.64
Advising/Counseling (F)											0.18 ***			-0.11 ***	0.89	0.84	0.95
College Visit (F)												0.36 ***		0.02	1.02	0.92	1.13
Events (F)													0.28 ***	0.13 ***	1.14	1.09	1.19
Gender (Male)	-0.66 ***	-0.65 ***	-0.65 ***	-0.65 ***	-0.62 ***	-0.65 ***	-0.64 ***	-0.65 ***	-0.64 ***	-0.64 ***	-0.66 ***	-0.65 ***	-0.65 ***	-0.59 ***	0.55	0.52	0.59
Race (American Native)	-0.82 ***	-0.73 ***	-0.81 ***	-0.82 ***	-0.84 ***	-0.64 ***	-0.86 ***	-0.82 ***	-0.83 ***	-0.84 ***	-0.90 ***	-0.79 ***	-0.80 ***	-0.65 ***	0.52	0.45	0.60
Race (Asian)	0.18	0.21	0.23	0.16	0.15	0.15	0.14	0.08	0.23	0.28 *	0.16	0.20	0.07	0.24	1.27	0.98	1.66
Race (African American)	0.28 ***	0.29 ***	0.37 ***	0.33 ***	0.25 **	0.24 **	0.26 ***	0.30 ***	0.26 ***	0.36 ***	0.29 ***	0.27 ***	0.34 ***	0.39 ***	1.47	1.26	1.73
Race (Pacific Islander)	0.14	0.23	0.22	0.17	0.02	0.16	0.14	0.13	0.20	0.17	0.12	0.19	0.08	0.24	1.27	0.76	2.16
Race (Two or More Races)	-0.03	-0.02	0.01	-0.03	-0.03	-0.02	-0.06	-0.09	-0.01	0.03	-0.06	-0.02	-0.09	0.02	1.02	0.83	1.27
Race (Unknown)	-0.49 ***	-0.29 ***	-0.62 ***	-0.60 ***	-0.77 ***	-0.39 ***	-0.40 ***	-0.41 ***	-0.54 ***	-0.61 ***	-0.41 ***	-0.43 ***	-0.42 ***	-0.53 ***	0.59	0.49	0.71
Race (Hispanic)	-0.43 ***	-0.39 ***	-0.29 ***	-0.38 ***	-0.46 ***	-0.41 ***	-0.49 ***	-0.45 ***	-0.45 ***	-0.37 ***	-0.46 ***	-0.43 ***	-0.49 ***	-0.29 ***	0.75	0.68	0.81
Program Model (Cohort)	-1.21 ***	-1.17 ***	-1.67 ***	-1.33 ***	-1.06 ***	-0.93 ***	-1.20 ***	-1.20 ***	-0.93 ***	-1.27 ***	-1.23 ***	-1.22 ***	-1.11 ***	-1.05 ***	0.35	0.31	0.39
Student Type (Priority)	-2.06 ***	-2.05 ***	-1.99 ***	-1.99 ***	-1.89 ***	-1.86 ***	-1.99 ***	-2.02 ***	-1.57 ***	-1.98 ***	-2.07 ***	-2.07 ***	-1.93 ***	-1.44 ***	0.24	0.20	0.29

Note: *p < .05. **p < .01. ***p < .001; (S) = Student Service; (F) = Family Service. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

Table 25. Results of individual GEAR UP services on high school graduation for the 6-Year Sample (n = 20,060).

	Tutoring	Comp. Mentoring	Financial Aid Counseling	Counseling/Advising	College Visit	Job Site Visit	Summer Program	Educational Field Trips	Workshop	Financial Aid Workshops	Advising/Counseling	College Visit	Events	Full Model	Odds Ratio Estimates for Full Model		
															Odds Ratio	Wald 95% Confidence Interval Limits	
(Intercept)	3.24 ***	3.08 ***	3.08 ***	3.07 ***	3.38 ***	3.09 ***	3.18 ***	3.36 ***	3.28 ***	3.11 ***	3.14 ***	3.19 ***	3.20 ***	3.22 ***	24.93	18.57	33.45
Tutoring (S)	-0.02													-0.03	0.97	0.94	1.01
Comprehensive Mentoring (S)		0.10 ***												0.07 *	1.07	1.01	1.13
Financial Aid Counseling (S)			0.14 ***											0.07	1.07	0.99	1.16
Counseling/Advising (S)				0.05										0.06	1.06	0.99	1.14
College Visit (S)					-0.07 **									-0.09 **	0.91	0.86	0.97
Job Site Visit (S)						0.12 **								0.20 ***	1.22	1.12	1.34
Summer Program (S)							0.05 *							0.06 *	1.06	1.01	1.11
Educational Field Trips (S)								-0.19 ***						-0.27 ***	0.76	0.72	0.81
Workshop (S)									-0.02					-0.09 **	0.92	0.86	0.97
Financial Aid Workshops (F)										0.18 ***				0.19 ***	1.21	1.11	1.32
Advising/Counseling (F)											0.49 ***			0.55 ***	1.73	1.52	1.98
College Visit (F)												0.50 ***		0.37 **	1.45	1.15	1.89
Events (F)													0.01	-0.05	0.95	0.88	1.02
Gender (Male)	-0.23 ***	-0.23 ***	-0.23 ***	-0.23 ***	-0.25 ***	-0.23 ***	-0.23 ***	-0.25 ***	-0.24 ***	-0.22 ***	-0.23 ***	-0.23 ***	-0.23 ***	-0.24 ***	0.79	0.70	0.89
Race (American Native)	0.03	0.03	0.00	0.00	0.03	0.04	-0.03	0.06	0.01	-0.01	-0.21	-0.01	0.00	-0.03	0.97	0.74	1.28
Race (Asian)	-0.23	-0.19	-0.20	-0.22	-0.21	-0.21	-0.24	-0.12	-0.22	-0.18	-0.28	-0.20	-0.22	-0.02	0.98	0.69	1.44
Race (African American)	-0.18	-0.14	-0.16	-0.17	-0.17	-0.16	-0.18	-0.21 *	-0.18	-0.14	-0.16	-0.17	-0.17	-0.21	0.81	0.66	1.01
Race (Pacific Islander)	-0.78 *	-0.74 *	-0.77 *	-0.79 *	-0.76 *	-0.80 *	-0.81 *	-0.74 *	-0.80 *	-0.79 *	-0.91 **	-0.77 *	-0.80 *	-0.77 *	0.46	0.25	0.95
Race (Two or More Races)	0.20	0.21	0.22	0.20	0.20	0.21	0.19	0.30	0.20	0.22	0.13	0.20	0.20	0.32	1.38	0.96	2.05
Race (Unknown)	-0.75 ***	-0.65 ***	-0.81 ***	-0.79 ***	-0.68 ***	-0.74 ***	-0.75 ***	-0.83 ***	-0.76 ***	-0.80 ***	-0.70 ***	-0.75 ***	-0.76 ***	-0.57 ***	0.57	0.44	0.72
Race (Hispanic)	0.48 ***	0.51 ***	0.53 ***	0.49 ***	0.48 ***	0.49 ***	0.45 ***	0.50 ***	0.48 ***	0.51 ***	0.40 ***	0.48 ***	0.48 ***	0.52 ***	1.68	1.40	2.03
Program Model (Cohort)	-0.66 ***	-0.66 ***	-0.83 ***	-0.70 ***	-0.70 ***	-0.58 ***	-0.67 ***	-0.66 ***	-0.68 ***	-0.70 ***	-0.73 ***	-0.68 ***	-0.67 ***	-0.73 ***	0.48	0.40	0.58
Program Model (Priority)	-0.75 *	-0.68 *	-0.78 **	-0.77 **	-0.82 **	-0.77 **	-0.79 **	-0.79 **	-0.78 **	-0.76 *	-0.79 **	-0.78 **	-0.78 **	-0.74 **	0.48	0.26	0.87
Student Type (Priority)	0.08	0.10	0.12	0.12	0.04	0.17	0.13	0.00	0.06	0.12	0.12	0.10	0.09	0.11	1.12	0.75	1.75

Note: *p < .05. **p < .01. ***p < .001; (S) = Student Service; (F) = Family Service. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

Table 26. Results of individual GEAR UP services on postsecondary enrollment for the 6-Year Sample (n = 20,960).

	Tutoring	Comp. Mentoring	Financial Aid Counseling	Counseling/Advising	College Visit	Job Site Visit	Summer Program	Educational Field Trips	Workshop	Financial Aid Workshops	Advising/Counseling	College Visit	Events	Full Model	Odds Ratio Estimates for Full Model		
															Odds Ratio	Wald 95% Confidence Interval Limits	
(Intercept)	0.56 ***	0.51 ***	0.35 ***	0.12 *	0.25 ***	0.51 ***	0.51 ***	0.48 ***	0.48 ***	0.34 ***	0.52 ***	0.53 ***	0.32 ***	0.09	1.09	0.96	1.25
Tutoring (S)	0.00													-0.09 ***	0.91	0.90	0.93
Comprehensive Mentoring (S)		0.03 *												0.04 ***	1.05	1.02	1.07
Financial Aid Counseling (S)			0.22 ***											0.11 ***	1.11	1.07	1.16
Counseling/Advising (S)				0.16 ***										0.04 *	1.04	1.01	1.08
College Visit (S)					0.13 ***									0.10 ***	1.10	1.07	1.13
Job Site Visit (S)						0.04 *								-0.04 *	0.96	0.92	0.99
Summer Program (S)							0.06 ***							0.03 *	1.03	1.01	1.05
Educational Field Trips (S)								0.11 ***						0.03	1.03	1.00	1.07
Workshop (S)									0.03 *					-0.08 ***	0.92	0.90	0.95
Financial Aid Workshops (F)										0.41 ***				0.34 ***	1.40	1.34	1.46
Advising/Counseling (F)											0.18 ***			-0.02	0.98	0.94	1.04
College Visit (F)												0.28 ***		0.06	1.06	0.97	1.15
Events (F)													0.25 ***	0.18 ***	1.20	1.16	1.24
Gender (Male)	-0.67 ***	-0.67 ***	-0.67 ***	-0.67 ***	-0.65 ***	-0.67 ***	-0.67 ***	-0.67 ***	-0.67 ***	-0.66 ***	-0.67 ***	-0.67 ***	-0.67 ***	-0.64 ***	0.53	0.50	0.56
Race (American Native)	-0.33 ***	-0.32 ***	-0.36 ***	-0.35 ***	-0.38 ***	-0.32 ***	-0.38 ***	-0.37 ***	-0.34 ***	-0.37 ***	-0.45 ***	-0.34 ***	-0.36 ***	-0.33 ***	0.72	0.63	0.81
Race (Asian)	0.74 ***	0.76 ***	0.76 ***	0.75 ***	0.71 ***	0.75 ***	0.73 ***	0.70 ***	0.74 ***	0.84 ***	0.72 ***	0.75 ***	0.71 ***	0.75 ***	2.13	1.71	2.65
Race (African American)	-0.16 **	-0.14 **	-0.15 **	-0.15 **	-0.16 **	-0.15 **	-0.16 **	-0.13 **	-0.14 **	-0.11 *	-0.15 **	-0.15 **	-0.10 *	-0.12 *	0.88	0.80	0.98
Race (Pacific Islander)	-0.24	-0.23	-0.23	-0.24	-0.32	-0.24	-0.26	-0.27	-0.24	-0.25	-0.29	-0.23	-0.32	-0.30	0.74	0.46	1.20
Race (Two or More Races)	-0.02	-0.01	-0.01	-0.04	-0.02	-0.02	-0.04	-0.07	-0.02	0.02	-0.06	-0.02	-0.07	-0.05	0.95	0.79	1.13
Race (Unknown)	-0.09	-0.06	-0.17 *	-0.19 *	-0.26 **	-0.08	-0.07	-0.07	-0.10	-0.18 *	-0.07	-0.08	-0.06	-0.17	0.85	0.71	1.00
Race (Hispanic)	-0.13 ***	-0.12 **	-0.07	-0.11 **	-0.14 ***	-0.13 **	-0.16 ***	-0.15 ***	-0.13 ***	-0.08	-0.16 ***	-0.13 ***	-0.18 ***	-0.10 *	0.91	0.84	0.99
Program Model (Cohort)	-0.03	-0.03	-0.28 ***	-0.08 *	0.03	-0.00	-0.03	-0.03	-0.02	-0.80 **	-0.05	-0.04	0.05	-0.13 **	0.88	0.81	0.95
Program Model (Priority)	-0.62 ***	-0.59 ***	-0.62 ***	-0.59 ***	-0.55 ***	-0.62 ***	-0.64 ***	-0.63 ***	-0.63 ***	-0.58 ***	-0.63 ***	-0.62 ***	-0.55 ***	-0.31 *	0.73	0.55	0.97
Student Type (Priority)	0.42 ***	0.43 ***	0.49 ***	0.54 ***	0.51 ***	0.45 ***	0.47 ***	0.47 ***	0.45 ***	0.50 ***	0.44 ***	0.43 ***	0.57 ***	0.60 ***	1.83	1.56	2.14

Note: *p < .05. **p < .01. ***p < .001; (S) = Student Service; (F) = Family Service. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

Table 27. Results of individual GEAR UP services on FAFSA completion for the 4-Year Sample (n = 25,057).

	Tutoring	Comp. Mentoring	Financial Aid Counseling	Counseling/Advising	College Visit	Job Site Visit	Summer Program	Educational Field Trips	Workshop	Financial Aid Workshops	Advising/Counseling	College Visit	Events	Full Model	Odds Ratio Estimates for Full Model		
															Odds Ratio	Wald 95% Confidence Interval Limits	
(Intercept)	1.56 ***	1.48 ***	1.22 ***	1.15 ***	1.10 ***	1.29 ***	1.59 ***	1.57 ***	0.47 ***	1.34 ***	1.62 ***	1.64 ***	1.40 ***	0.13 *	1.14	1.00	1.30
Tutoring (S)	0.06 ***													-0.10 ***	0.90	0.88	0.92
Comprehensive Mentoring (S)		0.11 ***												0.13 ***	1.14	1.11	1.17
Financial Aid Counseling (S)			0.49 ***											0.27 ***	1.32	1.27	1.37
Counseling/Advising (S)				0.20 ***										-0.03 *	0.97	0.94	1.00
College Visit (S)					0.24 ***									0.09 ***	1.10	1.07	1.13
Job Site Visit (S)						0.36 ***								0.18 ***	1.20	1.14	1.25
Summer Program (S)							0.13 ***							0.06 ***	1.06	1.04	1.08
Educational Field Trips (S)								0.14 ***						0.01	1.01	0.98	1.04
Workshop (S)									0.38 ***					0.18 ***	1.20	1.16	1.24
Financial Aid Workshops (F)										0.65 ***				0.46 ***	1.58	1.51	1.65
Advising/Counseling (F)											0.22 ***			-0.10 ***	0.90	0.86	0.95
College Visit (F)												0.37 ***		0.02	1.02	0.93	1.12
Events (F)													0.32 ***	0.16 ***	1.18	1.13	1.22
Gender (Male)	-0.63 ***	-0.63 ***	-0.63 ***	-0.62 ***	-0.60 ***	-0.62 ***	-0.62 ***	-0.63 ***	-0.62 ***	-0.61 ***	-0.63 ***	-0.63 ***	-0.63 ***	-0.58 ***	0.56	0.53	0.59
Race (American Native)	-0.78 ***	-0.67 ***	-0.81 ***	-0.73 ***	-0.76 ***	-0.58 ***	-0.84 ***	-0.76 ***	-0.78 ***	-0.77 ***	-0.86 ***	-0.73 ***	-0.77 ***	-0.63 ***	0.53	0.47	0.60
Race (Asian)	0.44 ***	0.45 ***	0.53 ***	0.47 ***	0.39 ***	0.41 ***	0.39 ***	0.39 ***	0.36 ***	0.48 ***	0.43 ***	0.43 ***	0.41 ***	0.43 ***	1.54	1.29	1.85
Race (African American)	0.29 ***	0.29 ***	0.40 ***	0.32 ***	0.25 ***	0.22 ***	0.26 ***	0.31 ***	0.23 ***	0.32 ***	0.29 ***	0.27 ***	0.36 ***	0.34 ***	1.40	1.24	1.59
Race (Pacific Islander)	-0.04	0.04	-0.05	-0.03	-0.18	-0.02	-0.04	-0.04	0.02	-0.01	-0.04	0.00	-0.09	0.01	1.01	0.66	1.56
Race (Two or More Races)	0.06	0.08	0.11	0.09	0.08	0.07	0.03	0.02	0.10	0.09	0.02	0.06	0.01	0.14	1.15	0.97	1.36
Race (Unknown)	-0.55 ***	-0.35 ***	-0.75 ***	-0.64 ***	-0.85 ***	-0.43 ***	-0.44 ***	-0.46 ***	-0.62 ***	-0.70 ***	-0.45 ***	-0.47 ***	-0.46 ***	-0.64 ***	0.52	0.44	0.62
Race (Hispanic)	-0.50 ***	-0.45 ***	-0.35 ***	-0.43 ***	-0.50 ***	-0.45 ***	-0.58 ***	-0.50 ***	-0.51 ***	-0.40 ***	-0.52 ***	-0.49 ***	-0.53 ***	-0.33 ***	0.72	0.67	0.78
Program Model (Cohort)	-1.01 ***	-0.97 ***	-1.47 ***	-1.09 ***	-0.84 ***	-0.72 ***	-1.01 ***	-1.00 ***	-0.70 ***	-1.05 ***	-1.04 ***	-1.02 ***	-0.92 ***	-0.83 ***	0.43	0.40	0.48
Program Model (Priority)	0.56 ***	0.58 ***	-0.13	0.47 ***	0.79 ***	0.63 ***	0.44 ***	0.50 ***	1.05 ***	0.28 *	0.50 ***	0.54 ***	0.60 ***	0.42 **	1.52	1.15	2.00
Student Type (Priority)	-1.34 ***	-1.32 ***	-1.38 ***	-1.29 ***	-1.26 ***	-1.16 ***	-1.30 ***	-1.32 ***	-0.98 ***	-1.39 ***	-1.40 ***	-1.36 ***	-1.26 ***	-0.98 ***	0.38	0.33	0.43

Note: *p < .05. **p < .01. ***p < .001; (S) = Student Service; (F) = Family Service. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

Table 28. Results of individual GEAR UP services on high school graduation for the 4-Year Sample (n = 28,121).

	Tutoring	Comp. Mentoring	Financial Aid Counseling	Counseling/Advising	College Visit	Job Site Visit	Summer Program	Educational Field Trips	Workshop	Financial Aid Workshops	Advising/Counseling	College Visit	Events	Full Model	Odds Ratio Estimates for Full Model		
															Odds Ratio	Wald 95% Confidence Interval	Limits
(Intercept)	3.10 ***	2.90 ***	2.90 ***	2.83 ***	3.14 ***	2.91 ***	3.03 ***	3.14 ***	3.00 ***	2.93 ***	2.98 ***	3.04 ***	2.96 ***	2.79 ***	16.28	13.27	19.97
Tutoring (S)	-0.03 *													-0.06 ***	0.94	0.92	0.97
Comprehensive Mentoring (S)		0.12 ***												0.09 ***	1.09	1.04	1.14
Financial Aid Counseling (S)			0.22 ***											0.14 ***	1.15	1.08	1.22
Counseling/Advising (S)				0.09 ***										0.05	1.05	1.00	1.11
College Visit (S)					-0.04									-0.08 ***	0.92	0.88	0.96
Job Site Visit (S)						0.16 ***								0.20 ***	1.22	1.13	1.33
Summer Program (S)							0.05 **							0.04 *	1.04	1.00	1.08
Educational Field Trips (S)								-0.11 ***						-0.21 ***	0.81	0.77	0.85
Workshop (S)									0.02					-0.04	0.96	0.91	1.00
Financial Aid Workshops (F)										0.27 ***				0.21 ***	1.23	1.14	1.33
Advising/Counseling (F)											0.49 ***			0.46 ***	1.58	1.42	1.77
College Visit (F)												0.49 ***		0.31 **	1.37	1.12	1.72
Events (F)													0.12 ***	0.04	1.04	0.97	1.11
Gender (Male)	-0.29 ***	-0.29 ***	-0.29 ***	-0.29 ***	-0.30 ***	-0.29 ***	-0.29 ***	-0.30 ***	-0.29 ***	-0.28 ***	-0.29 ***	-0.29 ***	-0.29 ***	-0.29 ***	0.75	0.68	0.82
Race (American Native)	-0.24 **	-0.24 **	-0.27 **	-0.27 **	-0.27 **	-0.23 *	-0.32 ***	-0.26 **	-0.29 **	-0.27 **	-0.45 ***	-0.28 **	-0.29 **	-0.22 *	0.80	0.66	0.98
Race (Asian)	0.07	0.12	0.15	0.11	0.08	0.10	0.07	0.10	0.08	0.13	0.08	0.10	0.08	0.25	1.29	0.97	1.76
Race (African American)	-0.32 ***	-0.27 ***	-0.29 ***	-0.31 ***	-0.31 ***	-0.31 ***	-0.32 ***	-0.34 ***	-0.31 ***	-0.29 ***	-0.28 ***	-0.31 ***	-0.28 ***	-0.28 ***	0.76	0.64	0.89
Race (Pacific Islander)	-0.63 **	-0.59 *	-0.58 *	-0.61 **	-0.64 **	-0.63 **	-0.65 **	-0.63 **	-0.63 **	-0.60 **	-0.66 **	-0.63 **	-0.65 **	-0.53 *	0.59	0.38	0.95
Race (Two or More Races)	-0.17	-0.15	-0.14	-0.16	-0.18	-0.16	-0.19	-0.15	-0.17	-0.15	-0.22 *	-0.18	-0.19	-0.09	0.91	0.74	1.14
Race (Unknown)	-0.74 ***	-0.63 ***	-0.84 ***	-0.81 ***	-0.72 ***	-0.73 ***	-0.75 ***	-0.79 ***	-0.77 ***	-0.81 ***	-0.71 ***	-0.75 ***	-0.75 ***	-0.54 ***	0.58	0.47	0.73
Race (Hispanic)	0.38 ***	0.43 ***	0.45 ***	0.41 ***	0.37 ***	0.39 ***	0.34 ***	0.38 ***	0.38 ***	0.43 ***	0.32 ***	0.38 ***	0.36 ***	0.46 ***	1.59	1.37	1.85
Program Model (Cohort)	-0.44 ***	-0.43 ***	-0.68 ***	-0.49 ***	-0.47 ***	-0.34 ***	-0.45 ***	-0.45 ***	-0.45 ***	-0.48 ***	-0.50 ***	-0.46 ***	-0.43 ***	-0.54 ***	0.59	0.51	0.67
Program Model (Priority)	-1.36 ***	-1.31 ***	-1.40 ***	-1.37 ***	-1.43 ***	-1.35 ***	-1.40 ***	-1.40 ***	-1.37 ***	-1.35 ***	-1.35 ***	-1.39 ***	-1.34 ***	-1.24 ***	0.29	0.20	0.43
Student Type (Priority)	0.75 ***	0.79 ***	0.73 ***	0.80 ***	0.75 ***	0.83 ***	0.78 ***	0.74 ***	0.77 ***	0.74 ***	0.68 ***	0.77 ***	0.79 ***	0.72 ***	2.06	1.46	3.00

Note: *p < .05. **p < .01. ***p < .001; (S) = Student Service; (F) = Family Service. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

Table 29. Results of individual GEAR UP services on postsecondary enrollment for the 4-Year Sample (n = 29,672).

	Tutoring	Comp. Mentoring	Financial Aid Counseling	Counseling/ Advising	College Visit	Job Site Visit	Summer Program	Educational Field Trips	Workshop	Financial Aid Workshops	Advising/ Counseling	College Visit	Events	Full Model	Odds Ratio Estimates for Full Model		
															Odds Ratio	Wald 95% Confidence Interval	Limits
(Intercept)	0.53 ***	0.43 ***	0.31 ***	0.13 ***	0.26 ***	0.46 ***	0.46 ***	0.44 ***	0.37 ***	0.30 ***	0.47 ***	0.49 ***	0.29 ***	0.07	1.08	0.98	1.18
Tutoring (S)	-0.02 *													-0.10 ***	0.91	0.89	0.92
Comprehensive Mentoring (S)		0.05 ***												0.04 ***	1.04	1.02	1.07
Financial Aid Counseling (S)			0.21 ***											0.08 ***	1.09	1.05	1.12
Counseling/ Advising (S)				0.14 ***										0.05 ***	1.05	1.02	1.07
College Visit (S)					0.11 ***									0.06 ***	1.06	1.04	1.09
Job Site Visit (S)						0.04 *								-0.05 **	0.95	0.91	0.98
Summer Program (S)							0.07 ***							0.04 ***	1.04	1.02	1.06
Educational Field Trips (S)								0.10 ***						0.01	1.01	0.99	1.04
Workshop (S)									0.05 ***					-0.04 **	0.96	0.94	0.98
Financial Aid Workshops (F)										0.40 ***				0.33 ***	1.39	1.34	1.44
Advising/ Counseling (F)											0.18 ***			-0.03	0.97	0.93	1.02
College Visit (F)												0.28 ***		0.07	1.07	0.99	1.16
Events (F)													0.26 ***	0.19 ***	1.21	1.18	1.25
Gender (Male)	-0.65 ***	-0.64 ***	-0.64 ***	-0.64 ***	-0.63 ***	-0.64 ***	-0.64 ***	-0.64 ***	-0.64 ***	-0.63 ***	-0.65 ***	-0.64 ***	-0.64 ***	-0.62 ***	0.54	0.51	0.56
Race (American Native)	-0.48 ***	-0.48 ***	-0.52 ***	-0.49 ***	-0.52 ***	-0.48 ***	-0.55 ***	-0.52 ***	-0.51 ***	-0.51 ***	-0.59 ***	-0.50 ***	-0.53 ***	-0.45 ***	0.64	0.58	0.71
Race (Asian)	0.71 ***	0.74 ***	0.77 ***	0.76 ***	0.70 ***	0.72 ***	0.71 ***	0.70 ***	0.71 ***	0.79 ***	0.72 ***	0.73 ***	0.73 ***	0.77 ***	2.16	1.85	2.53
Race (African American)	-0.15 ***	-0.12 **	-0.12 **	-0.13 **	-0.15 ***	-0.14 ***	-0.15 ***	-0.12 **	-0.13 **	-0.11 **	-0.13 **	-0.14 **	-0.08	-0.09 *	0.92	0.84	1.00
Race (Pacific Islander)	-0.41 *	-0.40 *	-0.38 *	-0.39 *	-0.44 **	-0.41 *	-0.43 **	-0.43 **	-0.41 *	-0.37 *	-0.43 **	-0.41 *	-0.45 **	-0.36 *	0.70	0.50	0.96
Race (Two or More Races)	-0.12	-0.11	-0.10	-0.11	-0.12	-0.11	-0.14 *	-0.14 *	-0.12	-0.09	-0.15 *	-0.12 *	-0.15 *	-0.11	0.90	0.80	1.02
Race (Unknown)	-0.13	-0.08	-0.23 **	-0.22 **	-0.29 ***	-0.13	-0.12	-0.12	-0.16 *	-0.23 **	-0.12	-0.13	-0.11	-0.19 *	0.83	0.71	0.97
Race (Hispanic)	-0.10 **	-0.08 *	-0.04	-0.07 *	-0.10 **	-0.10 **	-0.14 ***	-0.10 **	-0.10 **	-0.03	-0.12 ***	-0.10 **	-0.13 ***	-0.03	0.97	0.91	1.04
Program Model (Cohort)	0.08 **	0.08 **	-0.13 ***	0.03	0.13 ***	0.10 ***	0.07 **	0.08 **	0.09 **	0.04	0.05 *	0.07 *	0.14 ***	-0.00	1.00	0.94	1.07
Program Model (Priority)	-0.22 **	-0.19 *	-0.27 ***	-0.21 *	-0.14	-0.22 **	-0.25 ***	-0.24 **	-0.19 *	-0.20 **	-0.22 **	-0.24 **	-0.14	-0.01	0.99	0.85	1.15
Student Type (Priority)	0.35 ***	0.36 ***	0.35 ***	0.43 ***	0.39 ***	0.37 ***	0.38 ***	0.38 ***	0.38 ***	0.34 ***	0.32 ***	0.36 ***	0.44 ***	0.40 ***	1.50	1.32	1.69

Note: *p < .05. **p < .01. ***p < .001; (S) = Student Service; (F) = Family Service. The reference categories are: female for gender, White for race, hybrid for program model, and cohort for student type.

Figure 2. The ROC plot for the FAFSA completion logistic regression using aggregate GEAR UP services ($AUC = 0.72$) for the Full Sample.

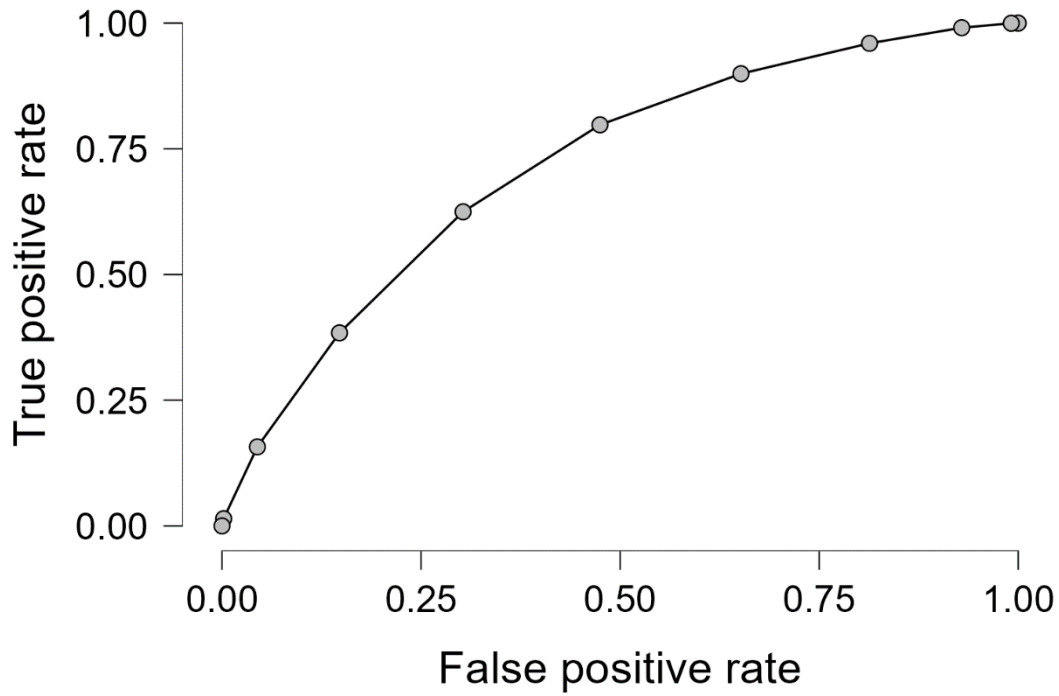


Figure 3. The ROC plot for the high school graduation logistic regression using aggregate GEAR UP services ($AUC = 0.63$) for the Full Sample.

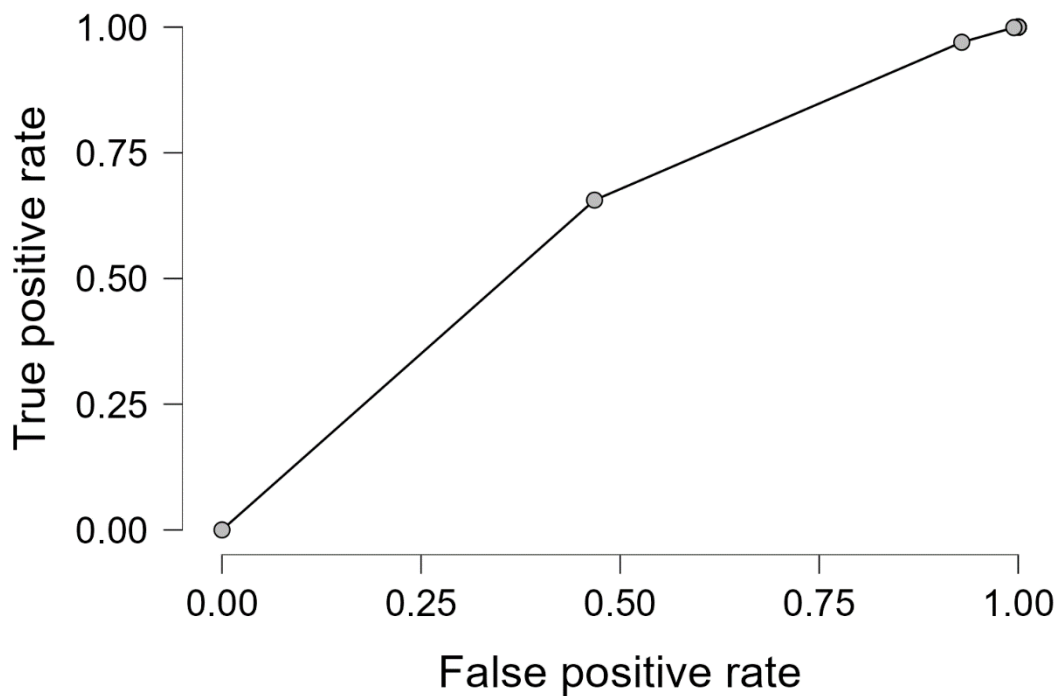


Figure 4. The ROC plot for the postsecondary enrollment logistic regression using aggregate GEAR UP services ($AUC = 0.66$) for the Full Sample.

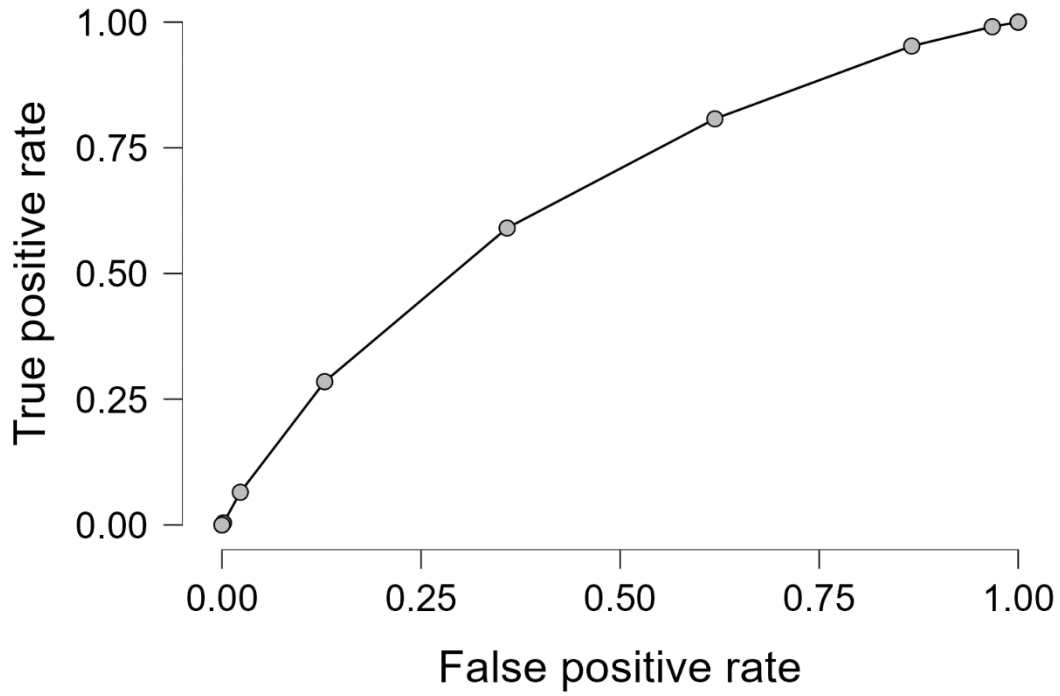


Figure 5. The ROC plot for the FAFSA completion logistic regression using aggregate GEAR UP services ($AUC = 0.72$) for the 6-Year Sample.

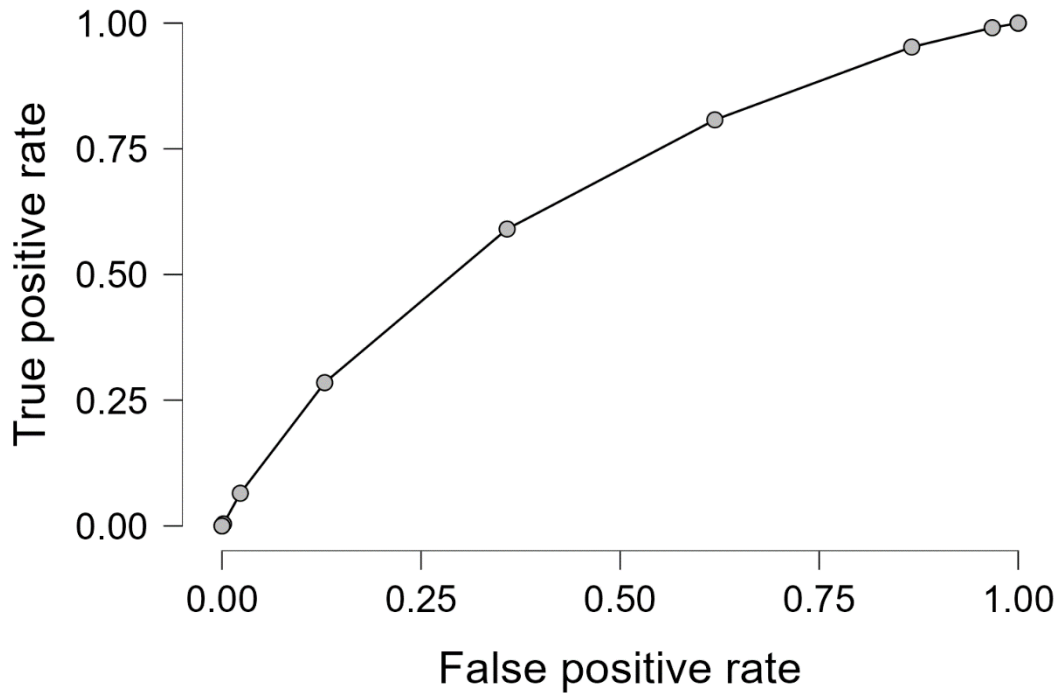


Figure 6. The ROC plot for the high school graduation logistic regression using aggregate GEAR UP services ($AUC = 0.62$) for the 6-Year Sample.

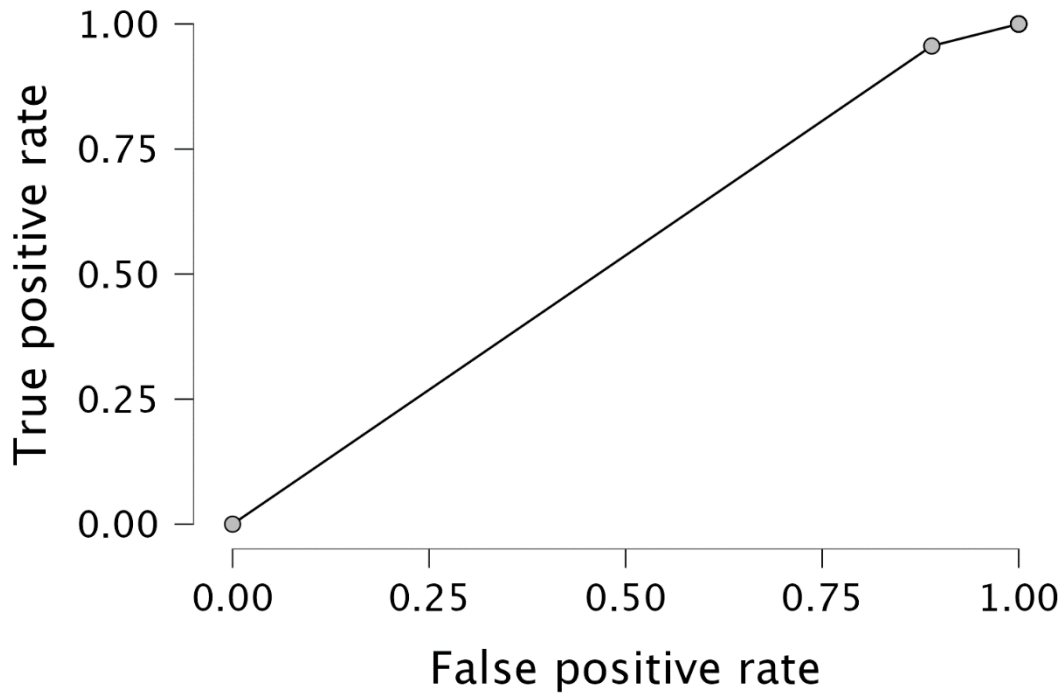


Figure 7. The ROC plot for the postsecondary enrollment logistic regression using aggregate GEAR UP services ($AUC = 0.62$) for the 6-Year Sample.

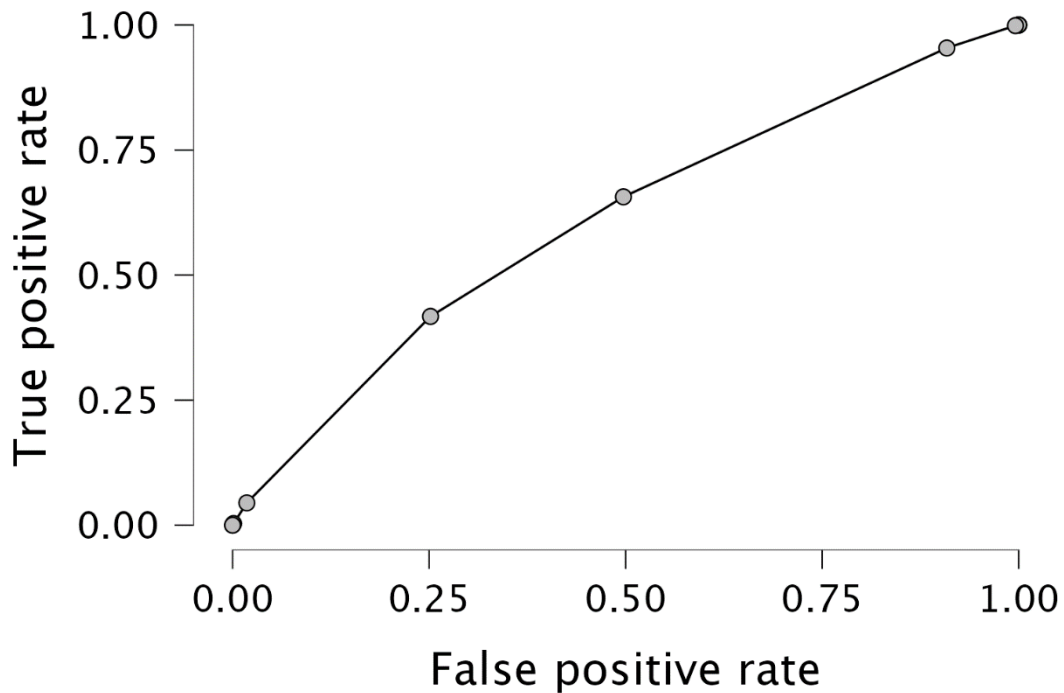


Figure 8. The ROC plot for the FAFSA completion logistic regression using aggregate GEAR UP services (AUC = 0.62) for the 4-Year Sample.

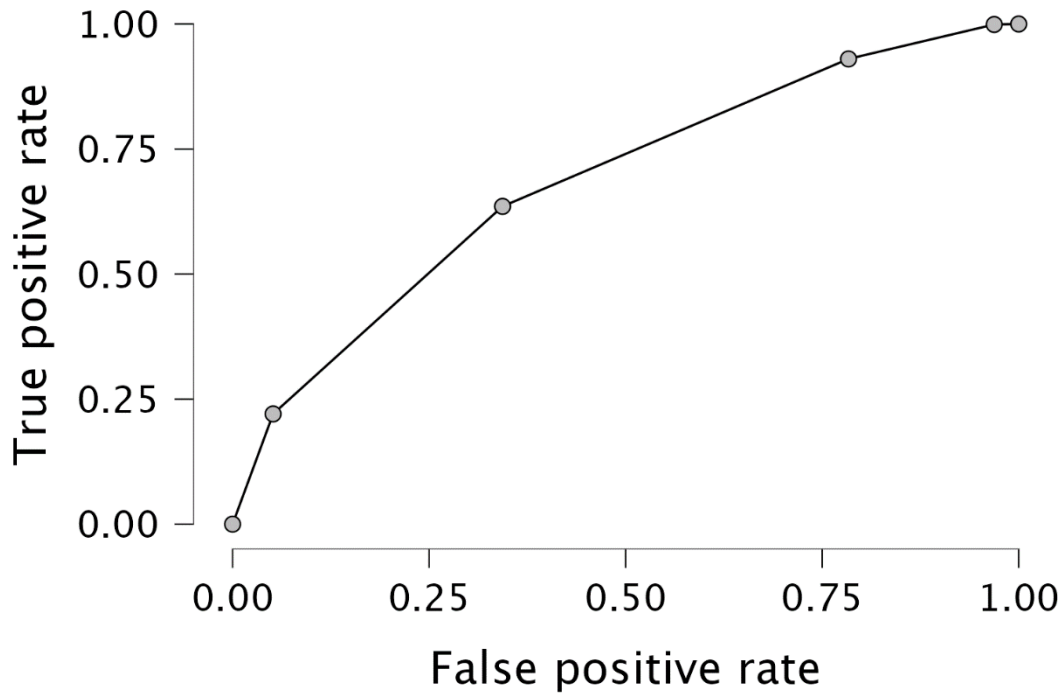


Figure 9. The ROC plot for the high school graduation logistic regression using aggregate GEAR UP services (AUC = 0.61) for the 4-Year Sample.

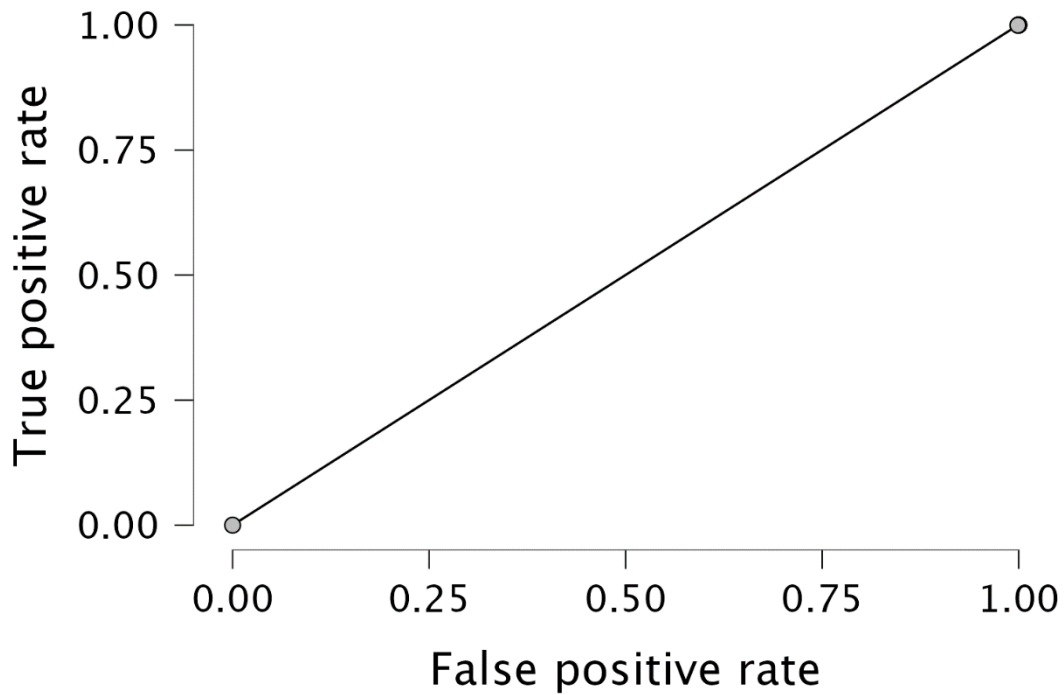


Figure 10. The ROC plot for the high school graduation logistic regression using aggregate GEAR UP services (AUC = 0.62) for the 4-Year Sample.

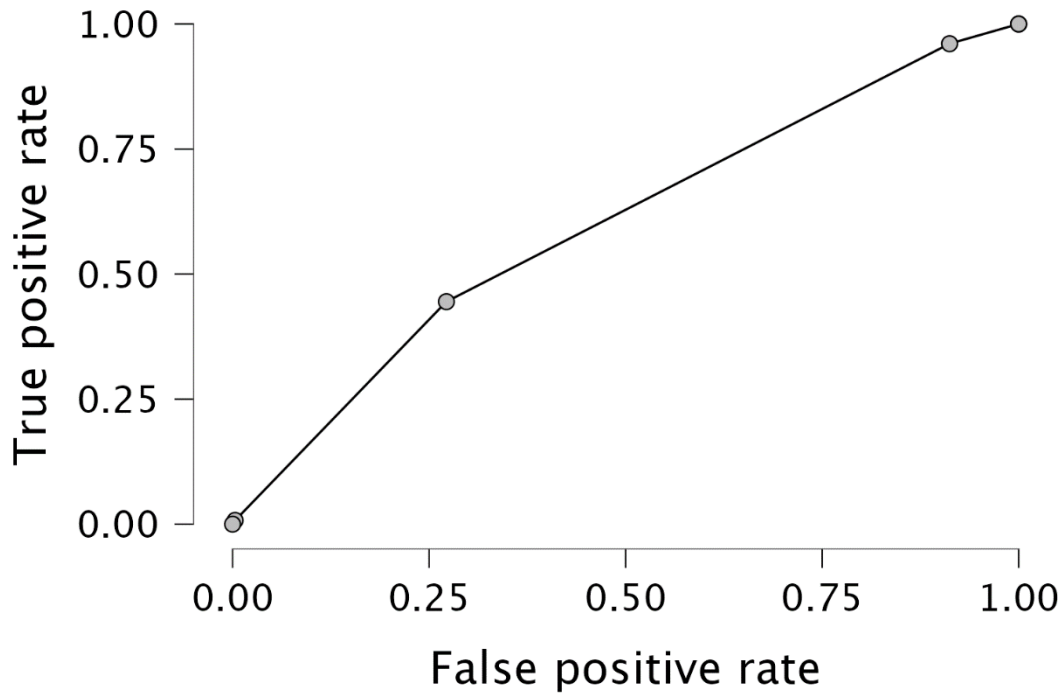


Figure 11. The ROC plot for the FAFSA completion logistic regression full model (AUC = 0.75) for the Full Sample.

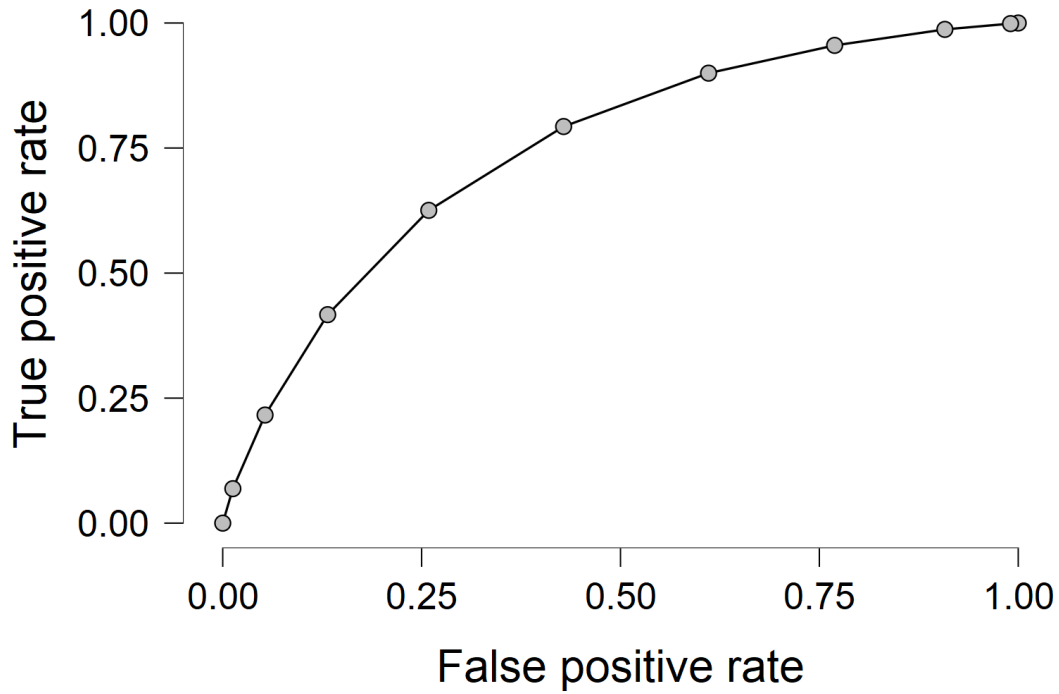


Figure 12. The ROC plot for the high school graduation logistic regression full model ($AUC = 0.66$) for the Full Sample.

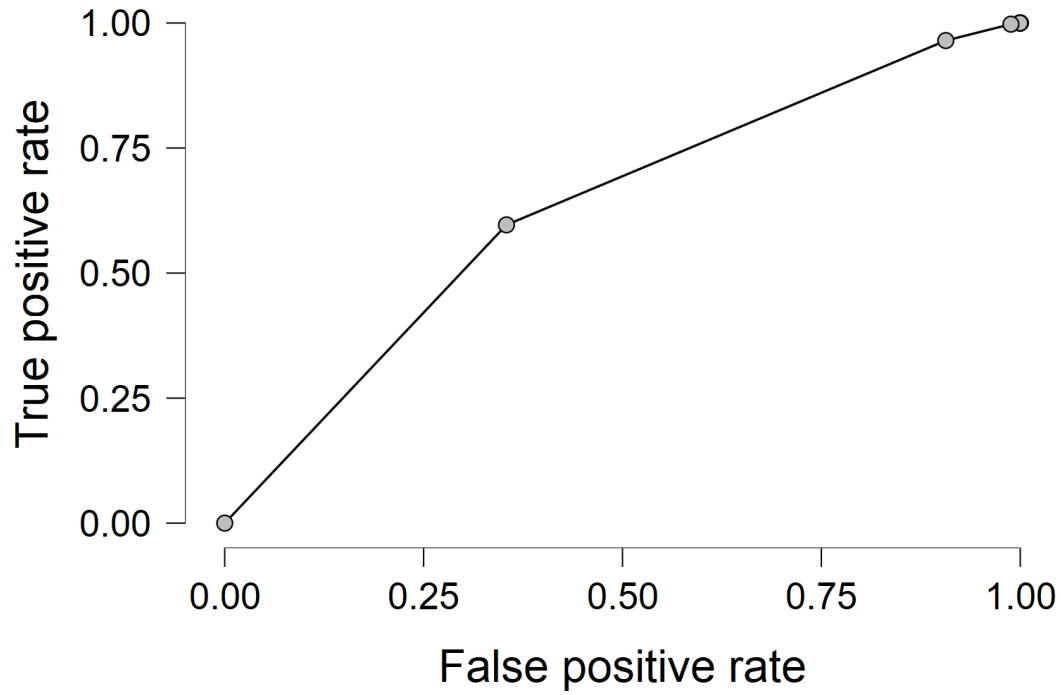


Figure 13. The ROC plot for the postsecondary enrollment logistic regression full model ($AUC = 0.68$) for the Full Sample.

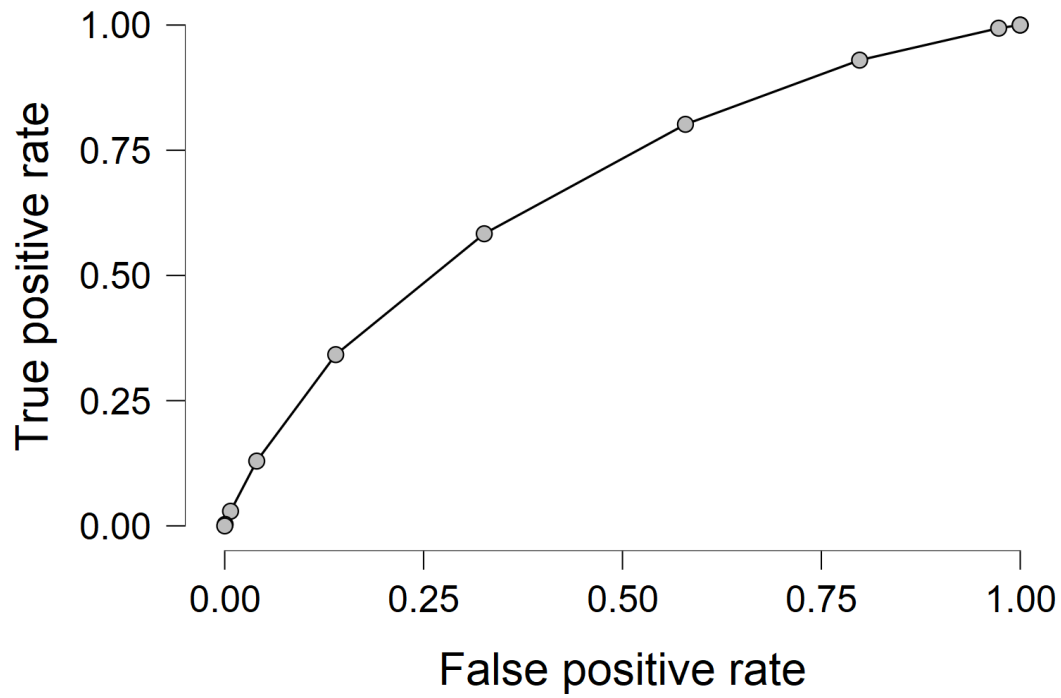


Figure 14. The ROC plot for the FAFSA completion logistic regression full model ($AUC = 0.75$) for the 6-Year Sample.

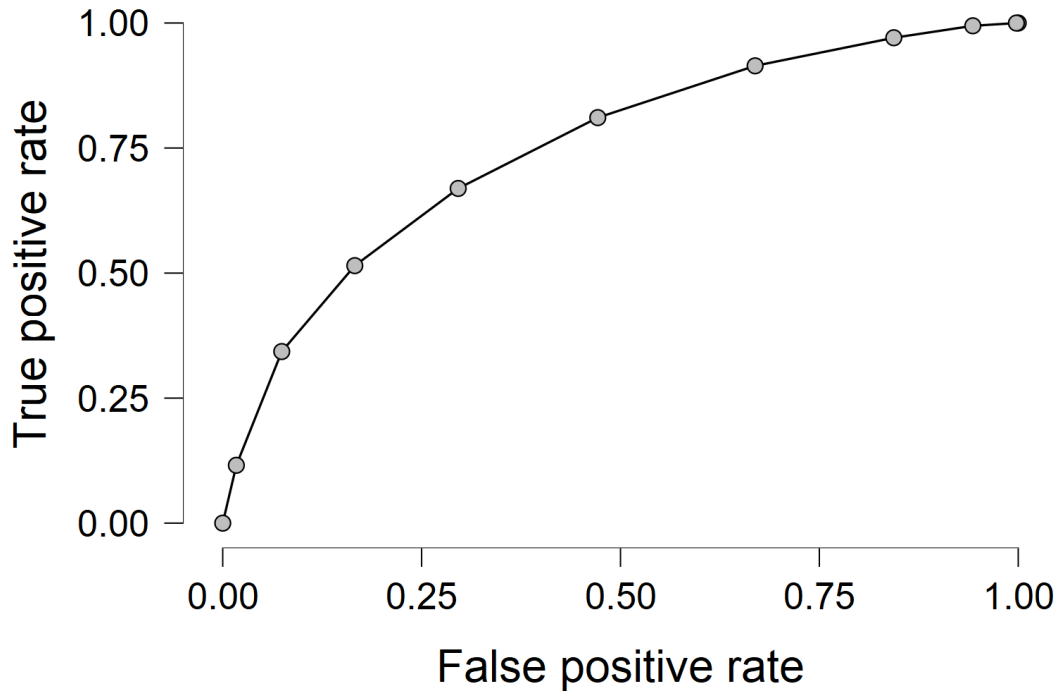


Figure 15. The ROC plot for the high school graduation logistic regression full model ($AUC = 0.68$) for the 6-Year Sample.

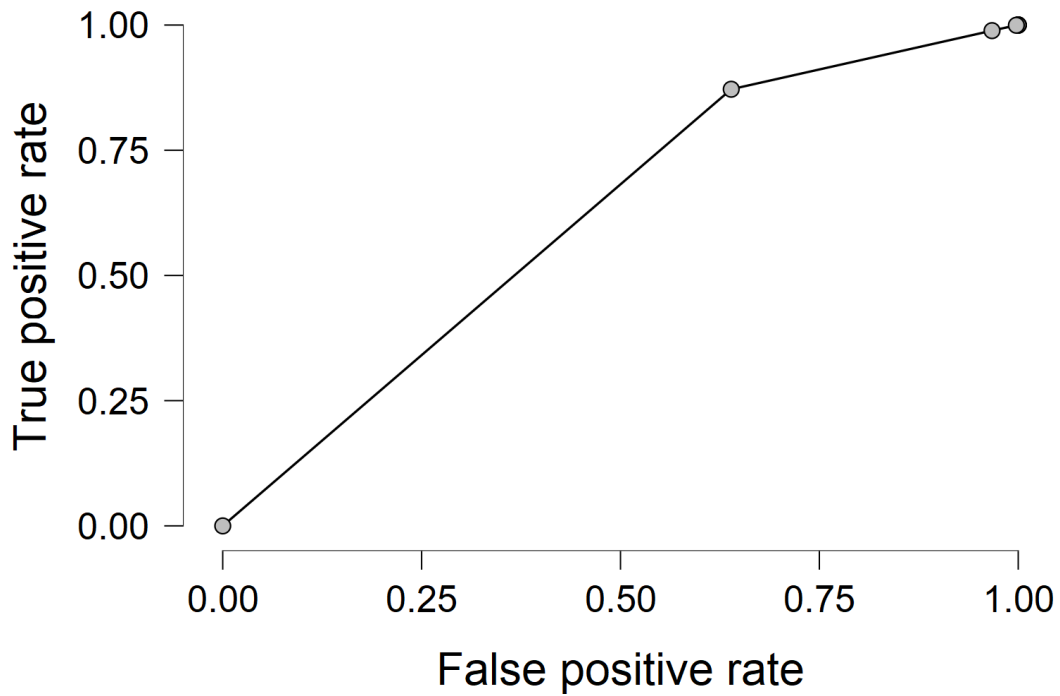


Figure 16. The ROC plot for the postsecondary logistic regression full model ($AUC = 0.65$) for the 6-Year Sample.

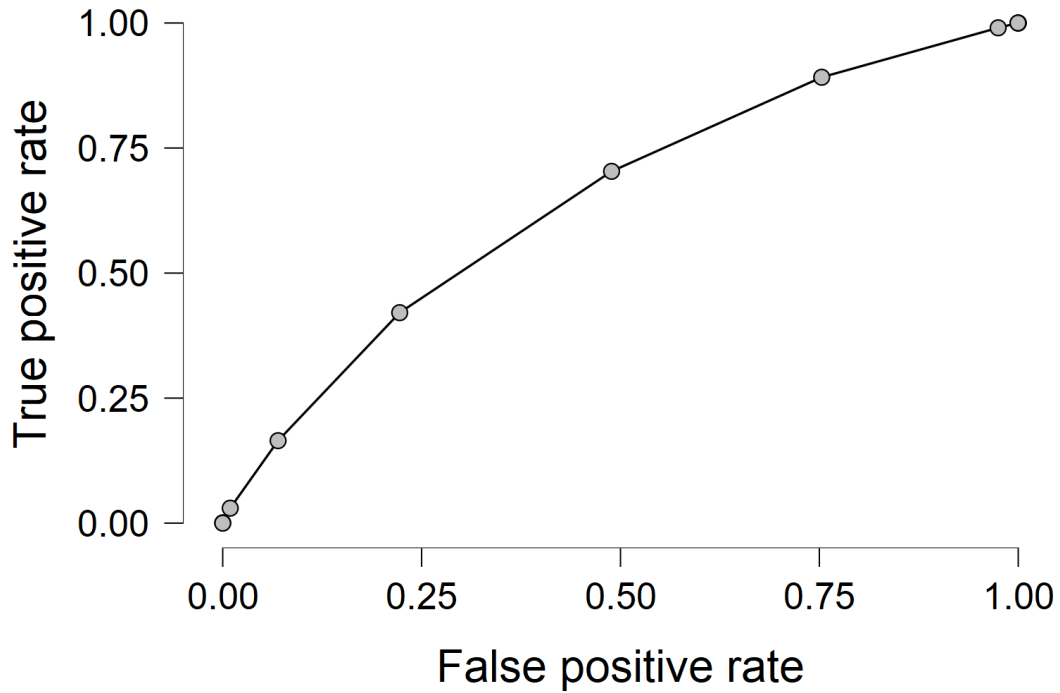


Figure 17. The ROC plot for the FAFSA completion logistic regression full model ($AUC = 0.74$) for the 4-Year Sample.

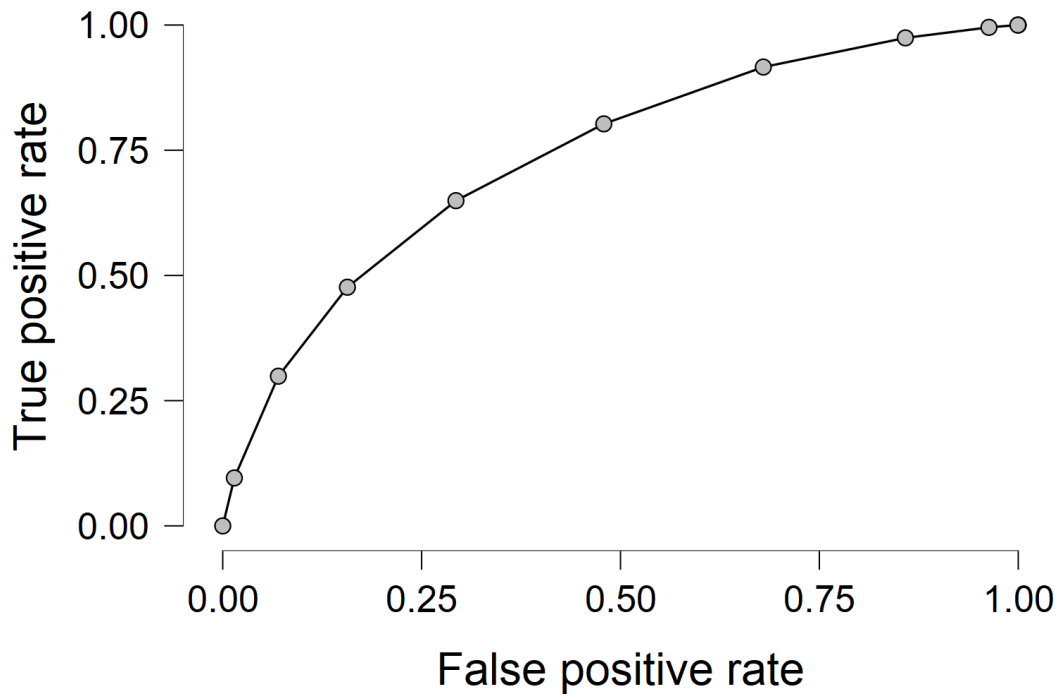


Figure 18. The ROC plot for the high school graduation logistic regression full model ($AUC = 0.67$) for the 4-Year Sample.

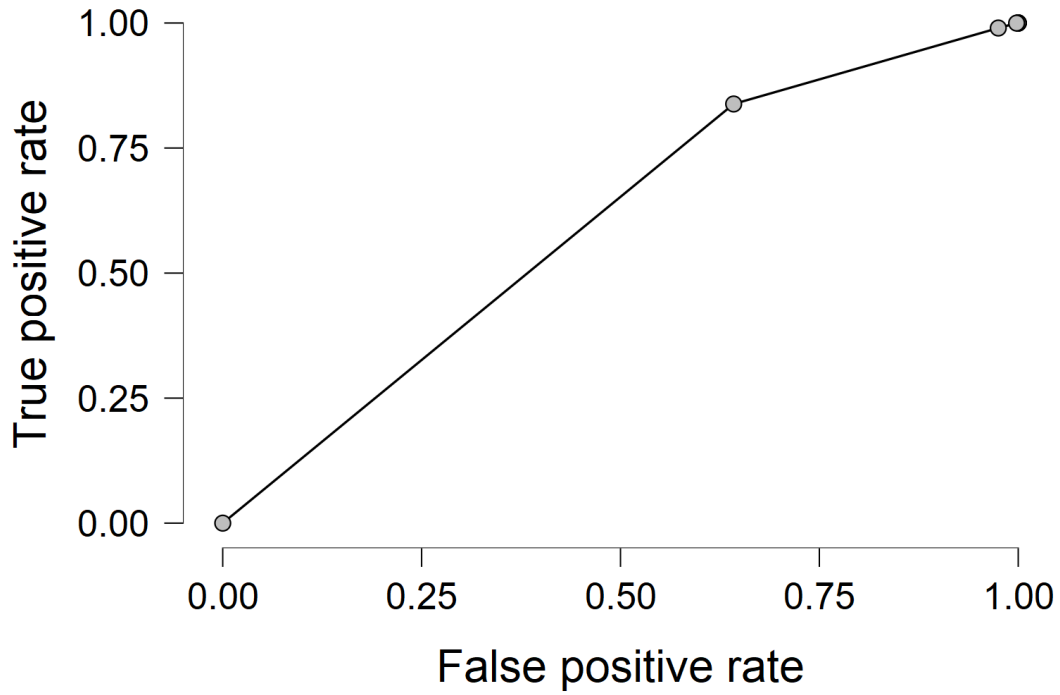


Figure 19. The ROC plot for the postsecondary enrollment logistic regression full model ($AUC = 0.65$) for the 6-Year Sample.

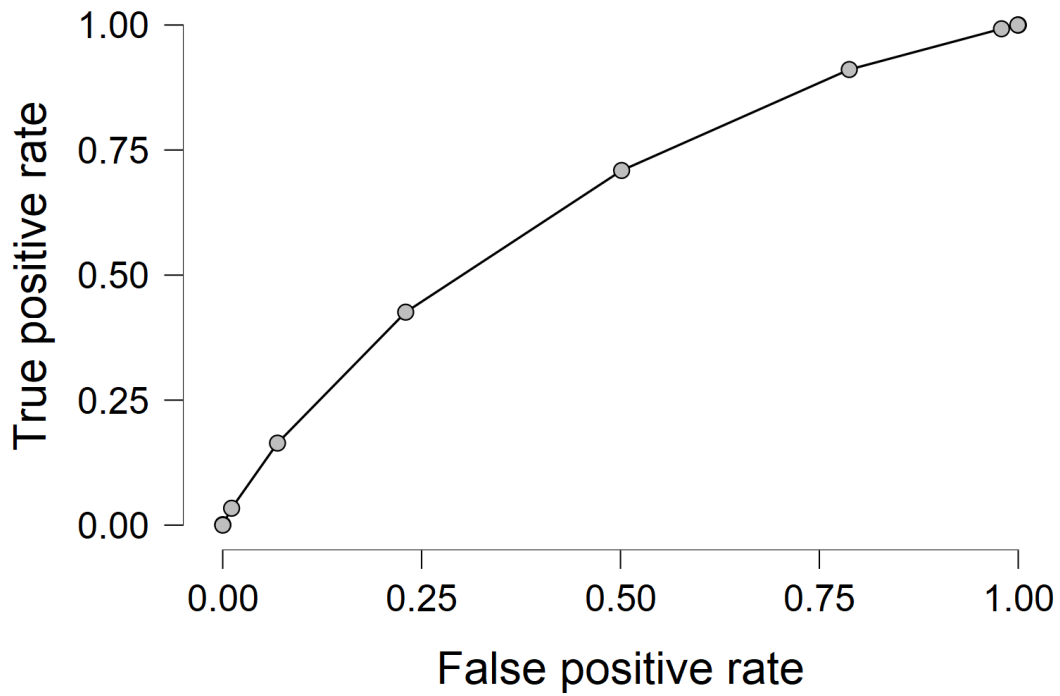


Figure 20. The implied probability of FAFSA completion for the Full Sample of the aggregated GEAR UP services.

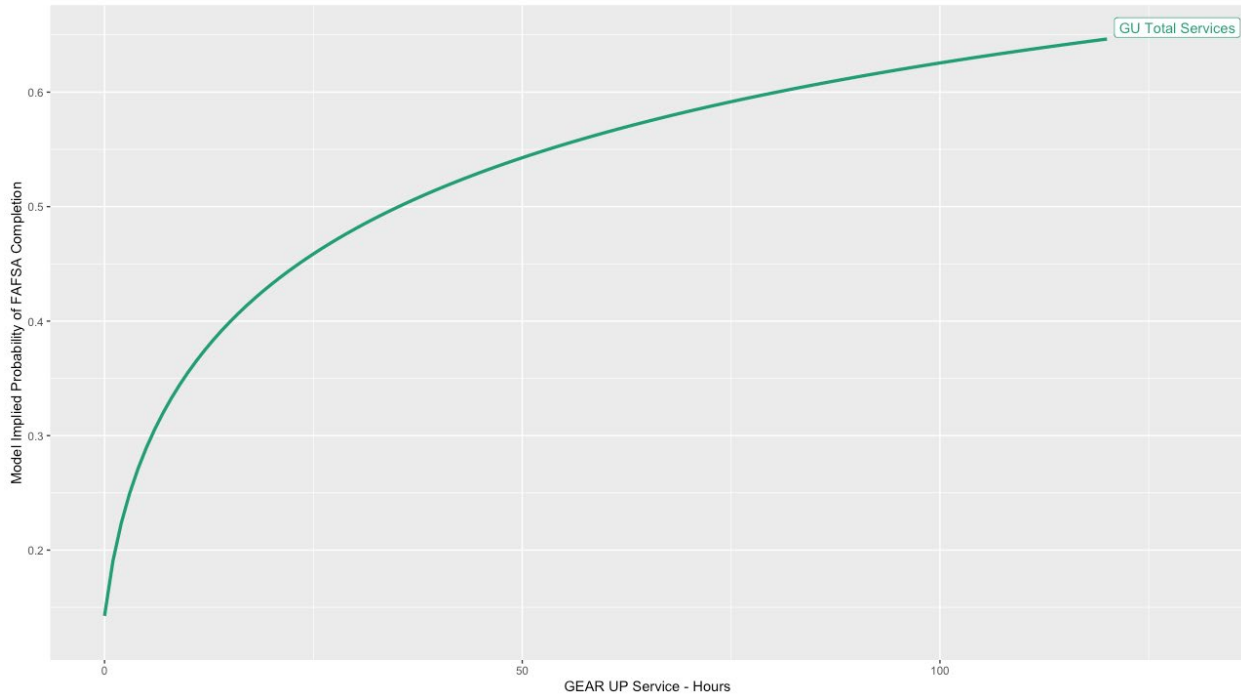


Figure 21. The implied probability of high school graduation for the Full Sample of the aggregated GEAR UP services.

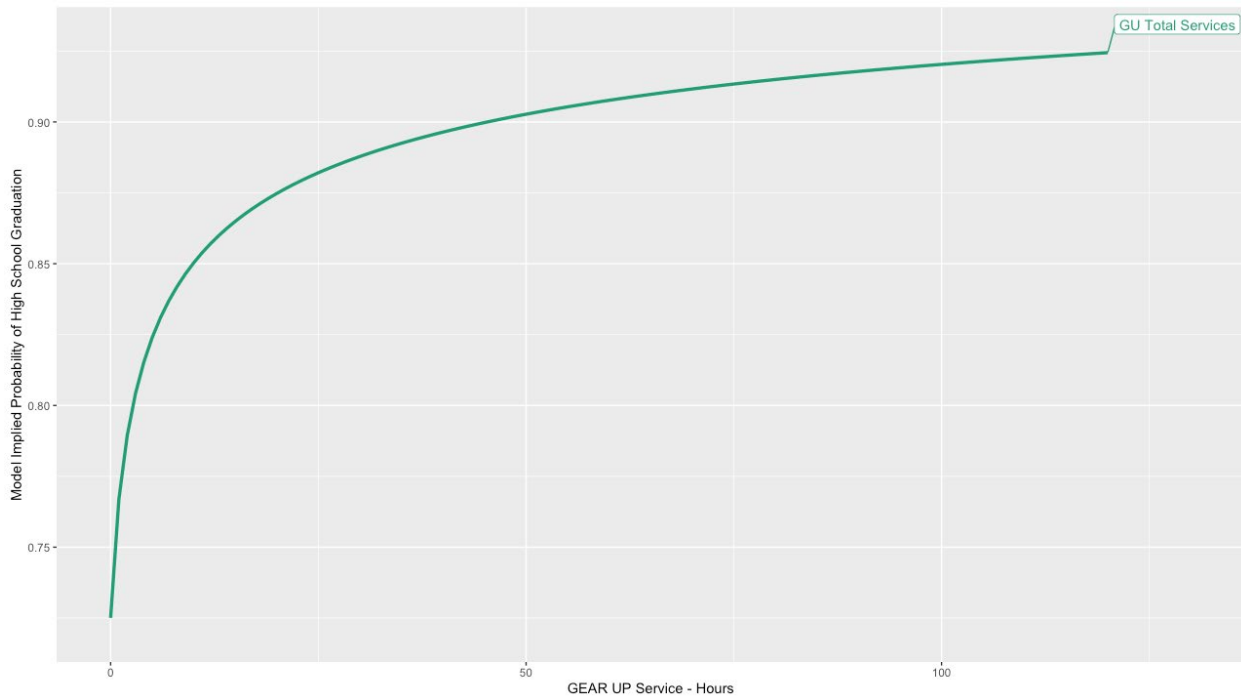


Figure 22. The implied probability of postsecondary enrollment for the Full Sample of the aggregated GEAR UP services.

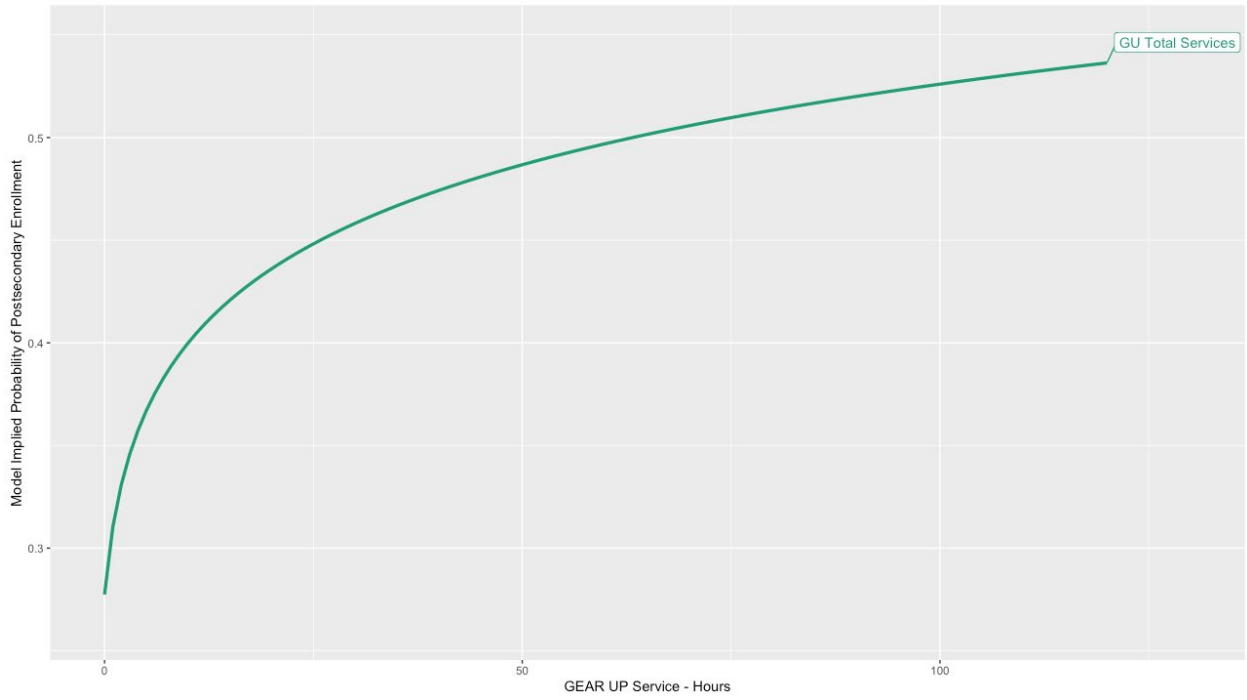


Figure 23. The implied probability of FAFSA completion for the 4-Year Sample of the aggregated GEAR UP services.

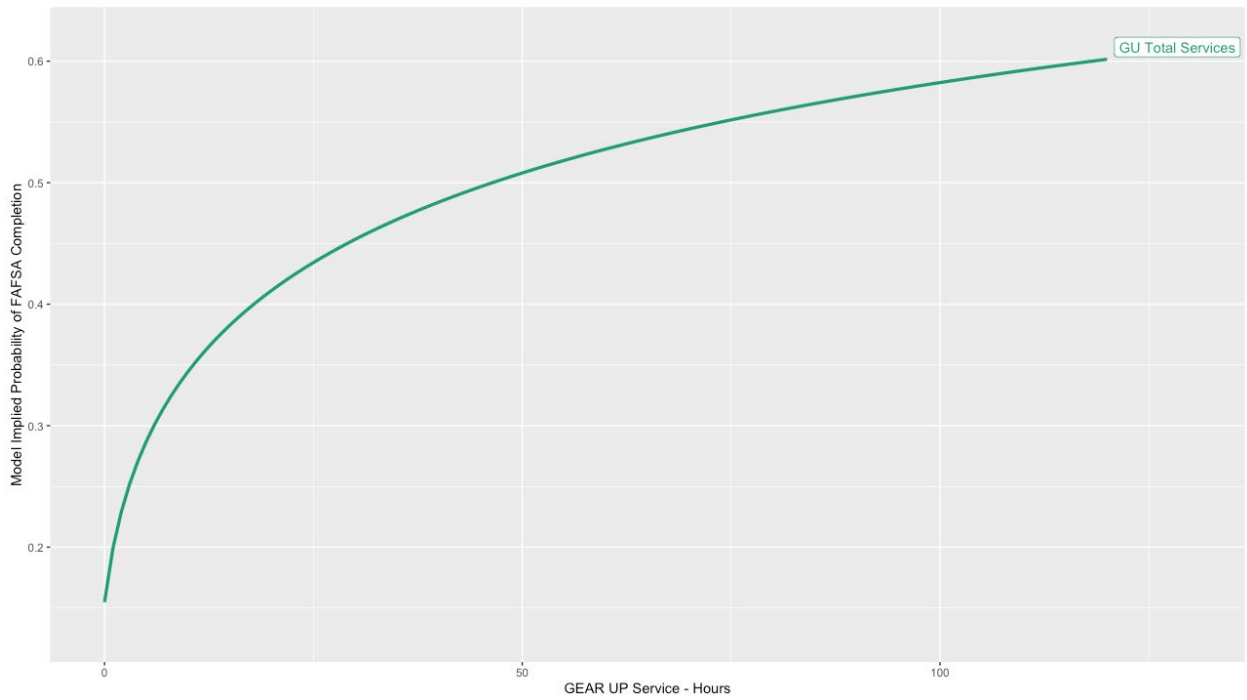


Figure 24. The implied probability of high school graduation for the 4-Year Sample of the aggregated GEAR UP services.

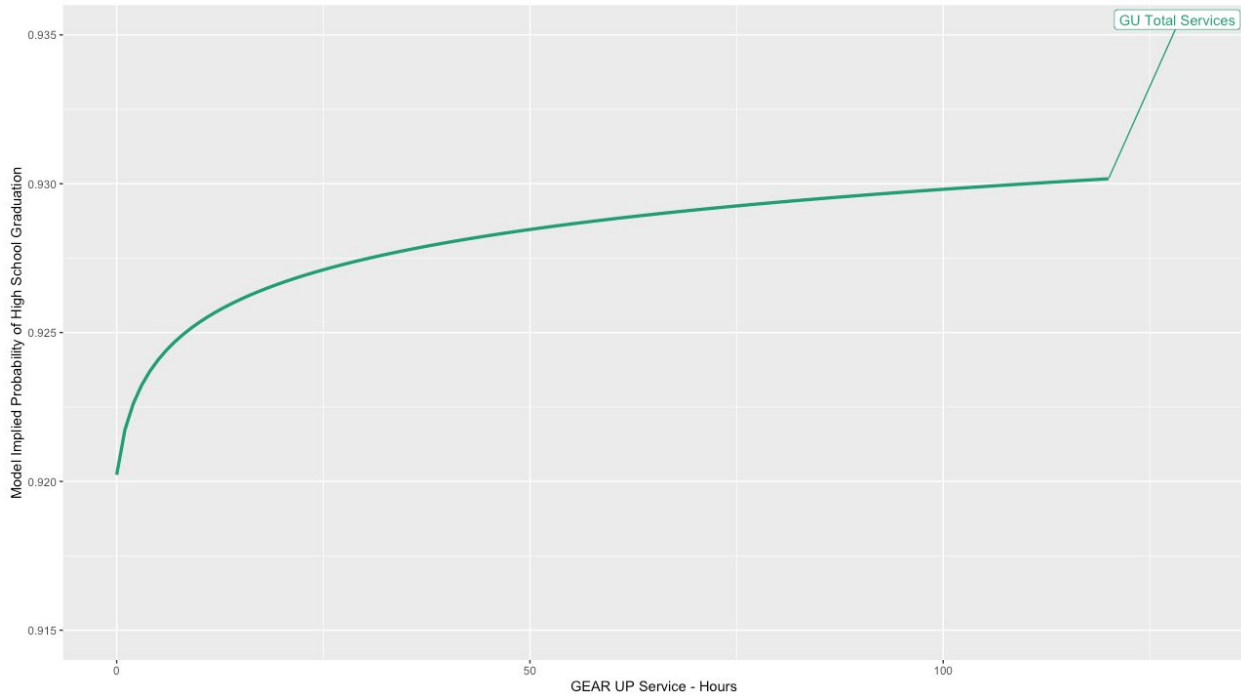


Figure 25. The implied probability of postsecondary enrollment for the 4-Year Sample of the aggregated GEAR UP services.

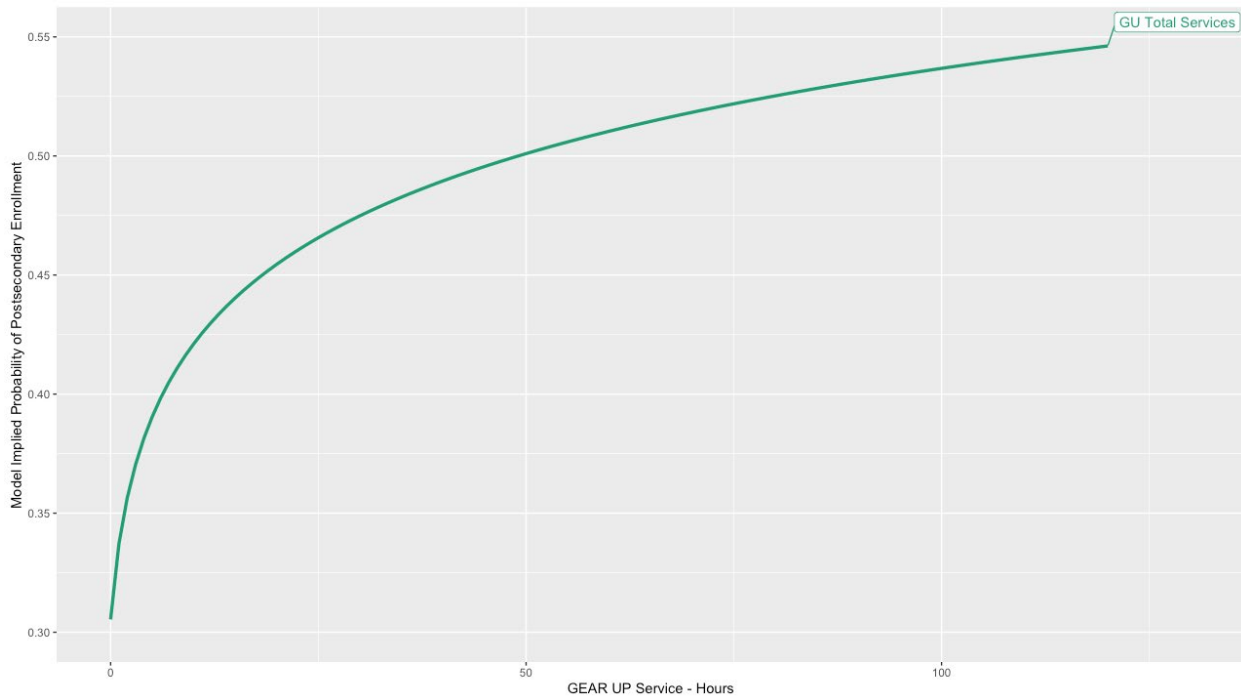


Figure 26. The implied probability of FAFSA completion for the 6-Year Sample of the aggregated GEAR UP services.

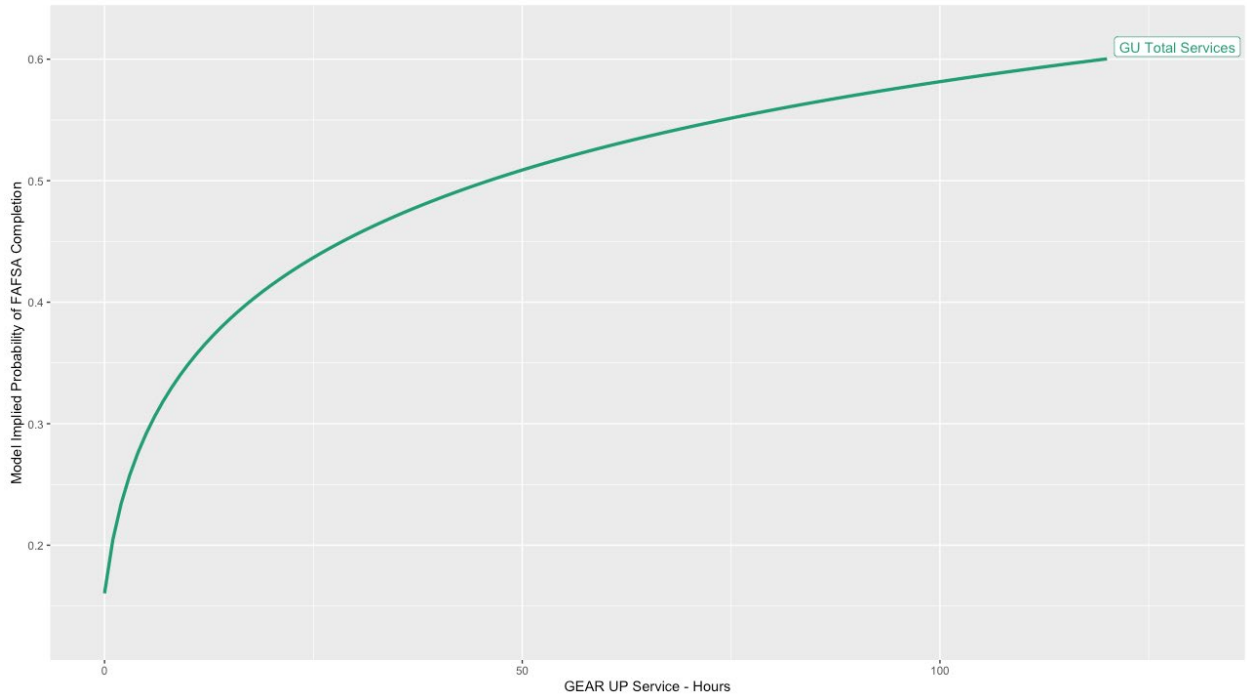


Figure 27. The implied probability of high school graduation for the 6-Year Sample of the aggregated GEAR UP services.

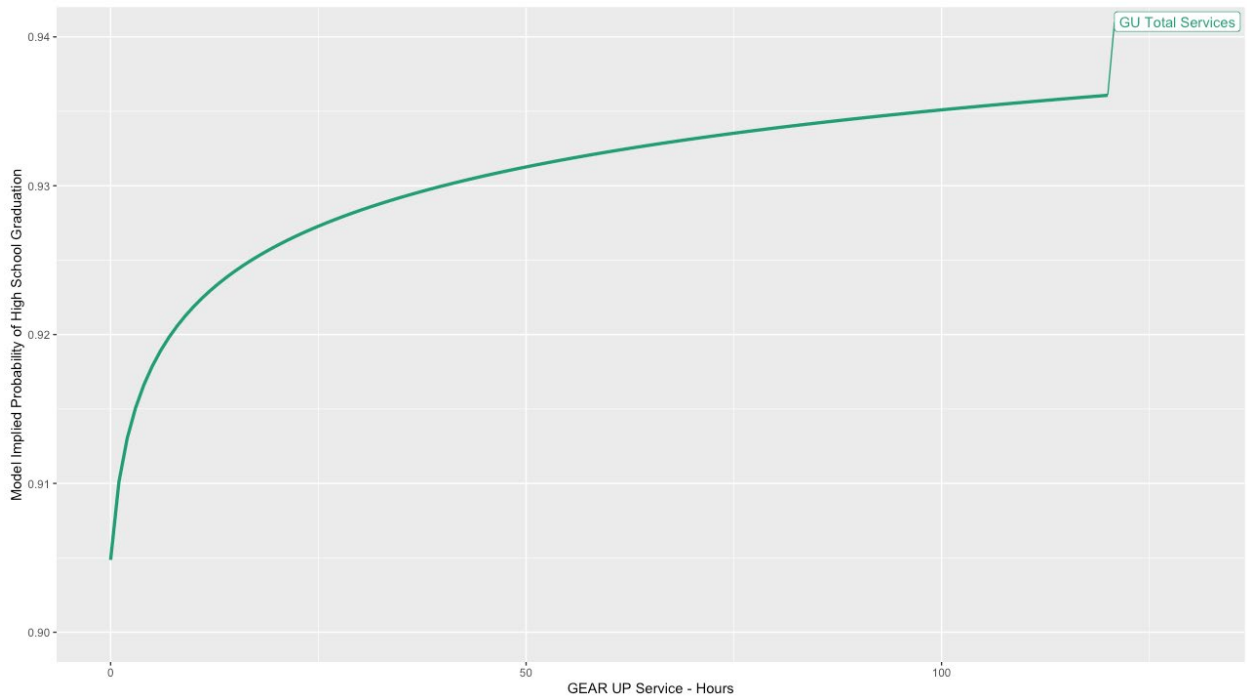


Figure 28. The implied probability of postsecondary enrollment for the 6-Year Sample of the aggregated GEAR UP services.

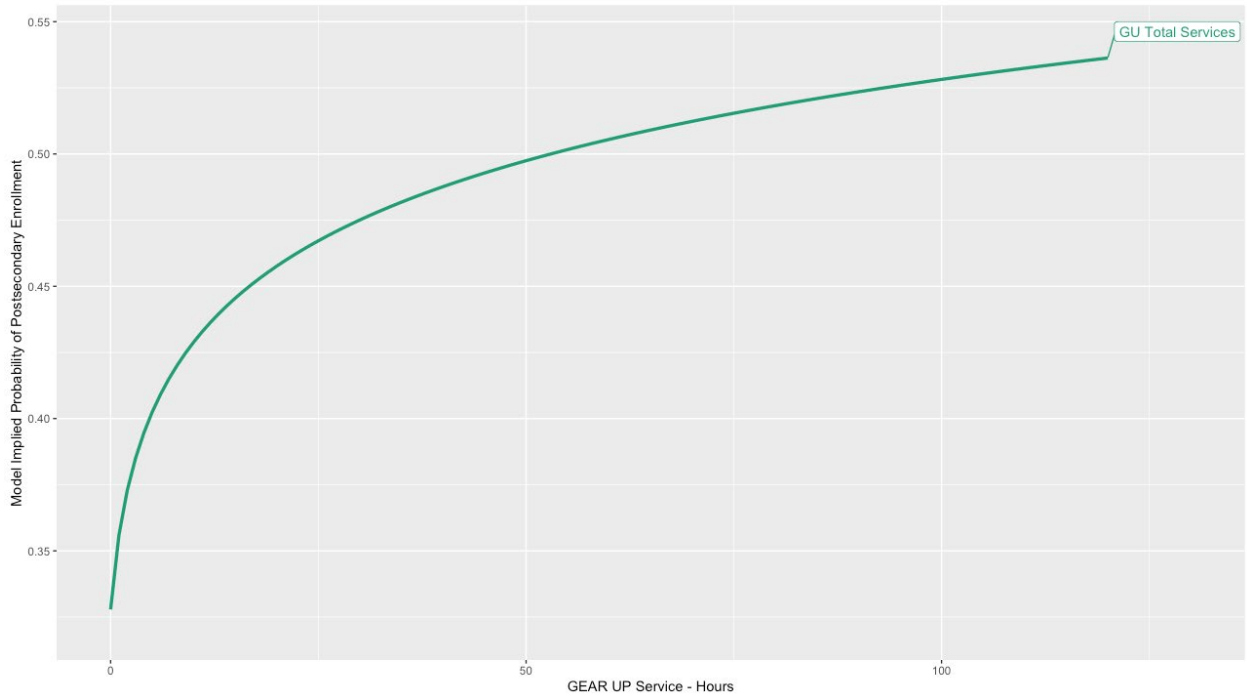


Figure 29. The implied probability of FAFSA completion for the Full Sample of each of the student services.

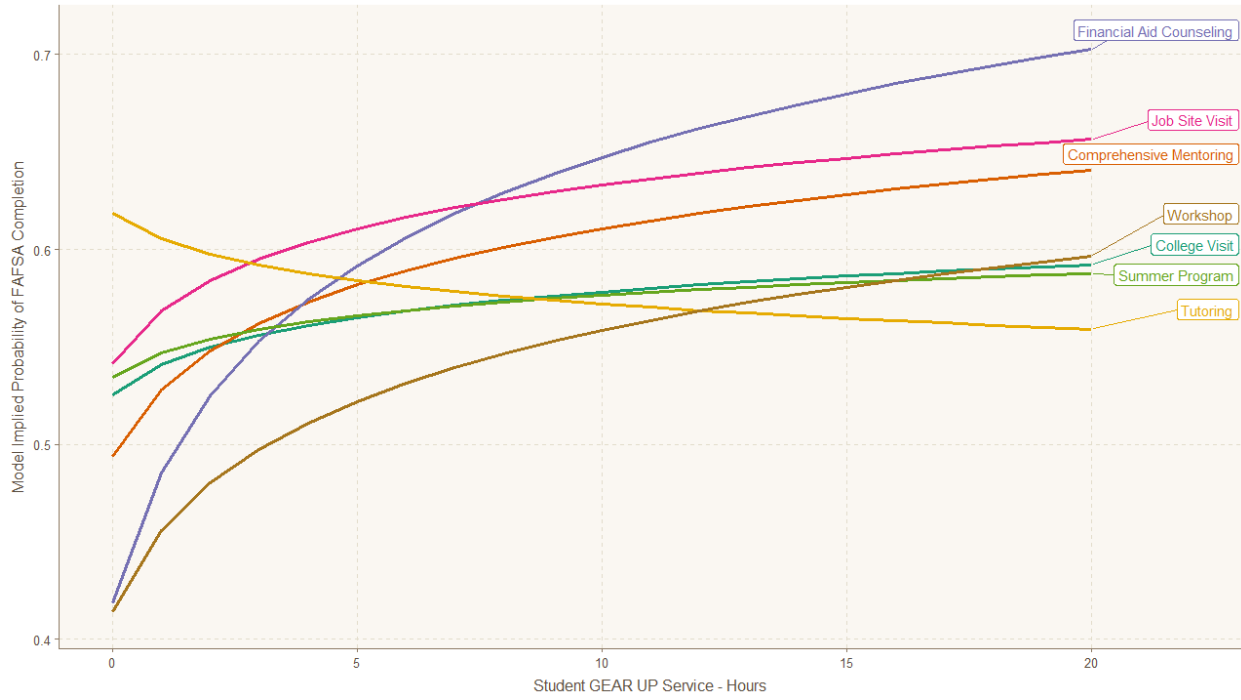


Figure 30. The implied probability of FAFSA completion for the Full Sample of each of the family services.

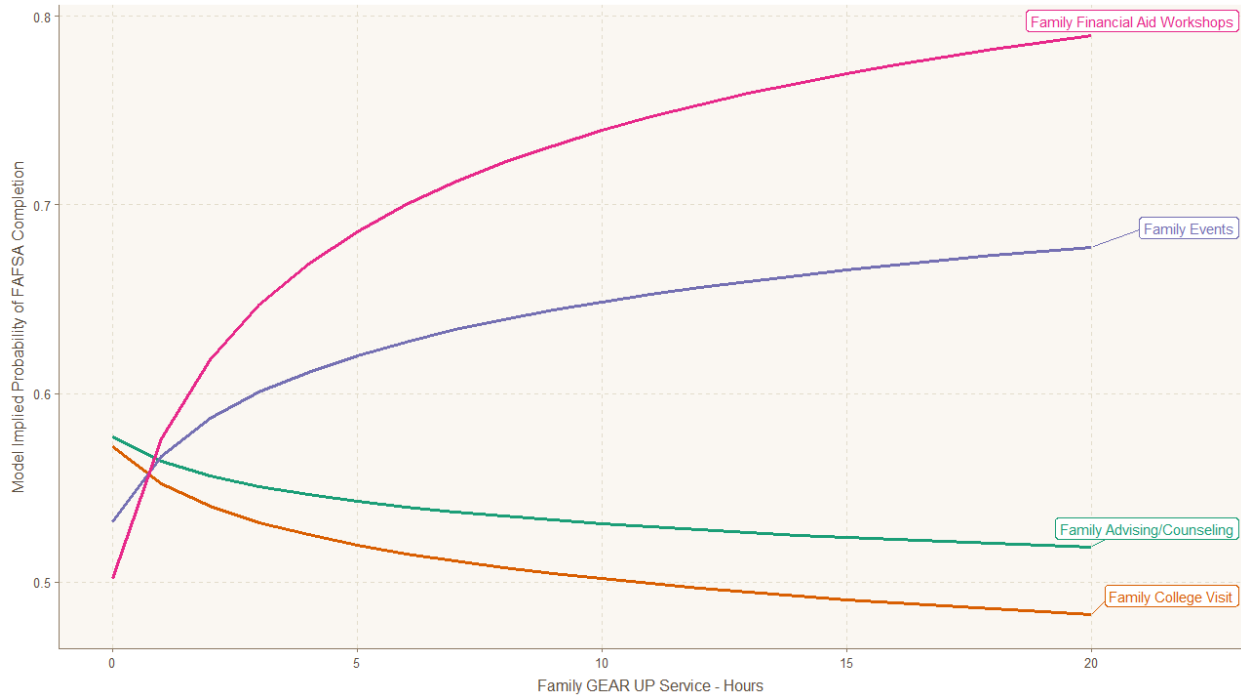


Figure 31. The implied probability of high school graduation for the Full Sample of each of the student services.

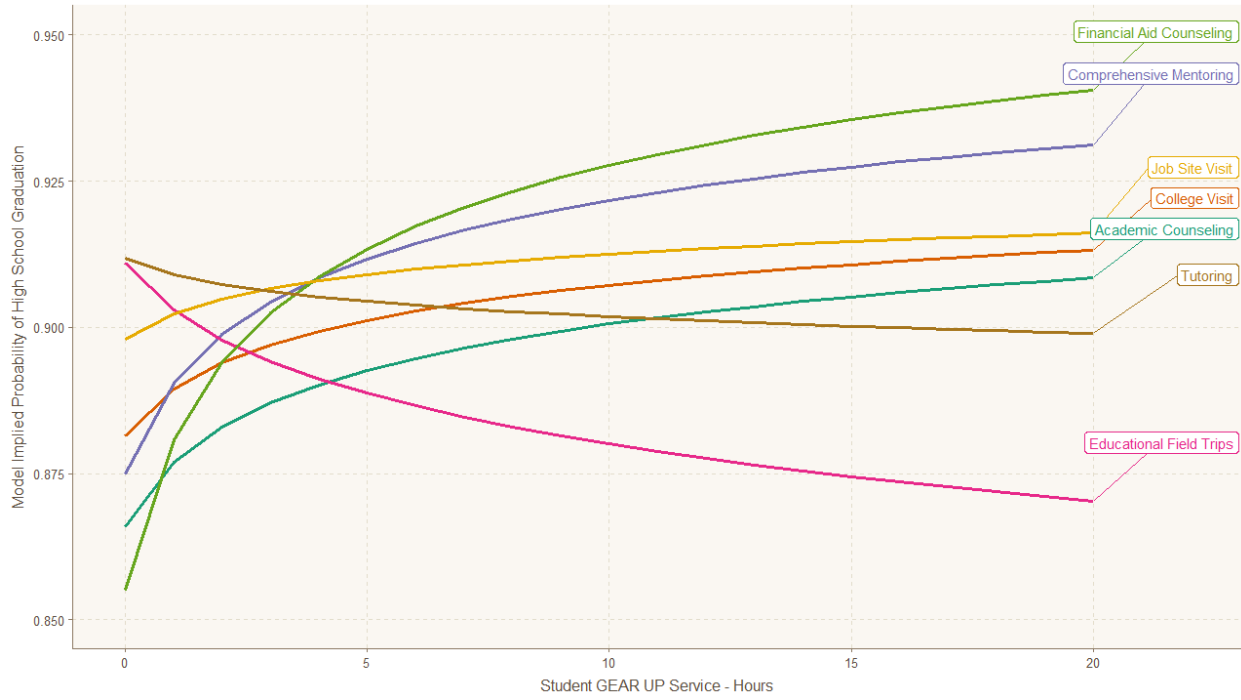


Figure 32. The implied probability of high school graduation for the Full Sample of each of the family services.

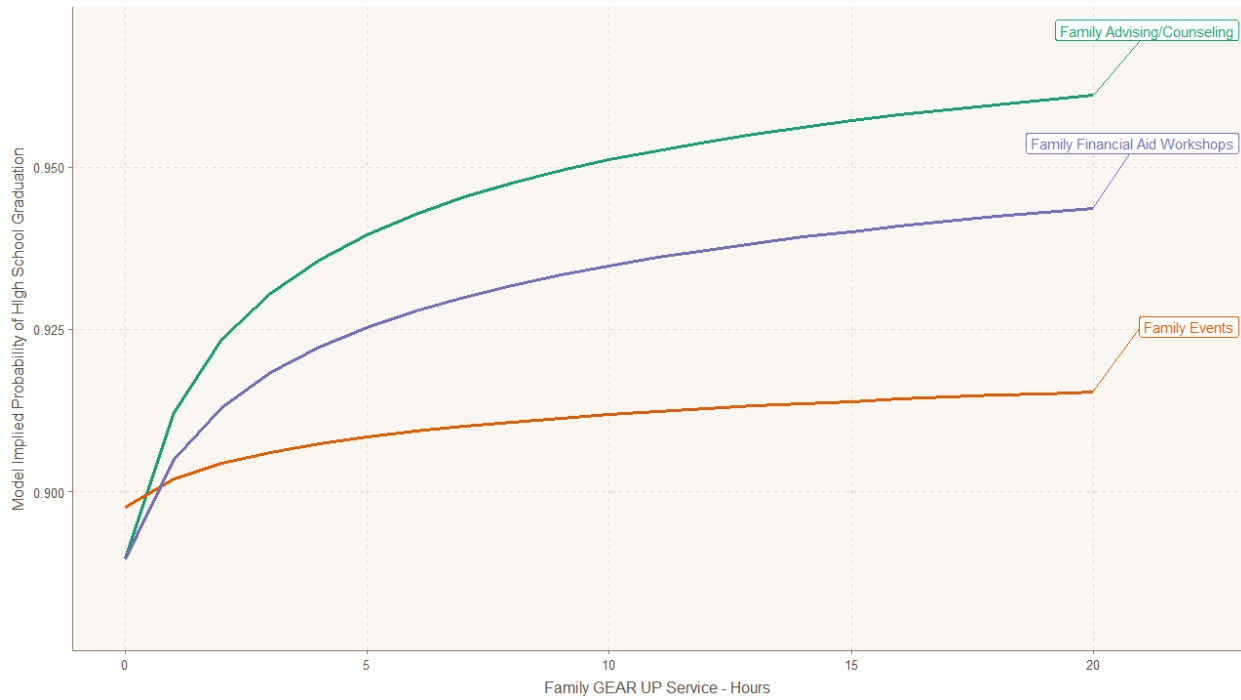


Figure 33. The implied probability of postsecondary enrollment for the Full Sample of each of the student services.

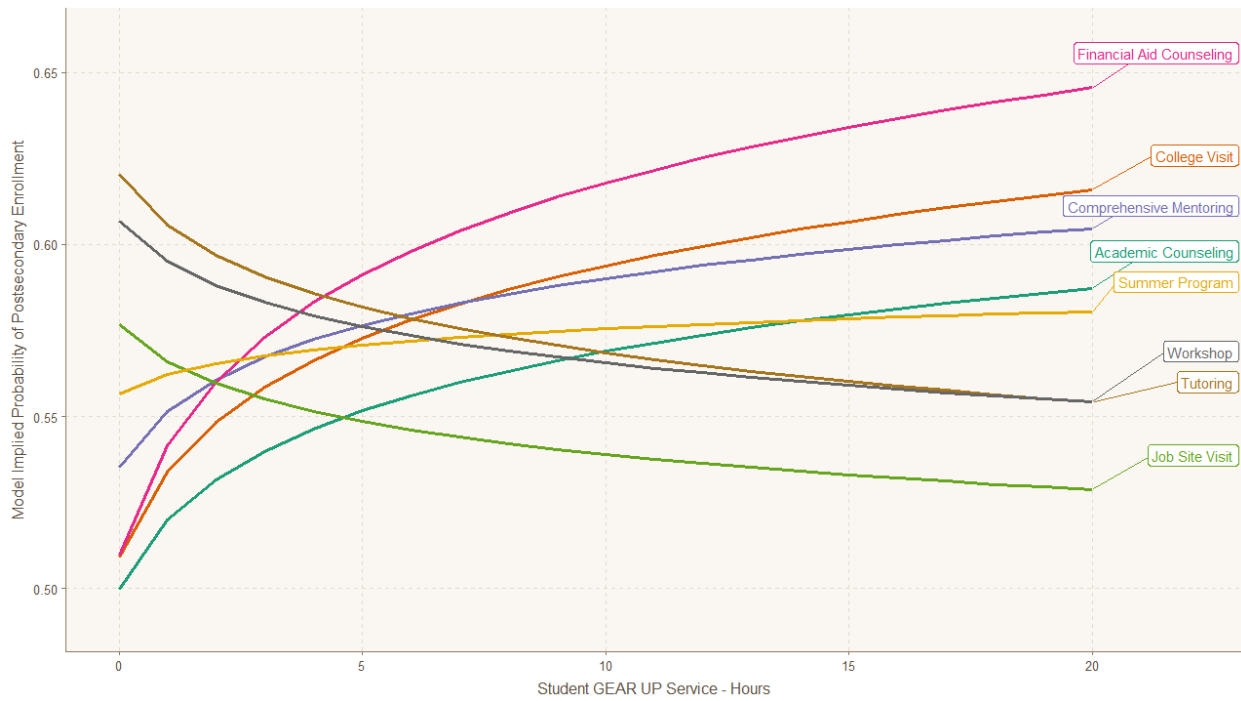


Figure 34. The implied probability of postsecondary enrollment for the Full Sample of each of the family services.

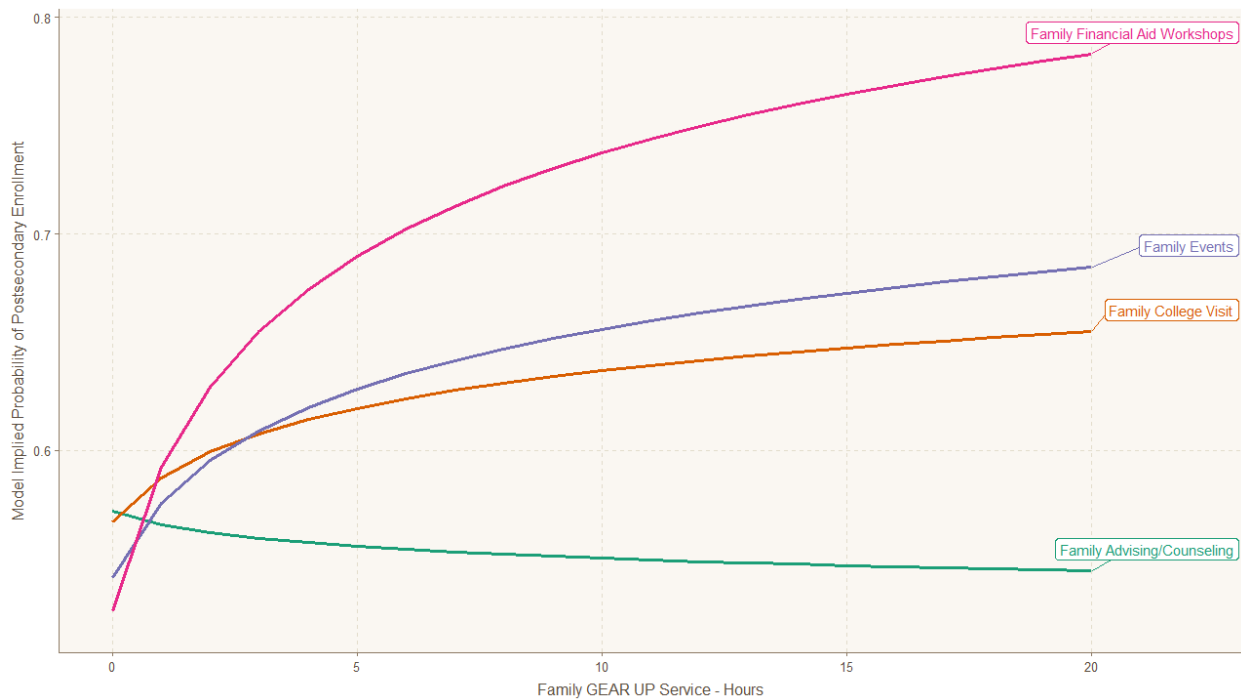


Figure 35. The implied probability of FAFSA completion for the 6-Year Sample of each of the student services.

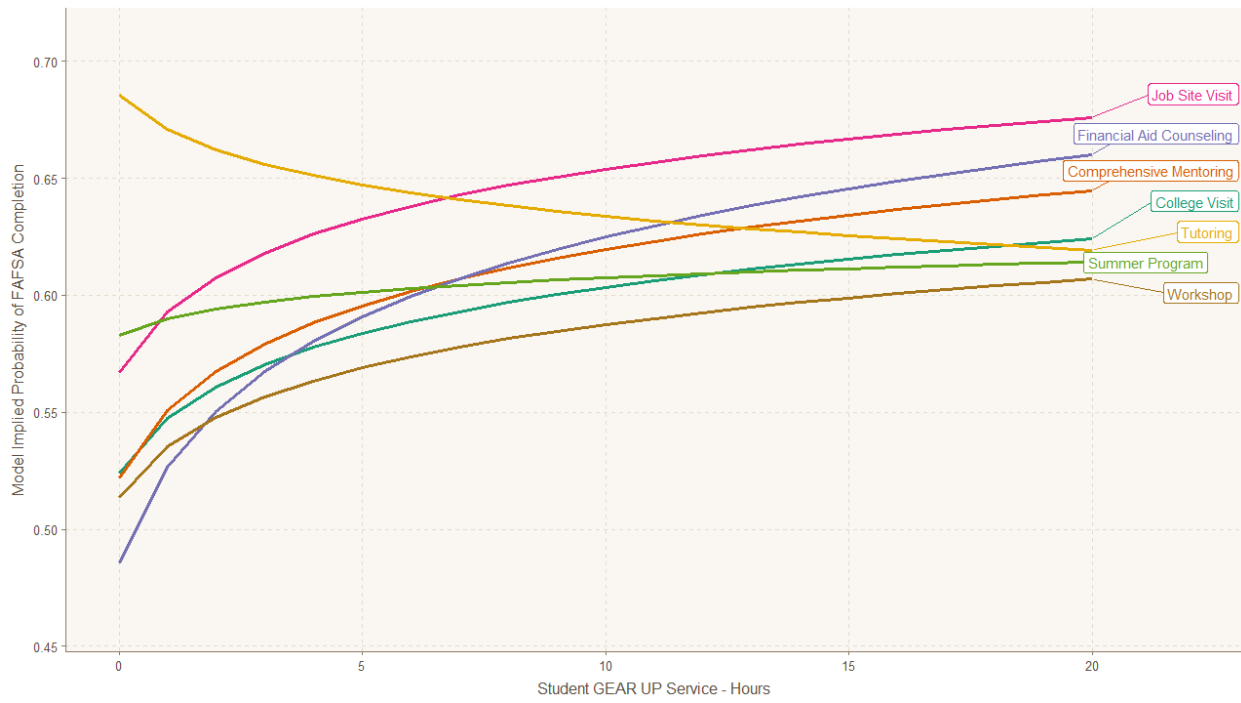


Figure 36. The implied probability of FAFSA completion for the 6-Year Sample of each of the family services.

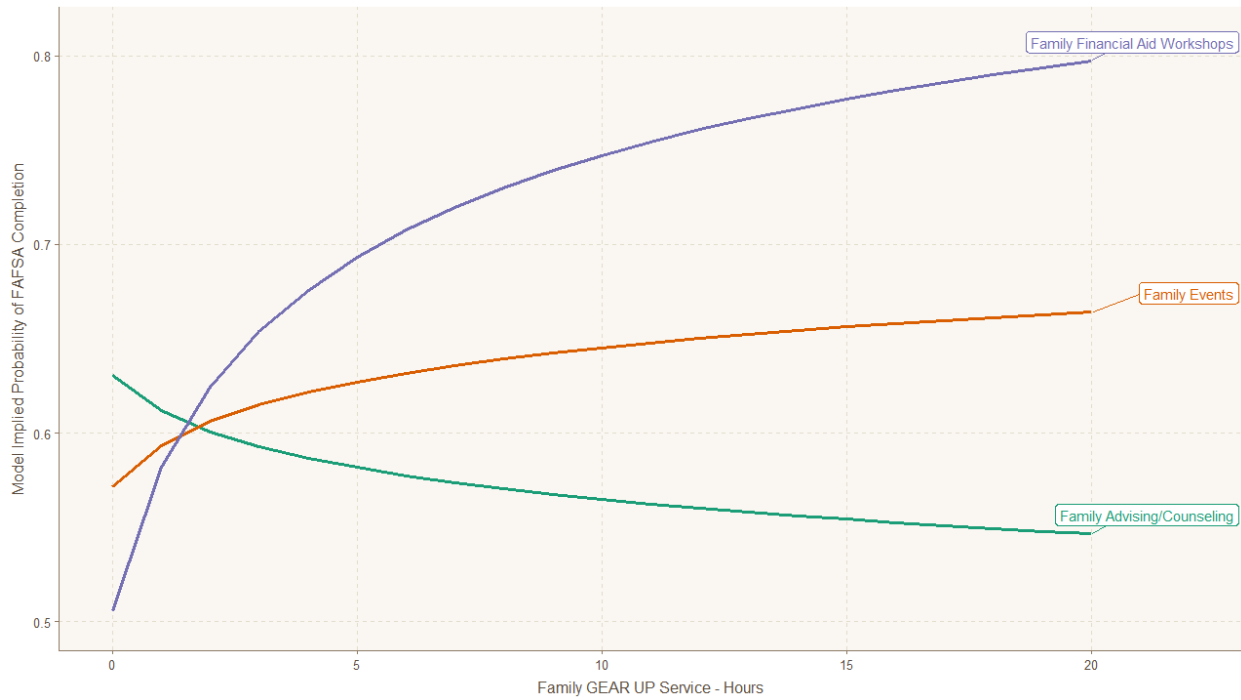


Figure 37. The implied probability of high school graduation for the 6-Year Sample of each of the student services.

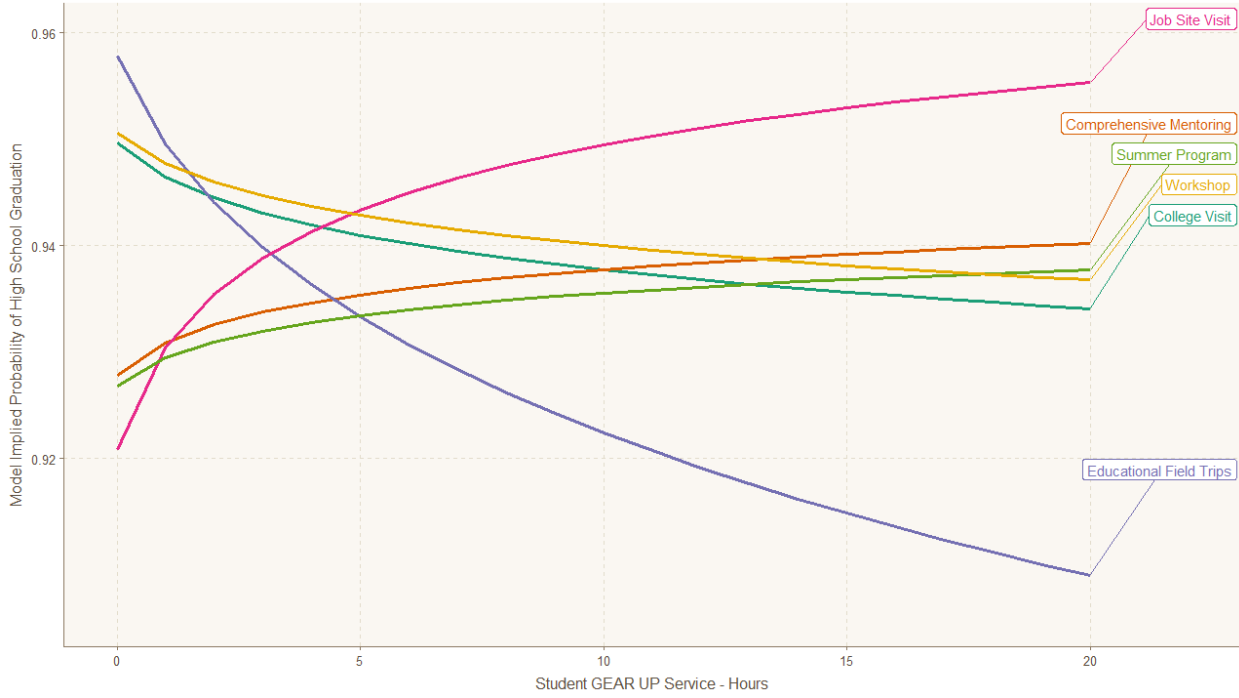


Figure 38. The implied probability of high school graduation for the 6-Year Sample of each of the family services.

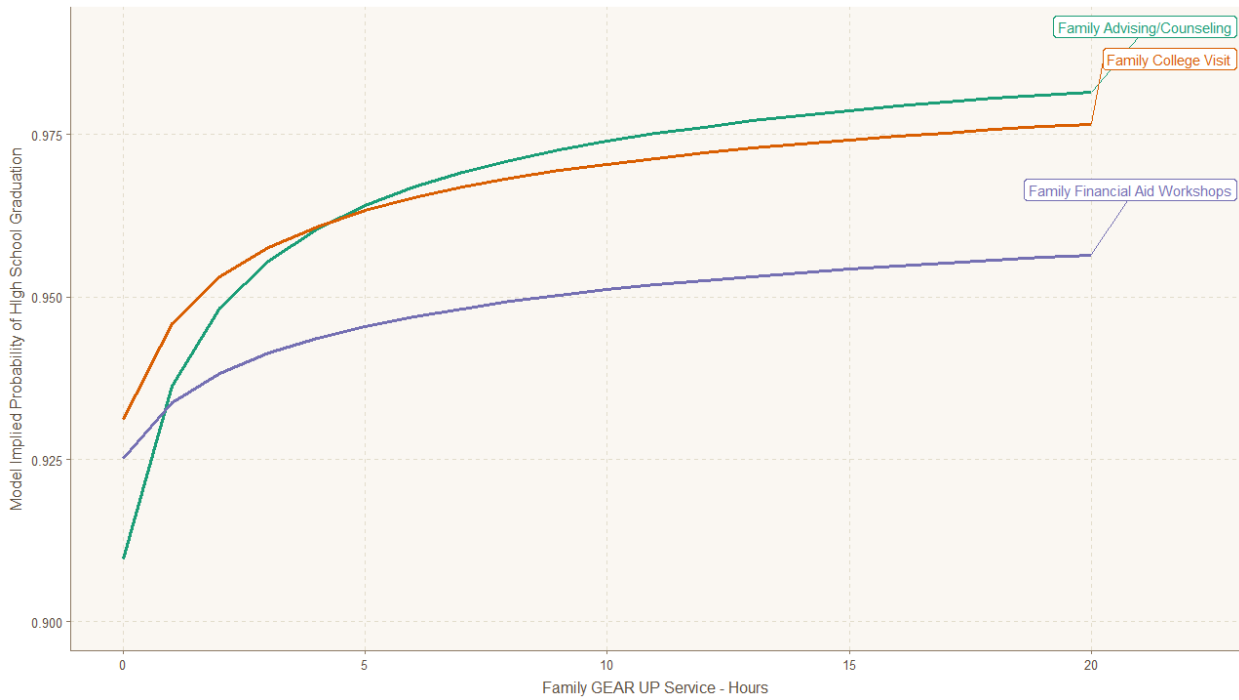


Figure 39. The implied probability of postsecondary enrollment for the 6-Year Sample of each of the student services.

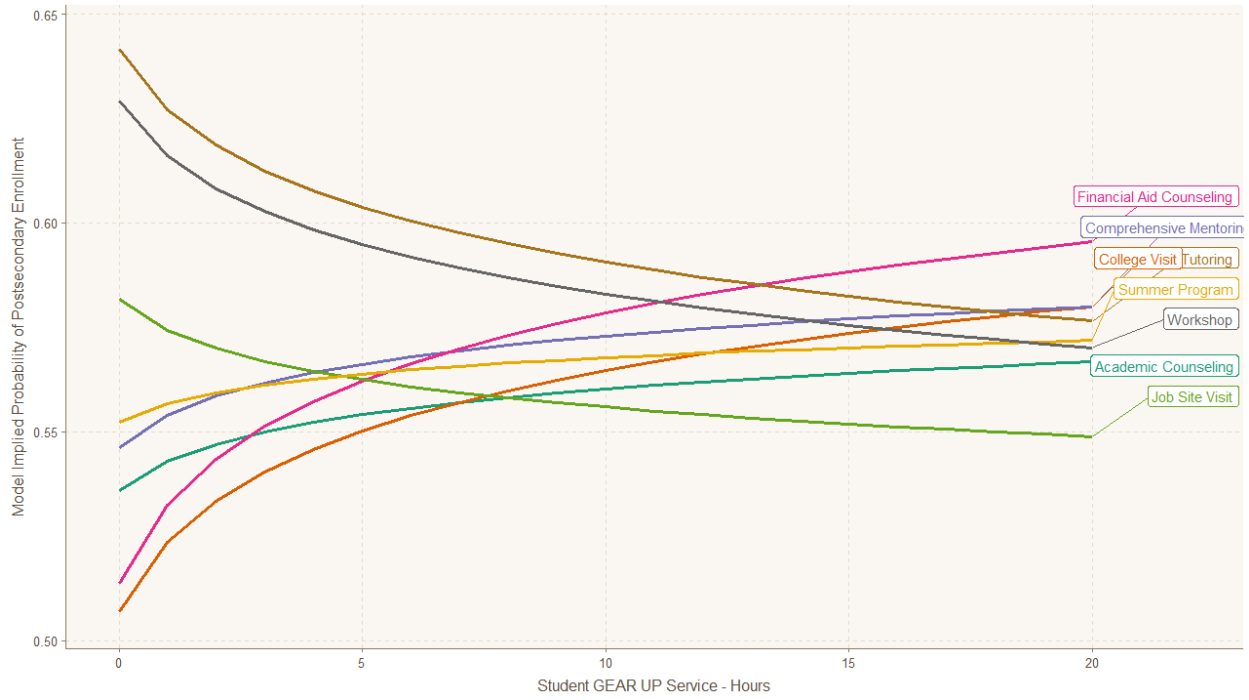


Figure 40. The implied probability of postsecondary enrollment for the 6-Year Sample of each of the family services.

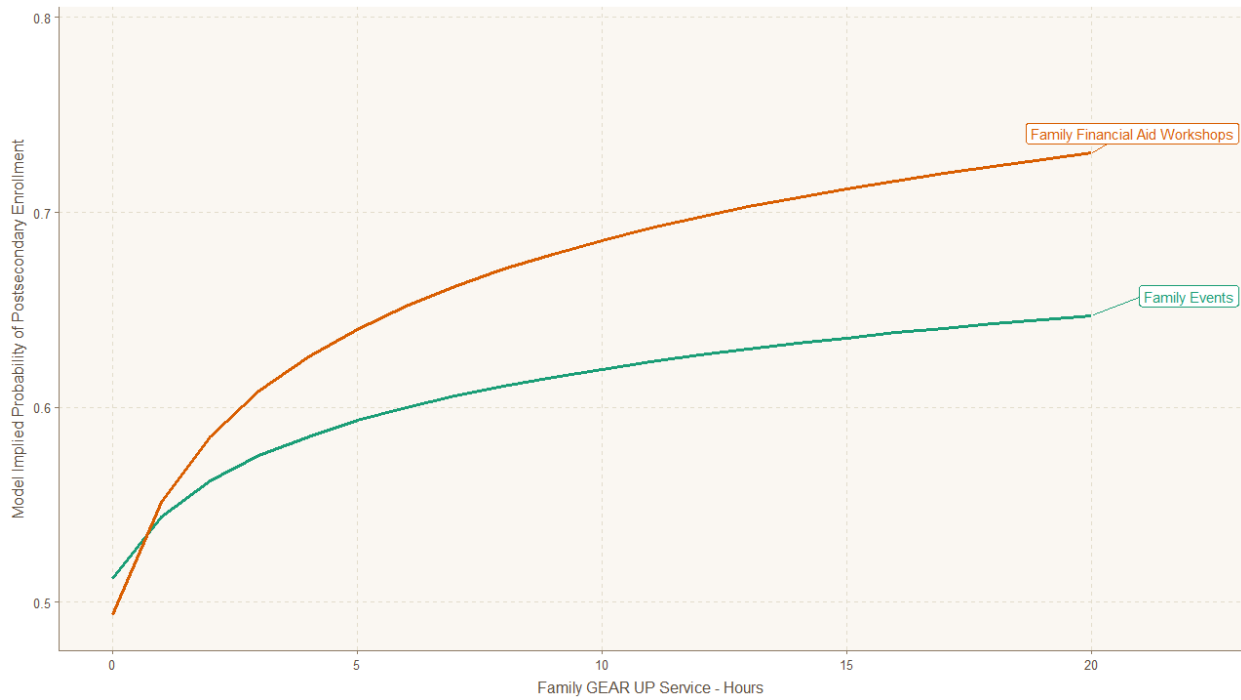


Figure 41. The implied probability of FAFSA completion for the 4-Year Sample of each of the student services.

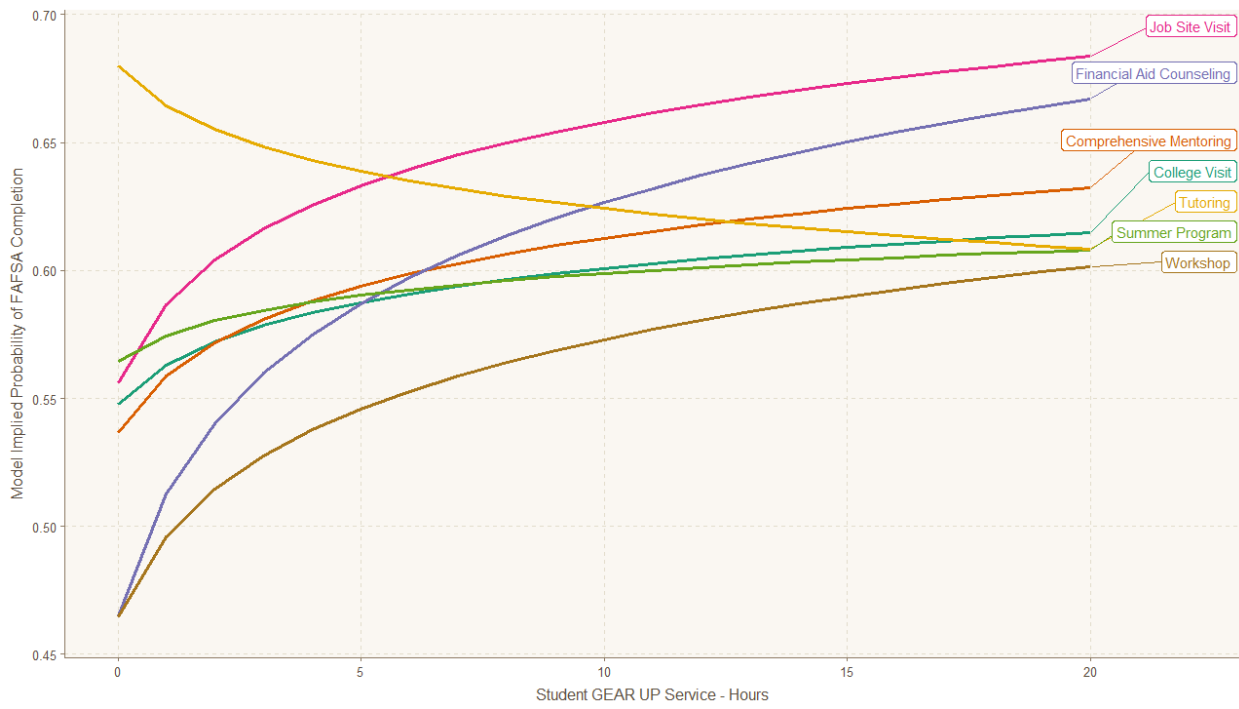


Figure 42. The implied probability of FAFSA completion for the 4-Year Sample of each of the family services.

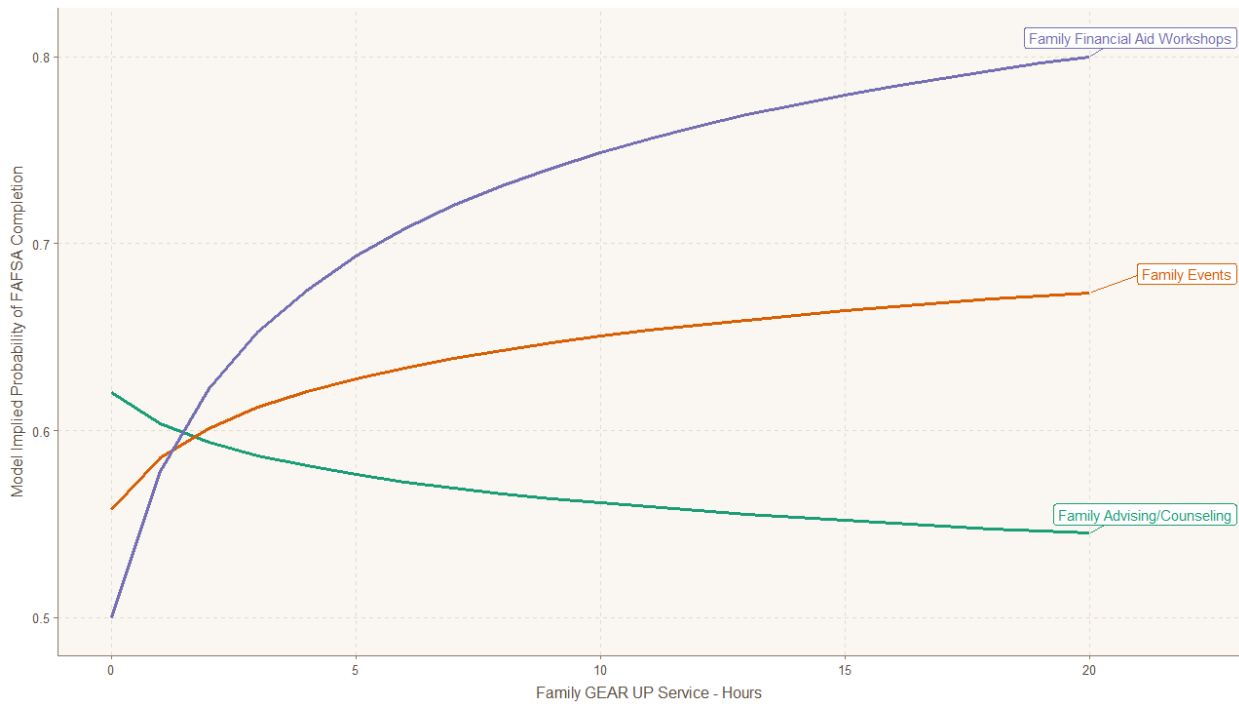


Figure 43. The implied probability of high school graduation for the 4-Year Sample of each of the student services.

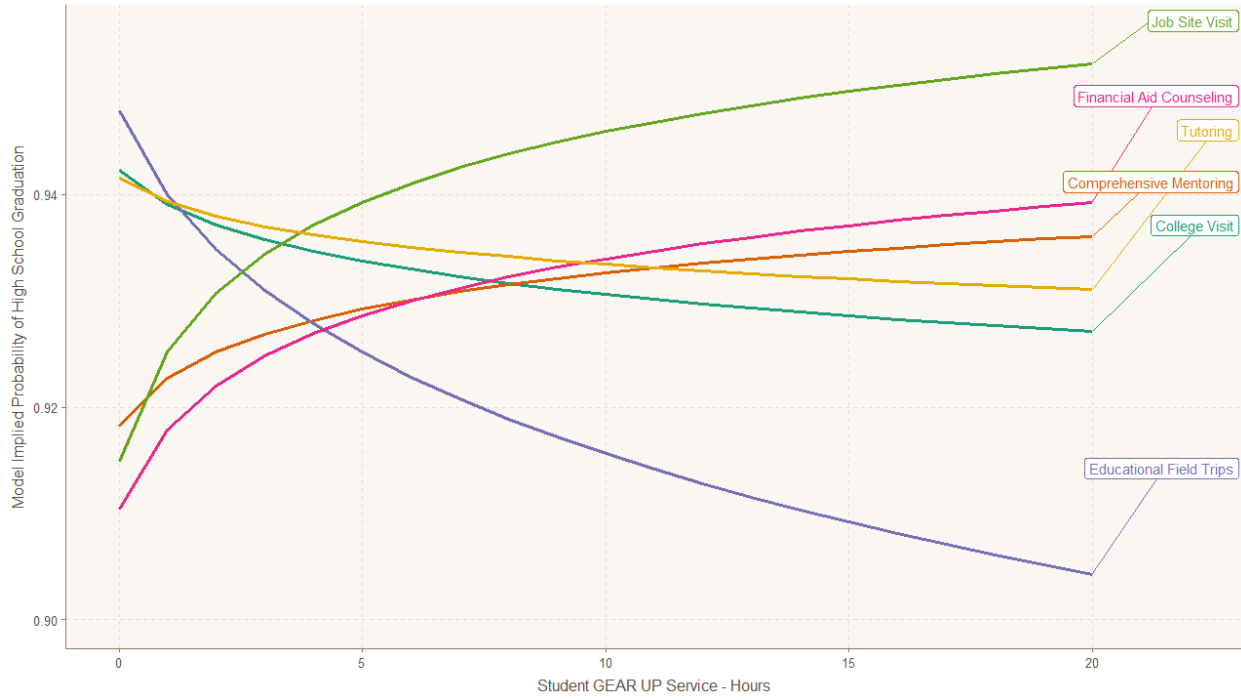


Figure 44. The implied probability of high school graduation for the 4-Year Sample of each of the family services.

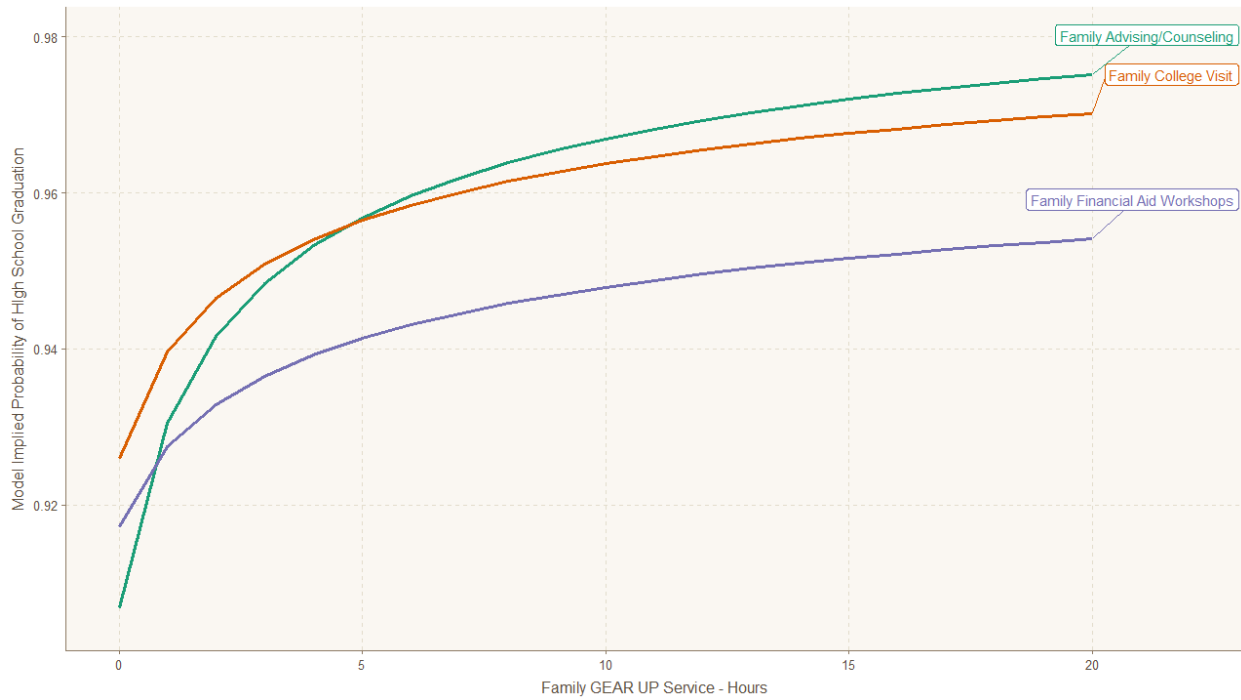


Figure 45. The implied probability of postsecondary enrollment for the 4-Year Sample of each of the student services.

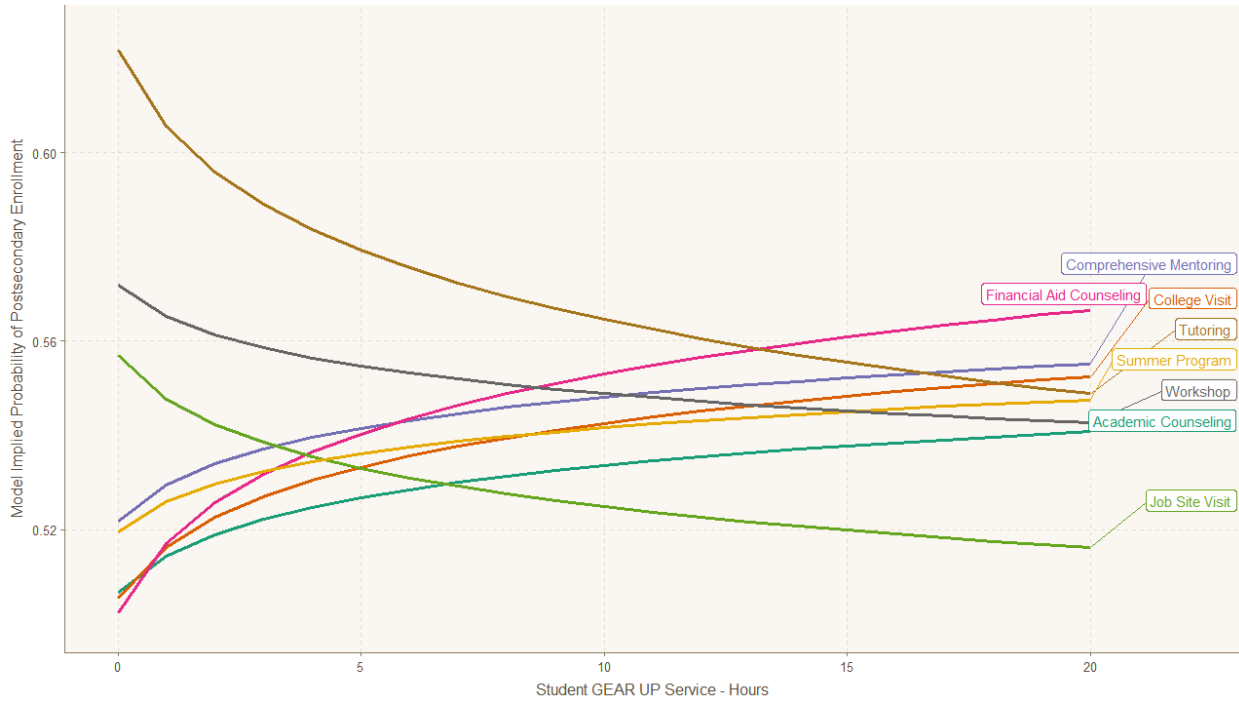
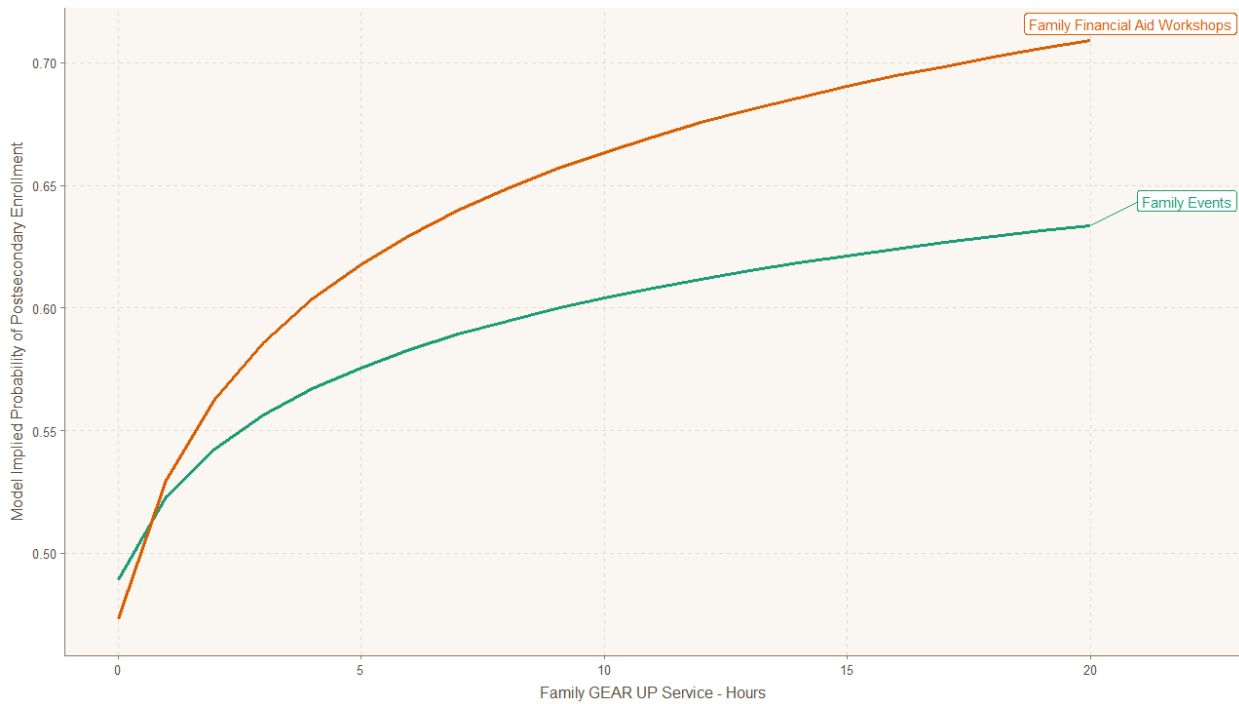


Figure 46. The implied probability of postsecondary enrollment for the 4-Year Sample of each of the family services.



Appendix II: GEAR UP Student and Family Definitions