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September 2018

Single Stop Final Impact and Implementation Report

COLLEGE INITIATIVE

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Executive Summary

In 2014, Metis Associates, an independent research and evaluation firm, launched a study to examine the impacts of the Single Stop program on the academic performance of students enrolled in the Community College of Philadelphia (CCP). CCP is a public, open admissions community college that is located in Philadelphia, PA and serves over 28,000 students across its main campus and three regional centers. Single Stop USA is a national nonprofit organization dedicated to reducing poverty and helping low-income families and students across the country achieve economic security. Through its Community College Initiative, which is funded in part by a sub-grant from the GreenLight Fund's Social Innovation Fund (SIF) Initiative, Single Stop has established offices on community college campuses. Single Stop opened at CCP in fall 2013 and currently provides students with benefits screening and application assistance, as well as tax preparation services, financial counseling (launched May 2014), legal assistance (launched June 2014), and immigration consultations (launched fall 2014).

Methods

Based on positive findings from previous descriptive studies of program impact, Single Stop USA partnered with Metis to conduct a rigorous quasi-experimental impact study examining Single Stop's near-term (Phase I – outcomes through spring 2015), intermediate-term (Phase II – outcomes through spring 2016), and long-term (Phase III – initial program completion outcomes through spring 2017 and updated program completion outcomes through fall 2017) program impacts on student academic outcomes. The study aims to provide a *moderate* level of evidence for the program impacts and *meet the What Works Clearinghouse evidence standards with reservations*. An implementation study was also conducted to provide context for the quantitative findings and to offer best implementation practices and recommendations for program changes.

Impact and Exploratory Studies

Participants. Participants for the quantitative study across all three phases were defined as those who had received at least one major Single Stop service during the period of May 11, 2014 to May 10, 2015 based on the CCP academic calendar (i.e., summer 2014 to spring 2015). Among the target 1,152 students served by Single Stop during this period, 367 (31.9%) were attending college for the first time (FTIC) and the remaining 785 (68.1%) had prior exposure to college (non-FTIC). While the majority of both groups were ethnically Black, the FTIC group contained proportionally more Black students (62.7%) than the Non-FTIC group (54.4%). However, both groups had relatively similar proportions of ethnically White (8.7% FTIC vs 11.7% Non-FTIC) and Hispanic (8.7% FTIC vs. 9.8% Non-FTIC) students. As of May 11, 2014, the average age of the FTIC group was 26 years old, while that of the non-FTIC group was 30. To examine program impacts more precisely for these two groups of students, separate analyses were conducted when sample size permitted.

Research Questions. The evaluation in all phases addressed three main **confirmatory impact research questions**, including whether CCP students served by Single Stop outperformed comparison students on: 1) semester-to-semester persistence rates; 2) ratio of completed to attempted degree bearing credits; and 3) grade point average (GPA). While the confirmatory impact analyses were conducted for

both the FTIC and non-FTIC students in Phase I and Phase II evaluations, only FTIC students were the focus of the confirmatory analyses in the current Phase III evaluation. For informational purposes, the analyses of these three key target outcomes for the non-FTIC students were included as part of the exploratory study in the Phase III evaluation. In addition, seven **exploratory research questions** were posed to better understand how and why program impacts might occur, including examination of: 1) the relationship between treatment dosage for each of the five major services offered by Single Stop[1] and academic outcomes for the FTIC students, when controlling for service outcome confirmation;[2] 2) the estimated impacts of combinations of major program services on key target academic outcomes for the FTIC and non-FTIC students combined;[3] 3) whether differential effects exist for the FTIC students who are financially independent versus dependent; 4) impacts of the program on the ratio of completed to attempted non-degree bearing credits for the FTIC students; 5) program impacts on degree and non-degree bearing credit accumulation for the FTIC students; 6) impacts on a more lenient measure of persistence for both the FTIC and non-FTIC students; and 7) program impacts on the graduation/degree completion outcome for both the FTIC and non-FTIC students.

While all confirmatory analyses were strictly based on well-matched study samples and provided rigorous evidence for drawing program impact-related conclusions, exploratory analyses were undertaken to gain preliminary understanding of how and why program impacts might occur, as well as help to inform future investigations. These exploratory analyses can provide empirical evidence of program effectiveness, albeit with less confidence in causal relationships due to less rigorous statistical control for confounds, low Ns, or lack of variability in outcomes.

Matching and Analysis. Propensity score matching (PSM) was carried out to generate a comparison group (i.e., the counterfactual) for analyzing pertinent program impacts in all phases of evaluation. Non-participants included students who were enrolled at CCP in fall 2014 and were not identified as receiving any services by Single Stop between summer 2014 and spring 2015. For both the intermediate-term and long-term outcome evaluations, those comparison students who received Single Stop services in later academic years were removed from matching and outcome analysis to reduce contamination of the sample pool. The full set of matching variables included student baseline characteristics such as age, gender, race/ethnicity, full/part time enrollment status, marital status, financial aid receipt, student loan receipt, first generation to attend college, high school GED/diploma, enrollment in remediation, academic/occupational major, area of academic focus, number of years since first enrolled in college, placement test score, FAFSA filing status, FAFSA financial dependency status, FAFSA personal income, FAFSA household income, prior cumulative GPA and prior cumulative credits passed. The match rate was 100%,[4] and the baseline equivalence between the Single Stop and comparison students was well-established after matching for each analytic sample.

After generating a comparable non-participating group for the target sample, post-matching outcome analyses were conducted for target outcomes collected at the two temporal periods (i.e., by the end of

[1] Including: benefits eligibility screening, financial counseling, legal counseling, tax preparation, and other services

[2] An outcome confirmation occurs when a student who has received one of the major service offerings verifies that an outcome has been achieved.

[3] For this question, only those unique combinations with N > 30 were investigated.

[4] For the Single Stop participants with complete matching and outcome data.

spring 2017, and by the end of fall 2017) using multiple regressions.[5] For confirmatory analyses, the following measures were used for the target outcomes: (1) consecutive semester-to-semester persistence, which was measured by continued college enrollment[6] or completion (at the original institution or any other institution); (2) credit attainment, which was measured by the overall ratio of completed/passed to attempted degree bearing credits; and (3) student GPA as measured by the weighted grade-point average obtained. Exploratory analyses included four additional outcome measures: (1) the overall ratio of completed/passed to attempted non-degree bearing credits; (2) the total number of credits (both the degree bearing type and the non-degree bearing type) completed/earned; (3) a more lenient measure of persistence defined by a student appearing in at least one semester in each academic year or graduating (at the original institution or any other institution)[7]; and (4) graduation as defined by completion of an associate degree or higher. All matching and outcome variables were generated from CCP administrative data as well as the National Student Clearinghouse (NSC) database, and supplemented by Single Stop records of service delivery (i.e., treatment dosage) and outcome confirmation for the target students.

Implementation Study

The implementation study was intended to provide context and add richness to findings uncovered through the impact study. The study was guided by four research questions, which examined: 1) the nature and quality of Single Stop implementation at CCP; 2) best implementation practices; 3) challenges and additional areas of support needed; and 4) recommendations for program changes. Phase 1 implementation study activities were carried out in winter and spring of 2015 and included: review of program documentation, observations of program activities, and interviews with five CCP administrators and two Single Stop program staff at CCP. Phase 2 of the implementation study aimed to provide more direct feedback from students; activities took place in fall 2016 and included: focus groups and individual interviews with a total of 17 students and interviews with five CCP administrators and faculty members. Phase 3 implementation study activities included follow-up surveys and interviews with students who had engaged in Single Stop services in 2014-2015 but, according to program records, had not returned for additional services despite remaining enrolled in CCP. During this phase, a follow-up interview also was conducted with the Single Stop program director at CCP in order to gather additional data on best practices. All interviews and focus groups for the implementation study were conducted in a semi-structured manner, and observations were guided by a protocol. Qualitative data derived through the implementation study were content analyzed and emerging response categories were summarized according to each of the implementation research questions. Quantitative data gathered through surveys were analyzed using simple frequency distributions and cross-tabs.

Findings

Notable findings for the study are presented in the order of the research questions. For both the impact and exploratory studies, all statistically significant findings are highlighted even if the size of the effect

[5] Multiple linear regressions were used for continuous outcome measures (i.e., ratio of credits completed to attempted, number of credits earned, GPA) while multiple logistic regressions were employed for dichotomous outcome measures (i.e., semester-to-semester persistence).

[6] Students are considered enrolled as long as a record at the college is found, regardless of the number of credits attempted/passed or whether there was a record of certificate/degree attainment.

[7] Note that for the more lenient measure of persistence, a student must be enrolled in fall 2017 to be defined as persisting for the exploratory analyses conducted for the temporal period fall 2014 – fall 2017.

was relatively small, along with findings that were not statistically significant but had a substantial effect size.

Impact Study

Key findings based on these confirmatory analyses across all the three phases of evaluations are summarized in the tables below:[8]

Table ES1. Summary of impact analysis results for semester-to-semester persistence rates in all phases

Timeline	Student Group	Single Stop	Comparison	Group Difference (Percentage Points)
Phase I (near-term outcomes)	Non-FTIC	91.8%	88.5%	3.3*
	FTIC	89.5%	83.4%	6.1*†
Phase II (intermediate-term outcomes)	Non-FTIC	57.9%	51.3%	6.6*
	FTIC	44.2%	33.2%	11.0*†
Phase III (long-term initial program completion outcomes)	Non-FTIC$^{\Delta}$	50.1%	41.9%	8.2*
	FTIC	25.4%	15.8%	9.6*†
Phase III (long-term updated program completion outcomes)	Non-FTIC$^{\Delta}$	40.5%	34.3%	6.2*
	FTIC	13.5%	8.3%	5.2*†

* Statistically significant, p-value <0.05
† Substantively important, standardized effect size ≥ 0.25 SDs
$^{\Delta}$ Exploratory analysis findings

Table ES2. Summary of impact analysis results for degree-bearing credit pass rates in all phases

Timeline	Student Group	Single Stop	Comparison	Group Difference (Percentage Points)
Phase I (near-term outcomes)	Non-FTIC	73.9%	69.0%	4.9*
	FTIC	58.9%	51.7%	7.2*
Phase II (intermediate-term outcomes)	Non-FTIC	72.5%	68.5%	4.0*
	FTIC	55.6%	49.5%	6.1*
Phase III (long-term initial program completion outcomes)	Non-FTIC$^{\Delta}$	71.4%	68.0%	3.4*
	FTIC	52.8%	46.5%	6.3*
Phase III (long-term updated program completion outcomes)	Non-FTIC$^{\Delta}$	71.9%	67.7%	4.2*
	FTIC	53.5%	47.9%	5.6*

* Statistically significant, p-value <0.05
$^{\Delta}$ Exploratory analysis findings

[8] Note that although the long-term results for the non-FTIC students belong to the exploratory study findings, they are listed in the summary tables for comparison purposes.

Table ES3. Summary of impact analysis results for weighted GPA in all phases

Timeline	Student Group	Single Stop	Comparison	Group Difference (GPA Points)
Phase I (near-term outcomes)	Non-FTIC	2.639	2.453	0.185*
	FTIC	2.129	1.882	0.247*
Phase II (intermediate-term outcomes)	Non-FTIC	2.901	2.834	0.067
	FTIC	2.570	2.381	0.189*
Phase III (long-term initial program completion outcomes)	Non-FTIC$^{\Delta}$	2.928	2.811	0.118*
	FTIC	2.591	2.412	0.178*
Phase III (long-term updated program completion outcomes)	Non-FTIC$^{\Delta}$	2.895	2.789	0.106*
	FTIC	2.565	2.409	0.156*

* Statistically significant, p-value <0.05
$^{\Delta}$ Exploratory analysis findings

As shown in the above tables, except for one finding (i.e., the intermediate-term weighted GPA of the non-FTIC students), all impact analyses consistently detected statistically significant positive program impacts on the three key target outcomes in all phases for both the FTIC and non-FTIC students.

- ***Semester-to-semester persistence***: The FTIC and non-FTIC students participating in Single Stop who were enrolled at CCP in fall 2014 were *significantly more likely* to persist in college than their corresponding matched comparison group (i.e., had significantly higher consecutive semester-to-semester persistence rates) at the end of each of the academic years 2014-2015, 2015-2016, 2016-2017, and again at the end of the fall 2017 semester. Further, for the FTIC students, all of the statistically significant findings also had effect sizes large enough to be considered substantively important (i.e., greater than or equal to 0.25 standard deviations) by the What Works Clearinghouse (WWC) standards.

- ***Degree bearing credit pass rate***: Both the FTIC and non-FTIC Single Stop students enrolled at CCP in fall 2014 had *significantly higher* ratios of completed to attempted degree bearing credits than their comparison counterparts at the end of each of the academic years 2014-2015, 2015-2016, 2016-2017, and again at the end of fall 2017.

- ***Grade point average***: The FTIC Single Stop students at CCP, on average, had a *significantly higher* weighted GPA than the similarly situated non-participants at the end of each of the academic years 2014-2015, 2015-2016, 2016-2017, and again at the end of fall 2017. While the non-FTIC Single Stop participants did not significantly outperform their matched comparisons on GPA at the end of academic year 2015-2016 (i.e., the Phase II/intermediate-term outcome evaluation), they did have a significantly higher weighted GPA than the similarly situated non-participants by the end of academic year 2014-2015 and academic year 2016-2017, as well as by the end of fall 2017.

Exploratory Study

Although several statistically significant differences were noted from the exploratory analyses, there were no evident discernible patterns of service delivery associated with improved outcomes throughout all

phases of the evaluation. This may be indicative of the tailored approach to providing services to individual students. Students are provided services based on their needs, which appears to be more crucial to academic achievement than the services themselves. Nonetheless, key highlights from the long-term exploratory analyses are described below.

In relation to service delivery and confirmation of outcomes:

- Although age does not appear to be associated with semester-to-semester persistence of the FTIC students across their first three years in college, being older is positively associated with greater persistence as of the end of fall 2017.
- The number of legal counseling events is not associated with semester-to-semester persistence. However, confirmation of a legal outcome is negatively associated with semester-to-semester persistence for both observed long-term temporal periods. This seems reasonable given that legal outcomes such as incarceration, community service, and/or need for employment to pay various fees are more likely to affect a student's ability to continue attending college than the actual services provided to attain these outcomes.
- More financial counseling events are positively associated with higher degree bearing credit pass rates for both long-term outcome temporal periods.
- Greater degree bearing credit pass rates are associated with full-time FTIC students with higher placement test scores.
- No statistically significant associations are observed between any of the five major service areas and weighted GPA for the FTIC students for either long-term temporal period.
- Older students with higher placement test scores who are not Black/African American appear to experience higher cumulative GPAs for both long-term outcome time periods.

Regarding combinations of services and treatment dosage:

- Students who participated in the Single Stop program and received one or two major services significantly outperformed their comparisons in all but one analysis (fall 2014 to fall 2017 GPA).
- Single Stop students who received three or more major services significantly outperformed their comparison counterparts in persistence and GPA, but not degree bearing credit pass rate.
- The combination of benefits eligibility screening, financial counseling and tax preparation achieved statistically significant impacts for two of the three outcomes in each long-term outcome temporal period, although the only consistent statistically significant effect across both temporal periods was for GPA.
- The only other combination of services to achieve two statistically significant effects within a temporal period was financial counseling and tax preparation, which was positively associated with credit pass rate and GPA for the fall 2014 to fall 2017 period.
- Finally, tax preparation on its own and the combinations of benefits eligibility screening and tax preparation and benefits eligibility screening and additional services respectively had statistically significant impacts on persistence (spring 2017) and credit pass rate (fall 2017), GPA (spring 2017), and credit pass rate (spring 2017 and fall 2017).

In addition, the following results were observed for the other exploratory research questions:

- No differential programmatic long-term effects were experienced by financially dependent and independent students. Combined with the results from the near- and intermediate-term outcome analyses, this appears to be a clear indication that Single Stop is as effective with financially independent students as it is with financially dependent students over time.
- For FTIC students, no statistically significant nor substantively important results were observed for non-degree bearing credit pass rates.
- Single Stop FTIC students appeared to accumulate a greater number of short-term, intermediate-term, and long-term degree bearing credits than their matched comparisons.
- Non-FTIC Single Stop students achieve greater persistence and degree bearing pass rates, and higher GPAs than their matched counterparts for both long-term outcome temporal periods.
- Both FTIC and Non-FTIC Single Stop students exhibit greater college completion rates than matched comparisons across both long-term outcome temporal periods.

Implementation Study

Data gathered through the implementation study across the three phases found that Single Stop was well integrated on the CCP campus, and became increasingly more so over the years. This was due, in part, to the strong relationships that CCP's Single Stop program director made with other CCP staff and faculty, which allowed her to make inroads across the campus. It was also due to the consistently robust support that the program had from top administrators at CCP, allowing it to be integrated in various facets of the community, including several first-year experiences. Moreover, data gathered from stakeholders regarding their perceptions of the impact on students were in direct alignment with findings from the impact study that pointed to highly positive effects on participating students. For example, during Phase I interviews, CCP staff revealed that they had witnessed positive effects on students, which enabled them to get the services they needed to stay in school. During interviews and focus groups with students in Phase II, students themselves spoke to these impacts, clearly expressing that Single Stop services were directly connected to their persistence in college because they allowed them to simply focus on being students, rather than being distracted by finances or other daily living concerns.

Many of the recommendations for improvement from the Phase I and II implementation study centered on strategies to serve more CCP students, particularly non-traditional students and those in the regional centers. The Phase III implementation study found that the program had implemented many of the recommendations outlined in the Phase I and II reports. For example, they revised their recruitment materials to ensure that the materials more directly targeted students who were less likely to be served by the program. Additionally, they added a regional center liaison and began to focus more recruitment efforts on the students at these centers. Moreover, when Single Stop USA provided sites with an online screening tool, the CCP site began implementation of this tool in such a way that allowed them to improve the efficiency of intake without losing their personalized approach.

One finding from Phase II—that very few students from CCP return for services following the year they are initially served—was further investigated in Phase III. It is likely that the data indicating that students do not return for services in subsequent years are inaccurate given that the qualitative data did not bear this out, and, therefore, should be further investigated. The source and reasons behind the inaccuracies

are currently unclear. Among other possibilities, it may be that certain services, such as tax preparation, are not recorded in the same way as other services or that there are some delays in the recording of services, leading to inaccuracies in the data received by Metis.[9] Students who did report that they did not return for services were most likely to indicate that they did not have need for the services at that time or that they were no longer enrolled at CCP. In alignment with the data gathered in Phases I and II, nearly all participants reported highly positive experiences with the program. Students recounted the strong characteristics of the staff and spoke highly of the impacts the program has had on them. Only one student who was contacted as part of the study had an initial experience with Single Stop that was not positive, and this student returned in the following year and had a positive experience at that time.

With regard to potential reasons for Single Stop's success at CCP, data from all three phases pointed to two key aspects of implementation: 1) the initial and ongoing support that CCP's top administrators have provided for the program; and 2) the unique and critical set of characteristics that CCP Single Stop staff bring to their work. In Phase III, a set of best practices used at CCP was determined. Some of the practices, such as integrating the program into first-year experiences at the college, point to the support of top administrators. Other practices, such as approaching every interaction with students thoughtfully and respectfully and the strengths-based approach to the work, speak to the strong characteristics of the Single Stop staff at CCP. Moreover, the Director's tenaciousness in reaching, serving, and following up with students was evident.

Summary

Throughout all phases of the evaluation – four temporal periods spanning three-and-a-half academic years – confirmatory analyses have shown that FTIC students have statistically significantly higher GPAs, higher ratios of completed to attempted degree bearing credits and higher rates of persistence than matched groups of similarly situated students. Further, while non-FTIC students were not the focus of the evaluation of long-term outcomes, confirmatory analyses for near- and intermediate-term outcomes showed that these students also achieved statistically significant gains greater than their matched counterparts across all outcomes but one – the intermediate-term outcome for weighted GPAs. The relative consistency of statistically significant confirmatory findings across near-, intermediate-, and long-term outcomes for both student groups clearly indicate the overall effectiveness of the Single Stop program in achieving its key outcomes.

The quantitative findings from the impact study of this program are aligned and affirmed by data collected through the implementation study. Overall, CCP staff and faculty, as well as the students themselves, reported that the program had strong impacts on them, allowing them to continue in college when it might not otherwise have been possible. When probing into the best practices at CCP that may

[9] Given that there are likely errors in the files with regard to the follow-up Single Stop services in which students engage, this may have implications for the exploratory findings related to service delivery. However, given the inconsistent findings in the exploratory findings across the three phases, those implications are likely to be minimal. Further, it is important to note that this would not have any effect on the impact findings.

have led to these consistently positive quantitative findings, this study found, in short, that CCP's supportive administration and cooperative faculty provided fertile ground for the program to take root, and the Director of Single Stop at CCP brought an ideal combination of knowledge, care, and tenacity that allowed for it to truly enact change for students.

Introduction

Program Context

Description of CCP

The Community College of Philadelphia (CCP) is a public, open admissions institution located in Philadelphia, PA. Annually, CCP serves over 30,000 students on its main campus and each of its three regional centers: the Northwest Regional Center, the Northeast Regional Center, and the West Regional Center. CCP employs approximately 400 full-time and nearly 600 part-time faculty. Located in one of the poorest cities in the country, the great majority of CCP students are economically disadvantaged. Approximately half of students do not receive any financial contribution from their families, and 70% of all students receive some type of financial aid. Approximately 75% of students are minority, with over half identifying as African American.[10]

Description of Single Stop

Single Stop USA is a national nonprofit organization that was launched in 2001 as a Robin Hood Foundation initiative. Single Stop's mission is to build pathways out of poverty by leveraging partnerships and technology to connect people to existing resources, all through a unique one-stop shop. Single Stop provides its participants with screening for and access to a wide range of resources, including government benefits and free legal, financial, and tax preparation services, all in one location. Single Stop launched its College Initiative in 2009 as a pilot with three community colleges and has expanded over the years. The initiative is currently active in colleges across 10 states. Through the initiative, which is funded in part by a sub-grant from the GreenLight Fund's Social Innovation Fund (SIF) Initiative, Single Stop partners with colleges to establish offices on the campuses and integrate their economic empowerment model with student services centers and financial aid departments—all with the goal of increasing student retention and graduation rates at the colleges.

Single Stop Implementation at CCP

CCP's current Vice President for Academic and Student Success,[11] Dr. Samuel Hirsch, was instrumental in initially bringing Single Stop to the campus. Recognizing that students confronted myriad challenges that served as roadblocks to the persistence and completion of their degrees, he had been looking for a program to address these issues and learned about Single Stop through professional connections. Simultaneously, Single Stop USA reached out to CCP's president, expressing interest in partnering with them. Additionally, the GreenLight Fund had just established an office in Philadelphia and was the recipient of a Social Innovation Fund grant, which brought alignment of the multiple components that allowed a Single Stop location to be established on the CCP Main Campus.

With strong support and oversight from Dr. Hirsch, Single Stop opened its doors at CCP on October 14, 2013. During its first year of implementation at CCP, Single Stop offered benefits screening and

[10] http://www.ccp.edu/about-us/key-facts
[11] Dr. Hirsch not only leads all student affairs departments, but is also the chief academic officer.

application assistance, as well as tax preparation services, financial counseling (launched May 2014) and legal assistance (launched June 2014). In 2014-2015, Single Stop expanded its legal services by adding immigration consultations.

Any student currently enrolled at CCP is eligible to receive Single Stop services, and Single Stop staff meet with them on an appointment and walk-in basis. Though there is flexibility in the schedule to meet with students across multiple areas, the office loosely offers the following schedule: Monday-Friday - general benefits screening; Mondays/Thursdays (during open enrollment period) - health insurance in the "marketplace" and Medicaid; Tuesdays-financial counseling; and Wednesdays-legal counseling (offered in partnership with Community Legal Services). On the third Wednesday of every month, immigration lawyers are on hand to assist students with immigration and other documentation issues. During tax season, the schedule changes somewhat to allow tax consultations to take place Monday through Thursday.

Single Stop Services at CCP

- **Benefits Screening and Counseling:** Staff determine students' eligibility for government supports and help them apply. Benefits include health insurance, food stamps, cash assistance, unemployment, child care, WIC, Social Security funds, and more.
- **Tax Preparation:** Students have their taxes prepared for free (with any and all credits owed to them) and avoid fees they would incur at a paid preparer.
- **Financial Counseling:** Group financial counseling sessions focus on building lifelong money management skills and are followed up with individual one-on-one sessions as needed.
- **Legal Counseling:** Students receive consultation with a lawyer to resolve critical issues such as housing/evictions, child care, and health care, and in some cases receive full representation.
- **Immigration Consultations**: Special immigration lawyers provide consultations to students with immigration issues.

The program is led by Paula Umaña (Project Director), who is a certified financial counselor with a background in providing support services. She also has strong connections to Philadelphia. Additionally, she is assisted by Melissa Bartley (Assistant Project Director & Financial Education Coordinator) and by work study students who provide support each semester by fielding phone calls, attending to students who walk in for services, and providing general administrative support. Dr. Hirsch hired Paula and continues to serve as her direct supervisor. They meet formally each week and informally via email, phone, or in-person conversations, as needed.

Study Context

In 2014, Single Stop USA issued a request for proposals for an evaluation partner to conduct a rigorous evaluation of the Single Stop program at CCP. Evidence from four initial descriptive studies of Single Stop's College Initiative had provided preliminary indications that the program would be effective at improving the rate at which community college students complete their degrees or certificates. However, rigorous quantitative research of its effectiveness had not yet been conducted. Following acceptance of Metis's proposal, the evaluation team launched a rigorous study examining the impact of Single Stop at CCP on students' academic success. The study is based on the College Initiative's program logic model and includes three studies, which have been conducted over multiple phases: an impact, an exploratory, and an implementation study. The rigorous impact study is the primary focus of the evaluation and is intended to assess the extent to which the program as implemented is meeting its near-term,

intermediate-term, and long-term objectives. The exploratory study investigates a set of secondary questions of interest, and the implementation study provides context for understanding the quantitative findings.[12] The sections below describe the design of the three studies in more detail and provide information regarding the findings from the first two phases of the evaluation.

Impact Study Design

The impact study was designed to determine whether Single Stop as implemented at CCP is having a positive impact on the target academic outcomes (i.e., consecutive semester-to-semester persistence, degree-bearing credit accumulation, GPA, and graduation rates) via a rigorous comparison of Single Stop participants to a matched group of non-participants. The key to success for any approach to estimating the impacts of an intervention is its capability of projecting what student performance would have been in the absence of the intervention. While random assignment of students to treatment and control conditions would provide the strongest evidence of program effects for Single Stop,[13] it was not feasible in the current evaluation of the College Initiative at CCP. The impact study was instead conducted based on a rigorous quasi-experimental closely matched comparison group design with propensity score matching (PSM).

Under the PSM framework (Rosenbaum & Rubin, 1983, 1984, 1985; Rosenbaum, 1991, 2002), initial imbalances on observed covariates (e.g., demographic variables and baseline achievement) between treated and comparison groups could be removed or greatly reduced.[14] The rigorous quasi-experimental design (QED) is a reasonably strong design that can provide a *moderate* level of evidence for program impacts, and could *meet the What Works Clearinghouse (WWC) evidence standards with reservations.*[15] In this QED impact study, the group of target students that made use of Single Stop services has been compared to a well-matched group of students who did not make use of these services. If baseline equivalence between the two groups can be established for final analytic samples, the differences in observed intermediate-term outcomes can be attributed with reasonable confidence to the Single Stop model at CCP.

Results from Phases I and II of the Impact Study

The Phase I impact study, which was completed in summer 2016, examined *near-term* academic outcomes—as of spring 2015—for students who had participated in Single Stop services during the 2014-2015 academic year. The findings from this study indicated strong positive academic outcomes for CCP students who had participated in Single Stop services, including: 1) higher semester-to-semester persistence rates, 2) higher ratios of completed to attempted degree bearing credits, and 3) higher GPAs, on average, when compared to closely matched CCP students who had not participated. Furthermore,

[12] Due to constraints of available budget for this evaluation, Metis was only able to conduct a limited implementation study based on existing qualitative data collected by Single Stop and additional information gathered from site observations; key administrator/stakeholder interviews; and brief stakeholder surveys, interviews, and focus groups.
[13] Note that this statement typically applies to randomized controlled trials (RCT) with low attrition, whereas RCT studies with high attrition are considered no better than a well-matched comparison group design according to the What Works Clearinghouse (WWC).
[14] Note that an inherent disadvantage of PSM is its inability to account for unmeasured differences between the two groups.
[15] The reservations are due to the fact that unobserved variables may not be equated between the two groups *(WWC Procedures and Standards Handbook,* v 3.0, 2014).

significant results were observed for both first time college students (FTIC) and for those students who had previous exposure to college (non-FTIC).

The Phase II impact study, which was completed in winter 2018, investigated *intermediate-term academic outcomes*—as of spring 2016—for the same cohort of students who had participated in Single Stop services during the 2014-2015 academic year. The findings from this phase of the evaluation continued to indicate the overall effectiveness of the Single Stop program in achieving its key outcomes. On average, Single Stop participants had 1) higher semester-to-semester persistence rates, and 2) higher overall ratios of completed to attempted degree bearing credits than similarly situated students. These statistically significant results were detected for both FTIC and non-FTIC students, consistent with the findings from Phase I. However, while the FTIC Single Stop participants had a significantly higher average weighted GPA as compared to their counterparts, no statistically significant difference was found for the non-FTIC group, which was different from the corresponding near-term impact analysis finding.

Phase III Impact Study Design

The current impact study focuses on the *long-term program outcomes (as of spring 2017 and fall 2017)*, and is based on the same set of 1,152 treatment students who had received Single Stop services in 2014-2015 and were selected for the near-term outcome evaluation in the first phase.[16] These participants were selected based on their Benefits Enrollment Network (BEN)[17] records, which indicated that they received at least one of the five major Single Stop services (i.e., benefits eligibility screening, financial counseling, legal counseling, tax preparation and additional services) between May 11, 2014 and May 10, 2015 (i.e., Summer 2014 to Spring 2015).[18]

Exploratory Study Design

The exploratory study was designed to include a series of additional analyses geared toward determining whether impacts are experienced differentially by student subgroups or whether impacts differ based on the number and/or types of services received. Analyses for this study have been conducted either within the Single Stop participant group (i.e., dosage analyses) or between Single Stop participants and matched comparisons, and can be considered less rigorous than those conducted for the confirmatory impact analyses.

All within-Single Stop group analyses have focused on data that are only available for FTIC Single Stop students. These analyses have explored the relationship between the number and type of services delivered and academic outcomes. Further, any matched comparison analyses in the exploratory study have leveraged the matched comparison samples already developed for the impact study.[19] These analyses are considered exploratory in nature because they are less rigorous in general and not subject to

[16] The treatment students all received services in school year 2014-2015. Their long-term outcomes were obtained as of the end of summer 2017, and again as of the end of fall 2017.
[17] The Benefits Enrollment Network (BEN) was Single Stop's proprietary client tracking system. The system included information about participant demographics, service delivery and outcomes.
[18] Additional details about these treatment students can be found in the Phase I impact and implementation report.
[19] For example, analyses comparing financially independent Single Stop students to financially independent comparisons use matches already found for the impact analyses.

multiple comparison adjustment procedures, which are required for conclusions of impact. Results are therefore not intended to be indicative of impacts but rather to provide information regarding programming and its possible effects on academic outcomes. As such, all findings from the exploratory study should be approached with greater caution than those from the impact study.

Results from Phases I and II of the Exploratory Study

Findings from the Phase I exploratory study were mixed. While there were several statistically significant findings pointing to specific components of the model that may be driving the observed impacts, the findings were not consistent across the groups or outcomes. Likewise, the Phase II exploratory study showed few clear patterns. While there were several statistically significant findings, the results were not as consistent across groups or outcomes as were found with the confirmatory impact analyses.

Phase III Exploratory Study Design

The Phase III exploratory study includes the same set of analyses used in Phases I and II but focuses on the long-term outcomes. These analyses are designed to determine whether long-term impacts are experienced differentially by student subgroups or whether the long-term impacts differ based on the number and/or types of services received.

Implementation Study Design

The implementation study was designed to provide context for the quantitative study. Phase I implementation study activities included review of documentation, observations of program activities, and interviews with CCP administrators and Single Stop program staff. In Phase II, the implementation study activities focused on gathering student feedback and included interviews, focus groups, and brief surveys with participating CCP students, as well as interviews with a sample of CCP faculty and staff members.

Results from Phases I and II of the Implementation Study

The Phase I implementation study corroborated the positive findings from the impact study and offered potential context and explanation for the strength of the outcomes that were identified through these analyses. Specifically, the aspects of the program that were most pronounced included: 1) the robust support it receives from CCP administrators; 2) the top notch caliber of Single Stop staff, who are personable and ensure that Single Stop is portrayed as an asset, rather than a deficit model.

The implementation study focused on students' satisfaction with Single Stop services and the impact they perceive the initiative has had on them academically and personally. Data were gathered through CCP student interviews and focus groups, as well as faculty member interviews. Findings from the implementation study pointed to potential reasons behind the strong positive quantitative results. In interviews, students clearly expressed that the services were directly connected to their persistence in college because, without Single Stop's assistance, they would have had to withdraw for financial reasons.

Some students further noted that Single Stop allowed them to simply focus on being students, rather than being distracted by finances or other daily living concerns. Several students and faculty members noted the characteristics of the Single Stop staff that enable students to feel comfortable, including that the staff are relatable, knowledgeable, and caring—a key combination of qualities. Additionally, it was noted that the college has continued to integrate the program into more courses, enhancing its presence on campus and increasingly becoming more a part of the fabric of the college. The implementation study also showed that the administrators' strong support of the program remains a critical element of its success and has set the tone for good working relationships across various college departments. Moreover, the study found that various support systems at the college generally coordinate quite well to support students, maximizing potential positive outcomes for them.

Phase III Implementation Study Design

Implementation study activities in Phase III were designed to probe more deeply on two implementation topics: 1) students' perceptions of Single Stop services and reasons behind low return rates for subsequent services; and 2) best implementation practices at CCP. Activities for the Phase III implementation study took place during summer 2018 and included an in-depth interview with Project Director, Paula Umaña, and brief on-line surveys and phone interviews with CCP students who had participated in Single Stop services in 2014-2015 and, according to data gathered from Single Stop USA, remained enrolled at CCP but had not returned for additional Single Stop services since that time.

The current report provides information about the methods and findings from the Phase III Impact, Exploratory, and Implementation Studies and summarizes results across all three phases of the study.

Methods

Impact and Exploratory Studies

Participants

Participants and Study Samples

The Single Stop participants in the Phase III evaluation were based on the same set of 1,152 treatment students who were selected for the near-term and intermediate-term outcome evaluation. Treatment students were selected based on having a Benefits Enrollment Network (BEN) record of receiving at least one of the five major Single Stop services (i.e., benefits eligibility screening, financial counseling, legal counseling, tax preparation and additional services) between summer 2014 and spring 2015. Among these participants, 367 (31.86%) were attending college for the first time (FTIC) in academic year 2014-2015, while the remaining 785 (68.14%) had prior exposure to college (non-FTIC). Similar to the near-term and intermediate-term outcome evaluation, the Phase III study investigates program impact estimates separately for these two groups of students. Therefore, unless otherwise noted, the analyses included in the current evaluation are based on the two separate study samples: (1) non-FTIC students who were enrolled at CCP in fall 2014, and (2) FTIC students who were enrolled at CCP in fall 2014.[20] Note that in contrast to the Phase I and Phase II evaluation, only the program impact analyses for the FTIC students are considered confirmatory in the Phase III evaluation, whereas those for the non-FTIC students are included as part of the exploratory study for informational purposes. According to the SIF Subgrantee Evaluation Plan (SEP), the FTIC sample is the focus of a longitudinal analysis of potential program impacts on longer-term academic outcomes, as it can provide cleaner impact estimates.

Demographic Characteristics

Table 1 presents the basic demographic characteristics for the two groups of Single Stop participants. As can be seen in the table, for both groups, the majority of students were ethnic minorities, unmarried, financially independent, not the first in the family to attend college, enrolled in an academic major (as opposed to occupational major), filed FAFSA, received financial aid and student loans, and studied Liberal Studies. The non-FTIC group had a higher percentage of female students and students who had received a high school diploma. In addition, approximately 90% of non-FTIC students were enrolled in remediation courses. While the two groups had similar average placement test scores, the non-FTIC participants, on average, were four years older, first enrolled in college typically three and a half years before the start of the study period, and earned greater income. Regarding the prior academic record in college,[21] the non-FTIC group had an average prior cumulative GPA of 3.00, and passed approximately 30 credits, on average, in their previous years in college.

[20] When exploring the potential program impacts on various groups of students receiving different unique combinations of five major Single Stop services, the non-FTIC and FTIC students were combined in the analysis samples due to limited Ns belonging to each unique combination of services (see Tables 8.A, 8.B, 9.A, 9.B, 10.A and 10.B).

[21] Not available for FTIC students.

Table 1. Baseline characteristics of the non-FTIC and FTIC Single Stop participants

Baseline Characteristics		Group	
		Non-FTIC Participants % / Group Mean	FTIC Participants % / Group Mean
Gender	Female	64.6%	56.1%
	Male	35.4%	43.9%
Race/Ethnicity	Hispanic	9.8%	8.7%
	Black	54.4%	62.7%
	White and other	35.8%	28.6%
Enrollment Status	Full Time	33.4%	36.8%
	Part Time	66.6%	63.2%
Marital Status	Married	7.0%	6.5%
	Not Married	93.0%	93.5%
FAFSA Filing Status	Filed FAFSA	92.9%	92.4%
	Did Not File FAFSA	7.1%	7.6%
FAFSA Dependence Status	Financially Dependent	25.9%	35.1%
	Financially Independent	74.1%	64.9%
Financial Aid Status	Received Financial Aid	91.0%	91.3%
	Did Not Receive Financial Aid	9.0%	8.7%
Student Loan Status	Received Student Loans	58.1%	58.9%
	Did Not Receive Student Loans	41.9%	41.1%
First Generation to Attend College	Yes	38.1%	32.7%
	No	61.9%	67.3%
High School Diploma/GED	High School GED	50.3%	68.1%
	High School Diploma	49.7%	31.9%
Enrollment in Remediation[22]	Yes	89.7%	
	No	10.3%	
Major	Academic	93.8%	94.3%
	Occupational	6.2%	5.7%
Area of Study	Liberal Studies	71.0%	79.0%
	Business & Technology	18.5%	16.3%
	Math, Science & Health Careers	10.5%	4.7%
Age at Baseline		30.26	26.27
Number of Years Since First Enrolled at College		3.52	0.00
CCP Placement Test Score		7.88	7.79
FAFSA Personal Income		$ 6,885.18	$ 5,282.61
FAFSA Household Income		$ 12,279.46	$ 11,446.16
Prior Cumulative GPA		3.00	
Prior Cumulative Number of Credits Passed		30.49	

Enrollment Status and Service Receipt

According to National Student Clearinghouse (NSC)[23] data and CCP administrative data, 68.1% of the FTIC Single Stop participants and 78.2% of the non-FTIC participants were enrolled during either or both semesters of academic year 2015-2016 (see Table 2). In academic year 2016-2017, 36.5% of the FTIC Single Stop participants and 33.0% of the non-FTIC participants were enrolled during either or both semesters. By fall 2017, only 15.3% participants in both the FTIC and non-FTIC groups were still enrolled in college. According to these data, approximately one-third of the FTIC participants appear to

[22] Note that remediation was determined based on the presence of developmental credits attempted the prior semester. This metric was not available for FTIC students as by definition none of them had any attempted credits the prior semester.
[23] The NSC is a nonprofit/nongovernmental organization that collects, processes, and houses post-secondary educational reporting data for college enrollment, persistence and graduation.

have dropped out of college after their first year, and this number seems to have increased to more than two thirds by fall 2017. Also note that graduation rates for non-FTIC students (41.4%) by fall 2017 were much higher than those observed for FTIC students (12.5%).

Table 2. College enrollment status of the Single Stop participants in academic years 2015-2016, 2016-2017, and fall 2017

Status		Non-FTIC Participants		FTIC Participants	
		N	%	N	%
Enrollment at CCP or any other colleges in academic year 2015-2016	Graduated	44	5.6%	1	0.3%
	Enrolled in either Fall 2015, Spring 2016, or both semesters	614	78.2%	250	68.1%
	Not enrolled in either semester	127	16.2%	116	31.6%
	Total	785	100.0%	367	100.0%
Enrollment at CCP or any other colleges in academic year 2016-2017	Graduated	246	31.3%	16	4.4%
	Enrolled in either Fall 2016, Spring 2017, or both semesters	259	33.0%	134	36.5%
	Not enrolled in either semester	280	35.7%	217	59.1%
	Total	785	100.0%	367	100.0%
Enrollment at CCP or any other colleges in fall 2017	Graduated	325	41.4%	46	12.5%
	Enrolled in Fall 2017	120	15.3%	56	15.3%
	Not enrolled in Fall 2017	340	43.3%	265	72.2 %
	Total	785	100.0%	367	100.0%

Furthermore, the Single Stop service event data showed that among the 1,152 treatment students who received at least one major Single Stop service in the academic year 2014-2015, only three (0.3%) continued to receive major services in academic year 2015-2016, and none continued to receive major services in academic year 2016-2017 or fall 2017. Given this extremely low utilization rate, the service data used for the exploratory study in the current evaluation are based on the BEN records from academic year 2014-2015.

Research Questions

Impact Study

The impact evaluation was designed to address the following **confirmatory research questions**:

1. Do FTIC students served by Single Stop's College Initiative at CCP have higher consecutive semester-to-semester persistence rates than the comparison group of students?

2. Do FTIC students served by Single Stop's College Initiative at the CCP have a higher average ratio of completed to attempted degree bearing credits than the comparison group of students?
3. Do FTIC students served by Single Stop's College Initiative at the CCP have higher grade point average (GPA) than the comparison group of students?

Exploratory Study

In addition, the following **exploratory**[24] **research questions** were designed to help explain how and why impacts might occur for the initial and updated program completion outcomes:

4. To what extent does treatment dosage for each of the five major services (i.e., benefits eligibility screening, financial counseling, legal counseling, tax preparation, and other services) relate to FTIC students' initial (i.e., spring 2017) and updated (i.e., fall 2017) program completion outcomes, while controlling for whether an outcome confirmation[25] was received under each major service category?

5. Based on the unique combinations of the five major services (i.e., benefits eligibility screening, financial counseling, legal counseling, tax preparation, and other services) that treatment students typically received in academic year 2014-2015, what is the estimated impact of each of the major combinations on students' initial and updated program completion outcomes?[26] In addition, what are the estimated program impacts for students who received one or two major services and students who received at least three major services?
6. Does Single Stop's College Initiative have a different effect for FTIC students who are financially independent versus FTIC students who are financially dependent?
7. Do FTIC students served by Single Stop's College Initiative at CCP have a higher ratio of passed to attempted non-degree bearing[27] credits than the comparison group of students?
8. Do FTIC students served by Single Stop's College Initiative at CCP have higher non-degree bearing credit accumulation than the comparison group of students? Do they also have higher degree bearing credit accumulation than their counterparts?
9. Do students served by Single Stop's College Initiative at CCP have higher persistence rates than the comparison group of students based on a more lenient[28] measure of persistence?
10. Do non-FTIC students served by Single Stop's College Initiative at CCP have higher consecutive semester-to-semester persistence rates than the comparison group of students?

[24] While all confirmatory analyses are strictly based on well-matched study samples and provide rigorous evidence for drawing impact-related conclusions, exploratory analyses are undertaken to gain preliminary understanding of how and why program impacts might occur as well as inform future investigations. These analyses can provide empirical evidence of program effectiveness, albeit with less confidence in causal relationships due to less rigorous statistical control for confounds, low Ns, or lack of variability in outcomes.
[25] An outcome confirmation occurs when a student who has received one of the major service offerings verifies that an outcome has been achieved.
[26] For this question, only those unique combinations with N > 30 were investigated.
[27] Non-degree bearing credits are course credits that neither accumulate toward degree completion nor grade point average.
[28] Unlike persistence measured as enrollment in consecutive semesters, the more lenient definition of persistence is defined as a student enrolled in at least one semester in each of the three school years or graduating (at the original institution or any other institution) by the end of spring 2017 for the long-term academic outcome analyses. An additional long-term academic outcome analysis was also conducted extending this period through the end of fall 2017.

11. Do non-FTIC students served by Single Stop's College Initiative at the CCP have a higher average ratio of completed to attempted degree bearing credits than the comparison group of students?
12. Do non-FTIC students served by Single Stop's College Initiative at the CCP have higher grade point average (GPA) than the comparison group of students?
13. Do students served by Single Stop's College Initiative at the CCP have higher rates of degree completion than the comparison group of students?

Data Collection and Measurement

Data Collection and Processing

Metis and Single Stop updated the official data request that was developed for the previous evaluation and re-submitted to the Community College of Philadelphia (CCP) to obtain the academic outcome data for the current Phase III evaluation. CCP provided all pertinent outcome data collected in academic year 2016-2017, as well as in fall 2017. In addition, CCP provided National Student Clearinghouse (NSC) data that would help determine whether students persisted beyond CCP (e.g., via transfer to a four-year college or another community college institution) in academic year 2016-2017 and fall 2017. Metis merged all of the received long-term outcome data with prior received data to create an updated dataset based on the academic data file generated for the Phase I and Phase II evaluation. This dataset therefore included baseline data, near-term, intermediate-term and long-term outcomes for Single Stop participants and all potential comparisons.

Single Stop also provided two event data files that contained the service records between summer 2016 and summer 2017 and those in fall 2017. After merging the updated event files to the major academic data file, Metis found that only 111 of the 343 students who received at least one of the five major services in academic year 2016-2017 belonged to the original study cohort, and all of the 111 students belonged to the original potential comparison group (N=17,662). In addition, among the 11 students who were reported to receive at least one of the five major services in fall 2017, only three belonged to the original study cohort and all of them also belonged to the original potential comparison group. None of the treatment group students (N=1,152) continued to receive any of the five major services between summer 2016 and fall 2017. As with the intermediate-term outcome analyses, those potential comparison students who had any interactions with Single Stop by the end of summer 2017 and by the end of fall 2017 and were previously matched to a treatment student in the Phase I and Phase II impact evaluations were eliminated before re-matching and outcome analyses to ensure that the Phase III impact evaluations were not contaminated. Matched comparison students were therefore expected to have no interactions with Single Stop for any of the long-term program outcome analyses.

Propensity Score Matching and Baseline Equivalence

Propensity score matching was re-conducted and baseline equivalence of each re-matched analytic sample was assessed ensure the integrity of the matched analysis samples for each of the long-term outcomes across both FTIC and non-FTIC groups. As with the Phase I and Phase II outcome analyses,

the full set of matching variables[29, 30] for the QED-based impact study included the following student-level baseline characteristics related to the outcomes of interest:

- gender (female/male)
- race/ethnicity (Black/Hispanic/White and other including unknown)
- enrollment status (full time/part time)
- marital status (married/not married)
- FAFSA filing status (yes/no)
- FAFSA dependency status (yes/no)
- financial aid received (yes/no)
- student loan status (yes/no)
- first generation to attend college (yes/no)
- high school GED/diploma (GED/diploma)
- enrollment in remediation (yes/no)
- academic or occupational status (academic/occupational)
- area of focus (Liberal Studies/Business and Technology/Math, Science & Health Careers)
- age at baseline year
- number of years since first enrolled at college
- placement test score
- FAFSA personal income
- FAFSA household income
- prior cumulative GPA
- prior cumulative credits passed

After propensity score estimation, the nearest neighbor matching within caliper[31] (also known as greedy matching) technique was employed to re-match the target Single Stop participants 1-to-1 to the non-participating group. A *without*-replacement algorithm was used in the matching procedure to ensure that a non-participant was not matched more than once to any given participant. More details regarding the PSM process can be found in Appendix A. Note that in this study, the non-participants (i.e., the counterfactual) included those students who were enrolled at CCP in fall 2014 and were not identified as receiving any services from Single Stop between summer 2014 and the end of the long-term academic outcome temporal period being analyzed (i.e., spring 2017 for initial program completion data or fall 2017 for updated program completion data).[32]

[29] Subject to data quality and availability, the matching variable set retained as many key baseline variables listed in the original SIF Sub-grantee Evaluation Plan as possible.

[30] Due to a considerable amount of missing data, FAFSA personal income, FAFSA household income, prior cumulative GPA and prior cumulative credits passed were included only in the first round of matching of non-FTIC students. For the FTIC group, only FAFSA personal income and FAFSA household income were included in the first round of matching since students don't have prior cumulative GPA or prior cumulative credits passed in college. See Appendix A for more details on the first and second rounds of matching.

[31] Following Rosenbaum and Rubin's recommendation (1985), a caliper size of a quarter of standard deviation of the estimated propensity scores was employed in the matching process.

[32] Note that students initially identified as Single Stop participants who did not receive any of the five major services from Single Stop between summer 2014 and spring 2015 were eliminated from the study.

Covariates were considered balanced after matching if both of the following conditions were satisfied: (1) the conducted chi-square tests or the independent samples *t*-tests did not detect any statistically significant differences; and (2) the standardized mean differences between the treatment and the matched comparison groups were less than 0.25 SDs.[33] To ensure that the baseline equivalence of matching covariates could be re-established for each final analytic sample, rigorous matching was conducted multiple times with consideration given to the availability of pertinent long-term outcomes for analysis. In other words, matching procedures were repeated whenever there were a substantial number of individuals missing any given outcome. This was done to ensure that the impact analyses actually compared groups that were similar based on all selected baseline characteristics, while maximizing the number of matched pairs with both complete matching and outcome data.[34] Separate PSMs resulted in matched comparison groups that were not necessarily constituted from exactly the same set of students, although there could be substantial overlap across different matched samples (i.e., some comparison students were selected more than once during multiple matching). Thus, there was what could be termed a separate or unique analysis sample for each outcome and temporal period.

For each analysis sample, all participants in the original target sample (100%) with complete matching and outcome data were successfully matched. The well-established baseline equivalence of the Single Stop group and its matched comparison group was therefore capable of achieving high levels of internal validity. This means that any conclusions about a given outcome based on the current impact study could be attributed with reasonable confidence to the Single Stop model, rather than other factors. The findings of this impact study, however, should still be interpreted cautiously, as a well-known limitation of rigorous quasi-experimental designs is the inability to account for the unmeasured factors (i.e., hidden selection bias, such as student motivation) that would play a role in affecting intervention participation and target outcomes.

Measures and Missing Data

Once a comparable non-participating group for the target sample was generated, Metis conducted post-matching analyses for the following intended long-term academic outcomes: persistence, credit attainment, grade point average (GPA), and degree/credential completion.

For confirmatory analyses, the following measures were used for the target outcomes: (1) consecutive semester-to-semester persistence, which was measured by continued college enrollment[35] or completion (at the original institution or any other institution) (a) by the end of spring 2017 and (b) by the end of fall 2017; (2) credit attainment, which was measured by the overall ratio of completed/passed to attempted degree bearing credits (a) across the three academic years and (b) from fall 2014 throughout fall 2017;

[33] Based on the WWC criteria, if the magnitude of a standardized mean difference for a given baseline variable is (1) less than or equal to 0.05 standard deviations, one can conclude that equivalence is established for the baseline variable (no statistical adjustment needed in outcome analyses later); (2) greater than .05 standard deviations but less than or equal to .25 standard deviations, one has to include the baseline variable in statistical models used in outcome analyses to account for the imbalance and establish baseline equivalence; and (3) greater than .25 standard deviations, one has to conclude that equivalence was not established for the baseline variable (i.e., baseline imbalance).

[34] Group baseline equivalence must be demonstrated on the analysis sample that excludes cases with missing values because WWC guidelines do not allow missing data imputation for outcome or baseline matching variables when a study is based on a quasi-experimental design (QED).

[35] Students are considered enrolled as long as a record at the college is found, regardless of the number of credits attempted/passed or whether there was a record of certificate/degree attainment.

and (3) student GPA as measured by the weighted grade-point average obtained (a) across the three academic years and (b) from fall 2014 throughout fall 2017.

Exploratory analyses included four additional outcome measures: (1) the overall ratio of completed/passed to attempted non-degree bearing credits (a) across the three academic years and (b) from fall 2014 throughout fall 2017, (2) the total number of credits (both the degree bearing type and the non-degree bearing type) completed/earned (a) during the three academic years, and (b) from fall 2014 throughout fall 2017, (3) a more lenient measure of persistence defined by a student appearing in at least one semester in each academic year or graduating (at the original institution or any other institution) (a) by the end of spring 2017, and (b) by the end of fall 2017[36], and (4) graduation as defined by completion of an associate degree or higher (a) as of the end of spring 2017, and (b) as of the end of fall 2017.

Consistent with the WWC guidelines, all outcome measures used in this evaluation with both the Single Stop and comparison groups have face validity, adequate reliability, and consistency in measurement, without over-aligning with the intervention. Attrition occurs when the outcome data are not available for students in the study samples. For the evaluation in all phases, Metis made every effort to minimize sample attrition in the impact studies, including the use of CCP administrative data and the college enrollment and certificate/degree completion data from the National Student Clearinghouse (NSC).

According to the WWC evidence standards, when a study uses a quasi-experimental comparison group design, baseline equivalence must be established based on the final analytic samples without imputing missing data for outcomes or covariates (WWC, 2014). Therefore, Metis only included students with complete outcome and matching variable data in the formal impact analyses. For all phases of the impact evaluation, some important matching variables (i.e., FAFSA personal income, FAFSA household income, prior cumulative GPA and prior cumulative credits passed) that had a substantial proportion of missing data were included in the first round of matching but ultimately removed from the matching paradigm in the second round to maximize the number of matched pairs, while balancing the key baseline income and achievement data elements (see Appendix A).

Analyses

After generating a closely matched group of comparison subjects for Single Stop participants based on PSM, Metis conducted multivariate regression analyses for the impact study of long-term academic outcomes (i.e., consecutive semester-to-semester persistence, overall ratio of credits completed to attempted, and weighted GPA).[37] All of the matching variables were included in the predictive models in addition to the treatment dummy indicator to further strengthen statistical control for possible confounds.[38, 39]

[36] Note that for the more lenient measure of persistence, a student must be enrolled in fall 2017 to be defined as persisting for the exploratory analyses conducted for the temporal period fall 2014 – fall 2017.

[37] Linear regressions were used for the continuous outcome measures (i.e., overall ratio of credits completed to attempted, total number of credits earned, weighted GPA), whereas logistic regressions were employed when outcome measures were dichotomous (i.e., stringent and lenient measures of persistence, graduation). Both types of multiple regressions can generate impact estimates of interest.

[38] Note that specifications of regression models and detailed analysis results can be found in Appendices B, C and D.

[39] No multicollinearity problems were detected for any of the analyses. In some analyses, a few variables had constant values, and therefore were not included in the models.

In addition to evidence-based impact analyses for the FTIC students (research questions 1-3), dosage and confirmation analyses for the FTIC students (research question 4), analyses of combinations of major program services for the FTIC and non-FTIC students combined (research question 5[40]), and additional exploratory outcome analyses for the FTIC students (research questions 7-8), pertinent subgroup analyses were conducted for the FTIC students to examine potential differential/heterogeneous program effects using interaction models (research question 6). As with the Phase II evaluation, a more lenient measure of persistence was analyzed for both the FTIC and non-FTIC students (research question 9). The impact analyses of the non-FTIC students were also part of the exploratory study (research questions 10-12), even though this group was not the focus of the Phase III evaluation. Furthermore, graduation/degree completion, as an additional key target outcome in the long-term analyses, was examined for both the FTIC and non-FTIC students for the first time (research question 13).

According to the WWC guidelines, statistical significance adjustment procedures (i.e., Benjamini-Hochberg) are required when multiple comparisons are involved for confirmatory contrasts specified in the same outcome domain at the same time point. Similar to the previous evaluations, the three academic outcomes involved in the confirmatory analyses of the Phase III impact study can be divided into two domains[41]: credit accumulation and persistence and academic achievement. In the credit accumulation and persistence domain, two different outcome measures (i.e., consecutive semester-to-semester persistence, overall degree bearing credit pass rate) were analyzed for the FTIC students at two different time points. For the two impact estimates obtained at each time point, a Benjamini-Hochberg (BH) correction was applied for a multiple comparisons adjustment. No multiple testing adjustment was necessary for the one outcome measure (i.e., weighted GPA) in the academic achievement domain for the FTIC students.

Note that in addition to assessing intended program outcomes based on statistical significance level, effect size indices (i.e., Hedges' *g*,[42] Cox index[43]) were generated to measure the practical importance of every finding in the Phase III evaluation. While statistical significance indicates the probability that an observed effect is purely due to chance,[44] an effect size measure provides additional key information regarding the magnitude/scale of an observed effect. In other words, a statistically significant result suggests that an effect indeed exists, whereas a substantial effect size[45] implies that a potentially

[40] Research question 5 was revised from the original question adopted in the Phase I study for use in the Phase II evaluation, and the revised question was retained in the current Phase III evaluation.
[41] Outcome domains were defined based on *WWC Review Protocol for Individual Studies in the Postsecondary Education Topic Area* (v 3.1, 2015).
[42] Hedges' *g* measures the standardized group mean difference (the difference between the mean outcome for the treatment group and the comparison group, divided by the pooled within-group SD of the outcome measure), and is the most commonly used effect size index and the default measure by the WWC for continuous outcomes (e.g., credit accumulation, credit pass rate, GPA).
[43] For dichotomous outcomes (e.g., semester-to-semester persistence vs. dropout status,), the WWC uses the Cox index as the default effect size measure. Similar to Hedges' *g* which measures the difference in group means for continuous outcomes, the Cox index measures the difference in the probability of the occurrence of an event for dichotomous outcomes. According to the WWC (v 3.0, 2014), the Cox index "yields effect size values similar to the values of Hedges' *g* that one would obtain if group means, standard deviations, and sample sizes were available, assuming the dichotomous outcome measure is based on an underlying normal distribution" (p.22).
[44] The significance level indicates how rare the results are when the null hypothesis is true, typically expressed as a "*p*-value." The lower the *p*-value, the less likely the results are due purely to chance. Statistically significant results are indicated by *p*-values < 0.05, which means the risk of obtaining such results by chance is less than 5%.
[45] According to the WWC standards (v 3.0, 2014), effect sizes of 0.25 of a standard deviation or larger are considered to be substantively important, regardless of whether they reach statistical significance.

important effect might exist and is worth future investigation in circumstances where there is a lack of statistical significance.[46]

Implementation Study

Participants

Interview with Single Stop's Project Director at CCP

In July 2018, Metis staff conducted a comprehensive, in-person interview with Paula Umaña, the Project Director of Single Stop at CCP. The key focus of the interview was to gather best implementation practices. Specifically, information was gathered regarding CCP's practices pertaining to student intake, service determination and delivery, and follow-up activities.

Interviews and Surveys of CCP Students

Given that the Phase II quantitative study found that only three of 864 students in the original cohort who remained at CCP returned for Single Stop services after their initial visit in 2014-2015, Single Stop, CCP, and Metis staff were all interested in following up with these students to determine why they did not return for additional services. This was of particular interest given the high levels of satisfaction with the services that interviewed students had expressed during Phase II.

In order to gather data regarding students' reasons for not returning for additional Single Stop services, the Metis team worked closely with staff from Single Stop USA and CCP to reach out to students who met the following criteria: 1) they participated in Single Stop services in 2014-2015, 2) they were enrolled at CCP as of fall 2017, and 3) Single Stop USA records indicated that they had not returned for additional Single Stop services following the 2014-2015 academic year. Based on records received from Single Stop USA, a total of 176 students fit these criteria. In order to reach out to these de-identified students, Metis provided the list of targeted students with scrambled IDs back to CCP data analysts, who then sent an invitation to students to participate in a phone interview with Metis evaluators. As an incentive, the first five students who indicated they were interested in an interview were offered a $20 Visa gift card for their participation. A total of 21 of the 176 students (11.9%) responded to the request, providing full contact information. The first five students were interviewed by phone, and the remaining 16 students were sent an online survey and were offered a $5 gift card for their participation. Five students completed this survey, resulting in a total of 10 of the 21 interested students (47.6%) who participated in either the phone interview or the online survey.

[46] In some cases, small sample sizes can lead to insufficient statistical power, and therefore a substantively important effect may not be detected with statistical significance. Further studies with increased sample sizes will examine if the effect indeed exists (i.e., is statistically significant). In other cases, a statistically significant finding has a small effect size, indicating that the effect truly exists but is relatively small in scale.

Research Questions

Overall, the implementation study was designed to address the following four questions:[47]

1. What is the nature and quality of Single Stop implementation at CCP?
2. What best practices are associated with Single Stop CCP implementation?
3. What challenges has the program confronted and what additional areas of support are needed?
4. What changes should the program make going forward?

Data Collection and Measurement

Single Stop's Project Director at CCP

As described earlier, in July 2018, a Metis evaluator conducted an in-person, one-on-one interview with Paula Umaña, the Project Director of Single Stop at CCP. The purpose of the interview was to gather data on best implementation practices at CCP. Using a semi-structured interview protocol, Ms. Umaña was asked about Single Stop practices related to student intake, service determination, service delivery, and follow-up activities at CCP. The interview took place at CCP and lasted approximately one hour. It was audio recorded with permission from Ms. Umaña.

Students

Phone interviews and online surveys with CCP students were all completed during August 2018. The phone interviews, which lasted 10-15 minutes each, used a structured protocol (see Appendix E) that asked students about the timing of their participation in Single Stop services, the types of services they accessed, their satisfaction levels with these services, and their reasons for not returning for additional services. Students were provided with opportunity to describe their experiences and provide contextual background for their responses. The online survey mirrored the phone interview protocol and allowed for students to add open-ended responses.

Analyses

Closed-ended student phone and online survey responses were combined and responses were tallied using simple frequencies and cross-tabs. Open-ended responses from both the phone interviews and online surveys were content analyzed to identify common themes. Grounded theory principles were used to allow themes and variations to emerge from the data. The in-depth interview with Ms. Umaña was summarized, and best practice themes are described.

[47] Note that the Phase III implementation study focused on Questions 1 and 2.

Findings

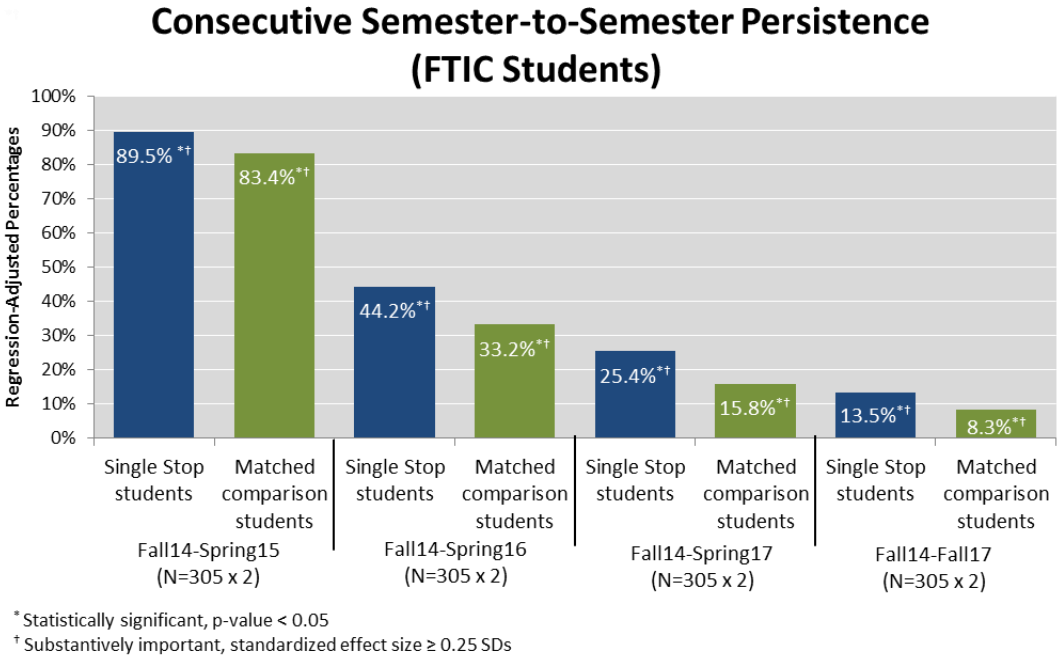
Impact Study

The current study examined the impacts of the Single Stop program on the long-term academic outcomes of its FTIC participants, including consecutive semester-to-semester persistence, overall degree-bearing credit pass rate, and weighted GPA. This section summarizes the findings of the confirmatory impact analyses. Detailed regression results can be found in Appendix B.

Persistence in College

Consecutive semester-to-semester persistence was examined for the FTIC students in the impact evaluations in all phases. The results of these analyses were very consistent: **overall, the FTIC students participating in Single Stop who were enrolled at CCP in fall 2014 were significantly more likely to persist in college than their matched comparison group (i.e., had significantly higher consecutive semester-to-semester persistence rates) at the end of each of the academic years 2014-2015, 2015-2016, 2016-2017, and again at the end of fall 2017.**

Figure 1. The estimated consecutive semester-to-semester persistence rates of the FTIC students in all phases



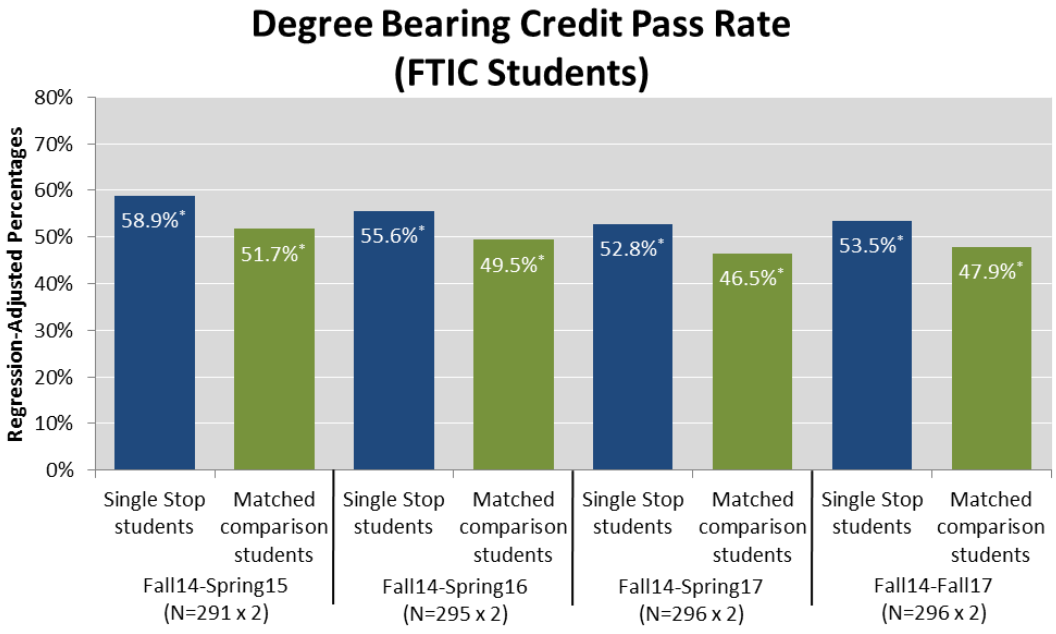
As seen from Figure 1, on average, 25.4% of the FTIC Single Stop students were expected to stay enrolled at CCP consecutively or have graduated by the end of spring 2017, whereas 15.8% of the matched FTIC comparisons were expected to remain in college or have graduated under the same timeframe. By the end of fall 2017, 13.5% of the FTIC Single Stop students were expected to persist in

school continuously or have graduated, while 8.3% of the matched FTIC counterparts were anticipated to remain in college continuously or have graduated. Analyses of long-term consecutive semester-to-semester persistence through the end of spring 2017 and the end of fall 2017 yielded statistically significant results ($p < 0.05$). Further, according to the WWC standards, the effect size for the long-term impact of Single Stop on the consecutive semester-to-semester persistence of FTIC students is considered substantively important through both temporal periods – spring 2017 (0.360) and fall 2017 (0.334). All findings in Phase III, both in terms of statistical significance and substantive importance, were consistent with those of the corresponding impact analyses carried out in the Phase I and Phase II evaluations.

Degree Bearing Credit Pass Rate

For the confirmatory analyses, credit attainment was measured by the overall ratio of completed to attempted degree bearing credits aggregated over the 2014-2015, 2015-2016, and 2016-2017 academic years for the long-term impact analysis, and again over the additional fall 2017 semester. This outcome measure for the FTIC students was investigated in the impact evaluations in all phases. The results of these analyses were quite similar over time: **overall, the FTIC Single Stop students enrolled at CCP in fall 2014 had significantly higher ratios of completed to attempted degree bearing credits than their comparison counterparts at the end of each of the academic years 2014-2015, 2015-2016, 2016-2017, and again at the end of fall 2017.**

Figure 2. The estimated overall degree bearing credit pass rates of the FTIC students in all phases



* Statistically significant, p-value < 0.05

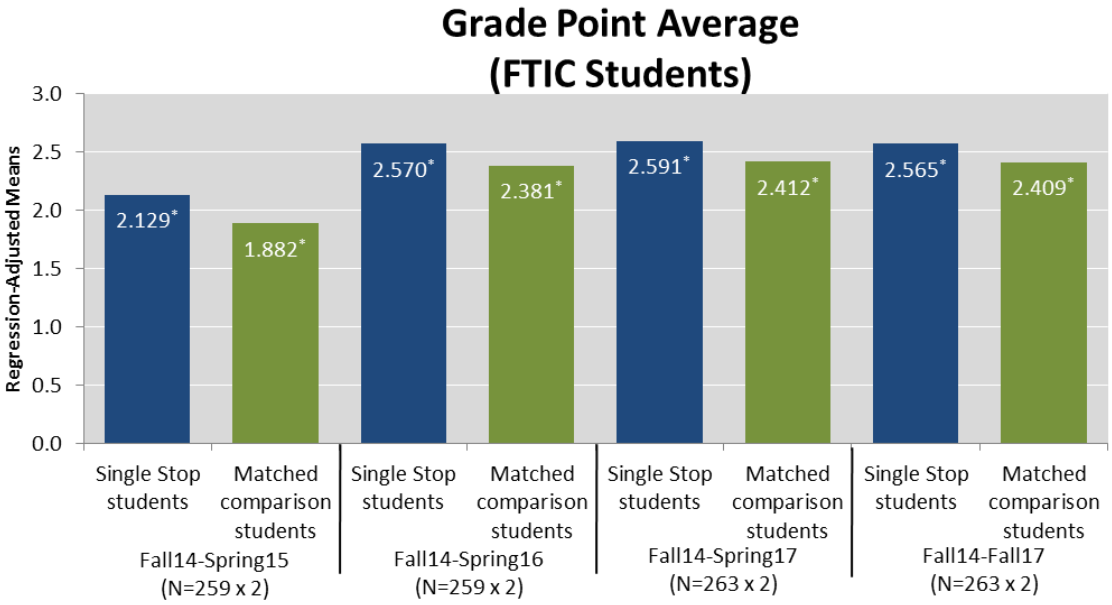
As shown in Figure 2, the FTIC Single Stop students passed 52.8% of the degree bearing credits they attempted between fall 2014 and spring 2017, versus 46.5% for their comparison counterparts. In addition, the FTIC students participating in Single Stop, on average, had a 53.5% degree bearing credit

pass rate as of the end of fall 2017, while their matched comparisons had a mean pass rate of 47.9%. The findings based on both analyses were statistically significant ($p < 0.05$), although the corresponding effect sizes measured by Hedges' g were small (0.170 through spring 2017 and 0.158 through fall 2017).[48] Again, the above findings (both statistical significance and effect sizes) were consistent with those found in both the near-term (fall 2014 – spring 2015) and the intermediate-term (fall 2014 – spring 2016) impact studies.

Grade Point Average

FTIC student academic achievement was measured by their weighted grade point average (GPA) over the 2014-2015, 2015-2016, and 2016-2017 academic years for the long-term impact analysis, and again over the additional fall 2017 semester. The results of these analyses were again fairly consistent: **the FTIC Single Stop students at CCP, on average, had a significantly higher weighted GPA than the similarly situated non-participants at the end of each of the academic years 2014-2015, 2015-2016, 2016-2017, and again at the end of fall 2017.**

Figure 3. The estimated weighted GPA of the FTIC students in all phases



* Statistically significant, p-vlaue < 0.05

As displayed in Figure 3, the FTIC Single Stop students, on average, had an estimated weighted GPA of 2.591 for the degree bearing courses they took between fall 2014 and spring 2017, which was significantly higher than their matched comparisons at CCP (by 0.178 points). The parallel comparison of the FTIC Single Stop students with their counterparts at the end of fall 2017 yielded a similar result: the participants significantly outperformed the matched comparisons by 0.156 points for the weighted

[48] A meta-analysis of 186 education intervention studies indicated that the effect size indices for the bottom third of studies ranged from 0.00 to 0.32, those for the middle third from 0.33 to 0.55, and those for the top third from 0.56 to 1.20 [Lipsey, M. W. (1990). *Design sensitivity: Statistical power for experimental research*. Newbury Park, CA: Sage.]. These ranges could help loosely define small, medium, and large effects.

GPA (2.565 vs. 2.409). As with the degree bearing credit pass rate analyses, the findings based on both analyses of weighted GPA were statistically significant ($p < 0.05$), although the corresponding effect sizes measured by Hedges' *g* were small (0.164 through spring 2017 and 0.168 through fall 2017). These findings were consistent with observations from the corresponding impact analyses for the Phase I and Phase II impact evaluations. In addition, it is notable that both the Single Stop participants and non-participants improved their weighted GPA substantially after their first year in college.

Multiple Testing Adjustment

According to the WWC guidelines, a Benjamini-Hochberg (BH) adjustment needs to be applied to multiple confirmatory tests when conducted at the same time point under the same outcome domain. As mentioned previously, the analyses in Figures 1 and 2 were conducted under the credit accumulation and persistence outcome domain, while the analyses in Figure 3 were carried out under the academic achievement domain. As can be seen in Tables 3 and 4, all statistically significant confirmatory analysis findings under the credit accumulation and persistence outcome domain discussed above were still statistically significant after the BH adjustment. Given that impact analyses for the non-FTIC students were no longer included as part of the confirmatory tests, the corresponding results were not subject to the BH adjustment in the current evaluation. Therefore, no multiple testing adjustment was required for the impact analyses for the FTIC students under the academic achievement domain.

Table 3. Benjamini-Hochberg (BH) adjustment for the confirmatory long-term (fall 2014 – spring 2017) program impact tests under the credit accumulation and persistence outcome domain

Original *p*-value	*p*-value rank	New critical *p*-value	Is the original *p*-value < new critical *p*-value?	Statistically significant after BH adjustment
0.004	1	0.025	Yes	Yes
0.032	2	0.050	Yes	Yes

Table 4. Benjamini-Hochberg (BH) adjustment for the confirmatory long-term (fall 2014 – fall 2017) program impact tests under the credit accumulation and persistence outcome domain

Original *p*-value	*p*-value rank	New critical *p*-value	Is the original *p*-value < new critical *p*-value?	Statistically significant after BH adjustment
0.034	1	0.025	No	Yes
0.045	2	0.050	Yes	Yes

Exploratory Study

The Phase III exploratory evaluation questions were designed to further understand Single Stop's impacts on long-term (fall 2014 – spring 2017, fall 2014 – fall 2017) academic outcomes for the FTIC students. These analyses examine the association between service delivery and outcomes, as well as possible differential effects experienced by any particular subgroup(s) of the FTIC students. An additional important exploratory evaluation question was included to examine the degree completion outcome for both the FTIC and non-FTIC students. Although non-FTIC students were no longer the focus of the Phase III evaluation, the analyses of their consecutive semester-to-semester persistence, degree bearing credit pass rate, and weighted GPA were still of interest and therefore included in the current exploratory study. All exploratory analyses should be used to inform review of program

offerings, as well as further study, and are not intended to confirm Single Stop's impacts on long-term and longer-term academic outcomes. The following section summarizes the results of these analyses, presented by research question.

Exploratory Question 1: To what extent does treatment dosage for each of the five major services (i.e., benefits eligibility screening, financial counseling, legal counseling, tax preparation, and other services) relate to FTIC students' initial and updated program completion outcomes, while controlling for whether an outcome confirmation was received under each major service category?

Multiple regression models were constructed from the defined dosage metrics along with other pertinent covariates that may be related to academic outcomes. Three academic outcomes were observed for both long-term analyses (fall 2014 – spring 2017 and fall 2014 – fall 2017) of the FTIC students, including consecutive semester-to-semester persistence, degree bearing credit pass rate (i.e., degree bearing credits passed/degree bearing credits attempted), and GPA.

The full set of predictors included in the regression models are listed below in Table 5. Although the demographic variables for each predicted outcome within student group vary, the key dosage metrics and outcome confirmation dummies are retained in all final models. Variables that were eliminated from the final regression models due to lack of variability or insufficient association with the outcomes are greyed out in Table 5. Notably, gender, number of years since first enrolled at college, first generation attending college, filed for FAFSA, and FAFSA dependency status were eliminated from all final models. Other than gender, this is consistent with findings from the corresponding analyses in the near-term and intermediate-term outcome evaluations.

Table 5 also provides the calculated *p*-values for each predictor in the model, with statistically significant associations (i.e., $p < 0.05$) highlighted in green for positive associations (i.e., higher numbers associated with better outcomes) or pink for negative associations (i.e., lower numbers associated with better outcomes).[49] Detailed results from these analyses can be found in Appendix C.

[49] The relationship/association between a given predictor and the target outcomes can either be positive or negative: positive association indicates that the higher the predictor, the better the outcome, whereas negative association suggests that the lower the predictor, the better the outcome.

Table 5. Predictors and results of treatment dosage and outcome confirmation regression models for long-term (fall 2014 – spring 2017 and fall 2014 – fall 2017) academic outcomes of FTIC students

Predictor	Fall 2014 – Spring 2017			Fall 2014 – Fall 2017		
	Semester–to–semester persistence	Degree bearing credit pass rate	GPA	Semester–to–semester persistence	Degree bearing credit pass rate	GPA
Benefits Eligibility Screening Events	0.172	0.754	0.425	0.240	0.705	0.516
Benefit Eligibility Screening Outcome Confirmation (no/yes)	0.077	0.779	0.882	0.432	0.875	0.601
Additional Services Events	0.629	0.431	0.944	0.602	0.343	0.804
Additional Services Outcome Confirmation (no/yes)	0.152	0.120	0.412	0.160	0.083	0.546
Financial Counseling Events	0.112	0.042*	0.244	0.517	0.041*	0.378
Financial Outcome Confirmation (no/yes)	0.100	0.060	0.223	0.349	0.053	0.376
Legal Counseling Events	0.055	0.902	0.740	0.106	0.839	0.841
Legal Outcome Confirmation (no/yes)	0.011‡	0.600	0.523	0.029‡	0.782	0.608
Tax Preparation Events	0.163	0.091	0.252	0.820	0.080	0.287
Tax Outcome Confirmation (no/yes)	0.241	0.172	0.375	0.754	0.163	0.387
Female (no/yes)	≠	≠	≠	≠	≠	≠
Hispanic (no/yes)	0.210	0.957	0.150	≠	0.965	0.175
Black (no/yes)	0.064	0.132	0.026‡	≠	0.114	0.018‡
Part-time/Full-time	0.020*	0.027*	≠	≠	0.026*	≠
Marital Status (Married/Single)	≠	0.105	≠	≠	0.129	≠
FAFSA Dependent Status (Independent/ Dependent)	≠	≠	≠	≠	≠	≠
Received Financial Aid (no/yes)	≠	≠	0.195	≠	≠	0.181
Received Student Loans (no/yes)	≠	≠	≠	≠	≠	≠
High School Diploma/GED	0.013‡	0.110	≠	0.058	0.085	≠
Remedial Credits	≠	≠	≠	≠		≠
Major (Occupational/Academic)	≠	0.122	≠	≠	0.167	≠
Liberal Studies Major (no/yes)	≠		0.281	≠	≠	≠
Business/Technical Major (no/yes)	≠		0.174	≠	≠	≠
Age at Baseline	≠	0.141	0.015*	0.019*	0.092	0.007*
Placement Test Score	≠	0.005*	0.017*	≠	0.004*	0.011*
Number of years since first enrolled at college	≠	≠	≠	≠	≠	≠
Academic/Occupational Major	≠	≠	≠	≠	≠	≠
First Generation Attending College (no/yes)	≠	≠	≠	≠	≠	≠
Filed for FAFSA (no/yes)	≠	≠	≠	≠	≠	≠

Key: * Positively associated with outcome; ‡ Negatively associated with outcome; ≠ Not included in final model

In the prior two phases of the evaluation, no definitive patterns relating dosage to observed outcomes emerged from these analyses. As can be seen in table 5, this same observation holds for the long-term outcome analysis, although there are several key findings of note. These are presented below by outcome:

Semester-to-Semester Persistence

- While full-time students and students with high school diplomas are positively associated with greater semester-to-semester persistence for FTIC students across the first three academic years, these two predictors do not appear to be associated with consecutive persistence by the end of fall 2017.

- In contrast, although age does not appear to be associated with semester-to-semester persistence of the FTIC students across their first three years in college, age at baseline (i.e., being older) is positively associated with greater persistence as of the end of fall 2017.
- The number of legal counseling events is not associated with semester-to-semester persistence. However, confirmation of a legal outcome is negatively associated with semester-to-semester persistence for both observed long-term temporal periods.

Degree Bearing Credit Pass Rate

- More financial counseling events are positively associated with higher degree bearing credit pass rates for both temporal periods. However, financial outcome confirmation is not associated with this outcome measure for either period.
- Greater degree bearing credit pass rates are associated with full-time FTIC students with higher placement test scores.

Grade Point Average (GPA)

- No statistically significant associations are observed between any of the five major service areas and weighted GPA for the FTIC students for either long-term temporal period.
- For both temporal periods, older students with higher placement test scores who are not Black/African American appear to experience higher cumulative GPAs. This finding is consistent with the results of the corresponding analyses in the near-term and intermediate-term outcome evaluations.

Exploratory Question 2: Based on the unique combinations of the five major services (i.e., benefits eligibility screening, financial counseling, legal counseling, tax preparation, and other services) that treatment students typically received in academic year 2014-2015, what is the estimated impact of each of the major combinations on students' initial and updated program completion outcomes? In addition, what are the estimated program impacts for students who received one or two major services and students who received at least three major services?

The various unique combinations of the five major services provided by Single Stop were investigated beginning in the Phase I evaluation.[50] There were eight major combinations of services that were received by 30 or more participants, which have been listed in Table 6. The total number of major services received by Single Stop students in the academic year 2014-2015 is also presented in Table 7.

In both the near-term and intermediate-term outcome studies, exploratory analyses were conducted to estimate the impacts of the eight major combinations of services (i.e., those combinations received by greater than 30 students). In addition, the intermediate-term evaluation further examined the program impacts on the key target academic outcomes for students who received one or two major services and those who received at least three major services. As with the Phase II evaluation, the current evaluation replicated both exploratory analyses based on the long-term academic outcomes over the two temporal

[50] See Appendix D for detailed information regarding the different combinations of major Single Stop services received by students.

periods. Using the matched pairs that were defined in the confirmatory impact analyses,[51] multiple linear and logistic regressions were conducted to estimate pertinent program impacts on consecutive semester-to-semester persistence, degree bearing credit pass rate, and GPA.[52] Due to limited Ns belonging to each unique service combination, non-FTIC and FTIC students were combined for all of these analyses.

Table 6. Top eight unique combinations of major Single Stop services received by students with N > 30

Unique Combinations of Major Services Received	N	% of Treatment Group
benefits eligibility screening only	316	27.4
benefits eligibility screening, financial counseling and tax preparation	228	19.8
benefits eligibility screening and tax preparation	114	9.9
benefits eligibility screening and financial counseling	98	8.5
tax preparation only	74	6.4
benefits eligibility screening and additional services	69	6.0
benefits eligibility screening and legal counseling	55	4.8
financial counseling and tax preparation	52	4.5

Table 7. Number of major Single Stop services received by students

Major Services Received	N	%
Received only one major service	411	35.7
Received two major services	395	34.3
Received three major services	309	26.8
Received four major services	30	2.6
Received all five major services	7	0.6
Total	1,152	100.0

The following section presents summary tables representing the results of the regressions conducted for each of the major service combinations. Each table contains the number of cases analyzed, the unadjusted and regression-adjusted measures of the treatment indicator (i.e., treatment vs. comparison), a measure of standardized effect size, and a *p*-value indicating whether the difference between treatment and comparison is statistically significant. Detailed regression analysis results can be found in Appendix D.

Semester-to-Semester Persistence

Tables 8.A and 8.B present the results of logistic regression analyses conducted upon consecutive semester-to-semester persistence for each combination of services during each temporal period. From fall 2014 to spring 2017 (Table 8A), receiving tax preparation only and a combination of benefits eligibility screening, financial counseling and tax preparation result in a statistically significant higher probability of continuous persistence for the Single Stop participants as of the end of spring 2017 (p = 0.040 and 0.044 respectively), both with a substantively important effect size (Cox Index = 0.498 and 0.271 respectively). While not statistically significant, based on the calculated effect size, the

[51] Note that all findings for these service combination analyses were exploratory in nature since baseline equivalence might not be established for pertinent analytic samples that contained only subgroups of original matched students.

[52] Multiple linear regressions were used for continuous outcome measures, whereas multiple logistic regressions were employed when outcome measures were dichotomous. In addition to the treatment indicator(s), all of the matching variables were included as predictors in the full regression models for further statistical control.

combinations of benefits eligibility screening and additional services (Cox Index = 0.280) and financial counseling and tax preparation (Cox Index = 0.503) may have a positive impact on students' semester-to-semester persistence by the end of spring 2017. None of the other combinations of services produced notable results during the same temporal period.

The findings shown in Table 8.B for the other temporal period (fall 2014 – fall 2017), however, bears limited similarity to those from the previous temporal period. The combination of financial counseling and tax preparation may again produce a positive impact on students continuous persistence by the end of fall 2017 (Cox Index = 0.410), although this finding did not reach statistical significance either. Different from the corresponding finding in Table 8.A., the combination of tax preparation only has a substantively important but not statistically significant impact on the target outcome (Cox Index = 0.398, $p = 0.105$). While the combination of benefits eligibility screening and legal counseling did not yield any notable impact on students' semester-to-semester persistence by the end of spring 2017, its impact on the same outcome by the end of fall 2017 is associated with substantive importance (Cox Index = 0.261, $p = 0.444$).

Similar to the findings from the Phase II evaluation, the Single Stop participants overall appear to be persisting at a greater rate than the comparison group, during both temporal periods. Whether receiving one or two major services or at least three, the observed program impacts achieve statistical significance, and the effect size associated with the impact for those receiving at least three major services by the end of spring 2017 also reaches substantive importance (Cox Index = 0.369).

Table 8.A. Regression results: semester-to-semester persistence (Fall 2014 – Spring 2017)

Analytic Group	Sample Size (Matched Pairs x 2)	Unadjusted Probability of Persistence		Regression-Adjusted Probability of Persistence		Effect Size in Cox Index[a]	*p*-value
		Comparison	Treatment	Comparison	Treatment		
Benefits eligibility screening only	250 x 2	0.360	0.424	0.344	0.402	0.149	0.220
Benefits eligibility screening, financial counseling and tax preparation	195 x 2	0.379	0.472	0.360	0.468	***0.271***	***0.044****
Benefits eligibility screening and tax preparation	93 x 2	0.398	0.430	0.372	0.405	0.083	0.679
Benefits eligibility screening and financial counseling	76 x 2	0.329	0.289	0.306	0.275	-0.092	0.686
Tax preparation only	58 x 2	0. 397	0.569	0.383	0.586	***0.498***	***0.040****
Benefits eligibility screening and additional services	61 x 2	0.230	0.279	0.183	0.262	***0.280***	0.325
Benefits eligibility screening and legal counseling	46 x 2	0.261	0.348	0.271	0.316	0.131	0.653
Financial counseling and tax preparation	47 x 2	0.383	0.596	0.383	0.588	***0.503***	0.077
Receiving one or two major services	657 x 2	0.353	0.419	0.335	0.404	0.182	***0.014****
Receiving at least three major services	293 x 2	0.324	0.451	0.301	0.441	***0.369***	***0.001****

* Statistically significant result

[a] According to the WWC (v 3.0, 2014), a Cox index of 0.25 or larger is considered to be substantively important, regardless of whether the difference between groups reaches statistical significance.

Table 8.B. Regression results: semester-to-semester persistence (Fall 2014 – Fall 2017)

Analytic Group	Sample Size (Matched Pairs x 2)	Unadjusted Probability of Persistence		Regression-Adjusted Probability of Persistence		Effect Size in Cox Index[a]	*p*-value
		Comparison	Treatment	Comparison	Treatment		
Benefits eligibility screening only	250 x 2	0.280	0.316	0.244	0.268	0.076	0.571
Benefits eligibility screening, financial counseling and tax preparation	195 x 2	0.297	0.328	0.256	0.299	0.129	0.374
Benefits eligibility screening and tax preparation	93 x 2	0.333	0.355	0.249	0.295	0.141	0.507
Benefits eligibility screening and financial counseling	76 x 2	0.237	0.237	0.205	0.247	0.146	0.559
Tax preparation only	58 x 2	0.310	0.448	0.302	0.455	***0.398***	0.105
Benefits eligibility screening and additional services	61 x 2	0.180	0.180	0.140	0.134	-0.029	0.927
Benefits eligibility screening and legal counseling	46 x 2	0.196	0.304	0.181	0.253	***0.261***	0.444
Financial counseling and tax preparation	47 x 2	0.319	0.511	0.327	0.489	***0.410***	0.132
Receiving one or two major services	657 x 2	0.275	0.332	0.240	0.298	0.178	***0.024****
Receiving at least three major services	293 x 2	0.259	0.324	0.223	0.301	0.245	***0.040****

* Statistically significant result

[a] According to the WWC (v 3.0, 2014), a Cox index of 0.25 or larger is considered to be substantively important, regardless of whether the difference between groups reaches statistical significance.

Degree Bearing Credit Pass Rate

Tables 9.A and 9.B present the results of multiple linear regressions conducted upon degree bearing credit pass rates during each temporal period. As shown in Table 9.A., the combination of benefits eligibility screening and additional services and that of financial counseling and tax preparation have statistically significant impacts on students degree bearing credit pass rate between fall 2014 and spring 2017 (p = 0.037 and 0.002 respectively), both with a medium effect size that reaches substantive importance (Hedges' g = 0.356 and 0.643 respectively).

According to Table 9.B., the above two findings are reproduced, both in terms of statistical significance (p = 0.015 and 0.015 respectively) and substantive importance (Hedges' g = 0.427 and 0.482 respectively), for their impacts on the same outcome measure throughout the end of fall 2017. Furthermore, the combination of tax preparation only and that of benefits eligibility screening, financial counseling and tax preparation both yield statistically significant impacts on the degree bearing credit pass rate during the temporal period of fall 2014 – fall 2017 (p = 0.037 and 0.013 respectively), although only the former is associated with a substantively important effect size (Hedges' g = 0.383).

Only those Single Stop participants who received one or two major services are found to have a significantly higher degree bearing credit pass rate than their comparisons during both temporal periods investigated, while those receiving at least three services do not seem to have different pass rates from the comparison group during either time period. This was different from the Phase II evaluation wherein all Single Stop students, irrespective of the number of major services received, significantly outperformed the comparisons.

Table 9.A. Regression results: degree bearing credit pass rate (Fall 2014 – Spring 2017)

Analytic Group	Sample Size (Matched Pairs x 2)	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Hedges' g[a]	p-value
		Comparison	Treatment	Comparison	Treatment			
Benefits eligibility screening only	246 x 2	0.591	0.615	0.599	0.607	0.008	0.022	0.796
Benefits eligibility screening, financial counseling and tax preparation	194 x 2	0.677	0.718	0.675	0.720	0.045	0.142	0.141
Benefits eligibility screening and tax preparation	92 x 2	0.629	0.681	0.614	0.696	0.082	0.249	0.081
Benefits eligibility screening and financial counseling	73 x 2	0.553	0.602	0.553	0.602	0.049	0.137	0.360
Tax preparation only	58 x 2	0.680	0.742	0.679	0.743	0.064	0.240	0.198
Benefits eligibility screening and additional services	61 x 2	0.544	0.583	0.501	0.627	0.126	***0.356***	***0.037****
Benefits eligibility screening and legal counseling	44 x 2	0.637	0.587	0.630	0.594	-0.036	-0.104	0.603
Financial counseling and tax preparation	47 x 2	0.603	0.792	0.601	0.793	0.192	***0.643***	***0.002****
Receiving one or two major services	647 x 2	0.599	0.646	0.599	0.646	0.047	0.137	***0.009****
Receiving at least three major services	291 x 2	0.640	0.678	0.637	0.680	0.043	0.128	0.100

* Statistically significant result

[a] According to the WWC (v 3.0, 2014), a Hedges' g of 0.25 SDs or larger is considered to be substantively important, regardless of whether the difference between groups reaches statistical significance.

Table 9.B. Regression results: degree bearing credit pass rate (Fall 2014 – Fall 2017)

Analytic Group	Sample Size (Matched Pairs x 2)	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Hedges' g[a]	p-value
		Comparison	Treatment	Comparison	Treatment			
Benefits eligibility screening only	246 x 2	0.571	0.624	0.586	0.609	0.023	0.066	0.434
Benefits eligibility screening, financial counseling and tax preparation	194 x 2	0.658	0.721	0.655	0.725	0.070	0.229	***0.013****
Benefits eligibility screening and tax preparation	92 x 2	0.654	0.681	0.651	0.684	0.033	0.099	0.502
Benefits eligibility screening and financial counseling	73 x 2	0.628	0.601	0.603	0.625	0.022	0.063	0.698
Tax preparation only	58 x 2	0.630	0.743	0.627	0.746	0.119	***0.383***	***0.037****
Benefits eligibility screening and additional services	61 x 2	0.486	0.582	0.459	0.610	0.151	***0.427***	***0.015****
Benefits eligibility screening and legal counseling	44 x 2	0.644	0.618	0.632	0.630	-0.003	-0.008	0.970
Financial counseling and tax preparation	47 x 2	0.699	0.785	0.679	0.806	0.127	***0.482***	***0.015****

Analytic Group	Sample Size (Matched Pairs x 2)	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Hedges' g[a]	p-value
		Comparison	Treatment	Comparison	Treatment			
Receiving one or two major services	647 x 2	0.604	0.650	0.603	0.651	0.048	0.143	***0.006****
Receiving at least three major services	291 x 2	0.637	0.686	0.637	0.686	0.049	0.149	0.055

* Statistically significant result

[a] According to the WWC (v 3.0, 2014), a Hedges' g of 0.25 SDs or larger is considered to be substantively important, regardless of whether the difference between groups reaches statistical significance.

Grade Point Average (GPA)

The results of the multiple linear regression analyses conducted upon weighted GPA during the two time periods are presented in Tables 10.A and 10.B respectively. According to Table 10.A., the difference in weighted GPA from fall 2014 to spring 2017 between comparisons and Single Stop participants who receive the combination of benefits eligibility screening, financial counseling, and tax preparation, as well as that of benefits eligibility screening and tax preparation, are not only statistically significant (p = 0.003 and 0.042 respectively) but also substantively important (Hedges' g = 0.286 and 0.294 respectively). Further, although not statistically significant, calculated effect sizes for tax preparation only (Hedges' g = 0.288) and the combination of benefits eligibility screening and additional services (Hedges' g = 0.330) suggest a beneficial relationship with weighted GPA by the end of spring 2017.

The results displayed in Table 10.B for the temporal period of fall 2014 – fall 2017, however, only share one consistent finding for the combination of benefits eligibility screening, financial counseling, and tax preparation as compared to those from the temporal period of fall 2014 – spring 2017: the difference in cumulative GPA from fall 2014 to fall 2017 between comparisons and Single Stop participants who received this particular combination of services reaches both statistical significance (p = 0.003) and substantive importance (Hedges' g = 0.287). The other notable finding for this temporal period is detected for the service combination of financial counseling and tax preparation – the Single Stop participants receiving these two major services have a significantly higher weighted GPA than their comparison group (p = 0.035), with an effect size considered to be substantively important (Hedges' g = 0.442).

While Single Stop participants appear to consistently achieve higher GPAs than their comparisons from fall 2014 to spring 2017 regardless of the number of major services received, the statistically significant difference in weighted GPAs from fall 2014 to fall 2017 is only detected between those receiving at least three major services and their comparisons, but not for those who received one or two major services and the corresponding comparison group (p = 0.076). This lack of a statistically significant result in the second temporal period is different from that found in the parallel analysis for the Phase II evaluation.

Table 10.A. Regression results: GPA (Fall 2014 – Spring 2017)

Analytic Group	Sample Size (Matched Pairs x 2)	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Hedges' g[a]	p-value
		Comparison	Treatment	Comparison	Treatment			
Benefits eligibility screening only	224 x 2	2.774	2.738	2.778	2.734	-0.044	-0.049	0.582
Benefits eligibility screening, financial counseling and tax preparation	189 x 2	2.745	2.974	2.740	2.979	0.239	***0.286***	***0.003****
Benefits eligibility screening and tax preparation	87 x 2	2.623	2.896	2.632	2.886	0.254	***0.294***	***0.042****
Benefits eligibility screening and financial counseling	69 x 2	2.540	2.604	2.456	2.687	0.231	0.247	0.145
Tax preparation only	57 x 2	2.712	2.959	2.731	2.940	0.209	***0.288***	0.118
Benefits eligibility screening and additional services	52 x 2	2.383	2.751	2.391	2.743	0.352	***0.330***	0.085
Benefits eligibility screening and legal counseling	40 x 2	2.631	2.741	2.711	2.661	-0.051	-0.058	0.793
Financial counseling and tax preparation	47 x 2	2.866	2.898	2.866	2.898	0.032	0.043	0.835
Receiving one or two major services	602 x 2	2.684	2.783	2.680	2.787	0.106	0.119	***0.030****
Receiving at least three major services	276 x 2	2.702	2.929	2.708	2.923	0.215	0.244	***0.002****

* Statistically significant result

[a] According to the WWC (v 3.0, 2014), a Hedges' g of 0.25 SDs or larger is considered to be substantively important, regardless of whether the difference between groups reaches statistical significance.

Table 10.B. Regression results: GPA (Fall 2014 – Fall 2017)

Analytic Group	Sample Size (Matched Pairs x 2)	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Hedges' g[a]	p-value
		Comparison	Treatment	Comparison	Treatment			
Benefits eligibility screening only	224 x 2	2.620	2.699	2.629	2.690	0.061	0.067	0.452
Benefits eligibility screening, financial counseling and tax preparation	189 x 2	2.709	2.930	2.709	2.930	0.222	***0.287***	***0.003****
Benefits eligibility screening and tax preparation	87 x 2	2.793	2.873	2.813	2.853	0.040	0.049	0.734
Benefits eligibility screening and financial counseling	69 x 2	2.509	2.591	2.458	2.641	0.183	0.205	0.204
Tax preparation only	57 x 2	2.743	2.920	2.753	2.910	0.158	0.224	0.203
Benefits eligibility screening and additional services	52 x 2	2.769	2.723	2.775	2.717	-0.058	-0.077	0.692
Benefits eligibility screening and legal counseling	40 x 2	2.800	2.708	2.765	2.743	-0.022	-0.025	0.902
Financial counseling and tax preparation	47 x 2	2.641	2.879	2.601	2.918	0.317	***0.442***	***0.035****

Analytic Group	Sample Size (Matched Pairs x 2)	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Hedges' g^a	*p*-value
		Comparison	Treatment	Comparison	Treatment			
Receiving one or two major services	602 x 2	2.675	2.752	2.672	2.755	0.083	0.097	0.076
Receiving at least three major services	276 x 2	2.686	2.881	2.688	2.878	0.190	0.239	***0.003****

* Statistically significant result

[a] According to the WWC (v 3.0, 2014), a Hedges' *g* of 0.25 SDs or larger is considered to be substantively important, regardless of whether the difference between groups reaches statistical significance.

Summary

The results of the multiple regression analyses conducted for Exploratory Question 2 during the two temporal periods are summarized in Table 11.

As with the prior phases of the evaluation, no combination of services is significantly associated with positive results for all three outcomes, and only two of the eight combinations did not achieve a statistically significant or promising association for either temporal period – benefits eligibility screening only and benefits eligibility screening and financial counseling.

For the two temporal periods observed during the current phase, the combination of benefits eligibility screening, financial counseling and tax preparation achieves statistically significant impacts for two of the three outcomes in each temporal period, although the only consistent statistically significant effect across both temporal periods is for GPA. For the fall to spring analysis, this combination of services appears related to better persistence, while in the fall to fall analysis the combination is positively associated with credit pass rate.

The only other combination of services to achieve two statistically significant effects within a temporal period is financial counseling and tax preparation. This combination of services is positively associated with credit pass rate and GPA for the fall to fall analysis. It is also positively associated with credit pass rate in the fall to spring analysis, and while not statistically significant, shows promise of a positive relationship with persistence for both temporal periods based on the calculated effect size.

Other notable findings include:

- The combination of benefits eligibility screening and additional service receipt has a statistically significant positive effect on credit pass rate for both temporal periods (as well as promise of an effect for persistence and GPA in the fall to spring analysis);
- Receipt of tax preparation services only has a statistically significant positive effect on persistence for the fall to spring analysis and credit pass rate for the fall to fall analysis. Tax preparation services also shows promise of association with better GPA (fall to spring) and persistence (fall to fall);
- The benefits eligibility screening and tax preparation service combination has a statistically significant relationship with GPA in the fall to spring temporal period; and
- Benefits eligibility screening and legal counseling may be associated with better persistence in

the fall to fall temporal period based on the calculated effect size.

Overall, while the suite of services provided by Single Stop seems to be comparatively effective in achieving long-term outcomes, it is not as effective as observed during the last phase of the study. For the intermediate outcomes, statistically significant differences were detected between participants receiving one or two major services and their comparison for all metrics. Participants receiving three or more major services also fared better than their corresponding comparisons across all metrics. Conversely, statistically significant differences were observed for all but one outcome metric (fall to fall GPA) across both temporal periods between participants receiving one or two more major services and their matched comparisons. Likewise, for those receiving three or more services, significant differences were observed across both time periods for persistence and GPA. Nonetheless, while there is no specific combination or pattern of services that seems to be equally effective across all outcome metrics, this may simply indicate that services are tailored to the needs of the participant and that not all participants experience the benefit of provided services equally.

Table 11. Summary of regression results (*p*-values) for Exploratory Question 2

Unique Combinations of Major Services Received	Fall 2014 – Spring 2017			Fall 2014 – Fall 2017		
	Semester-to-semester persistence	Degree bearing credit pass rate	GPA	Semester-to-semester persistence	Degree bearing credit pass rate	GPA
Benefits eligibility screening only	0.220	0.796	0.582	0.571	0.434	0.452
Benefits eligibility screening, financial counseling and tax preparation	**0.044***	0.141	**0.003***	0.374	**0.013***	**0.003***
Benefits eligibility screening and tax preparation	0.679	0.081	**0.042***	0.507	0.502	0.734
Benefits eligibility screening and financial counseling	0.686	0.360	0.145	0.559	0.898	0.204
Tax preparation only	**0.040***	0.198	0.118‡	0.105‡	**0.037***	0.203
Benefits eligibility screening and additional services	0.325‡	**0.037***	0.085‡	0.927	**0.015***	0.692
Benefits eligibility screening and legal counseling	0.653	0.603	0.793	0.444‡	0.970	0.902
Financial counseling and tax preparation	0.077‡	**0.002***	0.835	0.132‡	**0.015***	**0.035***
Receiving one or two major services	**0.014***	**0.009***	**0.030***	**0.024***	**0.006***	0.076
Receiving at least three major services	**0.001***	0.100	**0.002***	**0.040***	0.055	**0.003***

Key *** Statistically significant positive association with outcome** ‡ Not statistically significant, but positive notable effect size

<u>Exploratory Question 3</u>: Does Single Stop's College Initiative have a different effect for FTIC students who are financially independent versus FTIC students who are financially dependent?

Regression analyses were also conducted to explore the interactions between Single Stop participation and student financial dependency for the FTIC students based on the long-term academic outcomes observed during the two temporal periods (fall 2014 – spring 2017 and fall 2014 – fall 2017). These

analyses were intended to determine whether Single Stop programming has different impacts on semester-to-semester persistence, degree bearing credit pass rate, and/or GPA based on the financial dependency status of the FTIC students. No statistically significant findings for the interaction between financial dependency and Single Stop participation were noted among the three outcomes for the first time freshmen, suggesting that no differential program impacts were found for financial dependency (see detailed regression analysis results presented in Appendix D). These findings are consistent with the findings from both the Phase I and Phase II evaluations.

Exploratory Question 4: Do FTIC students served by Single Stop's College Initiative at CCP have a higher ratio of passed to attempted non-degree bearing credits than the comparison group of students?

Due to the lack of availability of a baseline measure of non-degree bearing credits, multiple linear regressions were conducted on the unmatched groups of FTIC Single Stop participants and comparisons for whom outcome measures were available.[53] Table 12 presents the results of these regressions for the temporal periods of fall 2014 – spring 2017 and fall 2014 – fall 2017 respectively. Note that neither a statistically significant nor a meaningful difference was detected between the FTIC Single Stop participants and unmatched comparisons for the non-degree bearing credit pass rate during either time period. These findings were consistent with the analysis results in the Phase I and Phase II evaluations, both in terms of inability to achieve statistical significance and small effect sizes.

Table 12. Regression results of non-degree bearing credit pass rate for FTIC students

Temporal Period	Sample Size (Single Stop + Comparison)	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Hedges' *g*[a]	*p*-value
		Comparison	Treatment	Comparison	Treatment			
Fall 2014 – Spring 2017	3,071 (212 + 2,859)	0.579	0.574	0.575	0.617	0.042	0.100	0.164
Fall 2014 – Fall 2017	3,074 (212 + 2,862)	0.580	0.574	0.577	0.618	0.042	0.100	0.162

* Statistically significant result

[a]According to the WWC (v 3.0, 2014), a Hedges' g of 0.25 SDs or larger is considered to be substantively important, regardless of whether the difference between groups reaches statistical significance.

Exploratory Question 5: Do FTIC students served by Single Stop's College Initiative at CCP have higher non-degree bearing credit accumulation than the comparison group of students? Do they also have higher degree bearing credit accumulation than their counterparts?

Tables 13.A and 13.B present the results of multiple linear regressions on both non-degree and degree bearing credit accumulation for FTIC students during the fall 2014 – spring 2017 and fall 2014 – fall 2017 temporal periods. While the non-degree credit comparisons are limited to an unmatched comparison group, the degree bearing credit comparisons are based on the matches initially developed for the corresponding confirmatory impact analyses of degree bearing credit pass rate. Although the result for the non-degree bearing credit accumulation comparison is not statistically significant during either temporal period, the analysis for the matched comparison of degree-bearing credit accumulation does show that the FTIC Single Stop participants accumulate a statistically significant higher number of

[53] We attempted to match the two groups of students who had non-degree bearing credits outcome data based on the original list of matching variables, but the PSM was not successful since there was little overlap of the estimated propensity scores for the two conditions (i.e., poor common support region).

degree-bearing credits than their counterparts in both time periods (p = 0.001 and 0.003 respectively), although only the effect size associated with the finding during fall 2014 – spring 2017 is large enough to be considered substantively important (Hedges' g = 0.265). On average, the FTIC Single Stop students accumulated approximately five more degree bearing credits than their counterparts by the end of academic year 2016-2017 and approximately four and a half more credits as of the end of fall 2017.

Across all phases of the outcome evaluation, the analysis findings for the Exploratory Question 5 are quite consistent for the FTIC students – significant difference in the number of degree bearing credits earned but no significant difference in the non-degree bearing type.

Table 13.A. Regression results of credits earned by FTIC students (Fall 2014 – Spring 2017)

Outcome	Sample Size (Single Stop + Comparison)	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Hedges' g[a]	p-value
		Comparison	Treatment	Comparison	Treatment			
Non-degree bearing credits earned	3,071 (212 + 2,859)	4.051	4.090	4.022	4.489	0.468	0.135	0.067
Degree bearing credits earned	592 (296 + 296)[b]	14.997	20.405	15.093	20.309	5.216	***0.265***	***0.001****

* Statistically significant result

[a]According to the WWC (v 3.0, 2014), a Hedges' g of 0.25 SDs or larger is considered to be substantively important, regardless of whether the difference between groups reaches statistical significance.

[b]Matched pairs

Table 13.B. Regression results of credits earned by FTIC students (Fall 2014 – Fall 2017)

Outcome	Sample Size (Single Stop + Comparison)	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Hedges' g[a]	p-value
		Comparison	Treatment	Comparison	Treatment			
Non-degree bearing credits earned	3,074 (212 + 2,862)	4.072	4.104	4.043	4.506	0.463	0.133	0.070
Degree bearing credits earned	592 (296 + 296)[b]	16.814	21.453	16.830	21.437	4.607	0.222	***0.005****

* Statistically significant result

[a]According to the WWC (v 3.0, 2014), a Hedges' g of 0.25 SDs or larger is considered to be substantively important, regardless of whether the difference between groups reaches statistical significance.

[b]Matched pairs

Exploratory Question 6: Do students served by Single Stop's College Initiative at CCP have higher persistence rates than the comparison group of students based on a more lenient measure of persistence?

As with the Phase II evaluation, in addition to the confirmatory impact analyses carried out for consecutive semester-to-semester persistence, a less stringent definition of persistence was developed to explore whether analyses would produce different results. This less stringent definition of persistence is based on a student appearing in at least one semester per academic year during the two temporal periods (fall 2014 – spring 2017 and fall 2014 – fall 2017[54]) rather than requiring consecutive semester-to-semester enrollment to be considered persistent. The analyses for this additional outcome metric conducted for both FTIC and non-FTIC students are similar in all ways to the analyses described in the confirmatory impact analysis section, and the results are presented below in Tables 14.A and 14.B respectively for each time period.

[54] Note that for the more lenient measure of persistence, a student must be enrolled in fall 2017 to be defined as persisting in the analyses for the temporal period fall 2014 – fall 2017.

As seen in these two tables, the FTIC Single Stop participants had a statistically significant higher persistence rate than the similarly situated students during each temporal period (p = 0.0004 and 0.0033 respectively), both with a substantively important effect size (Cox Index = 0.385 and 0.422 respectively). These results are consistent with the corresponding finding for the FTIC group from the Phase II evaluation, both in terms of statistical significance and substantive importance. The non-FTIC Single Stop students persisted at a significantly higher rate than their matched counterparts during each temporal period as well (p = 0.0031 and 0.0365 respectively), but neither finding was associated with a substantively important effect size. This was different from the pertinent non-significant finding for the non-FTIC group in the intermediate-term outcome evaluation.

Table 14.A. Summary of regression results for a less stringent measure of persistence (Fall 2014 – Spring 2017)

Analytic Group	Sample Size (Matched Pairs x 2)	Unadjusted Probability of Persistence		Regression-Adjusted Probability of Persistence		Effect Size in Cox Index[a]	*p*-value
		Comparison	Treatment	Comparison	Treatment		
FTIC	305 x 2	0.275	0.410	0.265	0.405	***0.385***	***0.0004****
Non-FTIC	645 x 2	0.505	0.584	0.505	0.590	0.207	***0.0031****

* Statistically significant result
[a]According to the WWC (v 3.0, 2014), a Cox index of 0.25 or larger is considered to be substantively important, regardless of whether the difference between groups reaches statistical significance.

Table 14.B. Summary of regression results for a less stringent measure of persistence (Fall 2014 – Fall 2017)

Analytic Group	Sample Size (Matched Pairs x 2)	Unadjusted Probability of Persistence		Regression-Adjusted Probability of Persistence		Effect Size in Cox Index[a]	*p*-value
		Comparison	Treatment	Comparison	Treatment		
FTIC	305 x 2	0.111	0.200	0.101	0.184	***0.422***	***0.0033****
Non-FTIC	645 x 2	0.389	0.445	0.381	0.440	0.149	***0.0365****

* Statistically significant result
[a]According to the WWC (v 3.0, 2014), a Cox index of 0.25 or larger is considered to be substantively important, regardless of whether the difference between groups reaches statistical significance.

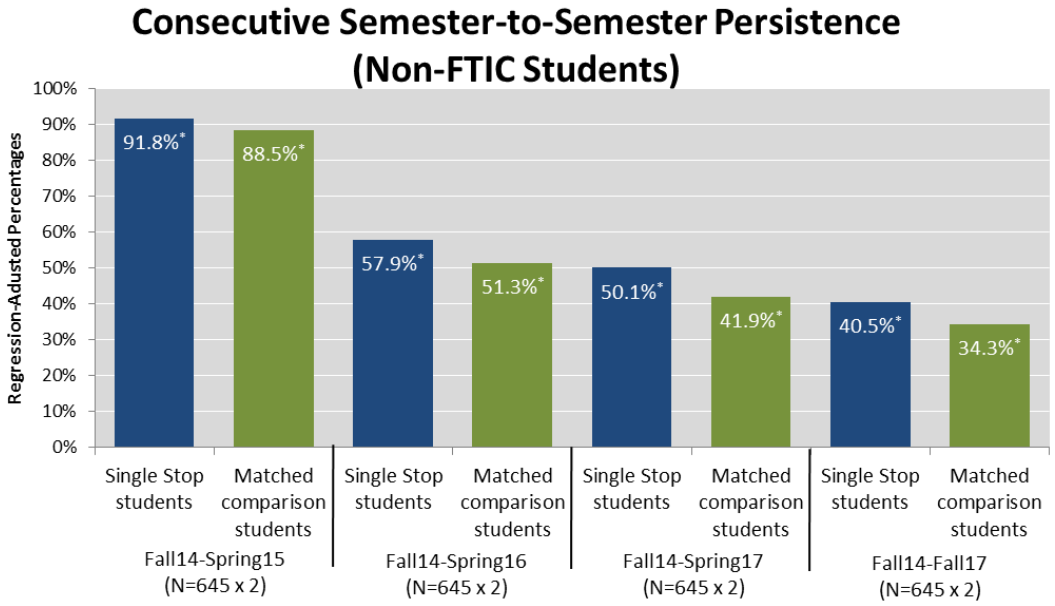
Exploratory Question 7: Do non-FTIC students served by Single Stop's College Initiative at CCP have higher consecutive semester-to-semester persistence rates than the comparison group of students?

Although the non-FTIC students are not the focus of the Phase III evaluation, the overall impact analyses of the key target academic outcomes were still carried out for this group in both temporal periods, and the pertinent results across all phases are compared for informational purpose in this long-term outcome evaluation.

As shown in Figure 4, the non-FTIC Single Stop participants persisted at a significantly higher rate than their matched comparisons across all phases of evaluation. On average, about half of the non-FTIC Single Stop students were expected to stay enrolled in college consecutively or to have graduated by the end of academic year 2016 – 2017, while 41.9% of the matched non-FTIC comparisons were expected to remain in college or to have graduated under the same timeframe. By the end of fall 2017, 40.5% of the non-FTIC Single Stop students were anticipated to persist in school continuously or have graduated, whereas 34.3% of the matched non-FTIC counterparts were anticipated to remain in college

continuously or have graduated.

Figure 4. The estimated consecutive semester-to-semester persistence rates of the non-FTIC students in all phases



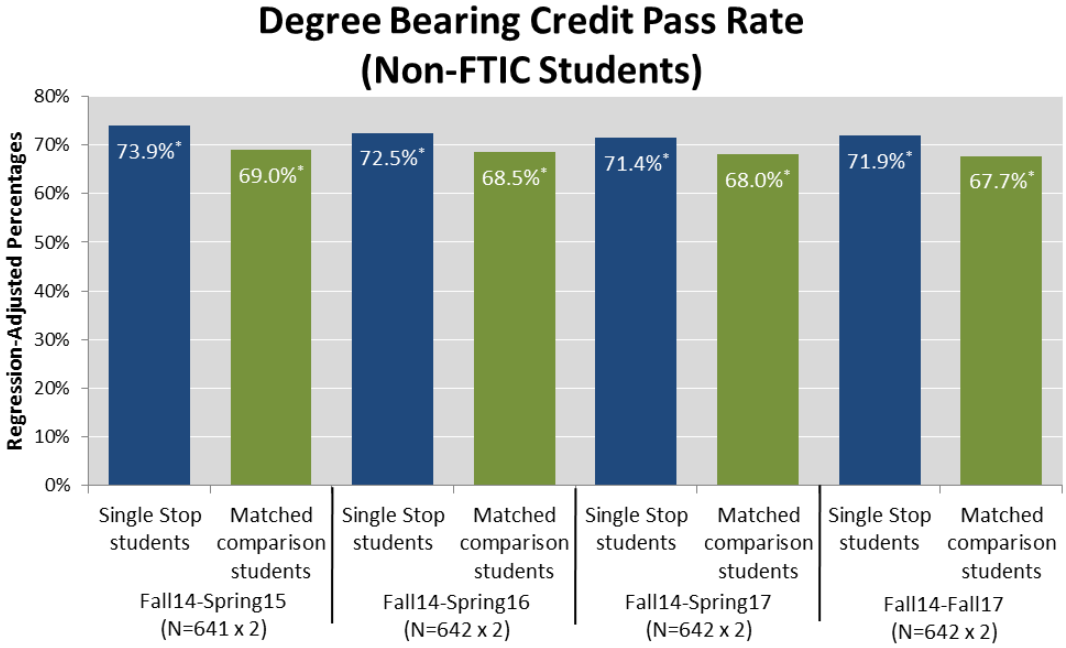
* Statistically significant, p-value < 0.05

Exploratory Question 8: Do non-FTIC students served by Single Stop's College Initiative at the CCP have a higher average ratio of completed to attempted degree bearing credits than the comparison group of students?

Figure 5 displays the analysis findings for the degree bearing credit pass rate of the non-FTIC students across all phases of evaluation, which are again quite consistent over time. Overall, the non-FTIC Single Stop participants enrolled at CCP in fall 2014 had significantly higher ratios of completed to attempted degree bearing credits than their matched comparisons at the end of each of the academic years 2014-2015, 2015-2016, 2016-2017, and again at the end of fall 2017.

As seen from Figure 5, the non-FTIC Single Stop students passed 71.4% of the degree bearing credits they attempted between fall 2014 and spring 2017, versus 68.0% for their comparison counterparts. In addition, the non-FTIC students participating in Single Stop, on average, had a slightly higher degree bearing credit pass rate as of the end of fall 2017 (i.e., 71.9%), whereas their matched comparison group had a very small decrease in the mean pass rate (i.e., 67.7%).

Figure 5. The estimated overall degree bearing credit pass rates of the non-FTIC students in all phases



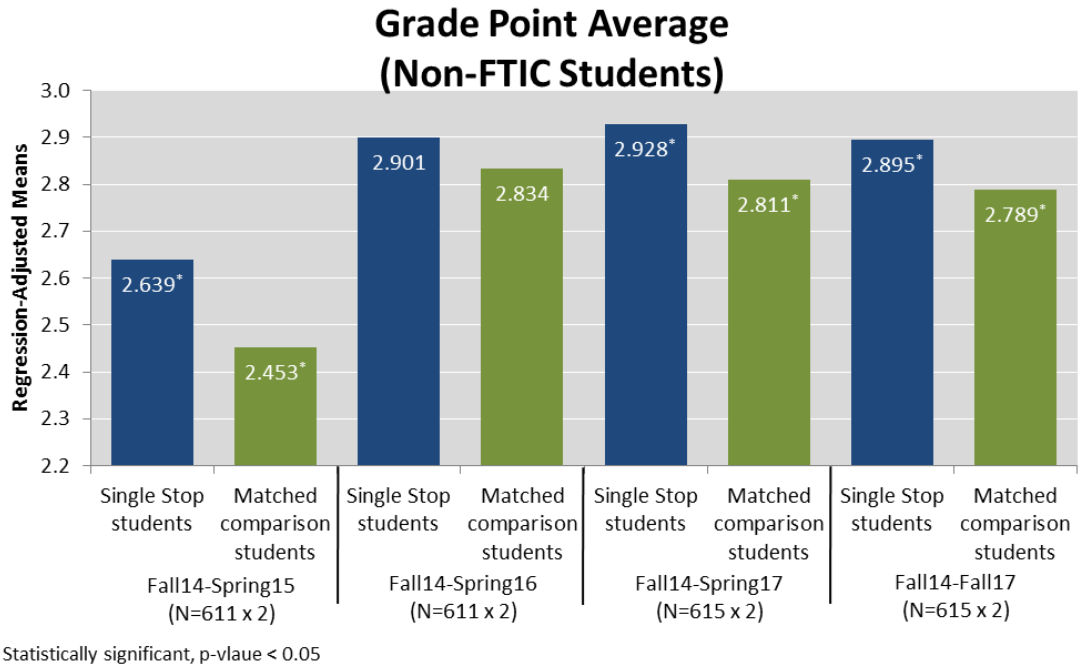
*Statistically significant, p-value < 0.05

Exploratory Question 9: Do non-FTIC students served by Single Stop's College Initiative at CCP have higher GPA than the comparison group of students?

The analysis findings for the weighted GPA of the non-FTIC students were not consistent over time, as shown in Figure 6. While the non-FTIC Single Stop participants did not significantly outperform their matched comparisons on GPA by the end of academic year 2015-2016 (i.e., the Phase II/intermediate-term outcome evaluation), they did have a significantly higher weighted GPA than the similarly situated non-participants by the end of academic year 2014-2015 and academic year 2016-2017, as well as by the end of fall 2017.

As depicted in Figure 6, the non-FTIC Single Stop students on average were expected to have a weighted GPA of 2.928 for the degree bearing courses they took between fall 2014 and spring 2017, which was significantly higher than their comparison counterparts (by 0.118 points). In addition, the non-FTIC Single Stop participants again significantly outperformed the matched comparisons by 0.106 points for the weighted GPA (2.895 vs. 2.789) at the end of fall 2017, after an additional semester.

Figure 6. The estimated weighted GPA of the non-FTIC students in all phases



* Statistically significant, p-vlaue < 0.05

Exploratory Question 10: Do students served by Single Stop's College Initiative at the CCP have higher rates of degree completion than the comparison group of students?

The outcome of graduation/degree completion was analyzed for both FTIC and non-FTIC students for the first time in the Single Stop outcome evaluation during Phase III, and the corresponding results are summarized in Tables 15.A and 15.B for the data collected during the two temporal periods (fall 2014 – spring 2017 and fall 2014 – fall 2017).

As seen from the two tables, both FTIC and non-FTIC Single Stop participants had significantly higher graduation rates as compared to their counterparts by the end of academic year 2016-2017 and then again by the end of fall 2017. Furthermore, the two findings for the FTIC group are considered to be substantively important based on the effect sizes (Cox Index = 0.579 and 0.563 respectively). On average, approximately 10% of the FTIC Single Stop students were expected to graduate with an Associates degree or higher by the end of spring 2017, while only about 4% of the matched comparisons were anticipated to achieve the same. The non-FTIC Single Stop participants also had a significantly higher graduation rate than their counterparts at the end of academic year 2016-2017 (43.8% vs. 37.3%). By the end of fall 2017, similar findings were detected for both FTIC and non-FTIC groups, with the estimated graduation rates slightly higher for each group under each condition. Note, as well, that on average the anticipated graduation rates were substantially higher for the non-FTIC group than the FTIC group.

Table 15.A. Summary of regression results for degree completion (Fall 2014 – Spring 2017)

Analytic Group	Sample Size (Matched Pairs x 2)	Unadjusted Probability of Graduation		Regression-Adjusted Probability of Graduation		Effect Size in Cox Index[a]	*p*-value
		Comparison	Treatment	Comparison	Treatment		
FTIC	305 x 2	0.069	0.154	0.041	0.101	***0.579***	***0.0013****
Non-FTIC	645 x 2	0.388	0.440	0.373	0.438	0.163	***0.0240****

* Statistically significant result

[a]According to the WWC (v 3.0, 2014), a Cox index of 0.25 or larger is considered to be substantively important, regardless of whether the difference between groups reaches statistical significance.

Table 15.B. Summary of regression results for degree completion (Fall 2014 – Fall 2017)

Analytic Group	Sample Size (Matched Pairs x 2)	Unadjusted Probability of Graduation		Regression-Adjusted Probability of Graduation		Effect Size in Cox Index[a]	*p*-value
		Comparison	Treatment	Comparison	Treatment		
FTIC	305 x 2	0.075	0.164	0.047	0.111	***0.563***	***0.0013****
Non-FTIC	645 x 2	0.395	0.454	0.382	0.453	0.176	***0.0137****

* Statistically significant result

[a]According to the WWC (v 3.0, 2014), a Cox index of 0.25 or larger is considered to be substantively important, regardless of whether the difference between groups reaches statistical significance.

Implementation Study

In Phases I and II, the implementation study focused on providing context for understanding the quantitative results. Data gathered from **Phase I activities found that Single Stop was well integrated on the CCP campus and had strong support from top administrators at the college. It was also found that the program's Director quickly developed strong relationships with CCP staff and faculty, allowing her to make inroads across the campus.** In short, CCP's supportive administration and cooperative faculty provided fertile ground for the program to take root, and the Director at CCP, Ms. Umaña, brought an ideal combination of knowledge, care, and tenacity that allowed for it to truly enact change for students.

Phase II of the implementation study followed up on some of the Phase I findings and sought to gather feedback directly from students. **Overall, the Phase II study found that students were highly positive about the impact of Single Stop, clearly expressing that the services were directly connected to their persistence in college because Single Stop allowed them to simply focus on being students, rather than being distracted by finances or other daily living concerns. Additionally, it was found that CCP had deepened its integration of Single Stop throughout the campus**. The college had begun to integrate the program into more courses, with three of CCP's majors offering first-year experience courses that include introductions to Single Stop in the syllabi and an increasing number of professors referring students to the Single Stop office. Phase II of the study also showed that the administrators' strong support of the program continued to be critical to its success and set the tone for good working relationships across various college departments. Moreover, Single Stop USA had implemented an online screening tool, which allowed the staff to screen applicants more quickly, thus providing opportunity to serve a greater proportion of the campus.

With regard to areas of growth, Phases I and II of the implementation study found that a relatively small percentage of the campus was being served by Single Stop and certain students, particularly those who

did not attend the main campus, were less likely to participate. Additionally, while there were likely many more students who were not served but were in need of services, Single Stop's capacity on the CCP campus was limited, given that only two full-time staff members are employed by the program. Moreover, while student feedback on the Single Stop services was highly positive, it was noted that very few students returned for services in subsequent years, despite remaining enrolled in the college. Opportunities for growth focused on continuing to serve more students across the campus and determining why students did not appear to return to Single Stop for additional services.

The sections below provide data gathered in Phase III of the implementation study. During this phase, the evaluation team focused on learning more about why students appear not to return for additional services in subsequent years, gauging student satisfaction with the services, and probing further into best practices at CCP.

Probing into Student Return Rates for Single Stop Services

As described earlier, a total of 10 CCP students were interviewed (N=5) or surveyed (N=5) to investigate reasons they did not return for additional Single Stop services. Students were asked to indicate their current status at CCP. As shown in Table 16, according to data gathered through the students, 90% of were either still enrolled at CCP (50%) or had recently graduated (40%). Only one student (10%) was no longer enrolled and had not yet graduated.

Table 16. College enrollment status of interviewed/surveyed students as of summer 2018

Status	Survey/Interview Respondents	
	N	%
Currently enrolled at CCP	5	50%
Graduated from CCP	4	40%
Not enrolled or graduated from CCP	1	10%
Total	10	100%

Notably, the interviews and surveys from this respondent group revealed that they had participated in Single Stop services in subsequent years. The 10 students who were interviewed/surveyed came from a list of students who had been identified as participating in Single Stop services in the 2014-2015 academic year, were still enrolled at CCP as of fall 2017, and had not returned to Single Stop in subsequent academic years for additional services. Data gathered through the interviews and surveys, however, indicate that several had, in fact, returned for other services. Eight of the respondents (80%) indicated that they had received services during the 2014-2015 academic year, while two (20%) said they had not received Single Stop services until subsequent years. Moreover, eight participants (80%) reported that they received services in 2015-2016, seven (70%) in 2016-2017, and five (50%) in 2017-2018. The majority of participants noted that they received tax preparation services in subsequent years, with health benefits being the second most common service received. Tables 17-18 display these data.[55]

[55] The discrepancies between data in the Single Stop USA files and the information gathered through student self report could arise from several possible causes. For example, they may be caused by differences in the way certain services (such as taxes) are recorded, delays in updates between the CCP and Single Stop USA files, errors in data entry, errors in individual student tracking, or errors in

Table 17. Single Stop participation among survey/interview respondents: 2014-2015 through 2017-2018

Single Stop Service Participation	Survey/Interview Respondents	
	N	%
2014-2015		
Received Single Stop services	8	80%
Did not receive Single Stop services	2	20%
Total	10	100%
2015-2016		
Received Single Stop services	8	80%
Did not receive Single Stop services	2	20%
Total	10	100%
2016-2017		
Received Single Stop services	7	70%
Did not receive Single Stop services	3	30%
Total	10	100%
2017-2018		
Received Single Stop services	5	50%
Did not receive Single Stop services	5	50%
Total	10	100%

Table 18. Types of Single Stop services received by respondents: 2014-2015 through 2017-2018[56]

Single Stop Service Type	2014-2015 (N=8)		2015-2016 (N=8)		2016-2017 (N=7)		2017-2018 (N=5)	
	N	%	N	%	N	%	N	%
Tax Preparation	7	(87.5%)	6	(75.0%)	5	(71.4%)	4	(80.0%)
Health Benefits/Screening	3	(37.5%)	3	(37.5%)	2	(28.6%)	3	(60.0%)
Financial Counseling	1	(12.5%)	0	(0.0%)	1	(12.5%)	0	(0.0%)
Legal Counseling	1	(12.5%)	0	(0.0%)	0	(0.0%)	0	(0.0%)

Of the students who indicated that they did not receive services in a given year, the reasons were varied and included: scheduling challenges, not being enrolled in CCP at the time, not needing the services at the time or knowing where else to access them (i.e., the welfare office), or not being aware that the services were offered. Table 19 provides more detail, by year, on the reasons students did not access Single Stop services.

Table 19. Reasons Single Stop services were not accessed: 2015-2017 through 2017-2018

student memory, among other possibilities. Single Stop USA and CCP are using the findings from this report to further explore the cause for the discrepancies. Given that there are likely errors in the files with regard to the follow-up Single Stop services in which students engage, this may have implications for the exploratory findings related to service delivery. However, given the inconsistent findings in the exploratory findings across the three phases, those implications are likely to be minimal. Further, it is important to note that this would not have any effect on the impact findings.

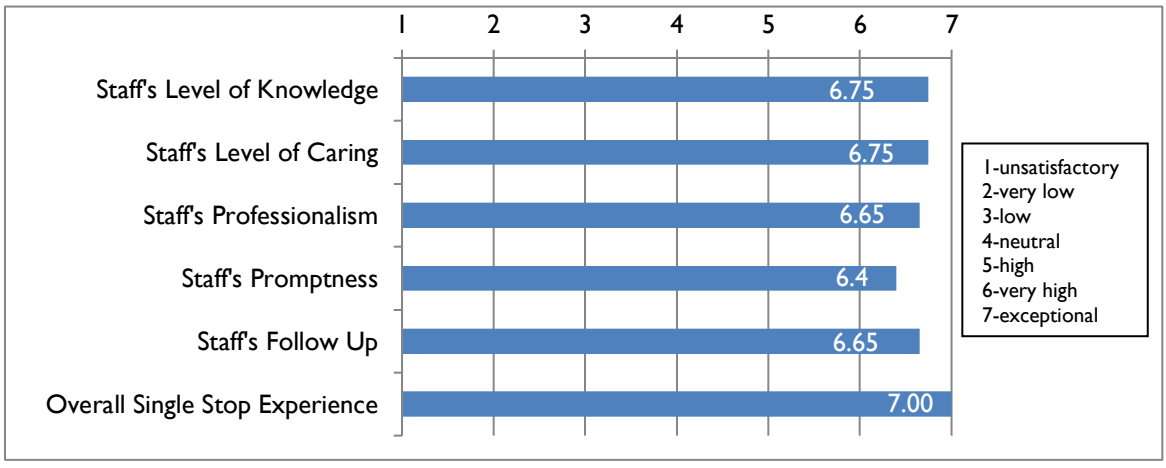
[56] Note that students may have received multiple services in a given school year. Therefore, percentages will not necessarily add to 100%.

Reasons	2014-2015 (N=2)		2015-2016 (N=2)		2016-2017 (N=3)		2017-2018 (N=5)	
	N	%	N	%	N	%	N	%
Not enrolled in CCP	0	(0.0%)	0	(0.0%)	1	(33.3%)	1	(20.0%)
Did not need assistance/ received assistance elsewhere	1	(50%)	2	(100%)	1	(33.3%)	3	(60.0%)
Not aware of services	1	(50%)	0	(0.0%)	0	(0.0%)	0	(0.0%)
Scheduling challenges	0	(0.0%)	0	(0.0%)	1	(33.3%)	1	(20.0%)

Student Satisfaction Levels with Single Stop Services

Overall, consistent with findings in Phases I and II, students who were interviewed and surveyed reported high levels of satisfaction with the services. Using a scale of 1-7 (where 1=unsatisfactory, 2=very low, 3=low, 4=neutral, 5=high, 6=very high, and 7=exceptional), respondents were asked to rate the quality of Single Stop services on a number of categories, including staff's: level of knowledge, level of caring, professionalism, promptness, follow up, and willingness to "go the extra mile." They were also asked to rate their overall experience at Single Stop. Mean ratings across all categories and in all years rated ranged from 6 (very high) to 7 (exceptional). Figure 7 displays mean ratings for respondents' experiences in 2014-2015.

Figure 7. Student satisfaction levels with Single Stop services in 2014-2015 (N=8)



Student ratings in subsequent years (2015-2016 through 2017-2018) were similar, with ranges from 5.8 (staff's follow up in 2015-2016) to 7.0 (overall Single Stop experience in 2017-2018). Students had opportunities to expand on their responses, and many expressed their gratitude for the services. For example, one respondent explained that she had lost her job in 2014 and did not know where to begin trying to get the services she needed to stay in school. She explained that she was unfamiliar with the Affordable Care Act and was daunted by its complications. She also expressed being depressed about

losing her job. She decided to go to school full time in order to move into a new career field, and as she became more involved in school, she heard about Single Stop. She described herself as "scared" and "overwhelmed by a lack of health insurance," but noted that Single Stop staff were "kind" and walked her through the necessary steps to secure health insurance. Another interview respondent explained that she received legal counseling services to resolve a loan that had been in default for a very long time. When this was resolved, she felt a deep sense of relief. Yet another respondent said that having her taxes prepared at Single Stop and learning to monitor her credit score has led to positive impacts in her finances. She also learned how to remove extra fees from her cell phone bill and other helpful budgeting tips.

Responding students described Single Stop staff as "caring," "attentive," "accommodating," "patient," "helpful," "courteous," and "committed." Though the office was busy, students rarely had to wait long. According to the students, Single Stop staff frequently went "above and beyond" what they were expected to do. For example, one student described how the Single Stop staff person followed her out of the office and gave her directions to her next location. Another student explained that Single Stop makes it simple and easy to receive service, further noting "and it's easier, far more convenient, and feels more confidential than visiting a welfare office [County Assistance Office]."

While one participant expressed that the tax preparation service was helpful but did not affect her academically, others indicated that the services did affect their academic lives. For example, one participant noted in an interview that she was able to save $200 on having her taxes prepared by taking them to Single Stop and that allowed her to use that money to buy what she needed for school. Further, another participant said, "Being able to have these services allowed me to get food, as I did not have the money to pay…that helped me a lot. And then by being able to have a better meal, I was better able to fully function in class."

Example testimonies from other students include:

- "When I went to Single Stop, I needed help getting my health and food benefits from the government. The woman who helped me was very caring, answered all of my questions, and made sure I knew how to follow up with her…and the welfare assistance office. I still receive my benefits today."
- "I would not have received the health benefits that I needed and food stamps without Single Stop. They have also been there to counsel me and give me advice about many things pertaining to college, healthcare benefits, and many other things. They are awesome."
- "Single Stop, I think, is an excellent tool…it's good to know that if I needed those services, they were available to me and I had help navigating it, and there was no cost."

While interviewed and surveyed students were overwhelmingly positive about their Single Stop experiences, one student expressed that her taxes were initially completed incorrectly through the Single Stop office and she ended up owing the IRS over $3,000. This student spoke with Single Stop staff about the issue, and they told her that her preparer was no longer working there, and that she should pay back the IRS. The student was disappointed by that situation; however, she did bring her taxes back to be prepared in the following year and did not experience any further challenges. No other students

expressed difficulties with the services; however, they did suggest that Single Stop move to a larger space, hire more staff to reduce wait times and potentially serve more students.

Best Practices at CCP

In July 2018, a member of the Metis evaluation team conducted an in-person interview with CCP's Single Stop Director. The focus of the interview was to gather information on best practices used at CCP. Given CCP's strong, consistent quantitative results for their Single Stop program, it was hoped that these practices may be informative to other programs across the country. Information from this interview is summarized below, with best practices highlighted for intake, program delivery, and follow up.

Intake

At CCP, as in other Single Stop locations, students may initiate the intake process in one of two ways: 1) by walking into the office, or 2) by completing the online screening tool. **Ms. Umaña described a set of best practices related to intake at CCP that demonstrate the importance of having strong support from college administrators, as well as excellent people and organizational skills among those directly interacting with the students.**

- CCP has set up a system whereby students complete the online profile as part of an assignment for certain programs, mostly during first-year experiences. This ensures that all students in that program are screened to prevent them from "falling through the cracks."
- Single Stop staff members then cull all of the information gathered through the on-line system and begin to determine the services for which students may be eligible.
- They then follow up with individual phone calls to each student. During these calls, they introduce themselves as CCP first, rather than as Single Stop. Ms. Umaña believes that this helps to ensure that students feel comfortable and not suspicious of how they may have accessed their individual information. Single Stop staff members are always conscious of students' feelings and aim to be respectful. They do not force students to talk about matters that may not be comfortable to them. However, given the staff's friendly, non-threatening demeanor, they find that students are generally quite open, and their trust continues to grow over time.
- Single Stop staff members probe on students' answers to items in the on-line screening tool that they know are often inaccurate. For example, according to Ms. Umaña, students frequently do not indicate accurate information about their income, so staff probe students further by asking the average number of hours they work per week, the number of jobs they are working, and whether they have indicated net or gross income on the forms. They often also probe further on immigration questions, as their correct status may allow them to be connected with specific opportunities, such as pro bono legal services, clinics, and others.
- Single Stop staff members look first for students' needs related to health insurance, then determine whether students will be eligible for food stamps, childcare, utility and cash assistance, as well as legal aid, financial counseling, and immigration consultations. If they are unable to offer any of these services to students immediately, they offer financial counseling and tax preparation, which often can lead to other services in the future.

- Staff strives to always meet students' needs where they are. They inquire as to the meeting location that would be most convenient for students (i.e., the main campus or regional centers), as well as the timing, as many students have full- or part-time jobs.
- For students who come in person and complete a paper intake form, staff will go through each question with them to be sure they understand what is being asked.
- In all cases, they try to develop a personal relationship with each student. They make sure that students know why they have to answer so many detailed questions. Staff helps them to understand that each question has a purpose and that their answers will ensure that that they get what they need.
- Ms. Umaña then spends time ensuring that all information is consistent at all ends. She checks for duplicate records in her system and that her reporting is clean and accurate.

Program Delivery

When discussing best practices with regard to program delivery, Ms. Umaña continued to focus on the development and deepening of students' trust. **In order to build truly trusting relationships, students not only have to believe that Single Stop is doing this work in their best interest, but they also have to see that the staff is knowledgeable and will be effective advocates for them. Key best practices with regard to program delivery relate not only to ensuring that students are directed to the necessary and appropriate resources, but that they have the information, materials, and confidence to obtain their goals.**

- Ms. Umaña and her staff do not simply give out information about where students can call to speak with someone about benefits, they make the call themselves, ensuring that all information is being provided accurately and that students are not being taken advantage of because of their age, lack of experience, or legal or immigration status.
- Moreover, Ms. Umaña works as an advocate and liaison for the students throughout the process. If students' benefits are rejected, she helps them to appeal the decisions. She goes to special meetings for leadership, and uses all of her background knowledge and experience to appeal the decisions. According to Ms. Umaña, when the CCP Single Stop office has been involved in appeals, students have nearly always won their cases.
- When students must see a resource on their own, the staff gives them explicit instructions about what materials to bring and what to expect during the meeting. They coach the students through the process and manage the referral to ensure it is successful.
    - For example, for some housing programs, staff will ask students to complete a draft application so they can review it in advance and ensure that it provides thorough and optimal information based on what the organizations is looking for.
    - For immigration or other attorneys, they ensure that students know what questions to expect and have the appropriate materials with them.
    - For taxes, they explain that students will need to bring their social security numbers with them and provide them with information about where to get a social security card if they don't already have one.
- Staff always aims to minimize students' frustration levels (as well as to build their trust) by telling them the materials that they will need in advance so they do not have to come back. Ms. Umaña

pointed out that this information is often posted in multiple locations (online, in paper handouts, and in personal emails to the students), so students are able to easily access what they need.

- As always, Single Stop staff at CCP aim to foster a culture in the office that is respectful and caring, while also light and joyful. Students appreciate the opportunity for release after dealing with such heavy topics.

Follow Up

Ms. Umaña and her staff have consistent follow-up processes. Their keen focus on outcomes leads them to conduct frequent follow-up checks to determine the results of the activities.

- Single Stop staff try to reach students at least three times to follow up after they have been referred to other resources. While they cannot always check on the final outcomes due to confidentiality issues (for example, learning whether a legal record has been expunged), they do ensure that the students have completed all tasks and have submitted all of their required materials.
- Single Stop staff often goes back to the referral source (for example, a faculty member who has referred a student to Single Stop) to close the loop and ensure the referral that they addressed the students' need. They will do this even when they reach the student directly, as it fosters good relationships with staff and faculty across the CCP campus and prioritizes the students' needs.
- Ms. Umaña often conducts long-term follow up with students, including CCP alumni, offering them tax services during the tax season and using the opportunity to check in on them and maintain relationships.

Summary and Conclusions

Summary of Findings

As a whole, the evaluation provides clear evidence of the impact of CCP's Single Stop program on student academic outcomes. **Throughout all phases of the evaluation, four temporal periods spanning three-and-a-half academic years, confirmatory analyses have shown that FTIC students have statistically significantly higher GPAs, higher ratios of completed to attempted degree bearing credits and higher rates of persistence than matched groups of similarly situated students. Further, while non-FTIC students were not the focus of the current evaluation of long-term outcomes, confirmatory analyses for near- and intermediate-term outcomes showed that these students also achieved statistically significant gains greater than their matched counterparts across all outcomes but one – the intermediate-term outcome for weighted GPAs**. Nonetheless, the relative consistency of statistically significant confirmatory findings across near-, intermediate-, and long-term outcomes for both student groups clearly indicate the overall effectiveness of the Single Stop program in achieving its key outcomes.

The qualitative implementation study was designed to gather rich context for understanding the findings of the CCP Single Stop quantitative impact study. Across the three phases of the study, the Metis evaluation team conducted program observations; collected and reviewed program documentation; interviewed CCP administrators and faculty members, Single Stop staff, and students; and surveyed students. The implementation study focused on the nature and quality of Single Stop implementation at CCP, best practices used by the college, reasons behind the program's success, and challenges that the program has confronted. Across all of the study phases and data sources used in the implementation study, stakeholders were highly positive about the impact of the program. For example, during Phase I interviews, CCP staff revealed that they had witnessed positive effects on students, which enabled them to get the services they needed to stay in school. During interviews and focus groups with students in Phase II, students themselves spoke to these impacts, clearly expressing that Single Stop services were directly connected to their persistence in college because they allowed them to simply focus on being students, rather than being distracted by finances or other daily living concerns.

With regard to potential reasons for Single Stop's success at CCP, data from all three phases pointed to two key aspects of implementation: 1) the initial and ongoing support that CCP's top administrators have provided for the program; and 2) the unique and critical set of characteristics that CCP Single Stop staff bring to their work. In Phase III, a set of best practices used at CCP was determined. Some of the practices, such as integrating the program into first-year experiences at the college, point to the support of top administrators. Other practices, such as approaching every interaction with students thoughtfully and respectfully and using a strengths-based, rather than a deficits-based model, speak to the strong characteristics of the Single Stop staff at CCP. Moreover, the Director's tenaciousness in reaching, serving, and following up with students was evident.

Recommendations for improvement in Phases I and II of the implementation study centered on opportunities to serve more CCP students, particularly non-traditional students and those in the regional centers. Over time, Single Stop at CCP implemented many of the recommendations outlined in the Phase I and II reports. For example, they revised their recruitment materials to ensure that the materials more directly targeted students who were less likely to be served by the program. Additionally, they added a regional center liaison and began to focus more recruitment efforts on the students at these centers. Moreover, when Single Stop USA provided sites with an online screening tool, the CCP site began implementation of this tool in such a way that allowed them to improve the efficiency of intake without losing their personalized approach.

One finding from Phase II—that very few students from CCP return for services following the year they are initially served—was further investigated in Phase III. It is likely that the data indicating that students do not return for services in subsequent years are inaccurate given that the qualitative data did not bear this out, and, therefore, should be further investigated. The source and reasons behind the inaccuracies are currently unclear. Among other possibilities, it may be that certain services, such as tax preparation, are not recorded in the same way as other services or that there are some delays in the recording of services, leading to inaccuracies in the data received by Metis. Students who did report that they did not return for services were most likely to indicate that they did not have need for the services at that time or that they were no longer enrolled at CCP. In alignment with the data gathered in Phases I and II, nearly all participants reported highly positive experiences with the program. Students recounted the strong characteristics of the staff and spoke highly of the impacts the program has had on them. Only one student who was contacted as part of the study had an initial experience with Single Stop that was not positive, and this student returned in the following year and had a positive experience at that time.

Exploratory analyses were undertaken to better understand the observed impacts, whether specific components of the model may be driving participant success and/or whether different subgroups of students benefitted more from services than others. Although there were several statistically significant differences noted, across all three phases of the evaluation, results from the exploratory analyses were not as consistent as with the confirmatory analyses. In fact, no discernible patterns of service delivery associated with improved outcomes were evident. This may be indicative of the "personal touch" of services provided to individual students. That is, the services themselves are not as important to academic achievement as the fact that students receive services based on their needs. Nonetheless, key highlights from the long-term exploratory analyses include:

In relation to service delivery and confirmation of outcomes:

- Although age does not appear to be associated with semester-to-semester persistence of the FTIC students across their first three years in college, being older is positively associated with greater persistence as of the end of fall 2017.
- While confirmation of a legal outcome is negatively associated with semester-to-semester persistence for both observed long-term temporal periods, the number of legal counseling events has no association with this outcome for either period. This makes sense given that legal outcome confirmation could pose more barriers to persistence, such as incarceration, community service and need for employment to pay various fees, than the actual services offered to achieve the outcomes.

- More financial counseling events are positively associated with higher degree bearing credit pass rates for both long-term outcome temporal periods.
- Greater degree bearing credit pass rates are associated with full-time FTIC students with higher placement test scores.
- No statistically significant associations are observed between any of the five major service areas and weighted GPA for the FTIC students for either long-term temporal period.
- Older students with higher placement test scores who are not Black/African American appear to experience higher cumulative GPAs for both long-term outcome time periods.

Regarding combinations of services and treatment dosage:

- Students who participated in the Single Stop program that received one or two major services significantly outperformed their comparisons in all but one analysis (fall 2014 to fall 2017 GPA).
- Single Stop students who received three or more major services significantly outperformed their comparison counterparts in persistence and GPA, but not degree bearing credit pass rate.
- The combination of benefits eligibility screening, financial counseling and tax preparation achieved statistically significant impacts for two of the three outcomes in each long-term outcome temporal period, although the only consistent statistically significant effect across both temporal periods was for GPA.
- The only other combination of services to achieve two statistically significant effects within a temporal period was financial counseling and tax preparation, which was positively associated with credit pass rate and GPA for the fall 2014 to fall 2017 period.
- Finally, tax preparation on its own and the combinations of benefits eligibility screening and tax preparation and benefits eligibility screening and additional services respectively had statistically significant impacts on persistence (spring 2017) and credit pass rate (fall 2017), GPA (spring 2017), and credit pass rate (spring 2017 and fall 2017).

In addition, the following results were observed for the other exploratory research questions:

- No differential programmatic long-term effects were experienced by financially dependent and independent students. Combined with the results from the near- and intermediate-term outcome analyses, this appears to be a clear indication that Single Stop is as effective with financially independent students as it is with financially dependent students over time.
- For FTIC students, no statistically significant nor substantively important results were observed for non-degree bearing credit pass rates.
- Single Stop FTIC students appeared to accumulate a greater number of short-term, intermediate-term, and long-term degree bearing credits than their matched comparisons.
- Non-FTIC Single Stop students achieve greater persistence and degree bearing pass rates, and higher GPAs than their matched counterparts for both long-term outcome temporal periods.
- Both FTIC and Non-FTIC Single Stop students exhibit greater college completion rates than matched comparisons across both long-term outcome temporal periods.

Conclusions

The long-term outcome analyses solidify the previous assertions that the evaluation provides strong evidence for causal impact of Single Stop's services implemented at CCP. Across all but one of the confirmatory impact analyses, statistically significant differences were observed between the Single Stop participants and matched comparisons for the key academic outcomes of semester-to-semester persistence, degree bearing credit pass rates, and GPA. The rigor of the methodology provides credence that observed effects are the result of Single Stop's program, and the strength of the confirmatory research results should prove informative to the field. Further, across the three phases of the study, the qualitative findings have consistently supported the strong quantitative findings. Students attest to the impacts of the program on them personally, which they believe directly affect their academics. Factors behind the program's success point to strong support from top CCP administrators and a set of unique and critical characteristics of the CCP Single Stop staff. Overall, the study found that CCP administrators provided a fertile ground for the Single Stop program to take root, and the on-site Single Stop staff implemented the program with a level of deep skill, caring, and tenacity that promoted its ultimate success.

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Appendix A: Propensity Score Matching

Table A.1: Counts and matching rates for persistence and graduation outcomes

Group	Potential Comparison Total Count (with Outcome)	Single Stop Total Count (with Outcome)	Single Stop 1st Round PSM	Single Stop 2nd Round PSM	Total Matching Rate
Non-FTIC	12,142	785	512/512	133/133	100.00% (645/645)
FTIC	5,520	367	285/285	20/20	100.00% (305/305)
Total	17,662	1,152	797/797	153/153	100.00% (950/950)

Table A.2: Counts and matching rates for degree bearing credit pass rate outcome

Group	Potential Comparison Total Count (with Outcome)	Single Stop Total Count (with Outcome)	Single Stop 1st Round PSM	Single Stop 2nd Round PSM	Total Matching Rate
Non-FTIC	11,921	773	511/511	131/131	100.00% (642/642)
FTIC	5,023	343	278/278	18/18	100.00% (296/296)
Total	16,944	1,116	789/789	149/149	100.00% (938/938)

Table A.3: Counts and matching rates for grade point average outcome

Group	Potential Comparison Total Count (with Outcome)	Single Stop Total Count (with Outcome)	Single Stop 1st Round PSM	Single Stop 2nd Round PSM	Total Matching Rate
Non-FTIC	10,666	749	496/496	119/119	100.00% (615/615)
FTIC	4,400	316	254/254	9/9	100.00% (263/263)
Total	15,066	1,065	750/750	128/128	100.00% (878/878)

Table A.4: Baseline covariate balance before and after matching: FTIC students, semester-to-semester persistence outcome

Matching Variable	Single Stop vs. Comparison			
	Before Matching		After Matching	
	Comparison	Single Stop	Comparison	Single Stop
Count	5,403	367	305	305
Treated cases with complete matching and outcome data				305
$N_{treated}$ lost after matching				0
$\%_{treated}$ lost after matching				0.0%
Female[a]	57.9%	56.1%	53.1%	54.1%
Male[a]	42.1%	43.9%	46.9%	45.9%
Hispanic[a]	12.4%*	8.7%*	7.5%	9.2%
Black[a]	43.9%***	62.7%***	72.8%	70.2%
White and other[a, b]	43.7%***	28.6%***	19.7%	20.6%
Full Time[a]	29.0%**	36.8%**	37.7%	40.3%
Part Time[a]	71.0%**	63.2%**	62.3%	59.7%
Married[a]	5.4%	6.5%	3.3%	4.3%
Not Married[a]	94.6%	93.5%	96.7%	95.7%
Filed FAFSA[a]	79.3%***	92.4%***	100.0%	100.0%
Not Filed FAFSA[a]	20.7%***	7.6%***	0.0%	0.0%
FAFSA_Financially_Dependent[a]	56.8%***	35.1%***	38.0%	35.4%
FAFSA_Financially_Independent[a]	43.2%***	64.9%***	62.0%	64.6%
Received Financial Aid[a]	74.0%***	91.3%***	99.0%	99.0%
Not Received Financial Aid[a]	26.0%***	8.7%***	1.0%	1.0%
Received Student Loans[a]	38.9%***	58.9%***	72.1%	68.5%
Not Received Student Loans[a]	61.1%***	41.1%***	27.9%	31.5%
First in Family to Attend College[a]	32.1%	32.7%	36.4%	35.1%
Not First in Family to Attend College[a]	67.9%	67.3%	63.6%	64.9%
High School GED[a]	66.8%	68.1%	66.2%	64.9%
High School Diploma[a]	33.2%	31.9%	33.8%	35.1%
Enrolled in Remediation[a]	0.0%	0.0%	0.0%	0.0%
Not Enrolled in Remediation[a]	100.0%	100.0%	100.0%	100.0%
Academic Major[a]	93.7%	94.3%	91.5%	93.8%
Occupational Major[a]	6.3%	5.7%	8.5%	6.2%
Liberal Studies[a]	80.3%	79.0%	80.0%	79.0%
Business & Technology Major[a]	16.6%	16.3%	18.0%	16.4%
Math, Science & Health Careers[a]	3.1%	4.7%	2.0%	4.6%
Age at Baseline[c]	23.33*** (7.42)	26.27*** (8.68)	26.25 (9.82)	26.47 (8.93)
Number of Years Since First Enrolled at College[c]	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Placement Test Score[c]	8.27** (2.94)	7.79** (2.64)	7.61 (2.65)	7.71 (2.58)
FAFSA Personal Income[c] (Round 1 only, 285 matched pairs)	5015.17 (10192.19)	5282.61 (9863.57)	5291.54 (11369.29)	5535.79 (10294.46)
FAFSA Household Income[c] (Round 1 only, 285 matched pairs)	24087.81*** (32212.22)	11446.16*** (15673.33)	11906.65 (17729.74)	11804.91 (16292.94)
Prior Cumulative GPA[c]				
Prior Cumulative Number of Credits[c]				

[a] For the categorical matching variables, column percentage for each group is presented.
[b] Other include those who were Asian, American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, multiracial, or unknown.
[c] For the continuous matching variables, group mean is presented first, followed by the corresponding standard deviation in the parentheses.
*** < .001, ** < .01, * < .05, chi-square test or independent-samples t-test two-tailed

Table A.5: Baseline covariate balance before and after matching: FTIC students, degree bearing credit pass rate outcome

Matching Variable	Single Stop vs. Comparison			
	Before Matching		After Matching	
	Comparison	Single Stop	Comparison	Single Stop
Count	5,403	367	296	296
Treated cases with complete matching and outcome data				296
$N_{treated}$ lost after matching				0
$\%_{treated}$ lost after matching				0.0%
Female[a]	57.9%	56.1%	53.4%	54.4%
Male[a]	42.1%	43.9%	46.6%	45.6%
Hispanic[a]	12.4%*	8.7%*	9.1%	9.1%
Black[a]	43.9%***	62.7%***	70.6%	69.9%
White and other[a, b]	43.7%***	28.6%***	20.3%	21.0%
Full Time[a]	29.0%**	36.8%**	40.5%	41.6%
Part Time[a]	71.0%**	63.2%**	59.5%	58.4%
Married[a]	5.4%	6.5%	5.1%	4.4%
Not Married[a]	94.6%	93.5%	94.9%	95.6%
Filed FAFSA[a]	79.3%***	92.4%***	100.0%	100.0%
Not Filed FAFSA[a]	20.7%***	7.6%***	0.0%	0.0%
FAFSA_Financially_Dependent[a]	56.8%***	35.1%***	32.8%	35.5%
FAFSA_Financially_Independent[a]	43.2%***	64.9%***	67.2%	64.5%
Received Financial Aid[a]	74.0%***	91.3%***	99.0%	99.0%
Not Received Financial Aid[a]	26.0%***	8.7%***	1.0%	1.0%
Received Student Loans[a]	38.9%***	58.9%***	64.9%	69.3%
Not Received Student Loans[a]	61.1%***	41.1%***	35.1%	30.7%
First in Family to Attend College[a]	32.1%	32.7%	35.8%	34.8%
Not First in Family to Attend College[a]	67.9%	67.3%	64.2%	65.2%
High School GED[a]	66.8%	68.1%	64.5%	64.9%
High School Diploma[a]	33.2%	31.9%	35.5%	35.1%
Enrolled in Remediation[a]	0.0%	0.0%	0.0%	0.0%
Not Enrolled in Remediation[a]	100.0%	100.0%	100.0%	100.0%
Academic Major[a]	93.7%	94.3%	95.3%	94.3%
Occupational Major[a]	6.3%	5.7%	4.7%	5.7%
Liberal Studies[a]	80.3%	79.0%	76.7%	80.1%
Business & Technology Major[a]	16.6%	16.3%	18.9%	15.2%
Math, Science & Health Careers[a]	3.1%	4.7%	4.4%	4.7%
Age at Baseline[c]	23.33*** (7.42)	26.27*** (8.68)	26.49 (9.91)	26.51 (8.92)
Number of Years Since First Enrolled at College[c]	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Placement Test Score[c]	8.27** (2.94)	7.79** (2.64)	7.63 (2.69)	7.75 (2.59)
FAFSA Personal Income[c] (Round 1 only, 278 matched pairs)	5015.17 (10192.19)	5282.61 (9863.57)	5751.77 (10281.71)	5505.95 (10298.94)
FAFSA Household Income[c] (Round 1 only, 278 matched pairs)	24087.81*** (32212.22)	11446.16*** (15673.33)	11699.04 (17795.50)	12012.68 (16420.23)
Prior Cumulative GPA[c]				
Prior Cumulative Number of Credits[c]				

[a] For the categorical matching variables, column percentage for each group is presented.
[b] Other include those who were Asian, American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, multiracial, or unknown.
[c] For the continuous matching variables, group mean is presented first, followed by the corresponding standard deviation in the parentheses.
*** < .001, ** < .01, * < .05, chi-square test or independent-samples t-test two-tailed

Table A.6: Baseline covariate balance before and after matching: FTIC students, grade point average outcome

Matching Variable	Single Stop vs. Comparison			
	Before Matching		After Matching	
	Comparison	Single Stop	Comparison	Single Stop
Count	5,403	367	263	263
Treated cases with complete matching and outcome data				263
$N_{treated}$ lost after matching				0
$\%_{treated}$ lost after matching				0.0%
Female[a]	57.9%	56.1%	52.9%	54.4%
Male[a]	42.1%	43.9%	47.1%	45.6%
Hispanic[a]	12.4%*	8.7%*	9.5%	9.9%
Black[a]	43.9%***	62.7%***	68.8%	69.2%
White and other[a, b]	43.7%***	28.6%***	21.7%	20.9%
Full Time[a]	29.0%**	36.8%**	41.1%	42.6%
Part Time[a]	71.0%**	63.2%**	58.9%	57.4%
Married[a]	5.4%	6.5%	4.6%	4.6%
Not Married[a]	94.6%	93.5%	95.4%	95.4%
Filed FAFSA[a]	79.3%***	92.4%***	100.0%	100.0%
Not Filed FAFSA[a]	20.7%***	7.6%***	0.0%	0.0%
FAFSA_Financially_Dependent[a]	56.8%***	35.1%***	38.4%	37.6%
FAFSA_Financially_Independent[a]	43.2%***	64.9%***	61.6%	62.4%
Received Financial Aid[a]	74.0%***	91.3%***	98.9%	98.9%
Not Received Financial Aid[a]	26.0%***	8.7%***	1.1%	1.1%
Received Student Loans[a]	38.9%***	58.9%***	66.2%	68.1%
Not Received Student Loans[a]	61.1%***	41.1%***	33.8%	31.9%
First in Family to Attend College[a]	32.1%	32.7%	35.4%	35.0%
Not First in Family to Attend College[a]	67.9%	67.3%	64.6%	65.0%
High School GED[a]	66.8%	68.1%	64.3%	62.7%
High School Diploma[a]	33.2%	31.9%	35.7%	37.3%
Enrolled in Remediation[a]	0.0%	0.0%	0.0%	0.0%
Not Enrolled in Remediation[a]	100.0%	100.0%	100.0%	100.0%
Academic Major[a]	93.7%	94.3%	95.8%	93.9%
Occupational Major[a]	6.3%	5.7%	4.2%	6.1%
Liberal Studies[a]	80.3%	79.0%	79.1%	79.1%
Business & Technology Major[a]	16.6%	16.3%	16.7%	16.3%
Math, Science & Health Careers[a]	3.1%	4.7%	4.2%	4.6%
Age at Baseline[c]	23.33*** (7.42)	26.27*** (8.68)	26.01 (9.26)	26.38 (8.96)
Number of Years Since First Enrolled at College[c]	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Placement Test Score[c]	8.27** (2.94)	7.79** (2.64)	7.87 (2.90)	7.81 (2.58)
FAFSA Personal Income[c] (Round 1 only, 251 matched pairs)	5015.17 (10192.19)	5282.61 (9863.57)	5268.56 (9655.90)	5720.07 (10584.27)
FAFSA Household Income[c] (Round 1 only, 251 matched pairs)	24087.81*** (32212.22)	11446.16*** (15673.33)	12093.99 (15815.88)	12712.09 (16838.79)
Prior Cumulative GPA[c]				
Prior Cumulative Number of Credits[c]				

[a] For the categorical matching variables, column percentage for each group is presented.
[b] Other include those who were Asian, American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, multiracial, or unknown.
[c] For the continuous matching variables, group mean is presented first, followed by the corresponding standard deviation in the parentheses.
*** < .001, ** < .01, * < .05, chi-square test or independent-samples t-test two-tailed

Table A.7: Baseline covariate balance before and after matching: Non-FTIC students, semester-to-semester persistence outcome

Matching Variable	Single Stop vs. Comparison			
	Before Matching		After Matching	
	Comparison	Single Stop	Comparison	Single Stop
Count	11,877	785	645	645
Treated cases with complete matching and outcome data				645
$N_{treated}$ lost after matching				0
$\%_{treated}$ lost after matching				0.0%
Female[a]	64.2%	64.6%	64.3%	65.6%
Male[a]	35.8%	35.4%	35.7%	34.4%
Hispanic[a]	10.6%	9.8%	11.3%	9.9%
Black[a]	44.1%***	54.4%***	61.9%	61.2%
White and other[a, b]	45.3%***	35.8%***	26.8%	28.9%
Full Time[a]	22.4%***	33.4%***	36.3%	33.6%
Part Time[a]	77.6%	66.6%	63.7%	66.4%
Married[a]	8.7%	7.0%	5.4%	5.4%
Not Married[a]	91.3%	93.0%	94.6%	94.6%
Filed FAFSA[a]	77.0%***	92.9%***	100.0%	100.0%
Not Filed FAFSA[a]	23.0%***	7.1%***	0.0%	0.0%
FAFSA_Financially_Dependent[a]	37.0%***	25.9%***	26.2%	25.9%
FAFSA_Financially_Independent[a]	63.0%***	74.1%***	73.8%	74.1%
Received Financial Aid[a]	72.5%***	91.0%***	97.4%	97.7%
Not Received Financial Aid[a]	27.5%***	9.0%***	2.6%	2.3%
Received Student Loans[a]	43.3%***	58.1%***	68.2%	68.1%
Not Received Student Loans[a]	56.7%***	41.9%***	31.8%	31.9%
First in Family to Attend College[a]	33.8%*	38.1%*	41.4%	40.0%
Not First in Family to Attend College[a]	66.2%*	61.9%*	58.6%	60.0%
High School GED[a]	39.3%***	50.3%***	46.0%	45.4%
High School Diploma[a]	60.7%***	49.7%***	54.0%	54.6%
Enrolled in Remediation[a]	76.4%***	89.7%***	89.9%	89.3%
Not Enrolled in Remediation[a]	23.6%***	10.3%***	10.1%	10.7%
Academic Major[a]	93.5%	93.8%	93.2%	92.9%
Occupational Major[a]	6.5%	6.2%	6.8%	7.1%
Liberal Studies[a]	75.0%*	71.0%*	73.5%	73.6%
Business & Technology Major[a]	17.7%*	18.5%*	15.7%	15.7%
Math, Science & Health Careers[a]	7.3%*	10.5%*	10.8%	10.7%
Age at Baseline[c]	28.29*** (9.68)	30.26*** (10.49)	30.19 (11.08)	30.57 (10.69)
Number of Years Since First Enrolled at College[c]	4.36*** (6.08)	3.52*** (5.52)	3.84 (5.53)	3.67 (5.66)
Placement Test Score[c]	8.30*** (2.83)	7.88*** (2.80)	7.86 (2.76)	7.77 (2.75)
FAFSA Personal Income[c] (Round 1 only, 512 matched pairs)	9780.84*** (13575.36)	7211.05*** (9509.53)	7211.33 (10886.17)	7211.05 (9509.53)
FAFSA Household Income[c] (Round 1 only, 512 matched pairs)	24833.92*** (30201.06)	12954.75*** (16430.13)	13854.27 (17927.94)	12954.75 (16430.13)
Prior Cumulative GPA[c] (Round 1 only, 512 matched pairs)	2.87** (0.71)	2.97** (0.71)	2.97 (0.61)	2.97 (0.71)
Prior Cumulative Number of Credits[c] Passed (Round 1 only, 512 matched pairs)	28.44** (17.57)	30.69** (18.62)	30.99 (17.92)	30.69 (18.62)

[a] For the categorical matching variables, column percentage for each group is presented.
[b] Other include those who were Asian, American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, multiracial, or unknown.
[c] For the continuous matching variables, group mean is presented first, followed by the corresponding standard deviation in the parentheses.
*** < .001, ** < .01, * < .05, chi-square test or independent-samples t-test two-tailed

Table A.8: Baseline covariate balance before and after matching: Non-FTIC students, degree bearing credit pass rate outcome

Matching Variable	Single Stop vs. Comparison			
	Before Matching		After Matching	
	Comparison	Single Stop	Comparison	Single Stop
Count	11,877	785	642	642
Treated cases with complete matching and outcome data				642
$N_{treated}$ lost after matching				0
$\%_{treated}$ lost after matching				0.0%
Female[a]	64.2%	64.6%	64.5%	65.7%
Male[a]	35.8%	35.4%	35.5%	34.3%
Hispanic[a]	10.6%	9.8%	10.3%	9.8%
Black[a]	44.1%***	54.4%***	62.0%	61.2%
White and other[a, b]	45.3%***	35.8%***	27.7%	29.0%
Full Time[a]	22.4%***	33.4%***	35.5%	33.8%
Part Time[a]	77.6%	66.6%	64.5%	66.2%
Married[a]	8.7%	7.0%	5.8%	5.5%
Not Married[a]	91.3%	93.0%	94.2%	94.5%
Filed FAFSA[a]	77.0%***	92.9%***	100.0%	100.0%
Not Filed FAFSA[a]	23.0%***	7.1%***	0.0%	0.0%
FAFSA_Financially_Dependent[a]	37.0%***	25.9%***	28.7%	25.9%
FAFSA_Financially_Independent[a]	63.0%***	74.1%***	71.3%	74.1%
Received Financial Aid[a]	72.5%***	91.0%***	97.7%	97.7%
Not Received Financial Aid[a]	27.5%***	9.0%***	2.3%	2.3%
Received Student Loans[a]	43.3%***	58.1%***	67.4%	68.2%
Not Received Student Loans[a]	56.7%***	41.9%***	32.6%	31.8%
First in Family to Attend College[a]	33.8%*	38.1%*	39.9%	40.0%
Not First in Family to Attend College[a]	66.2%*	61.9%*	60.1%	60.0%
High School GED[a]	39.3%***	50.3%***	44.5%	45.3%
High School Diploma[a]	60.7%***	49.7%***	55.5%	54.7%
Enrolled in Remediation[a]	76.4%***	89.7%***	90.7%	89.4%
Not Enrolled in Remediation[a]	23.6%***	10.3%***	9.3%	10.6%
Academic Major[a]	93.5%	93.8%	91.4%	92.8%
Occupational Major[a]	6.5%	6.2%	8.6%	7.2%
Liberal Studies[a]	75.0%*	71.0%*	72.0%	73.8%
Business & Technology Major[a]	17.7%*	18.5%*	17.9%	15.7%
Math, Science & Health Careers[a]	7.3%*	10.5%*	10.1%	10.5%
Age at Baseline[c]	28.29*** (9.68)	30.26*** (10.49)	30.69 (11.50)	30.58 (10.71)
Number of Years Since First Enrolled at College[c]	4.36*** (6.08)	3.52*** (5.52)	3.80 (5.19)	3.68 (5.68)
Placement Test Score[c]	8.30*** (2.83)	7.88*** (2.80)	7.73 (2.54)	7.78 (2.75)
FAFSA Personal Income[c] (Round 1 only, 511 matched pairs)	9780.84*** (13575.36)	7211.05*** (9509.53)	6873.14 (10243.25)	7155.82 (9436.30)
FAFSA Household Income[c] (Round 1 only, 511 matched pairs)	24833.92*** (30201.06)	12954.75*** (16430.13)	12876.55 (16446.88)	12910.77 (16416.02)
Prior Cumulative GPA[c] (Round 1 only, 511 matched pairs)	2.87** (0.71)	2.97** (0.71)	2.96 (0.58)	2.97 (0.71)
Prior Cumulative Number of Credits[c] Passed (Round 1 only, 511 matched pairs)	28.44** (17.57)	30.69** (18.62)	32.15 (18.90)	30.73 (18.61)

[a] For the categorical matching variables, column percentage for each group is presented.
[b] Other include those who were Asian, American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, multiracial, or unknown.
[c] For the continuous matching variables, group mean is presented first, followed by the corresponding standard deviation in the parentheses.
*** < .001, ** < .01, * < .05, chi-square test or independent-samples t-test two-tailed

Table A.9: Baseline covariate balance before and after matching: Non-FTIC students, grade point average outcome

Matching Variable	Single Stop vs. Comparison			
	Before Matching		After Matching	
	Comparison	Single Stop	Comparison	Single Stop
Count	11,877	785	615	615
Treated cases with complete matching and outcome data				615
$N_{treated}$ lost after matching				0
$\%_{treated}$ lost after matching				0.0%
Female[a]	64.2%	64.6%	67.5%	65.0%
Male[a]	35.8%	35.4%	32.5%	35.0%
Hispanic[a]	10.6%	9.8%	9.4%	10.1%
Black[a]	44.1%***	54.4%***	62.4%	60.3%
White and other[a, b]	45.3%***	35.8%***	28.2%	29.6%
Full Time[a]	22.4%***	33.4%***	34.3%	34.6%
Part Time[a]	77.6%	66.6%	65.7%	65.4%
Married[a]	8.7%	7.0%	6.0%	5.5%
Not Married[a]	91.3%	93.0%	94.0%	94.5%
Filed FAFSA[a]	77.0%***	92.9%***	100.0%	100.0%
Not Filed FAFSA[a]	23.0%***	7.1%***	0.0%	0.0%
FAFSA_Financially_Dependent[a]	37.0%***	25.9%***	24.4%	25.9%
FAFSA_Financially_Independent[a]	63.0%***	74.1%***	75.6%	74.1%
Received Financial Aid[a]	72.5%***	91.0%***	98.2%	97.6%
Not Received Financial Aid[a]	27.5%***	9.0%***	1.8%	2.4%
Received Student Loans[a]	43.3%***	58.1%***	69.6%	68.3%
Not Received Student Loans[a]	56.7%***	41.9%***	30.4%	31.7%
First in Family to Attend College[a]	33.8%*	38.1%*	39.8%	39.7%
Not First in Family to Attend College[a]	66.2%*	61.9%*	60.2%	60.3%
High School GED[a]	39.3%***	50.3%***	45.7%	45.9%
High School Diploma[a]	60.7%***	49.7%***	54.3%	54.1%
Enrolled in Remediation[a]	76.4%***	89.7%***	89.4%	89.8%
Not Enrolled in Remediation[a]	23.6%***	10.3%***	10.6%	10.2%
Academic Major[a]	93.5%	93.8%	93.3%	93.2%
Occupational Major[a]	6.5%	6.2%	6.7%	6.8%
Liberal Studies[a]	75.0%*	71.0%*	75.3%	73.2%
Business & Technology Major[a]	17.7%*	18.5%*	15.8%	15.9%
Math, Science & Health Careers[a]	7.3%*	10.5%*	8.9%	10.9%
Age at Baseline[c]	28.29*** (9.68)	30.26*** (10.49)	30.70 (11.02)	30.62 (10.76)
Number of Years Since First Enrolled at College[c]	4.36*** (6.08)	3.52*** (5.52)	3.72 (4.85)	3.66 (5.71)
Placement Test Score[c]	8.30*** (2.83)	7.88*** (2.80)	7.74 (2.69)	7.79 (2.78)
FAFSA Personal Income[c] (Round 1 only, 494 matched pairs)	9780.84*** (13575.36)	7211.05*** (9509.53)	7425.17 (10843.89)	7196.18 (9455.87)
FAFSA Household Income[c] (Round 1 only, 494 matched pairs)	24833.92*** (30201.06)	12954.75*** (16430.13)	12655.38 (15868.12)	13054.54 (16541.51)
Prior Cumulative GPA[c] (Round 1 only, 494 matched pairs)	2.87** (0.71)	2.97** (0.71)	2.99 (0.59)	2.99 (0.69)
Prior Cumulative Number of Credits[c] Passed (Round 1 only, 494 matched pairs)	28.44** (17.57)	30.69** (18.62)	31.37 (18.28)	30.97 (18.58)

[a] For the categorical matching variables, column percentage for each group is presented.
[b] Other include those who were Asian, American Indian/Alaska Native, Native Hawaiian/Other Pacific Islander, multiracial, or unknown.
[c] For the continuous matching variables, group mean is presented first, followed by the corresponding standard deviation in the parentheses.
*** < .001, ** < .01, * < .05, chi-square test or independent-samples t-test two-tailed

Appendix B: Confirmatory Impact Analyses

Linear Regression Model for Confirmatory Impact Analyses

$$
\begin{aligned}
Y_i &= \beta_0 + \beta_1(\text{Female}_i - \overline{\text{Female.}}) + \beta_2(\text{Hispanic}_i - \overline{\text{Hispanic.}}) + \beta_3(\text{Black}_i - \overline{\text{Black.}}) \\
&+ \beta_4(\text{Full\_Time}_i - \overline{\text{Full\_Time.}}) + \beta_5(\text{MaritalStatus}_i - \overline{\text{MaritalStatus.}}) \\
&+ \beta_6(\text{FAFSA\_Dependency}_i - \overline{\text{FAFSA\_Dependency.}}) + \beta_7(\text{Financial\_Aid}_i - \overline{\text{Financial\_Aid.}}) \\
&+ \beta_8(\text{Student\_Loans}_i - \overline{\text{Student\_Loans.}}) + \beta_9(\text{First\_Generation}_i - \overline{\text{First\_Generation.}}) \\
&+ \beta_{10}(\text{HS\_GED}_i - \overline{\text{HS\_GED.}}) + \beta_{11}(\text{Remediation}_i - \overline{\text{Remediation.}}) \\
&+ \beta_{12}(\text{Academic\_Major}_i - \overline{\text{Academic\_Major.}}) + \beta_{13}(\text{Liberal\_Studies}_i - \overline{\text{Liberal\_Studies.}}) \\
&+ \beta_{14}(\text{Busi\_Tech}_i - \overline{\text{Busi\_Tech.}}) + \beta_{15}(\text{Age}_i - \overline{\text{Age.}}) \\
&+ \beta_{16}(\text{Years\_First\_Enrolled}_i - \overline{\text{Years\_First\_Enrolled.}}) + \beta_{17}(\text{Placement\_Test}_i - \overline{\text{Placement\_Test.}}) \\
&+ \beta_{18}(\text{TRT}_i) + \varepsilon_i
\end{aligned}
$$

where

represents the selected outcome for subject *i*;

β_0 represents the mean score for subject *i* adjusted for the covariates;

$\beta_1 - \beta_{17}$ represent the regression coefficients associated with various covariates for subject *i*;

β_{18} represents the regression coefficient associated with the treatment indicator – it quantifies the treatment impact (the mean difference in the outcome between treatment and comparison subjects);

ε_i represents the random error associated with subject *i*.

Logistic Regression Model for Confirmatory Impact Analyses

The logistic regression model is given in terms of the logits of probabilities of the selected outcome equal to 1, i.e.,

$$\eta_i = \log\left(\frac{\Pr(Y_i = 1)}{1 - \Pr(Y_i = 1)}\right)$$

The full model can be specified as follows:

$$
\begin{aligned}
\eta_i &= \beta_0 + \beta_1(\text{Female}_i - \overline{\text{Female.}}) + \beta_2(\text{Hispanic}_i - \overline{\text{Hispanic.}}) + \beta_3(\text{Black}_i - \overline{\text{Black.}}) \\
&+ \beta_4(\text{Full\_Time}_i - \overline{\text{Full\_Time.}}) + \beta_5(\text{MaritalStatus}_i - \overline{\text{MaritalStatus.}}) \\
&+ \beta_6(\text{FAFSA\_Dependency}_i - \overline{\text{FAFSA\_Dependency.}}) + \beta_7(\text{Financial\_Aid}_i - \overline{\text{Financial\_Aid.}}) \\
&+ \beta_8(\text{Student\_Loans}_i - \overline{\text{Student\_Loans.}}) + \beta_9(\text{First\_Generation}_i - \overline{\text{First\_Generation.}}) \\
&+ \beta_{10}(\text{HS\_GED}_i - \overline{\text{HS\_GED.}}) + \beta_{11}(\text{Remediation}_i - \overline{\text{Remediation.}}) \\
&+ \beta_{12}(\text{Academic\_Major}_i - \overline{\text{Academic\_Major.}}) + \beta_{13}(\text{Liberal\_Studies}_i - \overline{\text{Liberal\_Studies.}}) \\
&+ \beta_{14}(\text{Busi\_Tech}_i - \overline{\text{Busi\_Tech.}}) + \beta_{15}(\text{Age}_i - \overline{\text{Age.}}) \\
&+ \beta_{16}(\text{Years\_First\_Enrolled}_i - \overline{\text{Years\_First\_Enrolled.}}) + \beta_{17}(\text{Placement\_Test}_i - \overline{\text{Placement\_Test.}}) \\
&+ \beta_{18}(\text{TRT}_i) + \varepsilon_i
\end{aligned}
$$

where

represents the selected outcome for subject *i*;

represents the logits of

β_0 represents the mean logit for subject *i* adjusted for the covariates;

$\beta_1 - \beta_{17}$ represent the logistic regression coefficients associated with various covariates for subject *i*;

β_{18} represents the logistic regression coefficient associated with the treatment indicator – it quantifies the treatment impact (the difference in the log-odds-ratio associated with being a treatment subject, as opposed to a comparison subject);

ε_i represents the random error associated with subject *i*.

Table B.1: Logistic regression results of semester-to-semester persistence for FTIC students (confirmatory analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size in Cox Index
Intercept	-1.679	0.161	109.066	<.0001	--
TRT	0.588	0.208	8.013	0.0046	1.800
Female	0.316	0.212	2.220	0.1363	1.371
Hispanic	-0.553	0.418	1.752	0.1856	0.575
Black	-0.630	0.243	6.713	0.0096	0.532
Full Time	0.469	0.216	4.721	0.0298	1.598
Married	-0.021	0.520	0.002	0.9681	0.979
FAFSA_Financially_Dependent	0.410	0.263	2.430	0.1191	1.507
Received Financial Aid	0.469	1.132	0.171	0.6790	1.598
Received Student Loan	-0.128	0.233	0.304	0.5812	0.880
First in Family to Attend College	-0.052	0.219	0.057	0.8114	0.949
High School GED	-0.761	0.217	12.342	0.0004	0.467
Academic/Occupational Major	-0.395	0.390	1.025	0.3113	0.674
Liberal Studies Major	-0.370	0.520	0.506	0.4769	0.691
Business & Technology Major	-0.386	0.572	0.455	0.4998	0.680
Age at Baseline	0.038	0.013	8.091	0.0044	1.038
Placement Test Score	0.055	0.039	1.984	0.1589	1.057

Table B.2: Logistic regression results of semester-to-semester persistence for FTIC students (confirmatory analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size in Cox Index
Intercept	-1.673	0.160	109.497	<.0001	--
TRT	0.595	0.206	8.367	0.0038	1.812
Female	0.316	0.207	2.343	0.1259	1.372
Black	-0.552	0.214	6.664	0.0098	0.576
Full Time	0.512	0.209	5.981	0.0145	1.669
FAFSA_Financially_Dependent	0.434	0.257	2.860	0.0908	1.543
High School GED	-0.761	0.214	12.627	0.0004	0.467
Age at Baseline	0.038	0.013	8.493	0.0036	1.038

Table B.3: Logistic regression results of semester-to-semester persistence for FTIC students (confirmatory analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size in Cox Index
Intercept	-2.425	0.210	132.887	<.0001	--
TRT	0.518	0.263	3.865	0.0493	1.678
Female	0.423	0.271	2.441	0.1182	1.526
Hispanic	-0.346	0.505	0.471	0.4927	0.707
Black	-0.480	0.302	2.526	0.1120	0.619
Full Time	0.247	0.273	0.816	0.3665	1.280
Married	-0.291	0.674	0.187	0.6655	0.747
FAFSA_Financially_Dependent	0.201	0.337	0.355	0.5510	1.223
Received Financial Aid	-0.027	1.140	0.001	0.9814	0.974
Received Student Loan	-0.371	0.290	1.635	0.2010	0.690
First in Family to Attend College	-0.335	0.286	1.372	0.2414	0.715
High School GED	-0.513	0.275	3.469	0.0625	0.599
Academic/Occupational Major	-0.760	0.441	2.970	0.0848	0.468
Liberal Studies Major	-0.705	0.571	1.526	0.2167	0.494
Business & Technology Major	-0.575	0.639	0.811	0.3679	0.563
Age at Baseline	0.045	0.015	8.745	0.0031	1.046
Placement Test Score	0.094	0.048	3.825	0.0505	1.098

Table B.4: Logistic regression results of semester-to-semester persistence for FTIC students (confirmatory analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size in Cox Index
Intercept	-2.406	0.208	133.690	<.0001	--
TRT	0.551	0.260	4.486	0.0342	1.735
Female	0.421	0.265	2.533	0.1115	1.524
Black	-0.418	0.267	2.438	0.1185	0.659
High School GED	-0.540	0.271	3.982	0.0460	0.583
Academic/Occupational Major	-0.723	0.430	2.826	0.0928	0.485
Age at Baseline	0.036	0.013	8.342	0.0039	1.037
Placement Test Score	0.093	0.046	4.105	0.0428	1.098

Table B.5: Linear regression results of degree bearing credit passing rate for FTIC students (confirmatory analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size in Hedges' *g*
Intercept	0.465	0.021	22.610	<.0001	--
TRT	0.064	0.029	2.190	0.0292	0.173
Female	0.054	0.030	1.780	0.0755	0.147
Hispanic	-0.046	0.058	-0.780	0.4346	-0.124
Black	-0.112	0.037	-3.000	0.0029	-0.304
Full Time	0.009	0.031	0.300	0.7628	0.026
Married	0.259	0.071	3.670	0.0003	0.705
FAFSA_Financially_Dependent	0.058	0.037	1.560	0.1192	0.158
Received Financial Aid	0.114	0.149	0.760	0.4460	0.309
Received Student Loan	-0.038	0.033	-1.160	0.2454	-0.104
First in Family to Attend College	-0.035	0.031	-1.120	0.2630	-0.094
High School GED	-0.062	0.031	-1.970	0.0494	-0.169
Academic/Occupational Major	-0.091	0.066	-1.390	0.1639	-0.249
Liberal Studies Major	-0.112	0.071	-1.580	0.1137	-0.305
Business & Technology Major	-0.106	0.078	-1.370	0.1715	-0.289
Age at Baseline	0.005	0.002	2.370	0.0182	0.012
Placement Test Score	0.023	0.006	3.970	<.0001	0.063

Table B.6: Linear regression results of degree bearing credit passing rate for FTIC students (confirmatory analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size in Hedges' *g*
Intercept	0.465	0.021	22.670	<.0001	--
TRT	0.063	0.029	2.150	0.0316	0.170
Female	0.053	0.030	1.780	0.0754	0.145
Black	-0.104	0.032	-3.240	0.0013	-0.283
Married	0.269	0.070	3.840	0.0001	0.731
FAFSA_Financially_Dependent	0.062	0.037	1.700	0.0895	0.170
High School GED	-0.057	0.031	-1.830	0.0678	-0.156
Academic/Occupational Major	-0.090	0.065	-1.380	0.1692	-0.245
Liberal Studies Major	-0.107	0.070	-1.520	0.1294	-0.291
Business & Technology Major	-0.102	0.077	-1.310	0.1895	-0.277
Age at Baseline	0.004	0.002	2.310	0.0210	0.012
Placement Test Score	0.022	0.006	3.900	0.0001	0.059

Table B.7: Linear regression results of degree bearing credit passing rate for FTIC students (confirmatory analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size in Hedges' *g*
Intercept	0.479	0.020	24.100	<.0001	--
TRT	0.056	0.028	1.990	0.0468	0.157
Female	0.071	0.029	2.470	0.0138	0.199
Hispanic	0.007	0.057	0.120	0.9021	0.020
Black	-0.080	0.036	-2.240	0.0256	-0.225
Full Time	0.022	0.030	0.730	0.4653	0.061
Married	0.203	0.065	3.120	0.0019	0.569
FAFSA_Financially_Dependent	0.074	0.036	2.060	0.0400	0.207
Received Financial Aid	-0.123	0.144	-0.860	0.3910	-0.345
Received Student Loan	-0.040	0.032	-1.250	0.2118	-0.112
First in Family to Attend College	0.001	0.030	0.020	0.9815	0.002
High School GED	-0.064	0.030	-2.130	0.0338	-0.179
Academic/Occupational Major	-0.042	0.063	-0.670	0.5052	-0.118
Liberal Studies Major	-0.143	0.069	-2.080	0.0381	-0.399
Business & Technology Major	-0.129	0.076	-1.690	0.0918	-0.361
Age at Baseline	0.005	0.002	2.880	0.0041	0.015
Placement Test Score	0.023	0.006	4.160	<.0001	0.064

Table B.8: Linear regression results of degree bearing credit passing rate for FTIC students (confirmatory analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size in Hedges' *g*
Intercept	0.479	0.020	24.150	<.0001	--
TRT	0.056	0.028	2.000	0.0454	0.158
Female	0.070	0.029	2.450	0.0147	0.196
Black	-0.087	0.031	-2.770	0.0058	-0.242
Married	0.208	0.065	3.210	0.0014	0.582
FAFSA_Financially_Dependent	0.083	0.035	2.370	0.0182	0.233
High School GED	-0.061	0.030	-2.050	0.0405	-0.172
Liberal Studies Major	-0.148	0.068	-2.180	0.0296	-0.415
Business & Technology Major	-0.133	0.076	-1.750	0.0804	-0.371
Age at Baseline	0.005	0.002	2.700	0.0072	0.014
Placement Test Score	0.023	0.005	4.340	<.0001	0.064

Table B.9: Linear regression results of grade point average for FTIC students (confirmatory analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size in Hedges' *g*
Intercept	2.413	0.064	37.470	<.0001	--
TRT	0.177	0.091	1.940	0.0524	0.163
Female	0.108	0.094	1.140	0.2547	0.099
Hispanic	-0.444	0.179	-2.480	0.0136	-0.409
Black	-0.573	0.116	-4.960	<.0001	-0.528
Full Time	0.134	0.099	1.360	0.1755	0.124
Married	0.317	0.227	1.390	0.1644	0.291
FAFSA_Financially_Dependent	-0.046	0.118	-0.390	0.6946	-0.043
Received Financial Aid	0.006	0.437	0.010	0.9888	0.006
Received Student Loan	0.093	0.106	0.880	0.3806	0.086
First in Family to Attend College	0.010	0.097	0.100	0.9167	0.009
High School GED	-0.030	0.098	-0.310	0.7557	-0.028
Academic/Occupational Major	0.168	0.210	0.800	0.4243	0.155
Liberal Studies Major	-0.308	0.226	-1.360	0.1737	-0.284
Business & Technology Major	-0.147	0.248	-0.590	0.5529	-0.136
Age at Baseline	0.016	0.006	2.440	0.0152	0.014
Placement Test Score	0.037	0.018	2.100	0.0362	0.034

Table B.10: Linear regression results of grade point average for FTIC students (confirmatory analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size in Hedges' *g*
Intercept	2.412	0.064	37.640	<.0001	--
TRT	0.178	0.091	1.970	0.0498	0.164
Hispanic	-0.446	0.177	-2.510	0.0122	-0.411
Black	-0.556	0.114	-4.890	<.0001	-0.512
Full Time	0.132	0.097	1.360	0.1740	0.122
Married	0.288	0.222	1.290	0.1961	0.265
Liberal Studies Major	-0.176	0.112	-1.570	0.1171	-0.162
Age at Baseline	0.018	0.005	3.480	0.0005	0.017
Placement Test Score	0.042	0.017	2.450	0.0148	0.039

Table B.11: Linear regression results of grade point average for FTIC students (confirmatory analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size in Hedges' *g*
Intercept	2.410	0.056	43.340	<.0001	--
TRT	0.154	0.079	1.960	0.0509	0.167
Female	0.151	0.081	1.870	0.0619	0.163
Hispanic	-0.261	0.158	-1.650	0.0991	-0.282
Black	-0.382	0.099	-3.880	0.0001	-0.412
Full Time	0.117	0.083	1.420	0.1559	0.127
Married	0.111	0.201	0.550	0.5805	0.120
FAFSA_Financially_Dependent	0.000	0.101	0.000	0.9981	0.000
Received Financial Aid	0.161	0.382	0.420	0.6732	0.174
Received Student Loan	0.073	0.090	0.800	0.4215	0.079
First in Family to Attend College	-0.019	0.083	-0.220	0.8233	-0.020
High School GED	0.061	0.083	0.740	0.4609	0.066
Academic/Occupational Major	-0.038	0.174	-0.220	0.8267	-0.041
Liberal Studies Major	-0.474	0.181	-2.620	0.0091	-0.512
Business & Technology Major	-0.568	0.203	-2.790	0.0054	-0.614
Age at Baseline	0.013	0.005	2.510	0.0123	0.014
Placement Test Score	0.028	0.015	1.880	0.0602	0.030

Table B.12: Linear regression results of grade point average for FTIC students (confirmatory analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size in Hedges' *g*
Intercept	2.409	0.055	43.590	<.0001	--
TRT	0.156	0.078	1.990	0.0470	0.168
Female	0.135	0.079	1.700	0.0890	0.146
Hispanic	-0.256	0.157	-1.630	0.1035	-0.276
Black	-0.380	0.096	-3.940	<.0001	-0.410
Full Time	0.117	0.081	1.440	0.1513	0.126
Liberal Studies Major	-0.474	0.179	-2.650	0.0083	-0.511
Business & Technology Major	-0.581	0.201	-2.890	0.0040	-0.627
Age at Baseline	0.015	0.004	3.600	0.0003	0.016
Placement Test Score	0.028	0.014	1.940	0.0529	0.030

Appendix C: Service Dosage and Confirmation Analyses

Full Linear Regression Model for Service Dosage and Confirmation Analyses

$$
\begin{aligned}
Y_i &= \beta_0 + \beta_1(\text{Female}_i - \overline{\text{Female.}}) + \beta_2(\text{Hispanic}_i - \overline{\text{Hispanic.}}) + \beta_3(\text{Black}_i - \overline{\text{Black.}}) \\
&+ \beta_4(\text{Full\_Time}_i - \overline{\text{Full\_Time.}}) + \beta_5(\text{MaritalStatus}_i - \overline{\text{MaritalStatus.}}) \\
&+ \beta_6(\text{FAFSA\_Dependency}_i - \overline{\text{FAFSA\_Dependency.}}) + \beta_7(\text{Financial\_Aid}_i - \overline{\text{Financial\_Aid.}}) \\
&+ \beta_8(\text{Student\_Loans}_i - \overline{\text{Student\_Loans.}}) + \beta_9(\text{First\_Generation}_i - \overline{\text{First\_Generation.}}) \\
&+ \beta_{10}(\text{HS\_GED}_i - \overline{\text{HS\_GED.}}) + \beta_{11}(\text{Remediation}_i - \overline{\text{Remediation.}}) \\
&+ \beta_{12}(\text{Academic\_Major}_i - \overline{\text{Academic\_Major.}}) + \beta_{13}(\text{Liberal\_Studies}_i - \overline{\text{Liberal\_Studies.}}) \\
&+ \beta_{14}(\text{Busi\_Tech}_i - \overline{\text{Busi\_Tech.}}) + \beta_{15}(\text{Age}_i - \overline{\text{Age.}}) \\
&+ \beta_{16}(\text{Years\_First\_Enrolled}_i - \overline{\text{Years\_First\_Enrolled.}}) + \beta_{17}(\text{Placement\_Test}_i - \overline{\text{Placement\_Test.}}) \\
&+ \beta_{18}(\text{Screening\_Events}_i - \overline{\text{Screening\_Events.}}) + \beta_{19}(\text{Screening\_Confirm}_i - \overline{\text{Screening\_Confirm.}}) \\
&+ \beta_{20}(\text{Additional\_Events}_i - \overline{\text{Additional\_Events.}}) + \beta_{21}(\text{Additional\_Confirm}_i - \overline{\text{Additional\_Confirm.}}) \\
&+ \beta_{22}(\text{Financial\_Events}_i - \overline{\text{Financial\_Events.}}) + \beta_{23}(\text{Financial\_Confirm}_i - \overline{\text{Financial\_Confirm.}}) \\
&+ \beta_{24}(\text{Legal\_Events}_i - \overline{\text{Legal\_Events.}}) + \beta_{25}(\text{Legal\_Confirm}_i - \overline{\text{Legal\_Confirm.}}) \\
&+ \beta_{26}(\text{Tax\_Events}_i - \overline{\text{Tax\_Events.}}) + \beta_{27}(\text{Tax\_Confirm}_i - \overline{\text{Tax\_Confirm.}}) + \varepsilon_i
\end{aligned}
$$

where

Y_i represents the selected outcome for subject *i*;

β_0 represents the mean score for subject *i* adjusted for the covariates;

$\beta_1 - \beta_{17}$ represent the regression coefficients associated with various covariates for subject *i*;

$\beta_{18} - \beta_{27}$ represent the regression coefficients associated with the dosage measures and outcome confirmation indicators for the five major services;

ε_i represents the random error associated with subject *i*.

Full Logistic Regression Model for Service Dosage and Confirmation Analyses

The logistic regression model is given in terms of the logits of probabilities of the selected outcome equal to 1, i.e.,

$$\eta_i = \log\left(\frac{\Pr(Y_i = 1)}{1 - \Pr(Y_i = 1)}\right)$$

The full model can be specified as follows:

$$
\begin{aligned}
\eta_i = {} & \beta_0 + \beta_1 (\text{Female}_i - \overline{\text{Female.}}) + \beta_2 (\text{Hispanic}_i - \overline{\text{Hispanic.}}) + \beta_3 (\text{Black}_i - \overline{\text{Black.}}) \\
& + \beta_4 (\text{Full\_Time}_i - \overline{\text{Full\_Time.}}) + \beta_5 (\text{MaritalStatus}_i - \overline{\text{MaritalStatus.}}) \\
& + \beta_6 (\text{FAFSA\_Dependency}_i - \overline{\text{FAFSA\_Dependency.}}) + \beta_7 (\text{Financial\_Aid}_i - \overline{\text{Financial\_Aid.}}) \\
& + \beta_8 (\text{Student\_Loans}_i - \overline{\text{Student\_Loans.}}) + \beta_9 (\text{First\_Generation}_i - \overline{\text{First\_Generation.}}) \\
& + \beta_{10} (\text{HS\_GED}_i - \overline{\text{HS\_GED.}}) + \beta_{11} (\text{Remediation}_i - \overline{\text{Remediation.}}) \\
& + \beta_{12} (\text{Academic\_Major}_i - \overline{\text{Academic\_Major.}}) + \beta_{13} (\text{Liberal\_Studies}_i - \overline{\text{Liberal\_Studies.}}) \\
& + \beta_{14} (\text{Busi\_Tech}_i - \overline{\text{Busi\_Tech.}}) + \beta_{15} (\text{Age}_i - \overline{\text{Age.}}) \\
& + \beta_{16} (\text{Years\_First\_Enrolled}_i - \overline{\text{Years\_First\_Enrolled.}}) + \beta_{17} (\text{Placement\_Test}_i - \overline{\text{Placement\_Test.}}) \\
& + \beta_{18} (\text{Screening\_Events}_i - \overline{\text{Screening\_Events.}}) + \beta_{19} (\text{Screening\_Confirm}_i - \overline{\text{Screening\_Confirm.}}) \\
& + \beta_{20} (\text{Additional\_Events}_i - \overline{\text{Additional\_Events.}}) + \beta_{21} (\text{Additional\_Confirm}_i - \overline{\text{Additional\_Confirm.}}) \\
& + \beta_{22} (\text{Financial\_Events}_i - \overline{\text{Financial\_Events.}}) + \beta_{23} (\text{Financial\_Confirm}_i - \overline{\text{Financial\_Confirm.}}) \\
& + \beta_{24} (\text{Legal\_Events}_i - \overline{\text{Legal\_Events.}}) + \beta_{25} (\text{Legal\_Confirm}_i - \overline{\text{Legal\_Confirm.}}) \\
& + \beta_{26} (\text{Tax\_Events}_i - \overline{\text{Tax\_Events.}}) + \beta_{27} (\text{Tax\_Confirm}_i - \overline{\text{Tax\_Confirm.}}) + \varepsilon_i
\end{aligned}
$$

where

Y_i represents the selected outcome for subject *i*;

η_i represents the logits of $\Pr(Y_i = 1)$

β_0 represents the mean logit for subject *i* adjusted for the covariates;

$\beta_1 - \beta_{17}$ represent the logistic regression coefficients associated with various covariates for subject *i*;

$\beta_{18} - \beta_{27}$ represent the logistic regression coefficients associated with the dosage measures and outcome confirmation indicators for the five major services;

ε_i represents the random error associated with subject *i*.

Table C.1: Logistic regression results of semester-to-semester persistence for FTIC students (dosage and confirmation analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value
Intercept	0.033	0.343	0.100	0.9243
Female	0.007	0.055	0.120	0.9012
Hispanic	-0.131	0.103	-1.260	0.2069
Black	-0.109	0.067	-1.630	0.1033
Full Time	0.119	0.055	2.160	0.0313
Married	-0.062	0.131	-0.470	0.6369
FAFSA_Financially_Dependent	0.038	0.068	0.550	0.5815
Received Financial Aid	0.293	0.260	1.130	0.2613
Received Student Loan	-0.005	0.058	-0.090	0.9291
First in Family to Attend College	-0.011	0.055	-0.200	0.8429
High School GED	-0.133	0.055	-2.390	0.0175
Academic/Occupational Major	-0.033	0.105	-0.310	0.7535
Liberal Studies Major	-0.074	0.125	-0.590	0.5536
Business & Technology Major	-0.049	0.139	-0.350	0.7255
Age at Baseline	0.004	0.004	1.150	0.2510
Placement Test Score	0.010	0.011	0.960	0.3397
Benefits Eligibility Screening Events	-0.040	0.028	-1.430	0.1550
Benefit Eligibility Screening Outcome Confirmation	0.214	0.119	1.800	0.0729
Additional Services Events	-0.027	0.048	-0.560	0.5792
Additional Services Outcome Confirmation	0.264	0.179	1.470	0.1415
Financial Counseling Events	0.160	0.098	1.630	0.1035
Financial Outcome Confirmation	-0.335	0.202	-1.650	0.0994
Legal Counseling Events	0.208	0.126	1.650	0.1006
Legal Outcome Confirmation	-0.617	0.262	-2.360	0.0191
Tax Preparation Events	0.164	0.138	1.190	0.2358
Tax Outcome Confirmation	-0.275	0.274	-1.000	0.3163

Table C.2: Logistic regression results of semester-to-semester persistence for FTIC students (dosage and confirmation analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value
Intercept	0.416	0.085	4.870	<.0001
Hispanic	-0.127	0.101	-1.260	0.2102
Black	-0.119	0.064	-1.860	0.0639
Full Time	0.121	0.052	2.340	0.0202
High School GED	-0.131	0.052	-2.490	0.0133
Benefits Eligibility Screening Events	-0.037	0.027	-1.370	0.1719
Benefit Eligibility Screening Outcome Confirmation	0.206	0.116	1.770	0.0772
Additional Services Events	-0.022	0.046	-0.480	0.6286
Additional Services Outcome Confirmation	0.250	0.174	1.440	0.1522
Financial Counseling Events	0.152	0.096	1.590	0.1121
Financial Outcome Confirmation	-0.324	0.196	-1.650	0.0999
Legal Counseling Events	0.233	0.121	1.930	0.0552
Legal Outcome Confirmation	-0.655	0.254	-2.580	0.0105
Tax Preparation Events	0.188	0.134	1.400	0.1631
Tax Outcome Confirmation	-0.315	0.268	-1.180	0.2407

Table C.3: Logistic regression results of semester-to-semester persistence for FTIC students (dosage and confirmation analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value
Intercept	0.028	0.284	0.100	0.9226
Female	0.028	0.046	0.620	0.5372
Hispanic	-0.083	0.085	-0.970	0.3320
Black	-0.065	0.055	-1.180	0.2389
Full Time	0.017	0.045	0.380	0.7035
Married	-0.055	0.108	-0.510	0.6124
FAFSA_Financially_Dependent	-0.027	0.056	-0.480	0.6346
Received Financial Aid	0.141	0.215	0.660	0.5120
Received Student Loan	-0.049	0.048	-1.020	0.3067
First in Family to Attend College	-0.004	0.045	-0.090	0.9305
High School GED	-0.078	0.046	-1.690	0.0920
Academic/Occupational Major	-0.048	0.087	-0.550	0.5858
Liberal Studies Major	-0.013	0.104	-0.120	0.9024
Business & Technology Major	-0.006	0.115	-0.050	0.9564
Age at Baseline	0.006	0.003	1.960	0.0511
Placement Test Score	0.010	0.009	1.140	0.2542
Benefits Eligibility Screening Events	-0.034	0.023	-1.500	0.1358
Benefit Eligibility Screening Outcome Confirmation	0.097	0.098	0.990	0.3249
Additional Services Events	-0.024	0.040	-0.600	0.5502
Additional Services Outcome Confirmation	0.211	0.148	1.420	0.1558
Financial Counseling Events	0.055	0.081	0.680	0.5000
Financial Outcome Confirmation	-0.138	0.167	-0.820	0.4110
Legal Counseling Events	0.166	0.104	1.590	0.1133
Legal Outcome Confirmation	-0.465	0.216	-2.150	0.0327
Tax Preparation Events	0.003	0.114	0.020	0.9801
Tax Outcome Confirmation	-0.031	0.227	-0.140	0.8916

Table C.4: Logistic regression results of semester-to-semester persistence for FTIC students (dosage and confirmation analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value
Intercept	0.108	0.076	1.420	0.1573
High School GED	-0.084	0.044	-1.900	0.0580
Age at Baseline	0.006	0.003	2.360	0.0188
Benefits Eligibility Screening Events	-0.026	0.022	-1.180	0.2396
Benefit Eligibility Screening Outcome Confirmation	0.075	0.096	0.790	0.4322
Additional Services Events	-0.020	0.038	-0.520	0.6020
Additional Services Outcome Confirmation	0.202	0.144	1.410	0.1602
Financial Counseling Events	0.051	0.078	0.650	0.5168
Financial Outcome Confirmation	-0.152	0.162	-0.940	0.3494
Legal Counseling Events	0.162	0.100	1.620	0.1059
Legal Outcome Confirmation	-0.459	0.209	-2.200	0.0286
Tax Preparation Events	0.025	0.111	0.230	0.8202
Tax Outcome Confirmation	-0.069	0.222	-0.310	0.7543

Table C.5: Linear regression results of degree bearing credit pass rate for FTIC students (dosage and confirmation analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value
Intercept	0.161	0.278	0.580	0.5623
Female	0.023	0.045	0.510	0.6076
Hispanic	0.003	0.085	0.030	0.9723
Black	-0.070	0.054	-1.300	0.1939
Full Time	0.095	0.045	2.130	0.0339
Married	0.174	0.106	1.640	0.1015
FAFSA_Financially_Dependent	0.041	0.056	0.730	0.4639
Received Financial Aid	0.208	0.209	1.000	0.3203
Received Student Loan	-0.035	0.048	-0.730	0.4652
First in Family to Attend College	0.005	0.045	0.100	0.9200
High School GED	-0.063	0.045	-1.380	0.1689
Academic/Occupational Major	-0.134	0.090	-1.500	0.1359
Liberal Studies Major	-0.033	0.101	-0.320	0.7463
Business & Technology Major	-0.030	0.114	-0.260	0.7941
Age at Baseline	0.005	0.003	1.690	0.0920
Placement Test Score	0.025	0.009	2.960	0.0034
Benefits Eligibility Screening Events	-0.006	0.023	-0.260	0.7929
Benefit Eligibility Screening Outcome Confirmation	0.023	0.096	0.240	0.8117
Additional Services Events	-0.030	0.039	-0.760	0.4463
Additional Services Outcome Confirmation	0.213	0.145	1.470	0.1426
Financial Counseling Events	0.164	0.081	2.020	0.0443
Financial Outcome Confirmation	-0.310	0.166	-1.860	0.0636
Legal Counseling Events	-0.007	0.102	-0.070	0.9434
Legal Outcome Confirmation	-0.111	0.213	-0.520	0.6036
Tax Preparation Events	0.182	0.111	1.640	0.1027
Tax Outcome Confirmation	-0.292	0.221	-1.320	0.1874

Table C.6: Linear regression results of degree bearing credit pass rate for FTIC students (dosage and confirmation analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value
Intercept	0.407	0.133	3.060	0.0024
Hispanic	0.004	0.083	0.050	0.9572
Black	-0.079	0.052	-1.510	0.1316
Full Time	0.097	0.044	2.220	0.0272
Married	0.167	0.102	1.630	0.1049
High School GED	-0.071	0.044	-1.600	0.1097
Academic/Occupational Major	-0.137	0.089	-1.550	0.1217
Age at Baseline	0.004	0.003	1.480	0.1413
Placement Test Score	0.023	0.008	2.810	0.0053
Benefits Eligibility Screening Events	-0.007	0.022	-0.310	0.7538
Benefit Eligibility Screening Outcome Confirmation	0.027	0.095	0.280	0.7787
Additional Services Events	-0.030	0.038	-0.790	0.4312
Additional Services Outcome Confirmation	0.221	0.142	1.560	0.1204
Financial Counseling Events	0.163	0.080	2.040	0.0423
Financial Outcome Confirmation	-0.307	0.162	-1.890	0.0598
Legal Counseling Events	-0.012	0.100	-0.120	0.9020
Legal Outcome Confirmation	-0.110	0.210	-0.520	0.6004
Tax Preparation Events	0.186	0.110	1.700	0.0911
Tax Outcome Confirmation	-0.300	0.219	-1.370	0.1715

Table C.7: Linear regression results of degree bearing credit pass rate for FTIC students (dosage and confirmation analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value
Intercept	0.123	0.274	0.450	0.6530
Female	0.042	0.044	0.950	0.3436
Hispanic	0.001	0.083	0.010	0.9899
Black	-0.075	0.053	-1.410	0.1601
Full Time	0.096	0.044	2.180	0.0298
Married	0.165	0.104	1.580	0.1145
FAFSA_Financially_Dependent	0.036	0.056	0.650	0.5133
Received Financial Aid	0.204	0.206	0.990	0.3224
Received Student Loan	-0.025	0.047	-0.540	0.5924
First in Family to Attend College	0.018	0.044	0.400	0.6883
High School GED	-0.065	0.045	-1.450	0.1482
Academic/Occupational Major	-0.118	0.088	-1.340	0.1821
Liberal Studies Major	-0.019	0.100	-0.190	0.8468
Business & Technology Major	-0.014	0.112	-0.120	0.9008
Age at Baseline	0.006	0.003	1.860	0.0635
Placement Test Score	0.025	0.008	2.990	0.0030
Benefits Eligibility Screening Events	-0.009	0.022	-0.400	0.6895
Benefit Eligibility Screening Outcome Confirmation	0.011	0.095	0.120	0.9048
Additional Services Events	-0.034	0.038	-0.900	0.3701
Additional Services Outcome Confirmation	0.233	0.143	1.630	0.1035
Financial Counseling Events	0.163	0.080	2.040	0.0419
Financial Outcome Confirmation	-0.309	0.164	-1.890	0.0605
Legal Counseling Events	-0.018	0.100	-0.180	0.8603
Legal Outcome Confirmation	-0.053	0.210	-0.250	0.8011
Tax Preparation Events	0.183	0.109	1.670	0.0957
Tax Outcome Confirmation	-0.294	0.218	-1.350	0.1779

Table C.8: Linear regression results of degree bearing credit pass rate for FTIC students (dosage and confirmation analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value
Intercept	0.392	0.131	2.990	0.0030
Hispanic	0.004	0.082	0.040	0.9652
Black	-0.082	0.052	-1.590	0.1140
Full Time	0.096	0.043	2.240	0.0261
Married	0.154	0.101	1.520	0.1287
High School GED	-0.075	0.044	-1.730	0.0846
Academic/Occupational Major	-0.121	0.087	-1.390	0.1670
Age at Baseline	0.004	0.002	1.690	0.0916
Placement Test Score	0.024	0.008	2.880	0.0043
Benefits Eligibility Screening Events	-0.008	0.022	-0.380	0.7052
Benefit Eligibility Screening Outcome Confirmation	0.015	0.094	0.160	0.8754
Additional Services Events	-0.035	0.037	-0.950	0.3428
Additional Services Outcome Confirmation	0.243	0.140	1.740	0.0827
Financial Counseling Events	0.162	0.079	2.060	0.0407
Financial Outcome Confirmation	-0.311	0.160	-1.950	0.0525
Legal Counseling Events	-0.020	0.099	-0.200	0.8385
Legal Outcome Confirmation	-0.057	0.207	-0.280	0.7823
Tax Preparation Events	0.190	0.108	1.760	0.0795
Tax Outcome Confirmation	-0.302	0.215	-1.400	0.1626

Table C.9: Linear regression results of grade point average for FTIC students (dosage and confirmation analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value
Intercept	1.240	0.863	1.440	0.1522
Female	0.114	0.143	0.800	0.4267
Hispanic	-0.343	0.261	-1.310	0.1901
Black	-0.334	0.171	-1.950	0.0526
Full Time	0.124	0.141	0.880	0.3813
Married	-0.002	0.333	0.000	0.9962
FAFSA_Financially_Dependent	0.117	0.180	0.650	0.5169
Received Financial Aid	0.891	0.628	1.420	0.1570
Received Student Loan	-0.102	0.152	-0.670	0.5032
First in Family to Attend College	0.025	0.145	0.180	0.8609
High School GED	-0.007	0.142	-0.050	0.9602
Academic/Occupational Major	-0.119	0.279	-0.430	0.6707
Liberal Studies Major	-0.365	0.328	-1.110	0.2670
Business & Technology Major	-0.514	0.364	-1.410	0.1593
Age at Baseline	0.025	0.010	2.520	0.0124
Placement Test Score	0.065	0.028	2.340	0.0203
Benefits Eligibility Screening Events	-0.053	0.072	-0.730	0.4651
Benefit Eligibility Screening Outcome Confirmation	-0.088	0.307	-0.290	0.7746
Additional Services Events	0.017	0.135	0.120	0.9019
Additional Services Outcome Confirmation	0.329	0.477	0.690	0.4902
Financial Counseling Events	0.292	0.244	1.200	0.2323
Financial Outcome Confirmation	-0.628	0.504	-1.250	0.2141
Legal Counseling Events	0.099	0.325	0.300	0.7615
Legal Outcome Confirmation	-0.381	0.686	-0.560	0.5792
Tax Preparation Events	0.375	0.333	1.130	0.2607
Tax Outcome Confirmation	-0.601	0.661	-0.910	0.3640

Table C.10: Linear regression results of grade point average for FTIC students (dosage and confirmation analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value
Intercept	1.482	0.764	1.940	0.0536
Hispanic	-0.366	0.253	-1.440	0.1501
Black	-0.370	0.165	-2.240	0.0259
Received Financial Aid	0.793	0.609	1.300	0.1945
Liberal Studies Major	-0.341	0.316	-1.080	0.2808
Business & Technology Major	-0.479	0.351	-1.360	0.1741
Age at Baseline	0.019	0.008	2.450	0.0149
Placement Test Score	0.063	0.026	2.400	0.0169
Benefits Eligibility Screening Events	-0.056	0.070	-0.800	0.4247
Benefit Eligibility Screening Outcome Confirmation	-0.045	0.301	-0.150	0.8824
Additional Services Events	0.009	0.131	0.070	0.9442
Additional Services Outcome Confirmation	0.383	0.466	0.820	0.4121
Financial Counseling Events	0.279	0.239	1.170	0.2438
Financial Outcome Confirmation	-0.598	0.489	-1.220	0.2225
Legal Counseling Events	0.106	0.318	0.330	0.7404
Legal Outcome Confirmation	-0.428	0.670	-0.640	0.5234
Tax Preparation Events	0.377	0.328	1.150	0.2522
Tax Outcome Confirmation	-0.582	0.654	-0.890	0.3745

Table C.11: Linear regression results of grade point average for FTIC students (dosage and confirmation analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value
Intercept	1.080	0.835	1.290	0.1971
Female	0.094	0.139	0.670	0.5009
Hispanic	-0.326	0.253	-1.290	0.1975
Black	-0.321	0.166	-1.930	0.0546
Full Time	0.152	0.137	1.110	0.2668
Married	-0.006	0.322	-0.020	0.9841
FAFSA_Financially_Dependent	0.114	0.174	0.660	0.5122
Received Financial Aid	0.848	0.607	1.400	0.1638
Received Student Loan	-0.079	0.147	-0.540	0.5898
First in Family to Attend College	0.063	0.140	0.450	0.6508
High School GED	0.021	0.138	0.150	0.8800
Academic/Occupational Major	-0.094	0.270	-0.350	0.7282
Liberal Studies Major	-0.306	0.318	-0.960	0.3366
Business & Technology Major	-0.441	0.352	-1.250	0.2113
Age at Baseline	0.025	0.010	2.600	0.0100
Placement Test Score	0.068	0.027	2.530	0.0121
Benefits Eligibility Screening Events	-0.041	0.070	-0.590	0.5589
Benefit Eligibility Screening Outcome Confirmation	-0.201	0.297	-0.680	0.4999
Additional Services Events	0.058	0.131	0.440	0.6599
Additional Services Outcome Confirmation	0.124	0.461	0.270	0.7888
Financial Counseling Events	0.235	0.236	0.990	0.3212
Financial Outcome Confirmation	-0.511	0.488	-1.050	0.2958
Legal Counseling Events	0.029	0.314	0.090	0.9257
Legal Outcome Confirmation	-0.200	0.664	-0.300	0.7639
Tax Preparation Events	0.370	0.322	1.150	0.2516
Tax Outcome Confirmation	-0.605	0.640	-0.950	0.3453

Table C.12: Linear regression results of grade point average for FTIC students (dosage and confirmation analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value
Intercept	1.058	0.679	1.560	0.1204
Hispanic	-0.332	0.244	-1.360	0.1752
Black	-0.379	0.159	-2.390	0.0175
Received Financial Aid	0.790	0.589	1.340	0.1809
Age at Baseline	0.020	0.007	2.700	0.0073
Placement Test Score	0.064	0.025	2.570	0.0109
Benefits Eligibility Screening Events	-0.044	0.068	-0.650	0.5160
Benefit Eligibility Screening Outcome Confirmation	-0.152	0.291	-0.520	0.6012
Additional Services Events	0.031	0.126	0.250	0.8040
Additional Services Outcome Confirmation	0.270	0.447	0.600	0.5458
Financial Counseling Events	0.203	0.230	0.880	0.3779
Financial Outcome Confirmation	-0.416	0.470	-0.890	0.3764
Legal Counseling Events	0.062	0.307	0.200	0.8406
Legal Outcome Confirmation	-0.332	0.646	-0.510	0.6078
Tax Preparation Events	0.337	0.316	1.070	0.2872
Tax Outcome Confirmation	-0.547	0.631	-0.870	0.3871

Appendix D: Exploratory Impact Analyses

Table D.1: Logistic regression results of semester-to-semester persistence for benefits eligibility screening only (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.636	0.147	18.825	<.0001	--
TRT	0.223	0.204	1.193	0.2746	1.250
FTIC	-0.112	0.444	0.064	0.8010	0.894
Female	0.327	0.224	2.136	0.1439	1.386
Hispanic	-0.057	0.344	0.028	0.8680	0.944
Black	-0.213	0.232	0.845	0.3579	0.808
Full Time	0.280	0.216	1.674	0.1957	1.322
Married	0.387	0.420	0.846	0.3576	1.472
FAFSA_Financially_Dependent	0.180	0.257	0.494	0.4824	1.198
Received Financial Aid	0.426	0.716	0.354	0.5520	1.531
Received Student Loan	0.285	0.237	1.452	0.2281	1.330
First in Family to Attend College	-0.059	0.208	0.079	0.7781	0.943
High School GED	-0.140	0.213	0.435	0.5094	0.869
Enrolled in Remediation	1.174	0.402	8.554	0.0034	3.236
Academic/Occupational Major	1.048	0.498	4.429	0.0353	2.851
Liberal Studies Major	-0.957	0.372	6.619	0.0101	0.384
Business & Technology Major	-0.819	0.435	3.550	0.0596	0.441
Age at Baseline	0.017	0.013	1.764	0.1842	1.017
Number of Years Since First Enrolled at College	0.005	0.025	0.041	0.8391	1.005
Placement Test Score	0.055	0.038	2.175	0.1402	1.057

Table D.2: Logistic regression results of semester-to-semester persistence for benefits eligibility screening only (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.644	0.145	19.718	<.0001	--
TRT	0.246	0.201	1.503	0.2202	1.279
Female	0.361	0.215	2.802	0.0942	1.434
Full Time	0.318	0.212	2.256	0.1331	1.374
Enrolled in Remediation	1.303	0.218	35.716	<.0001	3.680
Academic/Occupational Major	1.030	0.490	4.416	0.0356	2.801
Liberal Studies Major	-0.971	0.366	7.023	0.0080	0.379
Business & Technology Major	-0.813	0.428	3.608	0.0575	0.444
Age at Baseline	0.015	0.010	2.362	0.1243	1.016
Placement Test Score	0.062	0.036	2.946	0.0861	1.064

Table D.3: Logistic regression results of semester-to-semester persistence for benefits eligibility screening only (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.141	0.167	46.420	<.0001	--
TRT	0.128	0.224	0.325	0.5684	1.137
FTIC	-0.257	0.513	0.251	0.6163	0.773
Female	0.404	0.251	2.589	0.1076	1.497
Hispanic	-0.096	0.373	0.067	0.7965	0.908
Black	-0.575	0.253	5.153	0.0232	0.563
Full Time	0.042	0.242	0.030	0.8629	1.043
Married	0.252	0.433	0.339	0.5607	1.286
FAFSA_Financially_Dependent	0.361	0.291	1.543	0.2142	1.435
Received Financial Aid	0.290	0.874	0.110	0.7400	1.337
Received Student Loan	0.431	0.267	2.604	0.1066	1.539
First in Family to Attend College	-0.246	0.230	1.150	0.2835	0.782
High School GED	-0.069	0.234	0.087	0.7679	0.933
Enrolled in Remediation	1.145	0.453	6.382	0.0115	3.143
Academic/Occupational Major	1.064	0.606	3.086	0.0790	2.897
Liberal Studies Major	-1.187	0.380	9.774	0.0018	0.305
Business & Technology Major	-0.848	0.453	3.497	0.0615	0.428
Age at Baseline	0.024	0.014	3.147	0.0761	1.025
Number of Years Since First Enrolled at College	0.030	0.027	1.265	0.2608	1.030
Placement Test Score	0.111	0.041	7.432	0.0064	1.118

Table D.4: Logistic regression results of semester-to-semester persistence for benefits eligibility screening only (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.129	0.165	46.776	<.0001	--
TRT	0.125	0.220	0.320	0.5714	1.133
Female	0.425	0.242	3.091	0.0787	1.529
Black	-0.536	0.230	5.444	0.0196	0.585
Received Student Loan	0.346	0.252	1.884	0.1699	1.413
Enrolled in Remediation	1.392	0.253	30.187	<.0001	4.023
Academic/Occupational Major	1.104	0.599	3.396	0.0654	3.015
Liberal Studies Major	-1.170	0.374	9.790	0.0018	0.311
Business & Technology Major	-0.803	0.447	3.233	0.0722	0.448
Age at Baseline	0.024	0.010	5.299	0.0213	1.024
Placement Test Score	0.110	0.040	7.795	0.0052	1.117

Table D.5: Logistic regression results of semester-to-semester persistence for benefits eligibility screening, financial counseling, and tax preparation (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.598	0.164	13.350	0.0003	--
TRT	0.482	0.227	4.516	0.0336	1.620
FTIC	0.908	0.621	2.140	0.1435	2.479
Female	0.592	0.248	5.713	0.0168	1.807
Hispanic	0.400	0.430	0.864	0.3526	1.491
Black	-0.551	0.286	3.724	0.0537	0.576
Full Time	0.154	0.248	0.383	0.5360	1.166
Married	0.916	0.608	2.267	0.1321	2.498
FAFSA_Financially_Dependent	-0.070	0.290	0.058	0.8101	0.933
Received Financial Aid	1.300	0.973	1.785	0.1816	3.670
Received Student Loan	0.097	0.254	0.146	0.7028	1.102
First in Family to Attend College	0.218	0.226	0.930	0.3348	1.244
High School GED	-0.174	0.238	0.534	0.4649	0.840
Enrolled in Remediation	1.577	0.576	7.504	0.0062	4.841
Academic/Occupational Major	0.131	0.465	0.079	0.7782	1.140
Liberal Studies Major	-1.032	0.457	5.089	0.0241	0.356
Business & Technology Major	-0.891	0.530	2.834	0.0923	0.410
Age at Baseline	-0.004	0.014	0.068	0.7938	0.996
Number of Years Since First Enrolled at College	0.015	0.025	0.389	0.5326	1.015
Placement Test Score	0.020	0.042	0.214	0.6436	1.020

Table D.6: Logistic regression results of semester-to-semester persistence for benefits eligibility screening, financial counseling, and tax preparation (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.575	0.161	12.815	0.0003	--
TRT	0.448	0.222	4.070	0.0436	1.565
FTIC	0.794	0.590	1.813	0.1782	2.212
Female	0.611	0.242	6.364	0.0116	1.842
Black	-0.644	0.238	7.321	0.0068	0.525
Married	0.762	0.587	1.688	0.1939	2.143
Received Financial Aid	1.338	0.958	1.952	0.1623	3.812
Enrolled in Remediation	1.590	0.563	7.974	0.0047	4.904
Liberal Studies Major	-1.018	0.450	5.119	0.0237	0.361
Business & Technology Major	-0.871	0.520	2.802	0.0941	0.419

Table D.7: Logistic regression results of semester-to-semester persistence for benefits eligibility screening, financial counseling, and tax preparation (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.116	0.186	36.080	<.0001	--
TRT	0.275	0.247	1.238	0.2658	1.317
FTIC	0.026	0.723	0.001	0.9717	1.026
Female	0.545	0.276	3.906	0.0481	1.725
Hispanic	0.839	0.440	3.642	0.0563	2.315
Black	-0.185	0.306	0.364	0.5463	0.831
Full Time	0.136	0.270	0.254	0.6141	1.146
Married	0.772	0.607	1.616	0.2036	2.163
FAFSA_Financially_Dependent	-0.373	0.315	1.405	0.2359	0.689
Received Financial Aid	0.850	0.970	0.767	0.3811	2.339
Received Student Loan	-0.106	0.272	0.151	0.6974	0.900
First in Family to Attend College	0.169	0.246	0.469	0.4934	1.184
High School GED	0.127	0.260	0.237	0.6268	1.135
Enrolled in Remediation	1.473	0.653	5.087	0.0241	4.361
Academic/Occupational Major	0.828	0.615	1.809	0.1786	2.288
Liberal Studies Major	-1.265	0.451	7.875	0.0050	0.282
Business & Technology Major	-0.961	0.531	3.279	0.0702	0.382
Age at Baseline	-0.008	0.015	0.262	0.6090	0.992
Number of Years Since First Enrolled at College	0.023	0.026	0.816	0.3663	1.023
Placement Test Score	0.049	0.047	1.104	0.2935	1.050

Table D.8: Logistic regression results of semester-to-semester persistence for benefits eligibility screening, financial counseling, and tax preparation (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.067	0.181	34.633	<.0001	--
TRT	0.213	0.239	0.791	0.3739	1.237
Female	0.469	0.263	3.180	0.0745	1.598
Hispanic	0.838	0.374	5.033	0.0249	2.313
Enrolled in Remediation	1.504	0.309	23.620	<.0001	4.499
Academic/Occupational Major	0.995	0.604	2.713	0.0996	2.704
Liberal Studies Major	-1.317	0.430	9.374	0.0022	0.268
Business & Technology Major	-1.023	0.511	4.007	0.0453	0.360

Table D.9: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and tax preparation (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.643	0.268	5.742	0.0166	--
TRT	0.198	0.358	0.306	0.5803	1.219
FTIC	-1.983	0.913	4.718	0.0299	0.138
Female	0.118	0.385	0.093	0.7600	1.125
Hispanic	0.570	0.667	0.732	0.3921	1.769
Black	-0.122	0.426	0.082	0.7742	0.885
Full Time	-0.050	0.374	0.018	0.8934	0.951
Married	0.993	0.941	1.115	0.2910	2.700
FAFSA_Financially_Dependent	0.486	0.478	1.032	0.3096	1.625
Received Financial Aid	0.951	1.376	0.478	0.4892	2.589
Received Student Loan	0.741	0.462	2.569	0.1090	2.097
First in Family to Attend College	-0.078	0.377	0.043	0.8363	0.925
High School GED	-1.139	0.409	7.762	0.0053	0.320
Enrolled in Remediation	-0.262	0.802	0.106	0.7443	0.770
Academic/Occupational Major	-0.459	0.600	0.584	0.4448	0.632
Liberal Studies Major	0.584	0.603	0.939	0.3326	1.793
Business & Technology Major	-0.870	0.788	1.221	0.2691	0.419
Age at Baseline	0.047	0.019	6.340	0.0118	1.048
Number of Years Since First Enrolled at College	-0.058	0.061	0.901	0.3424	0.943
Placement Test Score	-0.179	0.072	6.142	0.0132	0.836

Table D.10: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and tax preparation (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.522	0.241	4.706	0.0301	--
TRT	0.137	0.331	0.172	0.6785	1.147
FTIC	-1.509	0.419	12.979	0.0003	0.221
Received Student Loan	0.630	0.393	2.564	0.1093	1.877
High School GED	-0.974	0.352	7.649	0.0057	0.378
Age at Baseline	0.028	0.015	3.603	0.0577	1.028
Placement Test Score	-0.171	0.065	6.927	0.0085	0.843

Table D.11: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and tax preparation (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.202	0.310	14.997	0.0001	--
TRT	0.290	0.372	0.607	0.4360	1.336
FTIC	-3.024	0.998	9.185	0.0024	0.049
Female	0.193	0.391	0.244	0.6214	1.213
Hispanic	0.199	0.692	0.083	0.7737	1.220
Black	-0.563	0.441	1.624	0.2025	0.570
Full Time	0.592	0.388	2.334	0.1266	1.808
Married	-0.153	0.978	0.024	0.8759	0.858
FAFSA_Financially_Dependent	0.372	0.521	0.509	0.4758	1.450
Received Financial Aid	-1.426	1.267	1.267	0.2604	0.240
Received Student Loan	1.037	0.508	4.166	0.0413	2.820
First in Family to Attend College	-0.149	0.386	0.150	0.6989	0.861
High School GED	-0.871	0.428	4.150	0.0416	0.418
Enrolled in Remediation	-0.082	0.748	0.012	0.9123	0.921
Academic/Occupational Major	-0.112	0.550	0.041	0.8394	0.894
Liberal Studies Major	0.735	0.623	1.394	0.2378	2.086
Business & Technology Major	-0.028	0.819	0.001	0.9732	0.973
Age at Baseline	0.021	0.018	1.341	0.2468	1.021
Number of Years Since First Enrolled at College	-0.025	0.060	0.181	0.6705	0.975
Placement Test Score	-0.154	0.075	4.209	0.0402	0.858

Table D.12: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and tax preparation (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.105	0.288	14.689	0.0001	--
TRT	0.233	0.350	0.441	0.5065	1.262
FTIC	-2.765	0.633	19.061	<.0001	0.063
Full Time	0.550	0.358	2.352	0.1252	1.732
Received Student Loan	0.675	0.424	2.533	0.1115	1.964
High School GED	-0.732	0.365	4.023	0.0449	0.481
Placement Test Score	-0.120	0.067	3.197	0.0738	0.887

Table D.13: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and financial counseling (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.976	0.291	11.227	0.0008	--
TRT	0.061	0.420	0.021	0.8844	1.063
FTIC	0.636	0.980	0.422	0.5161	1.889
Female	0.214	0.437	0.239	0.6251	1.238
Hispanic	0.706	1.113	0.402	0.5260	2.026
Black	-0.536	0.543	0.974	0.3237	0.585
Full Time	0.492	0.474	1.075	0.2998	1.635
Married	1.030	0.779	1.747	0.1863	2.800
FAFSA_Financially_Dependent	-0.242	0.577	0.176	0.6749	0.785
Received Financial Aid	-0.960	1.672	0.330	0.5658	0.383
Received Student Loan	0.358	0.471	0.579	0.4468	1.430
First in Family to Attend College	0.098	0.420	0.054	0.8164	1.102
High School GED	-0.488	0.449	1.180	0.2775	0.614
Enrolled in Remediation	1.784	0.928	3.696	0.0545	5.952
Academic/Occupational Major	-0.077	0.678	0.013	0.9095	0.926
Liberal Studies Major	0.830	0.998	0.693	0.4052	2.294
Business & Technology Major	0.532	1.076	0.244	0.6211	1.703
Age at Baseline	0.012	0.026	0.209	0.6475	1.012
Number of Years Since First Enrolled at College	0.014	0.062	0.050	0.8227	1.014
Placement Test Score	0.033	0.083	0.159	0.6903	1.034

Table D.14: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and financial counseling (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.818	0.265	9.516	0.0020	--
TRT	-0.152	0.375	0.164	0.6860	0.859
Married	1.151	0.698	2.720	0.0991	3.162
Enrolled in Remediation	1.525	0.386	15.596	<.0001	4.597

Table D.15: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and financial counseling (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-2.690	19.684	0.019	0.8913	--
TRT	0.439	0.511	0.739	0.3900	1.552
FTIC	11.821	230.100	0.003	0.9590	136025.820
Female	0.113	0.504	0.050	0.8230	1.119
Hispanic	0.808	1.142	0.500	0.4793	2.243
Black	-1.002	0.623	2.586	0.1078	0.367
Full Time	0.102	0.575	0.031	0.8597	1.107
Married	0.759	0.909	0.699	0.4033	2.137
FAFSA_Financially_Dependent	-0.368	0.678	0.295	0.5869	0.692
Received Financial Aid	-0.866	1.481	0.342	0.5587	0.421
Received Student Loan	0.430	0.561	0.588	0.4431	1.537
First in Family to Attend College	0.505	0.497	1.036	0.3088	1.658
High School GED	-0.373	0.530	0.495	0.4817	0.689
Enrolled in Remediation	13.661	230.100	0.004	0.9527	856406.136
Academic/Occupational Major	-0.058	0.770	0.006	0.9400	0.944
Liberal Studies Major	1.514	1.351	1.255	0.2625	4.545
Business & Technology Major	0.531	1.482	0.128	0.7202	1.700
Age at Baseline	0.012	0.030	0.173	0.6779	1.012
Number of Years Since First Enrolled at College	-0.048	0.081	0.344	0.5576	0.953
Placement Test Score	0.148	0.099	2.243	0.1342	1.159

Table D.16: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and financial counseling (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.356	0.298	20.658	<.0001	--
TRT	0.241	0.411	0.342	0.5585	1.272
Black	-0.907	0.456	3.953	0.0468	0.404
Placement Test Score	0.149	0.074	4.041	0.0444	1.161

Table D.17: Logistic regression results of semester-to-semester persistence for tax preparation only (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.974	20.852	0.002	0.9627	--
TRT	0.975	0.448	4.730	0.0296	2.650
Female	-0.235	0.462	0.259	0.6112	0.791
Hispanic	-0.359	0.814	0.194	0.6593	0.699
Black	0.719	0.550	1.710	0.1911	2.052
Full Time	0.309	0.487	0.402	0.5261	1.362
Married	0.078	1.200	0.004	0.9483	1.081
FAFSA_Financially_Dependent	-0.535	0.574	0.870	0.3509	0.586
Received Financial Aid	13.624	604.700	0.001	0.9820	825628.340
Received Student Loan	-0.156	0.489	0.102	0.7493	0.855
First in Family to Attend College	0.206	0.455	0.205	0.6504	1.229
High School GED	0.442	0.498	0.785	0.3757	1.555
Enrolled in Remediation	-0.575	1.618	0.126	0.7222	0.563
Academic/Occupational Major	0.573	1.050	0.298	0.5851	1.774
Liberal Studies Major	-1.520	0.723	4.418	0.0356	0.219
Business & Technology Major	-1.226	0.913	1.805	0.1791	0.293
Age at Baseline	0.013	0.031	0.180	0.6713	1.013
Number of Years Since First Enrolled at College	0.053	0.054	0.963	0.3263	1.055
Placement Test Score	-0.085	0.082	1.088	0.2969	0.918

Table D.18: Logistic regression results of semester-to-semester persistence for tax preparation only (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.475	0.283	2.819	0.0931	--
TRT	0.822	0.401	4.216	0.0400	2.276
Black	0.749	0.425	3.105	0.0781	2.114
Liberal Studies Major	-1.382	0.682	4.105	0.0428	0.251
Business & Technology Major	-1.316	0.823	2.557	0.1098	0.268
Number of Years Since First Enrolled at College	0.066	0.042	2.444	0.1180	1.069

Table D.19: Logistic regression results of semester-to-semester persistence for tax preparation only (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.948	0.322	8.685	0.0032	--
TRT	0.830	0.457	3.300	0.0693	2.293
Female	-0.569	0.461	1.527	0.2165	0.566
Hispanic	-0.013	0.790	0.000	0.9866	0.987
Black	0.475	0.539	0.777	0.3781	1.608
Full Time	0.596	0.496	1.443	0.2297	1.814
Married	1.012	1.185	0.729	0.3933	2.750
FAFSA_Financially_Dependent	-0.927	0.585	2.511	0.1131	0.396
Received Financial Aid	0.203	1.301	0.024	0.8763	1.224
Received Student Loan	-0.234	0.498	0.221	0.6381	0.791
First in Family to Attend College	0.401	0.453	0.783	0.3764	1.493
High School GED	0.114	0.494	0.053	0.8182	1.120
Enrolled in Remediation	-0.665	1.432	0.216	0.6425	0.514
Academic/Occupational Major	-0.158	1.048	0.023	0.8805	0.854
Liberal Studies Major	-1.143	0.671	2.902	0.0885	0.319
Business & Technology Major	-1.220	0.878	1.930	0.1647	0.295
Age at Baseline	-0.011	0.031	0.117	0.7321	0.990
Number of Years Since First Enrolled at College	0.113	0.062	3.282	0.0700	1.120
Placement Test Score	-0.052	0.082	0.396	0.5291	0.950

Table D.20: Logistic regression results of semester-to-semester persistence for tax preparation only (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.838	0.295	8.040	0.0046	--
TRT	0.656	0.405	2.623	0.1054	1.927
FAFSA_Financially_Dependent	-0.607	0.462	1.723	0.1893	0.545
Number of Years Since First Enrolled at College	0.084	0.047	3.222	0.0727	1.088

Table D.21: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and additional services (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.111	14.571	0.006	0.9392	--
TRT	0.602	0.612	0.968	0.3253	1.826
FTIC	1.715	1.506	1.298	0.2547	5.556
Female	0.974	0.648	2.262	0.1326	2.649
Hispanic	-1.178	1.323	0.792	0.3734	0.308
Black	-0.664	0.717	0.858	0.3542	0.515
Full Time	-0.054	0.629	0.007	0.9322	0.948
Married	1.807	1.397	1.672	0.1960	6.090
FAFSA_Financially_Dependent	0.023	0.846	0.001	0.9781	1.024
Received Student Loan	-1.535	0.707	4.717	0.0299	0.215
First in Family to Attend College	0.344	0.647	0.282	0.5953	1.410
High School GED	-1.060	0.705	2.257	0.1330	0.347
Enrolled in Remediation	1.892	1.435	1.739	0.1872	6.633
Academic/Occupational Major	-2.898	1.270	5.206	0.0225	0.055
Liberal Studies Major	-14.171	197.400	0.005	0.9428	0.000
Business & Technology Major	-15.963	197.400	0.007	0.9356	0.000
Age at Baseline	0.010	0.040	0.060	0.8059	1.010
Number of Years Since First Enrolled at College	0.065	0.071	0.844	0.3583	1.068
Placement Test Score	0.103	0.106	0.949	0.3300	1.109

Table D.22: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and additional services (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.499	0.358	17.554	<.0001	--
TRT	0.462	0.469	0.968	0.3253	1.587
Female	0.683	0.479	2.034	0.1538	1.979
Received Student Loan	-1.181	0.493	5.747	0.0165	0.307
High School GED	-0.789	0.492	2.571	0.1088	0.454
Enrolled in Remediation	0.906	0.483	3.525	0.0604	2.475
Academic/Occupational Major	-1.615	1.029	2.464	0.1165	0.199

Table D.23: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and additional services (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-5.561	26.625	0.044	0.8346	--
TRT	0.770	0.879	0.767	0.3812	2.159
FTIC	6.448	5.475	1.387	0.2389	631.249
Female	1.884	1.032	3.333	0.0679	6.577
Hispanic	0.568	1.624	0.122	0.7265	1.764
Black	-0.051	1.098	0.002	0.9627	0.950
Full Time	0.401	0.826	0.237	0.6268	1.494
Married	-13.732	493.200	0.001	0.9778	0.000
FAFSA_Financially_Dependent	-1.622	1.410	1.323	0.2501	0.198
Received Student Loan	-2.658	1.111	5.726	0.0167	0.070
First in Family to Attend College	-0.559	0.913	0.375	0.5406	0.572
High School GED	-0.612	0.864	0.501	0.4790	0.542
Enrolled in Remediation	7.296	5.029	2.105	0.1468	1474.980
Academic/Occupational Major	-4.870	2.230	4.770	0.0290	0.008
Liberal Studies Major	-5.269	1.594	10.934	0.0009	0.005
Business & Technology Major	-21.735	160.500	0.018	0.8923	0.000
Age at Baseline	0.044	0.051	0.728	0.3936	1.045
Number of Years Since First Enrolled at College	0.305	0.372	0.672	0.4122	1.357
Placement Test Score	0.186	0.148	1.568	0.2105	1.204

Table D.24: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and additional services (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.819	0.393	21.395	<.0001	--
TRT	-0.047	0.515	0.009	0.9267	0.954
Female	0.948	0.554	2.933	0.0868	2.581
Received Student Loan	-1.100	0.557	3.906	0.0481	0.333
Enrolled in Remediation	1.401	0.536	6.835	0.0089	4.058
Liberal Studies Major	-0.895	0.547	2.683	0.1014	0.408

Table D.25: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and legal counseling (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.696	13.921	0.015	0.9030	--
TRT	0.356	0.590	0.365	0.5455	1.428
FTIC	-1.308	1.567	0.697	0.4038	0.270
Female	0.524	0.711	0.542	0.4614	1.688
Hispanic	-1.647	1.327	1.541	0.2145	0.193
Black	0.391	0.753	0.270	0.6034	1.479
Full Time	0.651	0.646	1.015	0.3137	1.916
Married	-15.662	490.900	0.001	0.9746	0.000
FAFSA_Financially_Dependent	0.077	0.868	0.008	0.9290	1.080
Received Financial Aid	11.165	821.300	0.000	0.9892	70601.029
Received Student Loan	-0.723	0.691	1.093	0.2959	0.485
First in Family to Attend College	0.529	0.675	0.613	0.4338	1.697
High School GED	-1.419	0.667	4.519	0.0335	0.242
Enrolled in Remediation	0.831	1.360	0.373	0.5413	2.295
Academic/Occupational Major	-2.864	1.678	2.914	0.0878	0.057
Liberal Studies Major	-1.886	1.031	3.345	0.0674	0.152
Business & Technology Major	0.106	1.299	0.007	0.9349	1.112
Age at Baseline	0.057	0.045	1.565	0.2109	1.058
Number of Years Since First Enrolled at College	-0.128	0.153	0.696	0.4042	0.880
Placement Test Score	-0.111	0.119	0.871	0.3506	0.895

Table D.26: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and legal counseling (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.990	0.345	8.250	0.0041	--
TRT	0.215	0.480	0.202	0.6534	1.240
High School GED	-0.740	0.487	2.311	0.1284	0.477
Liberal Studies Major	-1.017	0.550	3.420	0.0644	0.362

Table D.27: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and legal counseling (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-3.383	15.556	0.047	0.8279	--
TRT	0.816	0.710	1.319	0.2508	2.261
FTIC	7.761	191.100	0.002	0.9676	2347.720
Female	0.803	0.844	0.905	0.3414	2.233
Hispanic	-2.312	1.541	2.251	0.1335	0.099
Black	-0.193	0.867	0.050	0.8238	0.824
Full Time	0.816	0.743	1.204	0.2725	2.260
Married	-14.749	332.900	0.002	0.9647	0.000
FAFSA_Financially_Dependent	0.822	1.032	0.635	0.4255	2.275
Received Financial Aid	11.418	535.400	0.001	0.9830	90971.359
Received Student Loan	-1.185	0.834	2.019	0.1553	0.306
First in Family to Attend College	-1.095	0.914	1.437	0.2306	0.334
High School GED	-1.844	0.812	5.153	0.0232	0.158
Enrolled in Remediation	11.670	191.100	0.004	0.9513	116996.582
Academic/Occupational Major	-4.451	1.903	5.473	0.0193	0.012
Liberal Studies Major	-1.738	1.077	2.603	0.1067	0.176
Business & Technology Major	0.534	1.487	0.129	0.7196	1.705
Age at Baseline	0.083	0.055	2.310	0.1285	1.087
Number of Years Since First Enrolled at College	-0.300	0.228	1.738	0.1874	0.741
Placement Test Score	0.070	0.139	0.253	0.6153	1.073

Table D.28: Logistic regression results of semester-to-semester persistence for benefits eligibility screening and legal counseling (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.513	0.422	12.873	0.0003	--
TRT	0.431	0.562	0.587	0.4436	1.538
Hispanic	-1.302	0.988	1.739	0.1873	0.272
High School GED	-0.965	0.578	2.788	0.0950	0.381
Academic/Occupational Major	-1.781	1.106	2.592	0.1074	0.168
Liberal Studies Major	-1.520	0.637	5.688	0.0171	0.219
Age at Baseline	0.072	0.036	4.100	0.0429	1.075

Table D.29: Logistic regression results of semester-to-semester persistence for financial

counseling, and tax preparation (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.638	6.732	0.009	0.9245	--
TRT	1.054	0.548	3.698	0.0545	2.869
FTIC	12.463	446.700	0.001	0.9777	258512.674
Female	-0.002	0.581	0.000	0.9979	0.998
Hispanic	-1.261	0.988	1.628	0.2020	0.283
Black	-0.049	0.638	0.006	0.9389	0.952
Full Time	0.695	0.563	1.522	0.2173	2.003
Married	2.120	1.431	2.195	0.1385	8.334
FAFSA_Financially_Dependent	-0.323	0.691	0.219	0.6400	0.724
Received Financial Aid	-13.354	446.700	0.001	0.9761	0.000
Received Student Loan	0.467	0.620	0.567	0.4514	1.595
First in Family to Attend College	0.045	0.537	0.007	0.9327	1.046
High School GED	-1.062	0.588	3.265	0.0708	0.346
Enrolled in Remediation	13.760	446.700	0.001	0.9754	946285.879
Academic/Occupational Major	2.009	1.499	1.797	0.1801	7.457
Liberal Studies Major	-1.557	0.795	3.832	0.0503	0.211
Business & Technology Major	0.377	1.002	0.141	0.7070	1.457
Age at Baseline	-0.016	0.035	0.203	0.6524	0.984
Number of Years Since First Enrolled at College	0.064	0.062	1.038	0.3082	1.066
Placement Test Score	-0.203	0.110	3.371	0.0664	0.817

Table D.30: Logistic regression results of semester-to-semester persistence for financial counseling, and tax preparation (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.475	0.333	2.043	0.1529	--
TRT	0.829	0.469	3.123	0.0772	2.292
Married	2.218	1.307	2.881	0.0896	9.188
High School GED	-1.131	0.506	4.988	0.0255	0.323
Liberal Studies Major	-1.213	0.513	5.591	0.0181	0.297
Placement Test Score	-0.142	0.096	2.221	0.1361	0.867

Table D.31: Logistic regression results of semester-to-semester persistence for financial counseling, and tax preparation (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.575	21.519	0.005	0.9417	--
TRT	0.878	0.548	2.566	0.1092	2.405
FTIC	0.083	538.500	0.000	0.9999	1.087
Female	0.214	0.583	0.135	0.7132	1.239
Hispanic	-0.179	0.969	0.034	0.8538	0.836
Black	0.365	0.647	0.318	0.5726	1.440
Full Time	0.516	0.546	0.894	0.3443	1.676
Married	1.895	1.536	1.522	0.2174	6.652
FAFSA_Financially_Dependent	0.343	0.673	0.259	0.6107	1.409
Received Financial Aid	-14.233	756.300	0.000	0.9850	0.000
Received Student Loan	0.182	0.599	0.092	0.7619	1.199
First in Family to Attend College	0.160	0.524	0.093	0.7604	1.173
High School GED	-0.499	0.572	0.761	0.3829	0.607
Enrolled in Remediation	13.064	400.400	0.001	0.9740	471512.079
Academic/Occupational Major	1.515	1.360	1.240	0.2655	4.548
Liberal Studies Major	-1.943	0.820	5.615	0.0178	0.143
Business & Technology Major	-0.508	0.990	0.263	0.6081	0.602
Age at Baseline	0.021	0.035	0.358	0.5496	1.021
Number of Years Since First Enrolled at College	0.019	0.066	0.080	0.7769	1.019
Placement Test Score	-0.200	0.110	3.303	0.0692	0.819

Table D.32: Logistic regression results of semester-to-semester persistence for financial counseling, and tax preparation (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.721	0.327	4.856	0.0275	--
TRT	0.676	0.448	2.274	0.1316	1.966
Liberal Studies Major	-1.119	0.491	5.200	0.0226	0.327
Placement Test Score	-0.152	0.092	2.735	0.0982	0.859

Table D.33: Logistic regression results of semester-to-semester persistence for receiving one or two major services (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.690	0.089	60.656	<.0001	--
TRT	0.304	0.122	6.222	0.0126	1.356
FTIC	-0.041	0.295	0.019	0.8901	0.960
Female	0.181	0.130	1.938	0.1639	1.198
Hispanic	-0.048	0.226	0.045	0.8325	0.953
Black	-0.032	0.146	0.048	0.8262	0.968
Full Time	0.271	0.131	4.325	0.0376	1.312
Married	0.392	0.275	2.031	0.1542	1.480
FAFSA_Financially_Dependent	0.099	0.161	0.374	0.5406	1.104
Received Financial Aid	0.497	0.462	1.153	0.2828	1.643
Received Student Loan	0.033	0.143	0.055	0.8150	1.034
First in Family to Attend College	0.116	0.125	0.851	0.3563	1.123
High School GED	-0.374	0.129	8.428	0.0037	0.688
Enrolled in Remediation	1.098	0.267	16.972	<.0001	2.998
Academic/Occupational Major	0.101	0.247	0.168	0.6818	1.106
Liberal Studies Major	-0.907	0.215	17.831	<.0001	0.404
Business & Technology Major	-1.054	0.256	17.009	<.0001	0.349
Age at Baseline	0.020	0.007	7.323	0.0068	1.020
Number of Years Since First Enrolled at College	0.011	0.015	0.505	0.4774	1.011
Placement Test Score	-0.016	0.023	0.457	0.4991	0.985

Table D.34: Logistic regression results of semester-to-semester persistence for receiving one or two major services (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.687	0.088	60.424	<.0001	--
TRT	0.300	0.122	6.080	0.0137	1.349
Female	0.183	0.129	2.014	0.1558	1.201
Full Time	0.272	0.128	4.539	0.0331	1.313
Married	0.351	0.268	1.712	0.1907	1.421
High School GED	-0.391	0.125	9.711	0.0018	0.677
Enrolled in Remediation	1.147	0.135	72.131	<.0001	3.149
Liberal Studies Major	-0.907	0.211	18.405	<.0001	0.404
Business & Technology Major	-1.055	0.252	17.515	<.0001	0.348
Age at Baseline	0.020	0.006	10.885	0.0010	1.020

Table D.35: Logistic regression results of semester-to-semester persistence for receiving one or two major services (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.154	0.100	134.523	<.0001	--
TRT	0.293	0.131	4.984	0.0256	1.341
FTIC	-0.006	0.346	0.000	0.9851	0.994
Female	0.129	0.140	0.850	0.3566	1.138
Hispanic	0.013	0.235	0.003	0.9570	1.013
Black	-0.201	0.155	1.669	0.1964	0.818
Full Time	0.328	0.140	5.449	0.0196	1.388
Married	0.196	0.291	0.454	0.5002	1.217
FAFSA_Financially_Dependent	0.049	0.175	0.079	0.7793	1.050
Received Financial Aid	-0.164	0.464	0.125	0.7242	0.849
Received Student Loan	0.040	0.156	0.065	0.7991	1.040
First in Family to Attend College	0.004	0.135	0.001	0.9790	1.004
High School GED	-0.276	0.138	3.982	0.0460	0.759
Enrolled in Remediation	1.458	0.308	22.408	<.0001	4.296
Academic/Occupational Major	0.007	0.263	0.001	0.9780	1.007
Liberal Studies Major	-0.940	0.215	19.197	<.0001	0.391
Business & Technology Major	-1.115	0.264	17.893	<.0001	0.328
Age at Baseline	0.019	0.008	5.758	0.0164	1.019
Number of Years Since First Enrolled at College	0.024	0.015	2.369	0.1238	1.024
Placement Test Score	0.015	0.024	0.362	0.5477	1.015

Table D.36: Logistic regression results of semester-to-semester persistence for receiving one or two major services (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.153	0.099	135.295	<.0001	--
TRT	0.295	0.131	5.077	0.0242	1.342
Black	-0.215	0.137	2.478	0.1154	0.806
Full Time	0.322	0.138	5.443	0.0196	1.380
High School GED	-0.293	0.137	4.587	0.0322	0.746
Enrolled in Remediation	1.474	0.158	86.735	<.0001	4.366
Liberal Studies Major	-0.954	0.213	20.021	<.0001	0.385
Business & Technology Major	-1.151	0.260	19.647	<.0001	0.316
Age at Baseline	0.018	0.007	7.346	0.0067	1.019
Number of Years Since First Enrolled at College	0.024	0.015	2.660	0.1029	1.024

Table D.37: Logistic regression results of semester-to-semester persistence for receiving at least three major services (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.853	0.137	38.822	<.0001	--
TRT	0.613	0.185	10.958	0.0009	1.846
FTIC	1.087	0.540	4.049	0.0442	2.966
Female	0.508	0.202	6.352	0.0117	1.662
Hispanic	0.221	0.350	0.400	0.5273	1.248
Black	-0.614	0.232	6.988	0.0082	0.541
Full Time	0.187	0.207	0.822	0.3647	1.206
Married	0.211	0.472	0.199	0.6553	1.234
FAFSA_Financially_Dependent	-0.088	0.244	0.132	0.7168	0.915
Received Financial Aid	1.719	0.873	3.880	0.0489	5.581
Received Student Loan	0.020	0.209	0.009	0.9237	1.020
First in Family to Attend College	0.193	0.186	1.070	0.3009	1.213
High School GED	-0.180	0.197	0.843	0.3587	0.835
Enrolled in Remediation	1.838	0.507	13.151	0.0003	6.285
Academic/Occupational Major	-0.233	0.340	0.469	0.4934	0.792
Liberal Studies Major	-0.947	0.376	6.344	0.0118	0.388
Business & Technology Major	-0.766	0.435	3.102	0.0782	0.465
Age at Baseline	0.000	0.011	0.001	0.9812	1.000
Number of Years Since First Enrolled at College	-0.001	0.020	0.002	0.9650	0.999
Placement Test Score	0.029	0.035	0.695	0.4044	1.029

Table D.38: Logistic regression results of semester-to-semester persistence for receiving at least three major services (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-0.845	0.136	38.845	<.0001	--
TRT	0.609	0.183	11.084	0.0009	1.839
FTIC	1.045	0.512	4.163	0.0413	2.844
Female	0.521	0.198	6.913	0.0086	1.684
Black	-0.684	0.195	12.292	0.0005	0.504
Received Financial Aid	1.738	0.844	4.247	0.0393	5.688
Enrolled in Remediation	1.845	0.496	13.862	0.0002	6.330
Liberal Studies Major	-0.922	0.372	6.149	0.0132	0.398
Business & Technology Major	-0.709	0.429	2.734	0.0982	0.492

Table D.39: Logistic regression results of semester-to-semester persistence for receiving at least three major services (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.259	0.152	69.108	<.0001	--
TRT	0.413	0.200	4.254	0.0392	1.511
FTIC	0.235	0.561	0.175	0.6754	1.265
Female	0.588	0.223	6.966	0.0083	1.801
Hispanic	0.655	0.356	3.378	0.0661	1.925
Black	-0.350	0.247	2.014	0.1559	0.704
Full Time	0.143	0.223	0.410	0.5222	1.153
Married	0.362	0.480	0.567	0.4513	1.436
FAFSA_Financially_Dependent	-0.298	0.268	1.237	0.2661	0.742
Received Financial Aid	1.471	0.893	2.712	0.0996	4.353
Received Student Loan	-0.082	0.223	0.134	0.7144	0.922
First in Family to Attend College	-0.024	0.202	0.014	0.9058	0.976
High School GED	-0.003	0.212	0.000	0.9895	0.997
Enrolled in Remediation	1.508	0.512	8.681	0.0032	4.519
Academic/Occupational Major	-0.045	0.373	0.014	0.9052	0.956
Liberal Studies Major	-1.197	0.374	10.253	0.0014	0.302
Business & Technology Major	-0.720	0.436	2.729	0.0985	0.487
Age at Baseline	0.000	0.012	0.000	0.9965	1.000
Number of Years Since First Enrolled at College	-0.001	0.021	0.002	0.9662	0.999
Placement Test Score	0.045	0.037	1.429	0.2320	1.046

Table D.40: Logistic regression results of semester-to-semester persistence for receiving at least three major services (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	-1.245	0.150	69.060	<.0001	--
TRT	0.405	0.197	4.204	0.0403	1.499
Female	0.579	0.219	6.995	0.0082	1.784
Hispanic	0.588	0.347	2.861	0.0907	1.800
Black	-0.424	0.234	3.296	0.0695	0.654
Received Financial Aid	1.262	0.856	2.174	0.1403	3.531
Enrolled in Remediation	1.291	0.231	31.178	<.0001	3.636
Liberal Studies Major	-1.189	0.367	10.481	0.0012	0.305
Business & Technology Major	-0.724	0.428	2.864	0.0906	0.485

Table D.41: Linear regression results of degree bearing credit pass rate for benefits eligibility screening only (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.600	0.021	27.970	<.0001	--
TRT	0.005	0.031	0.180	0.8596	0.015
FTIC	-0.176	0.065	-2.720	0.0067	-0.495
Female	0.037	0.034	1.090	0.2755	0.104
Hispanic	-0.062	0.054	-1.140	0.2546	-0.173
Black	-0.107	0.035	-3.070	0.0023	-0.302
Full Time	0.018	0.034	0.530	0.5988	0.050
Married	-0.024	0.065	-0.380	0.7067	-0.068
FAFSA_Financially_Dependent	0.007	0.039	0.170	0.8654	0.019
Received Financial Aid	-0.113	0.113	-1.000	0.3185	-0.318
Received Student Loan	-0.056	0.035	-1.590	0.1128	-0.157
First in Family to Attend College	-0.021	0.032	-0.670	0.5030	-0.060
High School GED	-0.007	0.032	-0.220	0.8265	-0.020
Enrolled in Remediation	0.040	0.058	0.690	0.4887	0.114
Academic/Occupational Major	0.061	0.061	1.000	0.3190	0.172
Liberal Studies Major	-0.125	0.061	-2.040	0.0422	-0.352
Business & Technology Major	-0.116	0.070	-1.670	0.0957	-0.327
Age at Baseline	0.002	0.002	1.340	0.1796	0.007
Number of Years Since First Enrolled at College	0.002	0.004	0.470	0.6410	0.005
Placement Test Score	0.012	0.006	2.050	0.0412	0.034

Table D.42: Linear regression results of degree bearing credit pass rate for benefits eligibility screening only (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.599	0.021	28.320	<.0001	--
TRT	0.008	0.030	0.260	0.7958	0.022
FTIC	-0.217	0.033	-6.490	<.0001	-0.612
Black	-0.087	0.031	-2.780	0.0056	-0.246
Received Student Loan	-0.068	0.033	-2.060	0.0399	-0.191
Liberal Studies Major	-0.129	0.060	-2.160	0.0315	-0.364
Business & Technology Major	-0.138	0.068	-2.040	0.0420	-0.389
Age at Baseline	0.002	0.001	1.610	0.1083	0.007
Placement Test Score	0.013	0.006	2.300	0.0218	0.038

Table D.43: Linear regression results of degree bearing credit pass rate for benefits eligibility screening only (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.586	0.021	28.430	<.0001	--
TRT	0.023	0.029	0.770	0.4418	0.066
FTIC	-0.120	0.061	-1.980	0.0487	-0.349
Female	0.015	0.033	0.450	0.6548	0.042
Hispanic	-0.077	0.051	-1.530	0.1270	-0.224
Black	-0.118	0.034	-3.420	0.0007	-0.342
Full Time	-0.024	0.031	-0.770	0.4444	-0.070
Married	0.069	0.057	1.210	0.2262	0.201
FAFSA_Financially_Dependent	0.088	0.038	2.310	0.0212	0.256
Received Financial Aid	-0.078	0.113	-0.690	0.4897	-0.226
Received Student Loan	-0.049	0.034	-1.450	0.1474	-0.141
First in Family to Attend College	-0.030	0.030	-0.990	0.3217	-0.088
High School GED	-0.020	0.030	-0.640	0.5220	-0.057
Enrolled in Remediation	0.021	0.056	0.380	0.7058	0.061
Academic/Occupational Major	0.113	0.058	1.950	0.0520	0.328
Liberal Studies Major	-0.182	0.062	-2.930	0.0035	-0.527
Business & Technology Major	-0.194	0.070	-2.750	0.0062	-0.562
Age at Baseline	0.005	0.002	2.520	0.0120	0.014
Number of Years Since First Enrolled at College	0.004	0.004	0.890	0.3721	0.011
Placement Test Score	0.015	0.006	2.610	0.0094	0.043

Table D.44: Linear regression results of degree bearing credit pass rate for benefits eligibility screening only (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.586	0.021	28.570	<.0001	--
TRT	0.023	0.029	0.780	0.4344	0.066
FTIC	-0.154	0.033	-4.740	<.0001	-0.448
Hispanic	-0.081	0.050	-1.610	0.1072	-0.234
Black	-0.123	0.034	-3.670	0.0003	-0.357
FAFSA_Financially_Dependent	0.076	0.037	2.060	0.0398	0.221
Received Student Loan	-0.057	0.033	-1.760	0.0784	-0.166
Academic/Occupational Major	0.120	0.058	2.080	0.0379	0.347
Liberal Studies Major	-0.180	0.061	-2.950	0.0033	-0.522
Business & Technology Major	-0.194	0.069	-2.790	0.0054	-0.562
Age at Baseline	0.006	0.002	3.200	0.0015	0.016
Placement Test Score	0.015	0.006	2.700	0.0071	0.043

Table D.45: Linear regression results of degree bearing credit pass rate for benefits eligibility screening, financial counseling and tax preparation (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.675	0.021	32.210	<.0001	--
TRT	0.045	0.030	1.510	0.1309	0.144
FTIC	-0.076	0.069	-1.100	0.2730	-0.243
Female	0.083	0.032	2.600	0.0096	0.266
Hispanic	-0.047	0.058	-0.810	0.4208	-0.150
Black	-0.106	0.036	-2.900	0.0039	-0.338
Full Time	0.039	0.033	1.200	0.2297	0.126
Married	0.116	0.086	1.340	0.1810	0.370
FAFSA_Financially_Dependent	0.033	0.039	0.850	0.3958	0.106
Received Financial Aid	-0.002	0.104	-0.020	0.9819	-0.008
Received Student Loan	0.000	0.034	0.000	0.9994	0.000
First in Family to Attend College	0.004	0.031	0.140	0.8917	0.013
High School GED	-0.038	0.032	-1.170	0.2420	-0.120
Enrolled in Remediation	0.079	0.064	1.240	0.2143	0.254
Academic/Occupational Major	-0.040	0.059	-0.680	0.4978	-0.127
Liberal Studies Major	-0.155	0.057	-2.720	0.0069	-0.495
Business & Technology Major	-0.193	0.065	-2.960	0.0033	-0.618
Age at Baseline	0.003	0.002	1.760	0.0786	0.010
Number of Years Since First Enrolled at College	-0.002	0.003	-0.550	0.5834	-0.006
Placement Test Score	0.014	0.006	2.440	0.0154	0.045

Table D.46: Linear regression results of degree bearing credit pass rate for benefits eligibility screening, financial counseling and tax preparation (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.675	0.021	31.690	<.0001	--
TRT	0.045	0.030	1.480	0.1408	0.142
Female	0.104	0.032	3.250	0.0013	0.332
Black	-0.115	0.032	-3.610	0.0004	-0.367
Liberal Studies Major	-0.181	0.057	-3.160	0.0017	-0.580
Business & Technology Major	-0.207	0.066	-3.130	0.0019	-0.663
Age at Baseline	0.003	0.001	2.160	0.0314	0.010
Placement Test Score	0.014	0.006	2.480	0.0136	0.045

Table D.47: Linear regression results of degree bearing credit pass rate for benefits eligibility screening, financial counseling and tax preparation (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.655	0.020	32.550	<.0001	--
TRT	0.069	0.029	2.410	0.0165	0.225
FTIC	-0.109	0.063	-1.720	0.0857	-0.354
Female	0.083	0.031	2.670	0.0078	0.268
Hispanic	0.032	0.056	0.570	0.5706	0.104
Black	-0.131	0.034	-3.830	0.0002	-0.426
Full Time	0.022	0.032	0.690	0.4916	0.071
Married	-0.016	0.082	-0.200	0.8405	-0.053
FAFSA_Financially_Dependent	-0.007	0.037	-0.200	0.8440	-0.024
Received Financial Aid	-0.017	0.114	-0.150	0.8805	-0.056
Received Student Loan	-0.048	0.032	-1.510	0.1330	-0.157
First in Family to Attend College	0.016	0.029	0.560	0.5763	0.053
High School GED	-0.014	0.031	-0.440	0.6599	-0.044
Enrolled in Remediation	0.044	0.057	0.760	0.4451	0.142
Academic/Occupational Major	-0.043	0.065	-0.670	0.5052	-0.141
Liberal Studies Major	-0.188	0.052	-3.590	0.0004	-0.611
Business & Technology Major	-0.180	0.061	-2.930	0.0036	-0.585
Age at Baseline	0.004	0.002	2.100	0.0367	0.013
Number of Years Since First Enrolled at College	0.000	0.003	0.080	0.9401	0.001
Placement Test Score	0.009	0.006	1.520	0.1304	0.028

Table D.48: Linear regression results of degree bearing credit pass rate for benefits eligibility screening, financial counseling and tax preparation (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.655	0.020	32.950	<.0001	--
TRT	0.070	0.028	2.500	0.0130	0.229
FTIC	-0.154	0.033	-4.670	<.0001	-0.500
Female	0.085	0.030	2.790	0.0055	0.276
Black	-0.142	0.030	-4.740	<.0001	-0.463
Received Student Loan	-0.045	0.030	-1.470	0.1413	-0.145
Liberal Studies Major	-0.185	0.051	-3.660	0.0003	-0.603
Business & Technology Major	-0.176	0.060	-2.930	0.0036	-0.571
Age at Baseline	0.004	0.001	2.630	0.0089	0.012
Placement Test Score	0.009	0.006	1.610	0.1093	0.029

Table D.49: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and tax preparation (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.612	0.034	18.220	<.0001	--
TRT	0.085	0.049	1.740	0.0831	0.259
FTIC	0.034	0.130	0.260	0.7940	0.103
Female	0.029	0.052	0.570	0.5724	0.089
Hispanic	0.109	0.093	1.160	0.2457	0.331
Black	0.044	0.058	0.760	0.4509	0.132
Full Time	0.094	0.052	1.790	0.0746	0.285
Married	0.030	0.124	0.240	0.8104	0.091
FAFSA_Financially_Dependent	-0.022	0.066	-0.330	0.7393	-0.067
Received Financial Aid	-0.195	0.156	-1.250	0.2126	-0.594
Received Student Loan	-0.100	0.056	-1.760	0.0796	-0.303
First in Family to Attend College	-0.081	0.051	-1.590	0.1126	-0.247
High School GED	-0.098	0.050	-1.940	0.0539	-0.298
Enrolled in Remediation	0.198	0.117	1.690	0.0934	0.603
Academic/Occupational Major	0.027	0.092	0.290	0.7700	0.082
Liberal Studies Major	-0.065	0.083	-0.770	0.4395	-0.197
Business & Technology Major	-0.097	0.100	-0.970	0.3333	-0.294
Age at Baseline	0.003	0.003	1.230	0.2191	0.010
Number of Years Since First Enrolled at College	-0.002	0.008	-0.280	0.7765	-0.007
Placement Test Score	0.008	0.010	0.850	0.3981	0.025

Table D.50: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and tax preparation (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.614	0.033	18.870	<.0001	--
TRT	0.082	0.046	1.760	0.0807	0.249
Full Time	0.081	0.047	1.710	0.0886	0.247
Received Student Loan	-0.093	0.051	-1.840	0.0669	-0.284
First in Family to Attend College	-0.092	0.048	-1.920	0.0560	-0.281
High School GED	-0.090	0.047	-1.920	0.0566	-0.273
Enrolled in Remediation	0.179	0.049	3.660	0.0003	0.546

Table D.51: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and tax preparation (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.644	0.035	18.580	<.0001	--
TRT	0.047	0.051	0.930	0.3542	0.144
FTIC	-0.023	0.131	-0.180	0.8598	-0.071
Female	-0.026	0.052	-0.500	0.6181	-0.079
Hispanic	-0.010	0.094	-0.100	0.9167	-0.030
Black	0.008	0.057	0.130	0.8934	0.023
Full Time	0.079	0.054	1.480	0.1408	0.242
Married	0.065	0.096	0.680	0.4986	0.198
FAFSA_Financially_Dependent	-0.057	0.072	-0.800	0.4252	-0.174
Received Financial Aid	-0.133	0.147	-0.900	0.3669	-0.403
Received Student Loan	-0.099	0.060	-1.660	0.0994	-0.301
First in Family to Attend College	-0.036	0.052	-0.690	0.4894	-0.109
High School GED	0.024	0.051	0.470	0.6418	0.073
Enrolled in Remediation	0.129	0.120	1.080	0.2835	0.393
Academic/Occupational Major	-0.081	0.091	-0.890	0.3747	-0.246
Liberal Studies Major	-0.029	0.083	-0.360	0.7229	-0.089
Business & Technology Major	-0.068	0.110	-0.620	0.5343	-0.208
Age at Baseline	0.002	0.003	0.750	0.4515	0.006
Number of Years Since First Enrolled at College	0.002	0.009	0.240	0.8107	0.006
Placement Test Score	0.012	0.009	1.290	0.2004	0.036

Table D.52: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and tax preparation (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.651	0.034	19.080	<.0001	--
TRT	0.033	0.048	0.670	0.5016	0.099
Full Time	0.084	0.050	1.670	0.0969	0.254

Table D.53: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and financial counseling (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.536	0.040	13.420	<.0001	--
TRT	0.083	0.059	1.400	0.1630	0.235
FTIC	-0.006	0.134	-0.040	0.9660	-0.016
Female	0.084	0.061	1.380	0.1690	0.236
Hispanic	0.124	0.143	0.870	0.3855	0.350
Black	-0.047	0.081	-0.590	0.5594	-0.133
Full Time	-0.094	0.063	-1.490	0.1377	-0.264
Married	0.258	0.122	2.110	0.0367	0.728
FAFSA_Financially_Dependent	0.090	0.078	1.140	0.2559	0.252
Received Financial Aid	0.144	0.252	0.570	0.5689	0.406
Received Student Loan	-0.043	0.065	-0.660	0.5112	-0.120
First in Family to Attend College	0.025	0.060	0.420	0.6762	0.071
High School GED	-0.024	0.063	-0.380	0.7036	-0.067
Enrolled in Remediation	0.201	0.123	1.630	0.1059	0.566
Academic/Occupational Major	-0.177	0.108	-1.650	0.1017	-0.499
Liberal Studies Major	-0.085	0.133	-0.640	0.5251	-0.238
Business & Technology Major	0.078	0.144	0.540	0.5872	0.220
Age at Baseline	0.005	0.004	1.370	0.1716	0.015
Number of Years Since First Enrolled at College	-0.002	0.011	-0.160	0.8754	-0.005
Placement Test Score	0.018	0.012	1.460	0.1464	0.050

Table D.54: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and financial counseling (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.553	0.038	14.750	<.0001	--
TRT	0.049	0.053	0.920	0.3603	0.137
Full Time	-0.146	0.055	-2.640	0.0092	-0.411
Married	0.265	0.110	2.400	0.0179	0.745
Enrolled in Remediation	0.241	0.058	4.150	<.0001	0.679
Academic/Occupational Major	-0.229	0.101	-2.260	0.0252	-0.644
Placement Test Score	0.017	0.011	1.530	0.1288	0.047

Table D.55: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and financial counseling (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.613	0.038	15.930	<.0001	--
TRT	0.003	0.057	0.060	0.9554	0.009
FTIC	-0.140	0.125	-1.130	0.2616	-0.407
Female	0.125	0.059	2.110	0.0372	0.364
Hispanic	0.254	0.138	1.840	0.0679	0.738
Black	-0.095	0.081	-1.170	0.2434	-0.276
Full Time	-0.105	0.061	-1.730	0.0869	-0.303
Married	0.333	0.143	2.330	0.0211	0.968
FAFSA_Financially_Dependent	0.076	0.074	1.030	0.3066	0.220
Received Financial Aid	-0.137	0.179	-0.770	0.4451	-0.398
Received Student Loan	0.034	0.061	0.550	0.5819	0.098
First in Family to Attend College	0.005	0.058	0.090	0.9275	0.015
High School GED	-0.021	0.060	-0.340	0.7321	-0.060
Enrolled in Remediation	0.054	0.115	0.470	0.6384	0.157
Academic/Occupational Major	-0.116	0.114	-1.020	0.3110	-0.338
Liberal Studies Major	-0.056	0.112	-0.500	0.6185	-0.162
Business & Technology Major	0.022	0.125	0.180	0.8609	0.064
Age at Baseline	0.001	0.004	0.140	0.8919	0.002
Number of Years Since First Enrolled at College	0.003	0.012	0.240	0.8073	0.008
Placement Test Score	0.013	0.012	1.080	0.2824	0.038

Table D.56: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and financial counseling (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.603	0.039	15.610	<.0001	--
TRT	0.022	0.055	0.390	0.6982	0.063
Female	0.170	0.055	3.090	0.0024	0.493
Hispanic	0.364	0.121	3.000	0.0032	1.055
Full Time	-0.077	0.055	-1.400	0.1652	-0.222
Married	0.251	0.137	1.830	0.0694	0.730

Table D.57: Linear regression results of degree bearing credit pass rate for tax preparation only (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.669	0.038	17.460	<.0001	--
TRT	0.085	0.057	1.490	0.1382	0.315
Female	-0.009	0.061	-0.150	0.8800	-0.034
Hispanic	-0.028	0.092	-0.310	0.7604	-0.105
Black	-0.004	0.065	-0.060	0.9528	-0.014
Full Time	0.004	0.059	0.070	0.9463	0.015
Married	0.115	0.117	0.980	0.3284	0.429
FAFSA_Financially_Dependent	-0.023	0.077	-0.300	0.7654	-0.086
Received Financial Aid	0.032	0.157	0.200	0.8415	0.118
Received Student Loan	0.053	0.074	0.720	0.4717	0.199
First in Family to Attend College	-0.005	0.057	-0.100	0.9243	-0.020
High School GED	0.011	0.059	0.180	0.8577	0.039
Academic/Occupational Major	0.060	0.102	0.590	0.5588	0.222
Liberal Studies Major	0.061	0.094	0.650	0.5170	0.229
Business & Technology Major	0.010	0.113	0.090	0.9298	0.037
Age at Baseline	-0.003	0.004	-0.850	0.3992	-0.011
Number of Years Since First Enrolled at College	0.008	0.005	1.480	0.1417	0.028
Placement Test Score	0.012	0.010	1.180	0.2426	0.046

Table D.58: Linear regression results of degree bearing credit pass rate for tax preparation only (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.679	0.035	19.350	<.0001	--
TRT	0.064	0.050	1.290	0.1982	0.240
Number of Years Since First Enrolled at College	0.005	0.004	1.300	0.1953	0.019

Table D.59: Linear regression results of degree bearing credit pass rate for tax preparation only (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.632	0.043	14.840	<.0001	--
TRT	0.110	0.062	1.780	0.0785	0.356
Female	-0.030	0.066	-0.460	0.6479	-0.098
Hispanic	-0.009	0.114	-0.080	0.9350	-0.030
Black	-0.006	0.070	-0.090	0.9312	-0.020
Full Time	0.058	0.067	0.860	0.3907	0.187
Married	0.028	0.131	0.220	0.8294	0.092
FAFSA_Financially_Dependent	-0.045	0.086	-0.520	0.6034	-0.145
Received Financial Aid	-0.081	0.163	-0.500	0.6212	-0.260
Received Student Loan	0.040	0.076	0.530	0.5980	0.129
First in Family to Attend College	0.046	0.064	0.710	0.4799	0.147
High School GED	-0.056	0.066	-0.860	0.3933	-0.181
Enrolled in Remediation	0.092	0.249	0.370	0.7127	0.297
Academic/Occupational Major	0.070	0.118	0.590	0.5548	0.226
Liberal Studies Major	-0.112	0.107	-1.040	0.2987	-0.361
Business & Technology Major	-0.162	0.120	-1.350	0.1799	-0.523
Age at Baseline	-0.002	0.004	-0.400	0.6875	-0.006
Number of Years Since First Enrolled at College	0.009	0.005	1.670	0.0978	0.029
Placement Test Score	0.016	0.012	1.330	0.1876	0.050

Table D.60: Linear regression results of degree bearing credit pass rate for tax preparation only (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.627	0.040	15.780	<.0001	--
TRT	0.119	0.056	2.110	0.0374	0.383
Number of Years Since First Enrolled at College	0.008	0.004	1.990	0.0486	0.026
Placement Test Score	0.020	0.010	1.980	0.0503	0.065

Table D.61: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and additional services (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.500	0.042	12.010	<.0001	--
TRT	0.127	0.061	2.070	0.0414	0.359
FTIC	-0.057	0.137	-0.410	0.6797	-0.160
Female	0.105	0.062	1.690	0.0931	0.298
Hispanic	0.008	0.127	0.060	0.9527	0.021
Black	-0.157	0.078	-2.020	0.0456	-0.444
Full Time	0.112	0.067	1.680	0.0954	0.317
Married	0.134	0.140	0.960	0.3407	0.378
FAFSA_Financially_Dependent	-0.034	0.082	-0.410	0.6819	-0.095
Received Financial Aid	-0.143	0.205	-0.700	0.4860	-0.405
Received Student Loan	-0.031	0.068	-0.450	0.6528	-0.087
First in Family to Attend College	-0.092	0.062	-1.500	0.1361	-0.261
High School GED	-0.148	0.068	-2.170	0.0321	-0.417
Enrolled in Remediation	0.044	0.125	0.350	0.7265	0.124
Academic/Occupational Major	-0.389	0.135	-2.890	0.0047	-1.099
Liberal Studies Major	-0.198	0.089	-2.220	0.0283	-0.560
Business & Technology Major	-0.333	0.115	-2.910	0.0044	-0.941
Age at Baseline	-0.001	0.004	-0.210	0.8353	-0.002
Number of Years Since First Enrolled at College	0.004	0.010	0.440	0.6629	0.013
Placement Test Score	0.019	0.011	1.800	0.0740	0.055

Table D.62: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and additional services (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.501	0.041	12.300	<.0001	--
TRT	0.126	0.060	2.110	0.0371	0.356
Female	0.116	0.058	2.000	0.0482	0.327
Black	-0.186	0.064	-2.900	0.0045	-0.526
Full Time	0.092	0.061	1.500	0.1376	0.259
First in Family to Attend College	-0.095	0.060	-1.570	0.1190	-0.267
High School GED	-0.172	0.062	-2.790	0.0062	-0.485
Academic/Occupational Major	-0.410	0.128	-3.210	0.0017	-1.157
Liberal Studies Major	-0.252	0.083	-3.030	0.0031	-0.712
Business & Technology Major	-0.366	0.110	-3.340	0.0011	-1.035
Placement Test Score	0.019	0.010	1.850	0.0671	0.054

Table D.63: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and additional services (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.474	0.044	10.740	<.0001	--
TRT	0.122	0.065	1.880	0.0632	0.345
FTIC	-0.089	0.160	-0.560	0.5792	-0.252
Female	0.063	0.066	0.960	0.3412	0.177
Hispanic	0.150	0.131	1.150	0.2522	0.426
Black	-0.030	0.082	-0.360	0.7203	-0.084
Full Time	0.167	0.067	2.510	0.0137	0.474
Married	0.072	0.209	0.340	0.7323	0.203
FAFSA_Financially_Dependent	0.005	0.089	0.060	0.9552	0.014
Received Financial Aid	0.125	0.272	0.460	0.6477	0.353
Received Student Loan	-0.091	0.079	-1.160	0.2504	-0.257
First in Family to Attend College	0.053	0.067	0.790	0.4308	0.149
High School GED	-0.138	0.075	-1.830	0.0707	-0.390
Enrolled in Remediation	0.023	0.145	0.160	0.8758	0.064
Academic/Occupational Major	-0.044	0.126	-0.350	0.7281	-0.124
Liberal Studies Major	-0.197	0.111	-1.780	0.0785	-0.558
Business & Technology Major	-0.192	0.126	-1.520	0.1317	-0.543
Age at Baseline	0.001	0.004	0.300	0.7685	0.003
Number of Years Since First Enrolled at College	0.010	0.012	0.830	0.4086	0.028
Placement Test Score	0.007	0.011	0.580	0.5629	0.019

Table D.64: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and additional services (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.459	0.043	10.750	<.0001	--
TRT	0.151	0.061	2.470	0.0152	0.427
Full Time	0.163	0.063	2.600	0.0105	0.462
High School GED	-0.169	0.066	-2.550	0.0121	-0.479
Liberal Studies Major	-0.258	0.103	-2.510	0.0134	-0.730
Business & Technology Major	-0.258	0.118	-2.200	0.0301	-0.731

Table D.65: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and legal counseling (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.612	0.052	11.690	<.0001	--
TRT	0.000	0.079	0.000	0.9971	-0.001
FTIC	-0.345	0.187	-1.840	0.0699	-0.987
Female	-0.020	0.086	-0.230	0.8158	-0.058
Hispanic	-0.186	0.147	-1.270	0.2101	-0.532
Black	-0.195	0.112	-1.750	0.0841	-0.559
Full Time	0.056	0.078	0.720	0.4719	0.161
Married	0.445	0.184	2.420	0.0179	1.273
FAFSA_Financially_Dependent	0.091	0.120	0.760	0.4523	0.260
Received Student Loan	-0.018	0.096	-0.190	0.8534	-0.051
First in Family to Attend College	0.134	0.079	1.710	0.0924	0.384
High School GED	-0.139	0.079	-1.770	0.0809	-0.398
Enrolled in Remediation	-0.152	0.166	-0.910	0.3645	-0.434
Academic/Occupational Major	-0.048	0.165	-0.290	0.7714	-0.138
Liberal Studies Major	-0.138	0.134	-1.030	0.3060	-0.394
Business & Technology Major	-0.069	0.163	-0.430	0.6719	-0.198
Age at Baseline	0.008	0.005	1.570	0.1208	0.023
Number of Years Since First Enrolled at College	-0.015	0.013	-1.120	0.2656	-0.043
Placement Test Score	-0.002	0.016	-0.150	0.8797	-0.007

Table D.66: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and legal counseling (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.630	0.048	13.090	<.0001	--
TRT	-0.036	0.070	-0.520	0.6028	-0.104
FTIC	-0.237	0.074	-3.200	0.0020	-0.678
Black	-0.108	0.072	-1.500	0.1366	-0.308
Married	0.396	0.162	2.450	0.0166	1.133
First in Family to Attend College	0.109	0.072	1.510	0.1347	0.311
High School GED	-0.107	0.070	-1.520	0.1328	-0.305

Table D.67: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and legal counseling (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.626	0.050	12.540	<.0001	--
TRT	0.009	0.075	0.130	0.9003	0.029
FTIC	-0.326	0.188	-1.730	0.0874	-1.017
Female	-0.050	0.083	-0.610	0.5470	-0.157
Hispanic	-0.198	0.139	-1.420	0.1588	-0.618
Black	-0.129	0.097	-1.330	0.1877	-0.404
Full Time	0.075	0.078	0.950	0.3430	0.234
Married	0.077	0.139	0.550	0.5824	0.240
FAFSA_Financially_Dependent	0.110	0.119	0.930	0.3581	0.343
Received Financial Aid	0.412	0.217	1.900	0.0613	1.288
Received Student Loan	-0.100	0.088	-1.140	0.2584	-0.313
First in Family to Attend College	0.121	0.081	1.480	0.1432	0.377
High School GED	-0.118	0.079	-1.500	0.1378	-0.370
Enrolled in Remediation	-0.126	0.167	-0.750	0.4536	-0.392
Academic/Occupational Major	-0.058	0.204	-0.290	0.7764	-0.182
Liberal Studies Major	-0.075	0.106	-0.710	0.4794	-0.235
Business & Technology Major	-0.244	0.162	-1.500	0.1373	-0.761
Age at Baseline	0.007	0.005	1.440	0.1539	0.021
Number of Years Since First Enrolled at College	-0.016	0.016	-1.010	0.3181	-0.050
Placement Test Score	0.015	0.013	1.120	0.2686	0.047

Table D.68: Linear regression results of degree bearing credit pass rate for benefits eligibility screening and legal counseling (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.632	0.047	13.330	<.0001	--
TRT	-0.003	0.069	-0.040	0.9700	-0.008
FTIC	-0.170	0.072	-2.360	0.0209	-0.532
Hispanic	-0.199	0.119	-1.670	0.0992	-0.620
Black	-0.123	0.084	-1.470	0.1458	-0.384
Received Financial Aid	0.245	0.183	1.340	0.1848	0.765
First in Family to Attend College	0.121	0.071	1.710	0.0919	0.378

Table D.69: Linear regression results of degree bearing credit pass rate for financial counseling and tax preparation (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.603	0.046	13.210	<.0001	--
TRT	0.189	0.068	2.780	0.0068	0.630
FTIC	0.035	0.305	0.110	0.9099	0.116
Female	0.091	0.069	1.330	0.1891	0.303
Hispanic	-0.196	0.144	-1.360	0.1767	-0.654
Black	-0.129	0.097	-1.340	0.1847	-0.432
Full Time	0.121	0.069	1.760	0.0830	0.405
Married	0.105	0.187	0.560	0.5779	0.350
FAFSA_Financially_Dependent	0.146	0.083	1.750	0.0848	0.487
Received Student Loan	-0.050	0.081	-0.620	0.5389	-0.167
First in Family to Attend College	0.031	0.066	0.470	0.6363	0.104
High School GED	0.010	0.071	0.140	0.8922	0.032
Enrolled in Remediation	0.238	0.251	0.950	0.3444	0.797
Academic/Occupational Major	-0.136	0.172	-0.790	0.4318	-0.454
Liberal Studies Major	-0.012	0.124	-0.090	0.9262	-0.039
Business & Technology Major	0.084	0.139	0.610	0.5469	0.281
Age at Baseline	0.010	0.004	2.340	0.0218	0.032
Number of Years Since First Enrolled at College	-0.011	0.011	-0.980	0.3290	-0.036
Placement Test Score	0.002	0.014	0.150	0.8827	0.007

Table D.70: Linear regression results of degree bearing credit pass rate for financial counseling and tax preparation (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.601	0.043	14.060	<.0001	--
TRT	0.192	0.061	3.150	0.0022	0.643
Female	0.085	0.063	1.350	0.1810	0.285
Full Time	0.138	0.062	2.220	0.0289	0.460
FAFSA_Financially_Dependent	0.154	0.078	1.960	0.0532	0.514
Age at Baseline	0.008	0.004	2.200	0.0307	0.027

Table D.71: Linear regression results of degree bearing credit pass rate for financial counseling and tax preparation (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.683	0.037	18.720	<.0001	--
TRT	0.118	0.054	2.180	0.0321	0.447
FTIC	-0.065	0.238	-0.270	0.7845	-0.248
Female	0.134	0.059	2.250	0.0274	0.507
Hispanic	-0.090	0.101	-0.890	0.3781	-0.340
Black	-0.062	0.068	-0.920	0.3630	-0.237
Full Time	0.111	0.058	1.920	0.0585	0.420
Married	-0.307	0.274	-1.120	0.2661	-1.166
FAFSA_Financially_Dependent	0.059	0.068	0.880	0.3828	0.225
Received Student Loan	-0.069	0.062	-1.120	0.2657	-0.263
First in Family to Attend College	0.091	0.055	1.650	0.1027	0.345
High School GED	-0.035	0.057	-0.610	0.5455	-0.131
Enrolled in Remediation	0.166	0.196	0.840	0.4017	0.628
Academic/Occupational Major	-0.262	0.120	-2.180	0.0327	-0.995
Liberal Studies Major	-0.104	0.103	-1.000	0.3186	-0.393
Business & Technology Major	0.021	0.118	0.180	0.8562	0.082
Age at Baseline	0.005	0.004	1.370	0.1734	0.018
Number of Years Since First Enrolled at College	0.001	0.008	0.080	0.9368	0.002
Placement Test Score	0.016	0.011	1.450	0.1499	0.061

Table D.72: Linear regression results of degree bearing credit pass rate for financial counseling and tax preparation (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.679	0.036	18.990	<.0001	--
TRT	0.127	0.051	2.480	0.0151	0.482
Female	0.142	0.055	2.590	0.0112	0.538
Full Time	0.106	0.051	2.090	0.0397	0.403
First in Family to Attend College	0.097	0.052	1.860	0.0656	0.368
Academic/Occupational Major	-0.324	0.116	-2.800	0.0063	-1.230
Placement Test Score	0.017	0.010	1.760	0.0827	0.066

Table D.73: Linear regression results of degree bearing credit pass rate for receiving one or two major services (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.599	0.013	47.680	<.0001	--
TRT	0.047	0.018	2.620	0.0090	0.136
FTIC	-0.106	0.042	-2.540	0.0112	-0.311
Female	0.043	0.019	2.250	0.0246	0.126
Hispanic	-0.043	0.033	-1.280	0.2011	-0.125
Black	-0.076	0.022	-3.500	0.0005	-0.222
Full Time	0.033	0.019	1.700	0.0898	0.095
Married	0.084	0.039	2.150	0.0321	0.247
FAFSA_Financially_Dependent	0.011	0.024	0.460	0.6476	0.031
Received Financial Aid	-0.090	0.066	-1.360	0.1735	-0.262
Received Student Loan	-0.044	0.021	-2.110	0.0348	-0.128
First in Family to Attend College	-0.017	0.019	-0.940	0.3488	-0.051
High School GED	-0.037	0.019	-1.960	0.0499	-0.108
Enrolled in Remediation	0.087	0.038	2.300	0.0217	0.256
Academic/Occupational Major	-0.048	0.036	-1.330	0.1822	-0.141
Liberal Studies Major	-0.095	0.033	-2.920	0.0036	-0.278
Business & Technology Major	-0.076	0.038	-2.000	0.0461	-0.221
Age at Baseline	0.003	0.001	2.660	0.0080	0.008
Number of Years Since First Enrolled at College	0.000	0.002	0.100	0.9192	0.001
Placement Test Score	0.008	0.003	2.400	0.0167	0.024

Table D.74: Linear regression results of degree bearing credit pass rate for receiving one or two major services (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.599	0.013	47.730	<.0001	--
TRT	0.047	0.018	2.630	0.0087	0.137
FTIC	-0.114	0.039	-2.950	0.0032	-0.333
Female	0.040	0.019	2.090	0.0364	0.117
Black	-0.063	0.019	-3.250	0.0012	-0.184
Full Time	0.034	0.019	1.800	0.0719	0.100
Married	0.082	0.039	2.090	0.0369	0.239
Received Financial Aid	-0.094	0.066	-1.430	0.1543	-0.274
Received Student Loan	-0.044	0.020	-2.180	0.0297	-0.130
High School GED	-0.035	0.019	-1.880	0.0605	-0.102
Enrolled in Remediation	0.083	0.036	2.280	0.0231	0.242
Liberal Studies Major	-0.093	0.032	-2.870	0.0042	-0.272
Business & Technology Major	-0.071	0.038	-1.900	0.0571	-0.209
Age at Baseline	0.003	0.001	3.010	0.0027	0.008
Placement Test Score	0.008	0.003	2.390	0.0169	0.024

Table D.75: Linear regression results of degree bearing credit pass rate for receiving one or two major services (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.603	0.012	48.990	<.0001	--
TRT	0.048	0.017	2.770	0.0058	0.144
FTIC	-0.107	0.040	-2.670	0.0077	-0.319
Female	0.028	0.019	1.500	0.1338	0.084
Hispanic	-0.028	0.032	-0.860	0.3873	-0.083
Black	-0.067	0.021	-3.150	0.0016	-0.199
Full Time	0.036	0.019	1.900	0.0573	0.106
Married	0.088	0.037	2.410	0.0162	0.263
FAFSA_Financially_Dependent	0.042	0.023	1.790	0.0734	0.124
Received Financial Aid	-0.046	0.061	-0.760	0.4502	-0.136
Received Student Loan	-0.052	0.020	-2.590	0.0096	-0.156
First in Family to Attend College	0.009	0.018	0.480	0.6286	0.026
High School GED	-0.036	0.018	-1.940	0.0521	-0.107
Enrolled in Remediation	0.056	0.037	1.540	0.1249	0.168
Academic/Occupational Major	0.017	0.036	0.470	0.6382	0.050
Liberal Studies Major	-0.117	0.032	-3.710	0.0002	-0.350
Business & Technology Major	-0.112	0.037	-2.990	0.0028	-0.334
Age at Baseline	0.003	0.001	2.950	0.0033	0.009
Number of Years Since First Enrolled at College	0.004	0.002	1.700	0.0894	0.012
Placement Test Score	0.012	0.003	3.540	0.0004	0.035

Table D.76: Linear regression results of degree bearing credit pass rate for receiving one or two major services (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.603	0.012	49.070	<.0001	--
TRT	0.048	0.017	2.750	0.0060	0.143
FTIC	-0.109	0.040	-2.730	0.0063	-0.324
Female	0.027	0.019	1.480	0.1404	0.081
Black	-0.058	0.019	-3.080	0.0021	-0.174
Full Time	0.034	0.019	1.850	0.0650	0.103
Married	0.091	0.036	2.500	0.0125	0.272
FAFSA_Financially_Dependent	0.042	0.023	1.810	0.0703	0.126
Received Student Loan	-0.057	0.020	-2.890	0.0039	-0.169
High School GED	-0.036	0.018	-1.960	0.0507	-0.107
Enrolled in Remediation	0.055	0.036	1.500	0.1334	0.163
Liberal Studies Major	-0.121	0.031	-3.840	0.0001	-0.360
Business & Technology Major	-0.117	0.037	-3.150	0.0016	-0.349
Age at Baseline	0.003	0.001	2.960	0.0031	0.009
Number of Years Since First Enrolled at College	0.004	0.002	1.760	0.0785	0.012
Placement Test Score	0.012	0.003	3.620	0.0003	0.036

Table D.77: Linear regression results of degree bearing credit pass rate for receiving at least three major services (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.638	0.018	34.600	<.0001	--
TRT	0.042	0.026	1.590	0.1126	0.125
FTIC	0.033	0.059	0.570	0.5714	0.100
Female	0.061	0.027	2.210	0.0278	0.182
Hispanic	-0.061	0.051	-1.190	0.2344	-0.183
Black	-0.098	0.032	-3.080	0.0022	-0.294
Full Time	0.040	0.029	1.390	0.1653	0.121
Married	0.083	0.066	1.260	0.2099	0.251
FAFSA_Financially_Dependent	0.042	0.035	1.210	0.2253	0.127
Received Financial Aid	0.008	0.105	0.070	0.9433	0.023
Received Student Loan	-0.001	0.029	-0.040	0.9665	-0.004
First in Family to Attend College	0.006	0.027	0.240	0.8135	0.019
High School GED	-0.025	0.028	-0.910	0.3632	-0.075
Enrolled in Remediation	0.176	0.055	3.220	0.0014	0.527
Academic/Occupational Major	-0.049	0.049	-1.010	0.3115	-0.148
Liberal Studies Major	-0.143	0.050	-2.840	0.0046	-0.428
Business & Technology Major	-0.186	0.058	-3.230	0.0013	-0.560
Age at Baseline	0.005	0.002	2.950	0.0033	0.014
Number of Years Since First Enrolled at College	-0.005	0.003	-1.570	0.1173	-0.014
Placement Test Score	0.013	0.005	2.620	0.0092	0.040

Table D.78: Linear regression results of degree bearing credit pass rate for receiving at least three major services (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.637	0.018	34.750	<.0001	--
TRT	0.043	0.026	1.650	0.1004	0.128
Female	0.061	0.027	2.230	0.0264	0.182
Black	-0.083	0.028	-2.970	0.0031	-0.249
Full Time	0.039	0.029	1.370	0.1728	0.118
Enrolled in Remediation	0.157	0.028	5.620	<.0001	0.472
Liberal Studies Major	-0.142	0.050	-2.860	0.0044	-0.427
Business & Technology Major	-0.182	0.057	-3.170	0.0016	-0.546
Age at Baseline	0.004	0.001	2.830	0.0048	0.012
Number of Years Since First Enrolled at College	-0.005	0.003	-1.760	0.0795	-0.014
Placement Test Score	0.014	0.005	2.820	0.0050	0.042

Table D.79: Linear regression results of degree bearing credit pass rate for receiving at least three major services (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.639	0.018	35.500	<.0001	--
TRT	0.045	0.026	1.760	0.0793	0.138
FTIC	-0.018	0.055	-0.340	0.7372	-0.056
Female	0.073	0.027	2.680	0.0075	0.223
Hispanic	0.001	0.050	0.010	0.9906	0.002
Black	-0.122	0.031	-3.960	<.0001	-0.373
Full Time	0.020	0.028	0.720	0.4748	0.062
Married	-0.021	0.063	-0.340	0.7377	-0.065
FAFSA_Financially_Dependent	0.005	0.034	0.150	0.8780	0.016
Received Financial Aid	0.031	0.108	0.280	0.7758	0.094
Received Student Loan	-0.034	0.029	-1.180	0.2402	-0.103
First in Family to Attend College	-0.008	0.026	-0.300	0.7671	-0.024
High School GED	0.005	0.027	0.180	0.8550	0.015
Enrolled in Remediation	0.123	0.050	2.490	0.0131	0.378
Academic/Occupational Major	-0.046	0.050	-0.920	0.3592	-0.140
Liberal Studies Major	-0.148	0.048	-3.060	0.0023	-0.451
Business & Technology Major	-0.154	0.057	-2.710	0.0070	-0.470
Age at Baseline	0.004	0.002	2.620	0.0090	0.013
Number of Years Since First Enrolled at College	-0.003	0.003	-1.030	0.3048	-0.009
Placement Test Score	0.015	0.005	2.980	0.0030	0.045

Table D.80: Linear regression results of degree bearing credit pass rate for receiving at least three major services (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.637	0.018	35.750	<.0001	--
TRT	0.049	0.025	1.920	0.0551	0.149
Female	0.071	0.027	2.650	0.0083	0.217
Black	-0.127	0.027	-4.690	<.0001	-0.387
Enrolled in Remediation	0.130	0.027	4.900	<.0001	0.399
Liberal Studies Major	-0.141	0.047	-3.020	0.0027	-0.431
Business & Technology Major	-0.145	0.056	-2.600	0.0095	-0.442
Age at Baseline	0.003	0.001	2.510	0.0122	0.009
Placement Test Score	0.013	0.005	2.780	0.0056	0.041

Table D.81: Linear regression results of grade point average for benefits eligibility screening only (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.775	0.057	48.320	<.0001	--
TRT	-0.038	0.082	-0.470	0.6390	-0.043
FTIC	-0.236	0.163	-1.440	0.1494	-0.262
Female	0.034	0.092	0.370	0.7123	0.038
Hispanic	-0.173	0.147	-1.180	0.2386	-0.192
Black	-0.385	0.091	-4.250	<.0001	-0.426
Full Time	0.009	0.088	0.100	0.9215	0.010
Married	0.101	0.166	0.610	0.5412	0.112
FAFSA_Financially_Dependent	-0.200	0.107	-1.870	0.0624	-0.222
Received Financial Aid	-0.577	0.265	-2.180	0.0302	-0.640
Received Student Loan	-0.185	0.093	-1.990	0.0476	-0.205
First in Family to Attend College	0.019	0.085	0.230	0.8220	0.021
High School GED	0.053	0.087	0.610	0.5428	0.059
Enrolled in Remediation	0.039	0.145	0.270	0.7881	0.043
Academic/Occupational Major	-0.017	0.225	-0.070	0.9409	-0.019
Liberal Studies Major	-0.056	0.147	-0.380	0.7034	-0.062
Business & Technology Major	-0.047	0.178	-0.270	0.7910	-0.052
Age at Baseline	0.007	0.005	1.280	0.2010	0.008
Number of Years Since First Enrolled at College	-0.003	0.012	-0.290	0.7724	-0.004
Placement Test Score	0.045	0.015	2.960	0.0033	0.050

Table D.82: Linear regression results of grade point average for benefits eligibility screening only (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.778	0.057	49.020	<.0001	--
TRT	-0.044	0.080	-0.550	0.5823	-0.049
FTIC	-0.276	0.090	-3.080	0.0022	-0.306
Black	-0.350	0.083	-4.250	<.0001	-0.388
FAFSA_Financially_Dependent	-0.283	0.089	-3.190	0.0015	-0.314
Received Financial Aid	-0.600	0.257	-2.330	0.0201	-0.665
Received Student Loan	-0.178	0.090	-1.970	0.0500	-0.197
Placement Test Score	0.044	0.015	2.990	0.0030	0.049

Table D.83: Linear regression results of grade point average for benefits eligibility screening only (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.625	0.058	45.600	<.0001	--
TRT	0.069	0.083	0.840	0.4031	0.076
FTIC	-0.198	0.171	-1.160	0.2477	-0.218
Female	-0.080	0.088	-0.900	0.3674	-0.088
Hispanic	-0.344	0.149	-2.320	0.0210	-0.378
Black	-0.534	0.092	-5.780	<.0001	-0.587
Full Time	-0.029	0.089	-0.320	0.7479	-0.032
Married	0.113	0.164	0.690	0.4932	0.124
FAFSA_Financially_Dependent	-0.145	0.107	-1.360	0.1744	-0.159
Received Financial Aid	-0.425	0.264	-1.610	0.1085	-0.467
Received Student Loan	-0.032	0.092	-0.350	0.7262	-0.036
First in Family to Attend College	0.084	0.085	0.990	0.3248	0.092
High School GED	0.022	0.086	0.260	0.7956	0.025
Enrolled in Remediation	0.213	0.154	1.380	0.1673	0.234
Academic/Occupational Major	0.049	0.187	0.260	0.7922	0.054
Liberal Studies Major	0.057	0.147	0.380	0.7007	0.062
Business & Technology Major	-0.156	0.173	-0.900	0.3672	-0.172
Age at Baseline	0.004	0.005	0.780	0.4378	0.004
Number of Years Since First Enrolled at College	0.000	0.011	0.020	0.9803	0.000
Placement Test Score	0.029	0.015	1.950	0.0523	0.032

Table D.84: Linear regression results of grade point average for benefits eligibility screening only (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.629	0.057	46.310	<.0001	--
TRT	0.061	0.081	0.750	0.4518	0.067
Hispanic	-0.329	0.146	-2.250	0.0252	-0.361
Black	-0.540	0.088	-6.110	<.0001	-0.594
FAFSA_Financially_Dependent	-0.230	0.088	-2.610	0.0094	-0.252
Received Financial Aid	-0.548	0.248	-2.210	0.0276	-0.602
Enrolled in Remediation	0.372	0.083	4.470	<.0001	0.409
Placement Test Score	0.022	0.014	1.540	0.1232	0.024

Table D.85: Linear regression results of grade point average for benefits eligibility screening, financial counseling, and tax preparation (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.739	0.056	48.700	<.0001	--
TRT	0.241	0.080	3.020	0.0027	0.288
FTIC	-0.358	0.177	-2.020	0.0436	-0.429
Female	-0.010	0.085	-0.120	0.9050	-0.012
Hispanic	-0.132	0.165	-0.800	0.4238	-0.158
Black	-0.432	0.098	-4.410	<.0001	-0.517
Full Time	0.094	0.089	1.070	0.2870	0.113
Married	0.490	0.213	2.300	0.0218	0.587
FAFSA_Financially_Dependent	-0.099	0.101	-0.990	0.3252	-0.119
Received Financial Aid	-0.216	0.288	-0.750	0.4547	-0.258
Received Student Loan	-0.027	0.090	-0.290	0.7691	-0.032
First in Family to Attend College	0.013	0.083	0.160	0.8764	0.016
High School GED	-0.005	0.086	-0.050	0.9578	-0.005
Enrolled in Remediation	0.035	0.162	0.210	0.8308	0.041
Academic/Occupational Major	-0.103	0.166	-0.620	0.5347	-0.123
Liberal Studies Major	-0.159	0.151	-1.050	0.2927	-0.190
Business & Technology Major	-0.233	0.177	-1.310	0.1899	-0.279
Age at Baseline	0.009	0.005	1.870	0.0619	0.010
Number of Years Since First Enrolled at College	-0.008	0.009	-0.890	0.3747	-0.010
Placement Test Score	0.039	0.015	2.600	0.0097	0.046

Table D.86: Linear regression results of grade point average for benefits eligibility screening, financial counseling, and tax preparation (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.740	0.056	49.340	<.0001	--
TRT	0.239	0.079	3.040	0.0026	0.286
FTIC	-0.368	0.091	-4.070	<.0001	-0.441
Black	-0.440	0.084	-5.270	<.0001	-0.527
Married	0.538	0.206	2.610	0.0093	0.644
Age at Baseline	0.009	0.004	2.420	0.0161	0.011
Placement Test Score	0.040	0.014	2.790	0.0055	0.047

Table D.87: Linear regression results of grade point average for benefits eligibility screening, financial counseling, and tax preparation (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.706	0.053	51.070	<.0001	--
TRT	0.227	0.076	3.000	0.0029	0.294
FTIC	-0.437	0.170	-2.570	0.0107	-0.565
Female	0.060	0.081	0.740	0.4607	0.077
Hispanic	0.083	0.147	0.560	0.5726	0.107
Black	-0.270	0.092	-2.930	0.0037	-0.350
Full Time	0.170	0.082	2.090	0.0376	0.220
Married	0.306	0.175	1.750	0.0809	0.395
FAFSA_Financially_Dependent	-0.058	0.098	-0.590	0.5531	-0.075
Received Financial Aid	-0.090	0.293	-0.310	0.7593	-0.116
Received Student Loan	-0.194	0.085	-2.290	0.0226	-0.251
First in Family to Attend College	0.055	0.079	0.700	0.4874	0.071
High School GED	0.065	0.080	0.810	0.4170	0.085
Enrolled in Remediation	-0.068	0.155	-0.440	0.6615	-0.088
Academic/Occupational Major	-0.183	0.164	-1.120	0.2641	-0.237
Liberal Studies Major	-0.073	0.135	-0.540	0.5893	-0.095
Business & Technology Major	-0.187	0.159	-1.180	0.2407	-0.241
Age at Baseline	0.011	0.005	2.350	0.0193	0.015
Number of Years Since First Enrolled at College	-0.012	0.009	-1.330	0.1845	-0.015
Placement Test Score	0.029	0.014	2.010	0.0452	0.037

Table D.88: Linear regression results of grade point average for benefits eligibility screening, financial counseling, and tax preparation (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.709	0.053	51.570	<.0001	--
TRT	0.222	0.075	2.970	0.0032	0.287
FTIC	-0.332	0.086	-3.880	0.0001	-0.429
Black	-0.309	0.080	-3.870	0.0001	-0.400
Full Time	0.179	0.080	2.220	0.0268	0.231
Married	0.307	0.171	1.800	0.0731	0.397
Received Student Loan	-0.184	0.081	-2.270	0.0236	-0.238
Age at Baseline	0.011	0.004	3.080	0.0022	0.015
Placement Test Score	0.025	0.014	1.780	0.0761	0.032

Table D.89: Linear regression results of grade point average for benefits eligibility screening and tax preparation (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.641	0.090	29.500	<.0001	--
TRT	0.237	0.130	1.830	0.0697	0.274
FTIC	-0.210	0.330	-0.640	0.5245	-0.243
Female	0.098	0.140	0.700	0.4839	0.113
Hispanic	-0.256	0.231	-1.110	0.2690	-0.297
Black	-0.039	0.168	-0.230	0.8154	-0.046
Full Time	0.268	0.146	1.840	0.0684	0.310
Married	0.260	0.411	0.630	0.5273	0.301
FAFSA_Financially_Dependent	-0.121	0.189	-0.640	0.5233	-0.140
Received Financial Aid	-0.081	0.525	-0.150	0.8776	-0.094
Received Student Loan	0.019	0.164	0.120	0.9080	0.022
First in Family to Attend College	0.185	0.134	1.380	0.1699	0.214
High School GED	-0.140	0.137	-1.020	0.3106	-0.162
Enrolled in Remediation	0.127	0.300	0.420	0.6737	0.147
Academic/Occupational Major	-0.179	0.241	-0.740	0.4575	-0.208
Liberal Studies Major	-0.186	0.242	-0.770	0.4432	-0.215
Business & Technology Major	-0.643	0.286	-2.250	0.0260	-0.744
Age at Baseline	0.020	0.008	2.590	0.0106	0.023
Number of Years Since First Enrolled at College	-0.005	0.019	-0.270	0.7899	-0.006
Placement Test Score	0.010	0.025	0.420	0.6749	0.012

Table D.90: Linear regression results of grade point average for benefits eligibility screening and tax preparation (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.632	0.087	30.150	<.0001	--
TRT	0.254	0.124	2.050	0.0415	0.294
Full Time	0.191	0.128	1.490	0.1380	0.221
First in Family to Attend College	0.209	0.130	1.610	0.1093	0.242
Business & Technology Major	-0.473	0.172	-2.750	0.0066	-0.547
Age at Baseline	0.025	0.006	4.330	<.0001	0.029

Table D.91: Linear regression results of grade point average for benefits eligibility screening and tax preparation (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.795	0.084	33.230	<.0001	--
TRT	0.075	0.122	0.620	0.5368	0.092
FTIC	0.101	0.286	0.350	0.7231	0.124
Female	0.000	0.134	0.000	0.9999	0.000
Hispanic	-0.386	0.226	-1.710	0.0901	-0.472
Black	-0.103	0.146	-0.700	0.4830	-0.126
Full Time	0.165	0.134	1.240	0.2187	0.202
Married	0.251	0.347	0.730	0.4691	0.307
FAFSA_Financially_Dependent	0.071	0.170	0.420	0.6775	0.087
Received Financial Aid	-0.206	0.352	-0.580	0.5601	-0.251
Received Student Loan	-0.182	0.161	-1.130	0.2595	-0.222
First in Family to Attend College	-0.045	0.128	-0.350	0.7259	-0.055
High School GED	-0.123	0.127	-0.960	0.3371	-0.150
Enrolled in Remediation	0.296	0.262	1.130	0.2607	0.362
Academic/Occupational Major	-0.339	0.206	-1.650	0.1017	-0.414
Liberal Studies Major	-0.271	0.210	-1.290	0.1974	-0.332
Business & Technology Major	-0.913	0.256	-3.570	0.0005	-1.115
Age at Baseline	0.019	0.007	2.670	0.0084	0.024
Number of Years Since First Enrolled at College	0.015	0.018	0.860	0.3886	0.019
Placement Test Score	0.008	0.024	0.330	0.7396	0.010

Table D.92: Linear regression results of grade point average for benefits eligibility screening and tax preparation (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.813	0.083	34.020	<.0001	--
TRT	0.040	0.118	0.340	0.7344	0.049
Academic/Occupational Major	-0.348	0.197	-1.770	0.0788	-0.425
Liberal Studies Major	-0.308	0.198	-1.550	0.1219	-0.377
Business & Technology Major	-0.871	0.239	-3.640	0.0004	-1.065
Age at Baseline	0.019	0.006	3.430	0.0008	0.023

Table D.93: Linear regression results of grade point average for benefits eligibility screening and financial counseling (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.433	0.113	21.570	<.0001	--
TRT	0.277	0.168	1.650	0.1013	0.296
FTIC	-0.358	0.395	-0.910	0.3663	-0.383
Female	0.358	0.177	2.010	0.0462	0.382
Hispanic	-0.428	0.426	-1.010	0.3168	-0.458
Black	-0.497	0.218	-2.280	0.0244	-0.531
Full Time	-0.132	0.175	-0.760	0.4515	-0.141
Married	0.077	0.338	0.230	0.8188	0.083
FAFSA_Financially_Dependent	0.059	0.222	0.270	0.7897	0.063
Received Financial Aid	1.093	0.670	1.630	0.1054	1.169
Received Student Loan	0.189	0.193	0.980	0.3299	0.202
First in Family to Attend College	0.164	0.169	0.970	0.3351	0.175
High School GED	-0.170	0.171	-0.990	0.3221	-0.182
Enrolled in Remediation	-0.409	0.364	-1.120	0.2644	-0.437
Academic/Occupational Major	0.160	0.261	0.610	0.5414	0.171
Liberal Studies Major	-0.108	0.379	-0.280	0.7771	-0.115
Business & Technology Major	0.301	0.401	0.750	0.4538	0.322
Age at Baseline	0.015	0.012	1.190	0.2349	0.016
Number of Years Since First Enrolled at College	-0.013	0.024	-0.550	0.5867	-0.014
Placement Test Score	0.024	0.031	0.790	0.4328	0.026

Table D.94: Linear regression results of grade point average for benefits eligibility screening and financial counseling (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.456	0.109	22.510	<.0001	--
TRT	0.231	0.158	1.470	0.1450	0.247
Female	0.445	0.154	2.880	0.0046	0.476
Black	-0.445	0.185	-2.410	0.0173	-0.476
Received Financial Aid	1.233	0.638	1.930	0.0553	1.319

Table D.95: Linear regression results of grade point average for benefits eligibility screening and financial counseling (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.476	0.104	23.870	<.0001	--
TRT	0.147	0.153	0.960	0.3391	0.165
FTIC	-0.617	0.418	-1.480	0.1426	-0.693
Female	0.343	0.158	2.180	0.0316	0.386
Hispanic	0.059	0.352	0.170	0.8679	0.066
Black	-0.338	0.202	-1.670	0.0968	-0.379
Full Time	-0.367	0.164	-2.240	0.0273	-0.412
Married	0.040	0.363	0.110	0.9132	0.044
FAFSA_Financially_Dependent	0.153	0.185	0.830	0.4089	0.172
Received Financial Aid	1.466	0.634	2.310	0.0224	1.646
Received Student Loan	0.029	0.160	0.180	0.8566	0.032
First in Family to Attend College	0.156	0.158	0.980	0.3283	0.175
High School GED	-0.028	0.158	-0.180	0.8586	-0.032
Enrolled in Remediation	-0.365	0.383	-0.950	0.3427	-0.410
Academic/Occupational Major	0.089	0.252	0.350	0.7251	0.100
Liberal Studies Major	-0.111	0.316	-0.350	0.7256	-0.125
Business & Technology Major	0.133	0.351	0.380	0.7060	0.149
Age at Baseline	0.014	0.010	1.390	0.1669	0.016
Number of Years Since First Enrolled at College	-0.016	0.023	-0.700	0.4841	-0.018
Placement Test Score	0.022	0.032	0.670	0.5017	0.024

Table D.96: Linear regression results of grade point average for benefits eligibility screening and financial counseling (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.458	0.099	24.920	<.0001	--
TRT	0.183	0.143	1.280	0.2036	0.205
FTIC	-0.279	0.152	-1.830	0.0690	-0.313
Female	0.294	0.144	2.040	0.0434	0.330
Black	-0.387	0.171	-2.260	0.0256	-0.435
Full Time	-0.331	0.141	-2.350	0.0200	-0.371
Received Financial Aid	1.515	0.576	2.630	0.0095	1.701
Age at Baseline	0.011	0.007	1.510	0.1325	0.012

Table D.97: Linear regression results of grade point average for tax preparation only (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.719	0.097	28.080	<.0001	--
TRT	0.233	0.139	1.670	0.0981	0.320
Female	-0.055	0.158	-0.350	0.7293	-0.075
Hispanic	-0.526	0.241	-2.190	0.0313	-0.723
Black	-0.115	0.178	-0.650	0.5189	-0.159
Full Time	0.075	0.152	0.490	0.6232	0.103
Married	-0.136	0.552	-0.250	0.8062	-0.187
FAFSA_Financially_Dependent	-0.121	0.196	-0.620	0.5370	-0.167
Received Financial Aid	0.428	0.421	1.020	0.3114	0.589
Received Student Loan	-0.047	0.167	-0.280	0.7795	-0.065
First in Family to Attend College	-0.002	0.149	-0.020	0.9875	-0.003
High School GED	0.065	0.165	0.390	0.6956	0.089
Enrolled in Remediation	-0.937	0.767	-1.220	0.2244	-1.290
Academic/Occupational Major	-0.387	0.270	-1.430	0.1548	-0.532
Liberal Studies Major	0.152	0.247	0.610	0.5406	0.209
Business & Technology Major	-0.172	0.285	-0.600	0.5477	-0.237
Age at Baseline	-0.002	0.009	-0.220	0.8230	-0.003
Number of Years Since First Enrolled at College	0.009	0.014	0.630	0.5303	0.012
Placement Test Score	0.017	0.027	0.630	0.5308	0.024

Table D.98: Linear regression results of grade point average for tax preparation only (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.731	0.094	29.170	<.0001	--
TRT	0.209	0.133	1.570	0.1182	0.288
Hispanic	-0.543	0.191	-2.840	0.0053	-0.747

Table D.99: Linear regression results of grade point average for tax preparation only (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.768	0.093	29.640	<.0001	--
TRT	0.127	0.136	0.940	0.3495	0.181
Female	-0.094	0.146	-0.650	0.5191	-0.134
Hispanic	-0.543	0.265	-2.050	0.0428	-0.771
Black	-0.226	0.165	-1.370	0.1749	-0.320
Full Time	0.019	0.149	0.130	0.8967	0.028
Married	0.158	0.368	0.430	0.6678	0.225
FAFSA_Financially_Dependent	-0.363	0.185	-1.960	0.0525	-0.515
Received Financial Aid	-0.032	0.383	-0.080	0.9343	-0.045
Received Student Loan	-0.089	0.169	-0.530	0.5989	-0.127
First in Family to Attend College	0.110	0.149	0.740	0.4607	0.157
High School GED	0.071	0.150	0.480	0.6355	0.101
Enrolled in Remediation	0.252	0.567	0.440	0.6574	0.358
Academic/Occupational Major	-0.532	0.292	-1.820	0.0715	-0.755
Liberal Studies Major	-0.110	0.265	-0.410	0.6793	-0.156
Business & Technology Major	-0.465	0.298	-1.560	0.1224	-0.661
Age at Baseline	0.003	0.008	0.360	0.7194	0.004
Number of Years Since First Enrolled at College	-0.006	0.012	-0.500	0.6191	-0.009
Placement Test Score	0.013	0.027	0.500	0.6169	0.019
	-0.006	0.012	-0.500	0.6191	-0.009

Table D.100: Linear regression results of grade point average for tax preparation only (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.753	0.087	31.700	<.0001	--
TRT	0.158	0.123	1.280	0.2026	0.224
Hispanic	-0.549	0.230	-2.380	0.0189	-0.779
Black	-0.270	0.142	-1.900	0.0599	-0.384
FAFSA_Financially_Dependent	-0.383	0.138	-2.770	0.0067	-0.543
Academic/Occupational Major	-0.488	0.267	-1.830	0.0702	-0.692
Business & Technology Major	-0.312	0.162	-1.920	0.0570	-0.443

Table D.101: Linear regression results of grade point average for benefits eligibility screening and additional services (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.340	0.151	15.460	<.0001	--
TRT	0.455	0.220	2.070	0.0419	0.426
FTIC	0.385	0.481	0.800	0.4255	0.361
Female	-0.055	0.245	-0.230	0.8217	-0.052
Hispanic	-0.158	0.430	-0.370	0.7143	-0.148
Black	-0.358	0.304	-1.180	0.2424	-0.336
Full Time	0.421	0.264	1.590	0.1151	0.395
Married	0.151	0.584	0.260	0.7972	0.141
FAFSA_Financially_Dependent	-0.355	0.347	-1.020	0.3098	-0.332
Received Student Loan	-0.062	0.266	-0.230	0.8177	-0.058
First in Family to Attend College	-0.029	0.248	-0.120	0.9059	-0.028
High School GED	-0.299	0.243	-1.230	0.2220	-0.280
Enrolled in Remediation	0.689	0.432	1.590	0.1144	0.646
Academic/Occupational Major	-0.542	0.422	-1.280	0.2029	-0.508
Liberal Studies Major	0.310	0.427	0.730	0.4702	0.290
Business & Technology Major	0.245	0.519	0.470	0.6379	0.230
Age at Baseline	-0.011	0.014	-0.780	0.4371	-0.010
Number of Years Since First Enrolled at College	0.012	0.042	0.290	0.7749	0.011
Placement Test Score	0.075	0.039	1.930	0.0574	0.070

Table D.102: Linear regression results of grade point average for benefits eligibility screening and additional services (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.493	0.120	20.710	<.0001	--
TRT	0.260	0.172	1.510	0.1342	0.287
Liberal Studies Major	-0.537	0.188	-2.850	0.0053	-0.592
Business & Technology Major	-2.246	0.910	-2.470	0.0153	-2.476

Table D.103: Linear regression results of grade point average for benefits eligibility screening and additional services (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.340	0.151	15.460	<.0001	--
TRT	0.455	0.220	2.070	0.0419	0.426
FTIC	0.385	0.481	0.800	0.4255	0.361
Female	-0.055	0.245	-0.230	0.8217	-0.052
Hispanic	-0.158	0.430	-0.370	0.7143	-0.148
Black	-0.358	0.304	-1.180	0.2424	-0.336
Full Time	0.421	0.264	1.590	0.1151	0.395
Married	0.151	0.584	0.260	0.7972	0.141
FAFSA_Financially_Dependent	-0.355	0.347	-1.020	0.3098	-0.332
Received Student Loan	-0.062	0.266	-0.230	0.8177	-0.058
First in Family to Attend College	-0.029	0.248	-0.120	0.9059	-0.028
High School GED	-0.299	0.243	-1.230	0.2220	-0.280
Enrolled in Remediation	0.689	0.432	1.590	0.1144	0.646
Academic/Occupational Major	-0.542	0.422	-1.280	0.2029	-0.508
Liberal Studies Major	0.310	0.427	0.730	0.4702	0.290
Business & Technology Major	0.245	0.519	0.470	0.6379	0.230
Age at Baseline	-0.011	0.014	-0.780	0.4371	-0.010
Number of Years Since First Enrolled at College	0.012	0.042	0.290	0.7749	0.011
Placement Test Score	0.075	0.039	1.930	0.0574	0.070

Table D.104: Linear regression results of grade point average for benefits eligibility screening and additional services (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.775	0.103	26.820	<.0001	--
TRT	-0.058	0.147	-0.400	0.6918	-0.077
Liberal Studies Major	-0.587	0.276	-2.130	0.0359	-0.773
Business & Technology Major	-0.848	0.340	-2.500	0.0142	-1.116

Table D.105: Linear regression results of grade point average for benefits eligibility screening and legal counseling (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.752	0.149	18.490	<.0001	--
TRT	-0.132	0.234	-0.560	0.5754	-0.152
FTIC	-0.283	0.478	-0.590	0.5562	-0.327
Female	-0.415	0.233	-1.780	0.0806	-0.479
Hispanic	-0.355	0.399	-0.890	0.3781	-0.410
Black	-0.384	0.278	-1.380	0.1716	-0.444
Full Time	0.183	0.215	0.850	0.3984	0.212
Married	0.048	0.383	0.130	0.9003	0.056
FAFSA_Financially_Dependent	-0.662	0.302	-2.190	0.0324	-0.765
Received Financial Aid	0.298	0.894	0.330	0.7397	0.345
Received Student Loan	0.109	0.249	0.440	0.6647	0.125
First in Family to Attend College	-0.009	0.234	-0.040	0.9690	-0.011
High School GED	-0.186	0.209	-0.890	0.3770	-0.215
Enrolled in Remediation	0.133	0.428	0.310	0.7573	0.153
Academic/Occupational Major	0.607	0.457	1.330	0.1894	0.701
Liberal Studies Major	-0.127	0.362	-0.350	0.7277	-0.146
Business & Technology Major	-0.614	0.453	-1.360	0.1801	-0.710
Age at Baseline	0.004	0.015	0.280	0.7833	0.005
Number of Years Since First Enrolled at College	0.015	0.023	0.650	0.5178	0.018
Placement Test Score	0.007	0.049	0.150	0.8802	0.009

Table D.106: Linear regression results of grade point average for benefits eligibility screening and legal counseling (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.711	0.133	20.400	<.0001	--
TRT	-0.051	0.192	-0.260	0.7929	-0.058
FAFSA_Financially_Dependent	-0.602	0.244	-2.470	0.0157	-0.696
Academic/Occupational Major	0.685	0.424	1.610	0.1110	0.791
Business & Technology Major	-0.364	0.267	-1.370	0.1757	-0.421

Table D.107: Linear regression results of grade point average for benefits eligibility screening and legal counseling (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.754	0.135	20.450	<.0001	--
TRT	0.000	0.205	0.000	0.9992	0.000
FTIC	-0.013	0.490	-0.030	0.9789	-0.015
Female	-0.045	0.217	-0.210	0.8352	-0.052
Hispanic	-0.760	0.370	-2.050	0.0443	-0.873
Black	-0.759	0.254	-2.990	0.0040	-0.871
Full Time	-0.147	0.200	-0.740	0.4636	-0.169
Married	-0.098	0.403	-0.240	0.8095	-0.112
FAFSA_Financially_Dependent	-0.421	0.310	-1.360	0.1794	-0.483
Received Student Loan	-0.005	0.243	-0.020	0.9837	-0.006
First in Family to Attend College	0.006	0.227	0.030	0.9777	0.007
High School GED	-0.267	0.212	-1.260	0.2128	-0.307
Enrolled in Remediation	0.100	0.407	0.250	0.8069	0.115
Academic/Occupational Major	0.551	0.514	1.070	0.2873	0.633
Liberal Studies Major	-0.310	0.281	-1.100	0.2748	-0.356
Business & Technology Major	-0.177	0.372	-0.470	0.6367	-0.203
Age at Baseline	0.027	0.014	1.950	0.0552	0.031
Number of Years Since First Enrolled at College	0.023	0.027	0.820	0.4136	0.026
Placement Test Score	-0.012	0.042	-0.290	0.7753	-0.014

Table D.108: Linear regression results of grade point average for benefits eligibility screening and legal counseling (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.765	0.122	22.640	<.0001	--
TRT	-0.022	0.176	-0.120	0.9018	-0.025
Hispanic	-0.991	0.305	-3.250	0.0017	-1.138
Black	-0.787	0.206	-3.830	0.0003	-0.903
FAFSA_Financially_Dependent	-0.425	0.282	-1.510	0.1364	-0.488
Age at Baseline	0.028	0.011	2.590	0.0117	0.032

Table D.109: Linear regression results of grade point average for financial counseling and tax preparation (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.805	0.121	23.270	<.0001	--
TRT	0.152	0.183	0.830	0.4091	0.205
FTIC	-0.091	0.727	-0.130	0.9004	-0.123
Female	0.016	0.176	0.090	0.9290	0.021
Hispanic	0.336	0.304	1.110	0.2726	0.453
Black	-0.090	0.207	-0.430	0.6651	-0.121
Full Time	-0.042	0.166	-0.250	0.8009	-0.057
Married	0.510	0.497	1.030	0.3085	0.687
FAFSA_Financially_Dependent	-0.104	0.229	-0.460	0.6502	-0.140
Received Student Loan	-0.157	0.197	-0.790	0.4300	-0.211
First in Family to Attend College	0.024	0.173	0.140	0.8913	0.032
High School GED	0.193	0.183	1.050	0.2951	0.260
Enrolled in Remediation	-0.181	0.571	-0.320	0.7514	-0.245
Academic/Occupational Major	0.406	0.484	0.840	0.4034	0.548
Liberal Studies Major	-0.330	0.293	-1.130	0.2628	-0.445
Business & Technology Major	-0.122	0.321	-0.380	0.7058	-0.164
Age at Baseline	0.007	0.010	0.720	0.4767	0.010
Number of Years Since First Enrolled at College	0.017	0.020	0.830	0.4095	0.022
Placement Test Score	-0.001	0.035	-0.020	0.9807	-0.001

Table D.110: Linear regression results of grade point average for financial counseling and tax preparation (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.866	0.108	26.470	<.0001	--
TRT	0.032	0.153	0.210	0.8346	0.043

Table D.111: Linear regression results of grade point average for financial counseling and tax preparation (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.568	0.112	22.990	<.0001	--
TRT	0.384	0.168	2.290	0.0250	0.536
FTIC	1.089	0.868	1.250	0.2135	1.520
Female	0.132	0.166	0.800	0.4286	0.184
Hispanic	0.331	0.293	1.130	0.2627	0.462
Black	-0.126	0.202	-0.630	0.5330	-0.176
Full Time	-0.053	0.161	-0.330	0.7418	-0.074
Married	0.496	0.801	0.620	0.5380	0.692
FAFSA_Financially_Dependent	0.016	0.208	0.080	0.9384	0.023
Received Student Loan	-0.109	0.196	-0.550	0.5811	-0.152
First in Family to Attend College	-0.173	0.164	-1.060	0.2946	-0.241
High School GED	0.107	0.182	0.590	0.5597	0.149
Enrolled in Remediation	0.938	0.774	1.210	0.2291	1.309
Academic/Occupational Major	0.004	0.447	0.010	0.9937	0.005
Liberal Studies Major	-0.148	0.292	-0.510	0.6146	-0.206
Business & Technology Major	-0.099	0.325	-0.300	0.7618	-0.138
Age at Baseline	0.010	0.010	1.000	0.3203	0.015
Number of Years Since First Enrolled at College	0.032	0.023	1.380	0.1703	0.044
Placement Test Score	0.056	0.034	1.630	0.1084	0.078

Table D.112: Linear regression results of grade point average for financial counseling and tax preparation (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.601	0.103	25.160	<.0001	--
TRT	0.317	0.148	2.140	0.0350	0.442
Number of Years Since First Enrolled at College	0.030	0.019	1.620	0.1094	0.042
Placement Test Score	0.053	0.027	1.970	0.0518	0.073

Table D.113: Linear regression results of grade point average for receiving one or two major services (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.681	0.035	77.180	<.0001	--
TRT	0.106	0.049	2.150	0.0320	0.119
FTIC	-0.086	0.110	-0.790	0.4316	-0.097
Female	0.054	0.053	1.010	0.3120	0.061
Hispanic	-0.296	0.091	-3.250	0.0012	-0.332
Black	-0.339	0.059	-5.740	<.0001	-0.381
Full Time	0.055	0.053	1.040	0.2971	0.062
Married	0.129	0.108	1.190	0.2329	0.145
FAFSA_Financially_Dependent	-0.183	0.066	-2.770	0.0058	-0.206
Received Financial Aid	-0.212	0.185	-1.150	0.2524	-0.238
Received Student Loan	-0.076	0.057	-1.330	0.1848	-0.086
First in Family to Attend College	0.065	0.051	1.280	0.2020	0.073
High School GED	-0.015	0.052	-0.290	0.7717	-0.017
Enrolled in Remediation	0.159	0.099	1.610	0.1070	0.179
Academic/Occupational Major	-0.070	0.107	-0.650	0.5150	-0.078
Liberal Studies Major	-0.087	0.090	-0.970	0.3322	-0.098
Business & Technology Major	-0.105	0.105	-1.000	0.3164	-0.118
Age at Baseline	0.008	0.003	2.550	0.0108	0.009
Number of Years Since First Enrolled at College	0.003	0.006	0.400	0.6884	0.003
Placement Test Score	0.030	0.009	3.220	0.0013	0.033

Table D.114: Linear regression results of grade point average for receiving one or two major services (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.680	0.035	77.350	<.0001	--
TRT	0.106	0.049	2.170	0.0302	0.119
Hispanic	-0.296	0.090	-3.270	0.0011	-0.332
Black	-0.346	0.058	-6.020	<.0001	-0.389
FAFSA_Financially_Dependent	-0.202	0.065	-3.110	0.0019	-0.226
Received Student Loan	-0.097	0.056	-1.730	0.0836	-0.109
Enrolled in Remediation	0.248	0.052	4.780	<.0001	0.279
Age at Baseline	0.008	0.003	2.790	0.0053	0.009
Placement Test Score	0.031	0.009	3.450	0.0006	0.035

Table D.115: Linear regression results of grade point average for receiving one or two major services (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.671	0.033	80.800	<.0001	--
TRT	0.084	0.047	1.790	0.0733	0.099
FTIC	-0.018	0.109	-0.170	0.8674	-0.021
Female	0.040	0.050	0.810	0.4196	0.047
Hispanic	-0.245	0.089	-2.750	0.0060	-0.288
Black	-0.364	0.056	-6.480	<.0001	-0.427
Full Time	-0.038	0.050	-0.760	0.4473	-0.045
Married	0.103	0.104	0.980	0.3259	0.120
FAFSA_Financially_Dependent	-0.109	0.063	-1.730	0.0832	-0.128
Received Financial Aid	-0.062	0.160	-0.380	0.7004	-0.072
Received Student Loan	-0.058	0.055	-1.060	0.2880	-0.068
First in Family to Attend College	0.028	0.049	0.580	0.5606	0.033
High School GED	-0.018	0.049	-0.370	0.7092	-0.022
Enrolled in Remediation	0.260	0.098	2.660	0.0080	0.306
Academic/Occupational Major	-0.065	0.100	-0.650	0.5179	-0.076
Liberal Studies Major	-0.142	0.084	-1.700	0.0897	-0.167
Business & Technology Major	-0.297	0.098	-3.020	0.0026	-0.349
Age at Baseline	0.008	0.003	2.660	0.0079	0.009
Number of Years Since First Enrolled at College	0.003	0.006	0.470	0.6359	0.003
Placement Test Score	0.014	0.009	1.630	0.1027	0.017

Table D.116: Linear regression results of grade point average for receiving one or two major services (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.672	0.033	81.090	<.0001	--
TRT	0.083	0.047	1.780	0.0758	0.097
Hispanic	-0.245	0.088	-2.770	0.0056	-0.287
Black	-0.372	0.054	-6.890	<.0001	-0.437
FAFSA_Financially_Dependent	-0.119	0.061	-1.940	0.0525	-0.140
Enrolled in Remediation	0.287	0.050	5.770	<.0001	0.337
Liberal Studies Major	-0.147	0.083	-1.770	0.0771	-0.172
Business & Technology Major	-0.310	0.097	-3.200	0.0014	-0.365
Age at Baseline	0.008	0.003	3.020	0.0025	0.009
Placement Test Score	0.012	0.009	1.440	0.1489	0.014

Table D.117: Linear regression results of grade point average for receiving at least three major services (service combination analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.709	0.050	54.370	<.0001	--
TRT	0.213	0.071	3.010	0.0028	0.242
FTIC	-0.412	0.156	-2.640	0.0086	-0.467
Female	0.036	0.073	0.490	0.6227	0.041
Hispanic	-0.192	0.140	-1.370	0.1711	-0.218
Black	-0.406	0.088	-4.630	<.0001	-0.461
Full Time	0.078	0.078	1.000	0.3177	0.088
Married	0.226	0.173	1.310	0.1921	0.257
FAFSA_Financially_Dependent	-0.081	0.092	-0.880	0.3789	-0.092
Received Financial Aid	0.179	0.290	0.620	0.5380	0.203
Received Student Loan	-0.046	0.080	-0.580	0.5633	-0.053
First in Family to Attend College	0.012	0.073	0.160	0.8691	0.014
High School GED	0.039	0.075	0.510	0.6083	0.044
Enrolled in Remediation	-0.032	0.145	-0.220	0.8242	-0.037
Academic/Occupational Major	-0.089	0.137	-0.650	0.5179	-0.101
Liberal Studies Major	-0.204	0.140	-1.450	0.1465	-0.231
Business & Technology Major	-0.306	0.161	-1.900	0.0584	-0.348
Age at Baseline	0.012	0.004	2.940	0.0034	0.014
Number of Years Since First Enrolled at College	-0.012	0.008	-1.450	0.1474	-0.014
Placement Test Score	0.032	0.013	2.340	0.0197	0.036

Table D.118: Linear regression results of grade point average for receiving at least three major services (service combination analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.708	0.049	54.780	<.0001	--
TRT	0.215	0.070	3.070	0.0023	0.244
FTIC	-0.378	0.082	-4.640	<.0001	-0.430
Hispanic	-0.192	0.137	-1.400	0.1608	-0.218
Black	-0.422	0.084	-5.020	<.0001	-0.479
Married	0.242	0.170	1.420	0.1562	0.274
Liberal Studies Major	-0.192	0.138	-1.390	0.1660	-0.218
Business & Technology Major	-0.290	0.159	-1.820	0.0694	-0.329
Age at Baseline	0.013	0.004	3.670	0.0003	0.015
Number of Years Since First Enrolled at College	-0.013	0.008	-1.680	0.0940	-0.015
Placement Test Score	0.031	0.013	2.320	0.0209	0.035

Table D.119: Linear regression results of grade point average for receiving at least three major services (service combination analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.687	0.046	58.450	<.0001	--
TRT	0.192	0.066	2.930	0.0036	0.241
FTIC	-0.444	0.150	-2.950	0.0033	-0.558
Female	0.035	0.069	0.500	0.6152	0.044
Hispanic	-0.037	0.122	-0.310	0.7585	-0.047
Black	-0.253	0.079	-3.200	0.0014	-0.318
Full Time	0.091	0.070	1.290	0.1992	0.114
Married	-0.012	0.148	-0.080	0.9352	-0.015
FAFSA_Financially_Dependent	0.023	0.086	0.270	0.7889	0.029
Received Financial Aid	0.097	0.243	0.400	0.6882	0.122
Received Student Loan	-0.106	0.074	-1.440	0.1514	-0.133
First in Family to Attend College	0.011	0.068	0.160	0.8736	0.014
High School GED	0.119	0.069	1.730	0.0846	0.150
Enrolled in Remediation	-0.107	0.139	-0.770	0.4415	-0.134
Academic/Occupational Major	-0.235	0.122	-1.920	0.0558	-0.295
Liberal Studies Major	-0.135	0.126	-1.070	0.2830	-0.170
Business & Technology Major	-0.240	0.146	-1.640	0.1008	-0.302
Age at Baseline	0.014	0.004	3.390	0.0007	0.017
Number of Years Since First Enrolled at College	-0.014	0.008	-1.730	0.0845	-0.017
Placement Test Score	0.029	0.012	2.360	0.0186	0.037

Table D.120: Linear regression results of grade point average for receiving at least three major services (service combination analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.688	0.046	59.050	<.0001	--
TRT	0.190	0.065	2.940	0.0034	0.239
FTIC	-0.355	0.076	-4.660	<.0001	-0.446
Black	-0.242	0.070	-3.470	0.0006	-0.303
Full Time	0.091	0.070	1.310	0.1903	0.115
Received Student Loan	-0.103	0.072	-1.430	0.1521	-0.129
High School GED	0.117	0.068	1.730	0.0845	0.147
Academic/Occupational Major	-0.224	0.120	-1.860	0.0633	-0.281
Business & Technology Major	-0.120	0.089	-1.350	0.1765	-0.151
Age at Baseline	0.013	0.004	3.840	0.0001	0.017
Number of Years Since First Enrolled at College	-0.014	0.008	-1.780	0.0757	-0.017
Placement Test Score	0.030	0.012	2.440	0.0150	0.038

Table D.121: Summary of logistic regression results for FTIC students – Fall 2014 - Spring 2017 semester-to-semester persistence (interaction model)

Subgroup	Sample Size (Matched Pairs x 2)	Unadjusted Odds		Regression-Adjusted Odds		Effect Size in Odds Ratio or Multiplicative Inverse of Odds Ratio	p-value
		Comparison	Treatment	Comparison	Treatment		
Financially Independent	305 x 2	0.181	0.359	0.156	0.295	1.898	***0.017***
Financially Dependent		0.247	0.403	0.253	0.420	1.662	0.123
Financially Dependent vs. Financially Independent		1.365	1.123	1.624	1.422	$0.875^{-1} = 1.143$	0.755

Table D.122: Summary of logistic regression results for FTIC students – Fall 2014 - Fall 2017 semester-to-semester persistence (interaction model)

Subgroup	Sample Size (Matched Pairs x 2)	Unadjusted Odds		Regression-Adjusted Odds		Effect Size in Odds Ratio or Multiplicative Inverse of Odds Ratio	p-value
		Comparison	Treatment	Comparison	Treatment		
Financially Independent	305 x 2	0.086	0.209	0.066	0.156	***2.342***	***0.012***
Financially Dependent		0.126	0.125	0.137	0.129	0.941	0.890
Financially Dependent vs. Financially Independent		1.465	0.598	2.057	0.827	$\boldsymbol{0.402^{-1} = 2.488}$	0.101

Table D.123: Summary of linear regression results for FTIC students – Fall 2014 - Spring 2017 degree bearing credit pass rate (interaction model)

Subgroup	Sample Size (Matched Pairs x 2)	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Hedges' g	p-value
		Comparison	Treatment	Comparison	Treatment			
Financially Independent	296 x 2	0.457	0.532	0.447	0.507	0.060	0.163	0.100
Financially Dependent		0.474	0.528	0.499	0.570	0.071	0.193	0.158
Financially Dependent vs. Financially Independent		0.017	-0.004	0.052	0.064	0.011	0.030	0.858

Table.D.124: Summary of linear regression results for FTIC students – Fall 2014 - Fall 2017 degree bearing credit pass rate (interaction model)

Subgroup	Sample Size (Matched Pairs x 2)	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Hedges' g	p-value
		Comparison	Treatment	Comparison	Treatment			
Financially Independent	296 x 2	0.461	0.541	0.444	0.516	0.072	0.202	***0.044***
Financially Dependent		0.502	0.529	0.538	0.568	0.029	0.082	0.525
Financially Dependent vs. Financially Independent		0.041	-0.012	0.095	0.052	-0.043	-0.119	0.468

Table D.125: Summary of linear regression results for FTIC students – Fall 2014 - Spring 2017 grade point average (interaction model)

Subgroup	Sample Size (Matched Pairs x 2)	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Hedges' g	p-value
		Comparison	Treatment	Comparison	Treatment			
Financially Independent	263 x 2	2.517	2.664	2.471	2.567	0.096	0.089	0.408
Financially Dependent		2.242	2.471	2.319	2.629	0.310	0.286	***0.038***
Financially Dependent vs. Financially Independent		-0.275	-0.193	-0.151	0.063	0.214	0.197	0.261

Table D.126: Summary of linear regression results for FTIC students – Fall 2014 - Fall 2017 grade point average (interaction model)

Subgroup	Sample Size (Matched Pairs x 2)	Unadjusted Means		Regression-Adjusted Means		Estimated Impact	Effect Size in Hedges' g	p-value
		Comparison	Treatment	Comparison	Treatment			
Financially Independent	263 x 2	2.495	2.625	2.416	2.559	0.144	0.155	0.158
Financially Dependent		2.318	2.429	2.402	2.573	0.172	0.185	0.178
Financially Dependent vs. Financially Independent		-0.177	-0.196	-0.014	0.014	0.028	0.030	0.864

Table D.127: Logistic regression results of semester-to-semester persistence for FTIC students (Fall 2014-Spring 2017, interaction model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	0.147	0.031	4.780	<.0001	--
TRT	0.100	0.041	2.400	0.0166	0.242
Female	0.053	0.034	1.570	0.1181	0.128
Hispanic	-0.098	0.068	-1.430	0.1532	-0.237
Black	-0.111	0.042	-2.620	0.0090	-0.270
Full Time	0.076	0.035	2.150	0.0318	0.184
Married	-0.006	0.089	-0.060	0.9485	-0.014
FAFSA_Financially_Dependent	0.073	0.053	1.370	0.1705	0.177
Received Financial Aid	0.083	0.170	0.490	0.6273	0.200
Received Student Loan	-0.021	0.038	-0.560	0.5751	-0.051
First in Family to Attend College	-0.007	0.035	-0.200	0.8389	-0.017
High School GED	-0.127	0.036	-3.560	0.0004	-0.309
Academic/Occupational Major	-0.067	0.063	-1.060	0.2902	-0.163
Liberal Studies Major	-0.077	0.094	-0.820	0.4099	-0.187
Business & Technology Major	-0.076	0.101	-0.750	0.4508	-0.185
Age at Baseline	0.006	0.002	2.780	0.0056	0.015
Placement Test Score	0.009	0.006	1.430	0.1538	0.022
FAFSA_Financially_Dependent x TRT	-0.015	0.069	-0.220	0.8296	-0.036

Table D.128: Logistic regression results of semester-to-semester persistence for FTIC students (Fall 2014-Fall 2017, interaction model)

Parameter	Estimate	SE	Wald Chi-Square	*p*-value	Effect Size
Intercept	0.069	0.024	2.800	0.0053	--
TRT	0.087	0.033	2.640	0.0086	0.267
Female	0.045	0.027	1.690	0.0907	0.139
Hispanic	-0.034	0.054	-0.620	0.5360	-0.103
Black	-0.050	0.034	-1.480	0.1397	-0.153
Full Time	0.025	0.028	0.890	0.3713	0.077
Married	-0.035	0.071	-0.500	0.6158	-0.109
FAFSA_Financially_Dependent	0.070	0.042	1.650	0.1001	0.215
Received Financial Aid	-0.005	0.135	-0.040	0.9698	-0.016
Received Student Loan	-0.038	0.030	-1.270	0.2040	-0.117
First in Family to Attend College	-0.029	0.028	-1.050	0.2964	-0.089
High School GED	-0.056	0.028	-1.970	0.0489	-0.172
Academic/Occupational Major	-0.088	0.050	-1.740	0.0828	-0.269
Liberal Studies Major	-0.101	0.074	-1.350	0.1762	-0.309
Business & Technology Major	-0.086	0.080	-1.070	0.2842	-0.264
Age at Baseline	0.005	0.002	2.990	0.0029	0.016
Placement Test Score	0.009	0.005	1.840	0.0664	0.029
FAFSA_Financially_Dependent x TRT	-0.092	0.054	-1.690	0.0909	-0.283

Table D.129: Linear regression results of degree bearing credit pass rate for FTIC students (Fall 2014-Spring 2017, interaction model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.447	0.026	17.130	<.0001	--
TRT	0.060	0.036	1.650	0.0985	0.163
Female	0.054	0.030	1.780	0.0758	0.147
Hispanic	-0.045	0.058	-0.770	0.4399	-0.123
Black	-0.112	0.037	-3.000	0.0028	-0.305
Full Time	0.010	0.031	0.310	0.7587	0.026
Married	0.259	0.071	3.670	0.0003	0.705
FAFSA_Financially_Dependent	0.052	0.049	1.070	0.2847	0.142
Received Financial Aid	0.114	0.149	0.760	0.4460	0.310
Received Student Loan	-0.038	0.033	-1.160	0.2483	-0.104
First in Family to Attend College	-0.035	0.031	-1.120	0.2615	-0.095
High School GED	-0.062	0.032	-1.950	0.0518	-0.167
Academic/Occupational Major	-0.091	0.066	-1.380	0.1670	-0.247
Liberal Studies Major	-0.112	0.071	-1.590	0.1131	-0.306
Business & Technology Major	-0.107	0.078	-1.370	0.1703	-0.291
Age at Baseline	0.005	0.002	2.370	0.0182	0.012
Placement Test Score	0.023	0.006	3.970	<.0001	0.063
FAFSA_Financially_Dependent x TRT	0.011	0.062	0.180	0.8575	0.030

Table D.130: Linear regression results of degree bearing credit pass rate for FTIC students (Fall 2014-Fall 2017, interaction model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.444	0.027	16.730	<.0001	--
TRT	0.072	0.036	2.020	0.0439	0.202
Female	0.071	0.029	2.460	0.0141	0.199
Hispanic	0.006	0.057	0.100	0.9171	0.017
Black	-0.080	0.036	-2.220	0.0271	-0.223
Full Time	0.021	0.030	0.710	0.4810	0.059
Married	0.205	0.065	3.140	0.0018	0.574
FAFSA_Financially_Dependent	0.095	0.046	2.060	0.0394	0.265
Received Financial Aid	-0.124	0.144	-0.860	0.3887	-0.347
Received Student Loan	-0.040	0.032	-1.260	0.2065	-0.113
First in Family to Attend College	0.001	0.030	0.040	0.9702	0.003
High School GED	-0.065	0.030	-2.160	0.0310	-0.182
Academic/Occupational Major	-0.043	0.063	-0.680	0.4962	-0.121
Liberal Studies Major	-0.143	0.069	-2.090	0.0371	-0.401
Business & Technology Major	-0.130	0.076	-1.700	0.0893	-0.364
Age at Baseline	0.005	0.002	2.870	0.0043	0.015
Placement Test Score	0.023	0.006	4.120	<.0001	0.064
FAFSA_Financially_Dependent x TRT	-0.043	0.059	-0.730	0.4676	-0.119

Table D.131 Linear regression results of grade point average for FTIC students (Fall 2014-Spring 2017, interaction model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.471	0.086	28.700	<.0001	--
TRT	0.096	0.116	0.830	0.4081	0.089
Female	0.107	0.094	1.140	0.2563	0.099
Hispanic	-0.440	0.179	-2.450	0.0144	-0.405
Black	-0.578	0.116	-5.000	<.0001	-0.533
Full Time	0.137	0.099	1.380	0.1674	0.126
Married	0.313	0.227	1.380	0.1685	0.289
FAFSA_Financially_Dependent	-0.151	0.150	-1.010	0.3151	-0.139
Received Financial Aid	0.027	0.437	0.060	0.9501	0.025
Received Student Loan	0.091	0.106	0.860	0.3921	0.084
First in Family to Attend College	0.003	0.097	0.030	0.9781	0.002
High School GED	-0.025	0.098	-0.250	0.8004	-0.023
Academic/Occupational Major	0.177	0.210	0.840	0.4004	0.163
Liberal Studies Major	-0.321	0.226	-1.420	0.1567	-0.296
Business & Technology Major	-0.156	0.248	-0.630	0.5305	-0.144
Age at Baseline	0.016	0.006	2.460	0.0141	0.015
Placement Test Score	0.038	0.018	2.170	0.0302	0.035
FAFSA_Financially_Dependent x TRT	0.214	0.190	1.130	0.2605	0.197

Table D.132 Linear regression results of grade point average for FTIC students (Fall 2014-

Fall 2017, interaction model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.416	0.077	31.540	<.0001	--
TRT	0.144	0.101	1.420	0.1575	0.155
Female	0.152	0.081	1.870	0.0617	0.164
Hispanic	-0.261	0.158	-1.650	0.0995	-0.282
Black	-0.383	0.099	-3.880	0.0001	-0.414
Full Time	0.118	0.083	1.420	0.1554	0.127
Married	0.111	0.201	0.550	0.5792	0.120
FAFSA_Financially_Dependent	-0.014	0.130	-0.110	0.9160	-0.015
Received Financial Aid	0.164	0.383	0.430	0.6689	0.177
Received Student Loan	0.074	0.091	0.820	0.4150	0.080
First in Family to Attend College	-0.019	0.083	-0.230	0.8185	-0.021
High School GED	0.062	0.083	0.750	0.4543	0.067
Academic/Occupational Major	-0.038	0.175	-0.220	0.8272	-0.041
Liberal Studies Major	-0.473	0.181	-2.610	0.0093	-0.510
Business & Technology Major	-0.567	0.204	-2.780	0.0056	-0.612
Age at Baseline	0.013	0.005	2.500	0.0127	0.014
Placement Test Score	0.028	0.015	1.890	0.0598	0.031
FAFSA_Financially_Dependent x TRT	0.028	0.163	0.170	0.8637	0.030

Table D.133: Linear regression results of non-degree bearing credit pass rate for FTIC students, Fall 2014-Spring 2017, full model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.576	0.008	74.490	<.0001	--
TRT	0.040	0.030	1.330	0.1837	0.096
Female	0.080	0.016	5.100	<.0001	0.192
Hispanic	-0.066	0.024	-2.720	0.0066	-0.158
Black	-0.152	0.017	-8.810	<.0001	-0.366
Full Time	0.046	0.017	2.700	0.0069	0.111
Married	0.199	0.040	4.980	<.0001	0.479
Filed FAFSA	-0.421	0.415	-1.020	0.3100	-1.011
FAFSA_Financially_Dependent	0.114	0.019	5.930	<.0001	0.274
Received Financial Aid	0.001	0.036	0.030	0.9773	0.002
Received Student Loan	0.016	0.016	1.000	0.3192	0.038
First in Family to Attend College	-0.007	0.015	-0.430	0.6645	-0.016
High School GED	-0.065	0.015	-4.170	<.0001	-0.155
Academic/Occupational Major	0.021	0.028	0.770	0.4400	0.052
Liberal Studies Major	-0.093	0.044	-2.120	0.0341	-0.224
Business & Technology Major	-0.082	0.047	-1.730	0.0834	-0.196
Age at Baseline	0.002	0.001	1.950	0.0508	0.006
Placement Test Score	0.006	0.005	1.290	0.1984	0.015

Table D.134: Linear regression results of non-degree bearing credit pass rate for FTIC students, Fall 2014-Spring 2017, final model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.575	0.008	74.510	<.0001	--
TRT	0.042	0.030	1.390	0.1637	0.100
Female	0.080	0.016	5.130	<.0001	0.193
Hispanic	-0.067	0.024	-2.790	0.0053	-0.161
Black	-0.150	0.017	-8.820	<.0001	-0.362
Full Time	0.048	0.017	2.790	0.0053	0.114
Married	0.197	0.040	4.920	<.0001	0.473
FAFSA_Financially_Dependent	0.113	0.019	5.890	<.0001	0.270
High School GED	-0.065	0.015	-4.220	<.0001	-0.156
Liberal Studies Major	-0.094	0.044	-2.130	0.0335	-0.225
Business & Technology Major	-0.083	0.047	-1.760	0.0790	-0.198
Age at Baseline	0.003	0.001	2.080	0.0380	0.006
Placement Test Score	0.006	0.005	1.350	0.1774	0.015

Table D.135: Linear regression results of non-degree bearing credit pass rate for FTIC students, Fall 2014-Fall 2017, full model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.577	0.008	74.830	<.0001	--
TRT	0.040	0.030	1.330	0.1834	0.096
Female	0.079	0.016	5.030	<.0001	0.190
Hispanic	-0.068	0.024	-2.800	0.0051	-0.162
Black	-0.154	0.017	-8.910	<.0001	-0.370
Full Time	0.044	0.017	2.590	0.0095	0.106
Married	0.200	0.040	5.020	<.0001	0.481
Filed FAFSA	-0.422	0.414	-1.020	0.3082	-1.014
FAFSA_Financially_Dependent	0.114	0.019	5.980	<.0001	0.275
Received Financial Aid	0.002	0.036	0.070	0.9455	0.006
Received Student Loan	0.016	0.016	1.040	0.2976	0.039
First in Family to Attend College	-0.007	0.015	-0.470	0.6351	-0.017
High School GED	-0.066	0.015	-4.260	<.0001	-0.158
Academic/Occupational Major	0.020	0.028	0.710	0.4752	0.048
Liberal Studies Major	-0.093	0.044	-2.110	0.0352	-0.223
Business & Technology Major	-0.082	0.047	-1.750	0.0801	-0.198
Age at Baseline	0.002	0.001	1.890	0.0587	0.006
Placement Test Score	0.007	0.005	1.470	0.1415	0.017

Table D.136: Linear regression results of non-degree bearing credit pass rate for FTIC students, Fall 2014-Fall 2017, final model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.577	0.008	74.840	<.0001	--
TRT	0.042	0.030	1.400	0.1621	0.100
Female	0.079	0.016	5.060	<.0001	0.190
Hispanic	-0.069	0.024	-2.880	0.0041	-0.166
Black	-0.152	0.017	-8.910	<.0001	-0.365
Full Time	0.046	0.017	2.690	0.0072	0.110
Married	0.198	0.040	4.970	<.0001	0.475
FAFSA_Financially_Dependent	0.113	0.019	5.930	<.0001	0.272
High School GED	-0.066	0.015	-4.310	<.0001	-0.159
Liberal Studies Major	-0.093	0.044	-2.110	0.0346	-0.223
Business & Technology Major	-0.083	0.047	-1.770	0.0762	-0.200
Age at Baseline	0.003	0.001	2.010	0.0446	0.006
Placement Test Score	0.007	0.005	1.540	0.1246	0.018

Table D.137: Linear regression results of non-degree bearing credits passed for FTIC students, Fall 2014-Spring 2017, full model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	4.025	0.066	60.580	<.0001	--
TRT	0.428	0.257	1.660	0.0967	0.123
Female	0.929	0.135	6.890	<.0001	0.268
Hispanic	-0.704	0.207	-3.400	0.0007	-0.203
Black	-0.885	0.149	-5.950	<.0001	-0.255
Full Time	0.140	0.147	0.950	0.3415	0.040
Married	1.615	0.344	4.690	<.0001	0.466
Filed FAFSA	-1.875	3.563	-0.530	0.5987	-0.541
FAFSA_Financially_Dependent	0.860	0.165	5.210	<.0001	0.248
Received Financial Aid	0.365	0.309	1.180	0.2376	0.105
Received Student Loan	-0.132	0.135	-0.970	0.3302	-0.038
First in Family to Attend College	-0.094	0.131	-0.720	0.4731	-0.027
High School GED	-0.383	0.133	-2.880	0.0040	-0.111
Academic/Occupational Major	-0.083	0.239	-0.350	0.7279	-0.024
Liberal Studies Major	-0.524	0.379	-1.380	0.1668	-0.151
Business & Technology Major	-0.466	0.405	-1.150	0.2501	-0.134
Age at Baseline	0.015	0.011	1.390	0.1636	0.004
Placement Test Score	-0.291	0.041	-7.070	<.0001	-0.084

Table D.138: Linear regression results of non-degree bearing credits passed for FTIC students, Fall 2014-Spring 2017, final model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	4.022	0.066	60.590	<.0001	--
TRT	0.468	0.256	1.830	0.0674	0.135
Female	0.923	0.132	6.970	<.0001	0.266
Hispanic	-0.702	0.206	-3.400	0.0007	-0.203
Black	-0.894	0.146	-6.120	<.0001	-0.258
Married	1.688	0.340	4.970	<.0001	0.487
FAFSA_Financially_Dependent	0.741	0.136	5.450	<.0001	0.214
High School GED	-0.349	0.132	-2.650	0.0082	-0.101
Placement Test Score	-0.291	0.041	-7.130	<.0001	-0.084

Table D.139: Linear regression results of non-degree bearing credits passed for FTIC students, Fall 2014-Fall 2017, full model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	4.045	0.066	60.890	<.0001	--
TRT	0.425	0.258	1.650	0.0988	0.122
Female	0.930	0.135	6.890	<.0001	0.268
Hispanic	-0.728	0.208	-3.510	0.0005	-0.210
Black	-0.889	0.149	-5.980	<.0001	-0.256
Full Time	0.115	0.147	0.780	0.4356	0.033
Married	1.577	0.343	4.600	<.0001	0.454
Filed FAFSA	-1.874	3.566	-0.530	0.5991	-0.540
FAFSA_Financially_Dependent	0.879	0.165	5.330	<.0001	0.253
Received Financial Aid	0.397	0.309	1.290	0.1988	0.114
Received Student Loan	-0.139	0.135	-1.020	0.3061	-0.040
First in Family to Attend College	-0.097	0.131	-0.740	0.4602	-0.028
High School GED	-0.384	0.133	-2.890	0.0039	-0.111
Academic/Occupational Major	-0.102	0.239	-0.430	0.6697	-0.029
Liberal Studies Major	-0.500	0.379	-1.320	0.1870	-0.144
Business & Technology Major	-0.471	0.405	-1.160	0.2453	-0.136
Age at Baseline	0.015	0.011	1.380	0.1674	0.004
Placement Test Score	-0.289	0.041	-7.040	<.0001	-0.083

Table D.140: Linear regression results of non-degree bearing credits passed for FTIC students, Fall 2014-Fall 2017, final model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	4.043	0.066	60.900	<.0001	--
TRT	0.463	0.256	1.810	0.0701	0.133
Female	0.927	0.132	7.000	<.0001	0.267
Hispanic	-0.722	0.206	-3.500	0.0005	-0.208
Black	-0.897	0.146	-6.140	<.0001	-0.258
Married	1.647	0.339	4.860	<.0001	0.475
FAFSA_Financially_Dependent	0.758	0.136	5.580	<.0001	0.218
High School GED	-0.348	0.132	-2.650	0.0082	-0.100
Placement Test Score	-0.289	0.041	-7.130	<.0001	-0.083

Table D.141: Linear regression results of degree bearing credits passed for FTIC students, Fall 2014-Spring 2017, full model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	15.104	1.097	13.770	<.0001	--
TRT	5.194	1.554	3.340	0.0009	0.264
Female	2.959	1.619	1.830	0.0681	0.150
Hispanic	-6.030	3.107	-1.940	0.0528	-0.306
Black	-4.982	1.990	-2.500	0.0126	-0.253
Full Time	7.390	1.662	4.450	<.0001	0.375
Married	5.983	3.765	1.590	0.1126	0.304
FAFSA_Financially_Dependent	1.958	1.984	0.990	0.3240	0.099
Received Financial Aid	17.170	7.955	2.160	0.0313	0.871
Received Student Loan	-2.353	1.760	-1.340	0.1819	-0.119
First in Family to Attend College	-0.955	1.647	-0.580	0.5625	-0.048
High School GED	-4.025	1.679	-2.400	0.0169	-0.204
Academic/Occupational Major	-8.510	3.498	-2.430	0.0153	-0.432
Liberal Studies Major	-2.474	3.773	-0.660	0.5122	-0.126
Business & Technology Major	-1.010	4.146	-0.240	0.8075	-0.051
Age at Baseline	0.162	0.102	1.590	0.1125	0.008
Placement Test Score	1.018	0.309	3.290	0.0010	0.052

Table D.142: Linear regression results of degree bearing credits passed for FTIC students, Fall 2014-Spring 2017, final model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	15.093	1.094	13.800	<.0001	--
TRT	5.216	1.548	3.370	0.0008	0.265
Female	2.646	1.591	1.660	0.0969	0.134
Hispanic	-6.241	3.096	-2.020	0.0443	-0.317
Black	-4.896	1.979	-2.470	0.0137	-0.248
Full Time	7.561	1.648	4.590	<.0001	0.384
Married	5.596	3.742	1.500	0.1353	0.284
FAFSA_Financially_Dependent	17.034	7.936	2.150	0.0323	0.864
Received Student Loan	-2.574	1.744	-1.480	0.1404	-0.131
High School GED	-4.004	1.670	-2.400	0.0168	-0.203
Academic/Occupational Major	-8.523	3.485	-2.450	0.0148	-0.432
Age at Baseline	0.121	0.089	1.360	0.1731	0.006
Placement Test Score	1.055	0.306	3.450	0.0006	0.054

Table D.143: Linear regression results of degree bearing credits passed for FTIC students, Fall 2014-Fall 2017, full model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	16.834	1.143	14.720	<.0001	--
TRT	4.598	1.620	2.840	0.0047	0.222
Female	4.880	1.659	2.940	0.0034	0.235
Hispanic	-3.700	3.295	-1.120	0.2620	-0.178
Black	-6.640	2.063	-3.220	0.0014	-0.320
Full Time	8.193	1.719	4.770	<.0001	0.395
Married	8.599	3.750	2.290	0.0222	0.414
FAFSA_Financially_Dependent	5.386	2.065	2.610	0.0093	0.260
Received Financial Aid	5.761	8.256	0.700	0.4855	0.278
Received Student Loan	-0.824	1.840	-0.450	0.6544	-0.040
First in Family to Attend College	-1.180	1.701	-0.690	0.4881	-0.057
High School GED	-1.919	1.726	-1.110	0.2666	-0.092
Academic/Occupational Major	-6.782	3.643	-1.860	0.0632	-0.327
Liberal Studies Major	-3.662	3.944	-0.930	0.3536	-0.176
Business & Technology Major	-1.229	4.388	-0.280	0.7795	-0.059
Age at Baseline	0.276	0.109	2.530	0.0117	0.013
Placement Test Score	0.954	0.316	3.020	0.0027	0.046

Table D.144: Linear regression results of degree bearing credits passed for FTIC students, Fall 2014-Fall 2017, final model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	16.830	1.142	14.740	<.0001	--
TRT	4.607	1.618	2.850	0.0046	0.222
Female	4.800	1.630	2.940	0.0034	0.231
Black	-5.491	1.789	-3.070	0.0022	-0.265
Full Time	8.356	1.708	4.890	<.0001	0.403
Married	8.865	3.726	2.380	0.0177	0.427
FAFSA_Financially_Dependent	5.416	2.030	2.670	0.0078	0.261
Academic/Occupational Major	-6.769	3.635	-1.860	0.0630	-0.326
Age at Baseline	0.270	0.107	2.520	0.0120	0.013
Placement Test Score	0.933	0.310	3.010	0.0028	0.045

Table D.145: Logistic regression results of a less stringent measure of persistence for FTIC students, Fall 2014-Spring 2017, full model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-1.022	0.133	58.757	<.0001	--
TRT	0.636	0.180	12.493	0.0004	1.889
Female	0.335	0.184	3.326	0.0682	1.398
Hispanic	-0.732	0.379	3.719	0.0538	0.481
Black	-0.552	0.221	6.229	0.0126	0.576
Full Time	0.139	0.190	0.533	0.4656	1.149
Married	-0.366	0.494	0.547	0.4596	0.694
FAFSA_Financially_Dependent	0.525	0.227	5.357	0.0206	1.691
Received Financial Aid	0.324	0.909	0.127	0.7217	1.382
Received Student Loan	-0.301	0.202	2.219	0.1363	0.740
First in Family to Attend College	-0.106	0.190	0.309	0.5781	0.900
High School GED	-0.442	0.192	5.309	0.0212	0.643
Academic/Occupational Major	-0.719	0.334	4.627	0.0315	0.487
Liberal Studies Major	-0.045	0.499	0.008	0.9286	0.956
Business & Technology Major	0.228	0.538	0.180	0.6714	1.256
Age at Baseline	0.033	0.012	7.830	0.0051	1.033
Placement Test Score	0.045	0.035	1.656	0.1981	1.046

Table D.146: Logistic regression results of a less stringent measure of persistence for FTIC students, Fall 2014-Spring 2017, final model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-1.019	0.133	58.754	<.0001	--
TRT	0.635	0.179	12.575	0.0004	1.886
Female	0.304	0.180	2.847	0.0915	1.355
Hispanic	-0.775	0.375	4.272	0.0387	0.461
Black	-0.546	0.218	6.287	0.0122	0.579
FAFSA_Financially_Dependent	0.531	0.224	5.633	0.0176	1.701
Received Student Loan	-0.290	0.197	2.166	0.1411	0.748
High School GED	-0.448	0.190	5.533	0.0187	0.639
Academic/Occupational Major	-0.712	0.333	4.581	0.0323	0.491
Age at Baseline	0.030	0.012	6.819	0.0090	1.030
Placement Test Score	0.052	0.034	2.297	0.1296	1.053

Table D.147: Logistic regression results of a less stringent measure of persistence for FTIC students, Fall 2014-Fall 2017, full model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-2.193	0.192	130.411	<.0001	--
TRT	0.685	0.239	8.228	0.0041	1.984
Female	0.554	0.245	5.128	0.0235	1.741
Hispanic	-0.376	0.475	0.625	0.4292	0.687
Black	-0.350	0.279	1.572	0.2100	0.705
Full Time	0.083	0.247	0.112	0.7384	1.086
Married	-0.442	0.670	0.435	0.5098	0.643
FAFSA_Financially_Dependent	0.502	0.301	2.776	0.0957	1.652
Received Financial Aid	0.365	1.137	0.103	0.7481	1.441
Received Student Loan	-0.440	0.259	2.881	0.0897	0.644
First in Family to Attend College	-0.271	0.254	1.142	0.2852	0.762
High School GED	-0.369	0.248	2.204	0.1377	0.692
Academic/Occupational Major	-0.584	0.420	1.935	0.1642	0.558
Liberal Studies Major	-0.375	0.564	0.442	0.5064	0.687
Business & Technology Major	-0.222	0.620	0.127	0.7211	0.801
Age at Baseline	0.044	0.014	9.631	0.0019	1.045
Placement Test Score	0.088	0.044	3.984	0.0459	1.091

Table D.148: Logistic regression results of a less stringent measure of persistence for FTIC students, Fall 2014-Fall 2017, final model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-2.183	0.191	130.987	<.0001	--
TRT	0.696	0.237	8.613	0.0033	2.005
Female	0.533	0.240	4.914	0.0266	1.703
FAFSA_Financially_Dependent	0.515	0.295	3.047	0.0809	1.673
Received Student Loan	-0.448	0.249	3.242	0.0718	0.639
High School GED	-0.388	0.246	2.501	0.1138	0.678
Academic/Occupational Major	-0.571	0.412	1.917	0.1662	0.565
Age at Baseline	0.044	0.014	9.874	0.0017	1.045
Placement Test Score	0.096	0.042	5.137	0.0234	1.101

Table D.149: Logistic regression results of a less stringent measure of persistence for non-FTIC students, Fall 2014-Spring 2017, full model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.019	0.081	0.054	0.8171	--
TRT	0.346	0.116	8.872	0.0029	1.413
Female	0.170	0.126	1.831	0.1760	1.185
Hispanic	0.290	0.214	1.830	0.1761	1.336
Black	-0.096	0.140	0.465	0.4954	0.909
Full Time	0.134	0.128	1.095	0.2954	1.143
Married	0.107	0.268	0.159	0.6901	1.113
FAFSA_Financially_Dependent	-0.116	0.156	0.552	0.4577	0.891
Received Financial Aid	0.653	0.399	2.671	0.1022	1.921
Received Student Loan	0.010	0.135	0.005	0.9417	1.010
First in Family to Attend College	0.226	0.119	3.623	0.0570	1.253
High School GED	-0.085	0.123	0.482	0.4874	0.918
Enrolled in Remediation	1.004	0.205	23.987	<.0001	2.729
Academic/Occupational Major	0.068	0.227	0.089	0.7650	1.070
Liberal Studies Major	-0.963	0.213	20.389	<.0001	0.382
Business & Technology Major	-1.039	0.251	17.129	<.0001	0.354
Age at Baseline	0.009	0.007	1.662	0.1973	1.009
Number of Years Since First Enrolled at College	0.003	0.012	0.053	0.8187	1.003
Placement Test Score	-0.044	0.022	4.123	0.0423	0.957

Table D.150: Logistic regression results of a less stringent measure of persistence for non-FTIC students, Fall 2014-Spring 2017, final model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.020	0.081	0.061	0.8045	--
TRT	0.342	0.116	8.749	0.0031	1.408
Female	0.171	0.123	1.942	0.1635	1.187
Hispanic	0.356	0.192	3.424	0.0643	1.428
Received Financial Aid	0.664	0.385	2.981	0.0843	1.942
First in Family to Attend College	0.222	0.118	3.508	0.0611	1.248
Enrolled in Remediation	0.987	0.200	24.461	<.0001	2.683
Liberal Studies Major	-0.987	0.211	21.866	<.0001	0.373
Business & Technology Major	-1.058	0.249	18.102	<.0001	0.347
Age at Baseline	0.010	0.005	3.653	0.0560	1.010
Placement Test Score	-0.040	0.021	3.523	0.0605	0.961

Table D.151: Logistic regression results of a less stringent measure of persistence for non-FTIC students, Fall 2014-Fall 2017, full model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-0.487	0.084	33.318	<.0001	--
TRT	0.245	0.118	4.353	0.0369	1.278
Female	0.195	0.128	2.304	0.1290	1.215
Hispanic	0.334	0.210	2.527	0.1119	1.397
Black	-0.259	0.141	3.373	0.0663	0.772
Full Time	0.137	0.130	1.120	0.2899	1.147
Married	0.170	0.268	0.405	0.5246	1.186
FAFSA_Financially_Dependent	-0.090	0.159	0.319	0.5720	0.914
Received Financial Aid	0.423	0.426	0.987	0.3205	1.527
Received Student Loan	0.080	0.138	0.337	0.5616	1.083
First in Family to Attend College	0.004	0.120	0.001	0.9751	1.004
High School GED	-0.063	0.125	0.253	0.6151	0.939
Enrolled in Remediation	1.291	0.237	29.726	<.0001	3.635
Academic/Occupational Major	-0.092	0.230	0.161	0.6883	0.912
Liberal Studies Major	-0.998	0.199	25.263	<.0001	0.369
Business & Technology Major	-0.944	0.240	15.433	<.0001	0.389
Age at Baseline	0.004	0.007	0.320	0.5719	1.004
Number of Years Since First Enrolled at College	0.019	0.012	2.550	0.1103	1.019
Placement Test Score	-0.010	0.022	0.207	0.6488	0.990

Table D.152: Logistic regression results of a less stringent measure of persistence for non-FTIC students, Fall 2014-Fall 2017, final model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-0.486	0.084	33.265	<.0001	--
TRT	0.245	0.117	4.373	0.0365	1.278
Female	0.194	0.126	2.365	0.1241	1.214
Hispanic	0.320	0.208	2.351	0.1252	1.376
Black	-0.251	0.136	3.440	0.0636	0.778
Enrolled in Remediation	1.296	0.234	30.609	<.0001	3.655
Liberal Studies Major	-0.988	0.197	25.097	<.0001	0.373
Business & Technology Major	-0.921	0.238	15.057	0.0001	0.398
Number of Years Since First Enrolled at College	0.022	0.011	4.117	0.0425	1.022

Table D.153: Logistic regression results of graduation for FTIC students, Fall 2014-Spring 2017, full model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-3.291	7.323	0.202	0.6532	--
TRT	0.968	0.303	10.168	0.0014	2.632
Female	0.238	0.299	0.636	0.4251	1.269
Hispanic	-1.304	0.645	4.084	0.0433	0.272
Black	-0.935	0.321	8.477	0.0036	0.392
Full Time	1.689	0.319	28.004	<.0001	5.412
Married	-1.199	1.065	1.268	0.2602	0.302
FAFSA_Financially_Dependent	0.263	0.370	0.504	0.4776	1.300
Received Financial Aid	12.777	743.700	0.000	0.9863	353839.960
Received Student Loan	0.275	0.345	0.636	0.4251	1.317
First in Family to Attend College	0.125	0.308	0.164	0.6854	1.133
High School GED	-0.798	0.303	6.954	0.0084	0.450
Academic/Occupational Major	-1.170	0.503	5.424	0.0199	0.310
Liberal Studies Major	0.060	0.787	0.006	0.9390	1.062
Business & Technology Major	0.212	0.844	0.063	0.8018	1.236
Age at Baseline	0.029	0.021	2.028	0.1544	1.030
Placement Test Score	0.179	0.053	11.393	0.0007	1.196

Table D.154: Logistic regression results of graduation for FTIC students, Fall 2014-Spring 2017, final model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-3.145	0.275	130.393	<.0001	--
TRT	0.956	0.298	10.322	0.0013	2.601
Hispanic	-1.297	0.628	4.269	0.0388	0.273
Black	-0.890	0.308	8.346	0.0039	0.411
Full Time	1.604	0.310	26.830	<.0001	4.970
High School GED	-0.757	0.287	6.985	0.0082	0.469
Academic/Occupational Major	-1.128	0.485	5.402	0.0201	0.324
Placement Test Score	0.190	0.052	13.594	0.0002	1.209

Table D.155: Logistic regression results of graduation for FTIC students, Fall 2014-Fall 2017, full model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-3.145	7.215	0.190	0.6629	--
TRT	0.948	0.292	10.522	0.0012	2.581
Female	0.293	0.290	1.020	0.3124	1.341
Hispanic	-1.216	0.596	4.160	0.0414	0.296
Black	-1.016	0.312	10.625	0.0011	0.362
Full Time	1.496	0.300	24.836	<.0001	4.464
Married	-1.369	1.063	1.657	0.1980	0.254
FAFSA_Financially_Dependent	0.127	0.355	0.127	0.7213	1.135
Received Financial Aid	12.861	732.800	0.000	0.9860	384846.564
Received Student Loan	0.209	0.331	0.399	0.5276	1.233
First in Family to Attend College	0.043	0.300	0.020	0.8868	1.044
High School GED	-0.938	0.294	10.212	0.0014	0.391
Academic/Occupational Major	-1.246	0.476	6.868	0.0088	0.288
Liberal Studies Major	0.251	0.776	0.104	0.7467	1.285
Business & Technology Major	0.282	0.833	0.115	0.7349	1.326
Age at Baseline	0.026	0.020	1.731	0.1883	1.026
Placement Test Score	0.173	0.051	11.341	0.0008	1.189

Table D.156: Logistic regression results of graduation for FTIC students, Fall 2014-Fall 2017, final model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-3.011	0.261	133.618	<.0001	--
TRT	0.929	0.289	10.336	0.0013	2.533
Hispanic	-1.216	0.586	4.308	0.0379	0.297
Black	-1.004	0.303	11.005	0.0009	0.366
Full Time	1.479	0.298	24.678	<.0001	4.388
Married	-1.515	1.054	2.065	0.1507	0.220
High School GED	-0.977	0.288	11.479	0.0007	0.377
Academic/Occupational Major	-1.211	0.470	6.631	0.0100	0.298
Age at Baseline	0.025	0.016	2.399	0.1214	1.026
Placement Test Score	0.176	0.050	12.228	0.0005	1.193

Table D.157: Logistic regression results of graduation for non-FTIC students, Fall 2014-Spring 2017, full model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-0.522	0.086	36.944	<.0001	--
TRT	0.274	0.119	5.262	0.0218	1.315
Female	0.201	0.130	2.388	0.1223	1.223
Hispanic	0.144	0.214	0.450	0.5021	1.155
Black	-0.107	0.144	0.554	0.4569	0.899
Full Time	0.516	0.130	15.699	<.0001	1.674
Married	0.539	0.270	3.984	0.0459	1.714
FAFSA_Financially_Dependent	-0.043	0.160	0.072	0.7885	0.958
Received Financial Aid	0.646	0.442	2.135	0.1440	1.908
Received Student Loan	0.131	0.139	0.896	0.3440	1.140
First in Family to Attend College	0.077	0.122	0.399	0.5274	1.080
High School GED	-0.291	0.126	5.316	0.0211	0.748
Enrolled in Remediation	1.314	0.243	29.165	<.0001	3.722
Academic/Occupational Major	-0.047	0.233	0.040	0.8419	0.955
Liberal Studies Major	-1.028	0.200	26.403	<.0001	0.358
Business & Technology Major	-1.172	0.244	23.103	<.0001	0.310
Age at Baseline	-0.003	0.007	0.138	0.7100	0.997
Number of Years Since First Enrolled at College	0.043	0.013	11.590	0.0007	1.044
Placement Test Score	0.040	0.022	3.342	0.0675	1.041

Table D.158: Logistic regression results of graduation for non-FTIC students, Fall 2014-Spring 2017, final model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-0.519	0.086	36.699	<.0001	--
TRT	0.268	0.119	5.091	0.0240	1.308
Female	0.203	0.129	2.477	0.1155	1.225
Full Time	0.538	0.127	17.983	<.0001	1.713
Married	0.538	0.264	4.145	0.0418	1.712
Received Financial Aid	0.738	0.430	2.943	0.0862	2.092
High School GED	-0.292	0.122	5.758	0.0164	0.747
Enrolled in Remediation	1.329	0.241	30.315	<.0001	3.778
Liberal Studies Major	-1.047	0.198	28.048	<.0001	0.351
Business & Technology Major	-1.180	0.241	23.905	<.0001	0.307
Number of Years Since First Enrolled at College	0.040	0.011	12.792	0.0003	1.041
Placement Test Score	0.045	0.022	4.343	0.0372	1.046

Table D.159: Logistic regression results of graduation for non-FTIC students, Fall 2014-Fall 2017, full model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-0.484	0.085	32.240	<.0001	--
TRT	0.295	0.119	6.188	0.0129	1.343
Female	0.190	0.129	2.165	0.1412	1.209
Hispanic	0.077	0.213	0.131	0.7172	1.080
Black	-0.130	0.143	0.834	0.3613	0.878
Full Time	0.444	0.129	11.753	0.0006	1.558
Married	0.541	0.269	4.044	0.0443	1.717
FAFSA_Financially_Dependent	-0.042	0.159	0.071	0.7900	0.958
Received Financial Aid	0.514	0.428	1.440	0.2302	1.671
Received Student Loan	0.136	0.138	0.976	0.3231	1.146
First in Family to Attend College	0.109	0.121	0.816	0.3663	1.115
High School GED	-0.267	0.125	4.551	0.0329	0.765
Enrolled in Remediation	1.352	0.242	31.147	<.0001	3.864
Academic/Occupational Major	-0.050	0.231	0.047	0.8287	0.951
Liberal Studies Major	-0.959	0.199	23.128	<.0001	0.383
Business & Technology Major	-1.142	0.243	22.072	<.0001	0.319
Age at Baseline	-0.003	0.007	0.239	0.6247	0.997
Number of Years Since First Enrolled at College	0.039	0.012	9.864	0.0017	1.040
Placement Test Score	0.038	0.022	2.948	0.0860	1.038

Table D.160: Logistic regression results of graduation for non-FTIC students, Fall 2014-Fall 2017, final model

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-0.480	0.085	32.028	<.0001	--
TRT	0.291	0.118	6.072	0.0137	1.338
Female	0.196	0.128	2.345	0.1257	1.216
Full Time	0.482	0.126	14.647	0.0001	1.619
Married	0.498	0.260	3.674	0.0553	1.646
High School GED	-0.269	0.121	4.949	0.0261	0.764
Enrolled in Remediation	1.370	0.240	32.666	<.0001	3.935
Liberal Studies Major	-0.976	0.197	24.590	<.0001	0.377
Business & Technology Major	-1.141	0.240	22.600	<.0001	0.319
Number of Years Since First Enrolled at College	0.035	0.011	10.063	0.0015	1.036
Placement Test Score	0.041	0.022	3.575	0.0587	1.042

Table D.161: Logistic regression results of semester-to-semester persistence for non-FTIC students (exploratory analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-0.331	0.083	15.812	<.0001	--
TRT	0.338	0.117	8.384	0.0038	1.401
Female	0.219	0.127	2.974	0.0846	1.245
Hispanic	0.204	0.212	0.932	0.3345	1.227
Black	-0.053	0.141	0.139	0.7097	0.949
Full Time	0.152	0.128	1.413	0.2346	1.165
Married	0.378	0.268	1.986	0.1587	1.459
FAFSA_Financially_Dependent	-0.083	0.157	0.281	0.5959	0.920
Received Financial Aid	0.775	0.432	3.228	0.0724	2.171
Received Student Loan	0.089	0.135	0.429	0.5126	1.093
First in Family to Attend College	0.212	0.119	3.193	0.0739	1.236
High School GED	-0.163	0.123	1.749	0.1860	0.849
Enrolled in Remediation	1.298	0.233	31.187	<.0001	3.663
Academic/Occupational Major	0.090	0.230	0.154	0.6946	1.094
Liberal Studies Major	-0.994	0.203	24.049	<.0001	0.370
Business & Technology Major	-1.067	0.243	19.256	<.0001	0.344
Age at Baseline	0.009	0.007	1.628	0.2019	1.009
Number of Years Since First Enrolled at College	0.006	0.012	0.288	0.5918	1.007
Placement Test Score	-0.023	0.022	1.087	0.2972	0.978

Table D.162: Logistic regression results of semester-to-semester persistence for non-FTIC students (exploratory analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-0.327	0.083	15.623	<.0001	--
TRT	0.332	0.116	8.206	0.0042	1.394
Female	0.224	0.124	3.283	0.0700	1.251
Married	0.422	0.260	2.636	0.1045	1.525
Received Financial Aid	0.864	0.417	4.297	0.0382	2.373
First in Family to Attend College	0.207	0.118	3.085	0.0790	1.230
Enrolled in Remediation	1.268	0.227	31.265	<.0001	3.555
Liberal Studies Major	-0.982	0.199	24.305	<.0001	0.375
Business & Technology Major	-1.056	0.239	19.497	<.0001	0.348

Table D.163: Logistic regression results of semester-to-semester persistence for non-FTIC students (exploratory analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-0.657	0.087	56.938	<.0001	--
TRT	0.271	0.120	5.101	0.0239	1.311
Female	0.182	0.131	1.923	0.1656	1.199
Hispanic	0.295	0.213	1.925	0.1653	1.343
Black	-0.186	0.144	1.672	0.1960	0.830
Full Time	0.268	0.132	4.150	0.0416	1.307
Married	0.312	0.270	1.332	0.2484	1.366
FAFSA_Financially_Dependent	-0.084	0.162	0.271	0.6027	0.919
Received Financial Aid	0.261	0.430	0.370	0.5432	1.298
Received Student Loan	0.095	0.141	0.457	0.4992	1.100
First in Family to Attend College	0.060	0.122	0.243	0.6217	1.062
High School GED	-0.138	0.127	1.179	0.2775	0.871
Enrolled in Remediation	1.465	0.262	31.329	<.0001	4.327
Academic/Occupational Major	0.168	0.240	0.489	0.4842	1.183
Liberal Studies Major	-1.028	0.197	27.215	<.0001	0.358
Business & Technology Major	-1.045	0.241	18.797	<.0001	0.352
Age at Baseline	0.008	0.007	1.195	0.2744	1.008
Number of Years Since First Enrolled at College	0.017	0.012	1.911	0.1669	1.017
Placement Test Score	0.006	0.022	0.064	0.8010	1.006

Table D.164: Logistic regression results of semester-to-semester persistence for non-FTIC students (exploratory analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	-0.651	0.087	56.702	<.0001	--
TRT	0.268	0.119	5.093	0.0240	1.308
Female	0.184	0.128	2.057	0.1515	1.202
Full Time	0.279	0.127	4.793	0.0286	1.322
Enrolled in Remediation	1.488	0.260	32.860	<.0001	4.430
Liberal Studies Major	-1.074	0.193	30.898	<.0001	0.342
Business & Technology Major	-1.091	0.236	21.314	<.0001	0.336
Number of Years Since First Enrolled at College	0.024	0.011	5.105	0.0239	1.025

Table D.165: Linear regression results of degree bearing credit pass rate for non-FTIC students (exploratory analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.680	0.012	57.750	<.0001	--
TRT	0.035	0.017	2.070	0.0385	0.113
Female	0.044	0.018	2.450	0.0144	0.145
Hispanic	-0.057	0.031	-1.830	0.0676	-0.186
Black	-0.074	0.020	-3.720	0.0002	-0.241
Full Time	0.040	0.018	2.170	0.0300	0.130
Married	0.007	0.038	0.190	0.8498	0.023
FAFSA_Financially_Dependent	-0.003	0.023	-0.120	0.9075	-0.009
Received Financial Aid	-0.122	0.058	-2.120	0.0343	-0.399
Received Student Loan	-0.027	0.019	-1.420	0.1563	-0.090
First in Family to Attend College	-0.002	0.017	-0.120	0.9021	-0.007
High School GED	-0.025	0.018	-1.420	0.1570	-0.081
Enrolled in Remediation	0.117	0.029	3.980	<.0001	0.381
Academic/Occupational Major	-0.040	0.031	-1.270	0.2042	-0.130
Liberal Studies Major	-0.106	0.029	-3.700	0.0002	-0.345
Business & Technology Major	-0.098	0.034	-2.870	0.0041	-0.320
Age at Baseline	0.003	0.001	2.850	0.0044	0.009
Number of Years Since First Enrolled at College	-0.001	0.002	-0.580	0.5641	-0.003
Placement Test Score	0.004	0.003	1.320	0.1855	0.014

Table D.166: Linear regression results of degree bearing credit pass rate for non-FTIC students (exploratory analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.680	0.012	57.830	<.0001	--
TRT	0.034	0.017	2.060	0.0399	0.112
Female	0.043	0.018	2.360	0.0183	0.139
Hispanic	-0.055	0.031	-1.790	0.0729	-0.181
Black	-0.079	0.019	-4.080	<.0001	-0.258
Full Time	0.040	0.018	2.210	0.0276	0.130
Received Financial Aid	-0.145	0.055	-2.610	0.0091	-0.473
High School GED	-0.024	0.017	-1.430	0.1542	-0.080
Enrolled in Remediation	0.117	0.028	4.160	<.0001	0.381
Liberal Studies Major	-0.106	0.028	-3.770	0.0002	-0.346
Business & Technology Major	-0.094	0.033	-2.810	0.0050	-0.308
Age at Baseline	0.003	0.001	3.230	0.0013	0.008

Table D.167: Linear regression results of degree bearing credit pass rate for non-FTIC students (exploratory analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.677	0.012	58.220	<.0001	--
TRT	0.041	0.016	2.510	0.0121	0.137
Female	0.024	0.018	1.310	0.1905	0.078
Hispanic	-0.032	0.030	-1.050	0.2938	-0.105
Black	-0.082	0.020	-4.190	<.0001	-0.272
Full Time	0.030	0.018	1.640	0.1013	0.098
Married	-0.006	0.035	-0.170	0.8611	-0.020
FAFSA_Financially_Dependent	0.011	0.023	0.470	0.6403	0.035
Received Financial Aid	-0.025	0.054	-0.460	0.6457	-0.082
Received Student Loan	-0.050	0.019	-2.620	0.0088	-0.164
First in Family to Attend College	0.001	0.017	0.080	0.9396	0.004
High School GED	-0.007	0.017	-0.380	0.7024	-0.022
Enrolled in Remediation	0.091	0.028	3.250	0.0012	0.302
Academic/Occupational Major	0.005	0.032	0.170	0.8667	0.018
Liberal Studies Major	-0.115	0.028	-4.170	<.0001	-0.379
Business & Technology Major	-0.111	0.034	-3.290	0.0010	-0.366
Age at Baseline	0.003	0.001	2.700	0.0070	0.009
Number of Years Since First Enrolled at College	0.002	0.002	1.110	0.2686	0.006
Placement Test Score	0.007	0.003	2.270	0.0233	0.024

Table D.168: Linear regression results of degree bearing credit pass rate for non-FTIC students (exploratory analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	0.677	0.012	58.380	<.0001	--
TRT	0.041	0.016	2.510	0.0122	0.136
Female	0.024	0.018	1.380	0.1693	0.081
Black	-0.072	0.018	-4.100	<.0001	-0.237
Full Time	0.028	0.018	1.570	0.1156	0.093
Received Student Loan	-0.054	0.018	-2.970	0.0030	-0.179
Enrolled in Remediation	0.084	0.027	3.100	0.0020	0.277
Liberal Studies Major	-0.118	0.027	-4.320	<.0001	-0.390
Business & Technology Major	-0.115	0.033	-3.470	0.0005	-0.380
Age at Baseline	0.003	0.001	3.590	0.0003	0.009
Placement Test Score	0.008	0.003	2.490	0.0130	0.026

Table D.169: Linear regression results of grade point average for non-FTIC students (exploratory analysis, Fall 2014-Spring 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.811	0.030	95.060	<.0001	--
TRT	0.116	0.042	2.770	0.0056	0.152
Female	0.014	0.046	0.310	0.7562	0.019
Hispanic	-0.211	0.078	-2.700	0.0070	-0.277
Black	-0.288	0.050	-5.770	<.0001	-0.378
Full Time	-0.003	0.046	-0.070	0.9437	-0.004
Married	0.118	0.092	1.280	0.1999	0.155
FAFSA_Financially_Dependent	-0.180	0.057	-3.150	0.0017	-0.236
Received Financial Aid	-0.087	0.150	-0.580	0.5616	-0.114
Received Student Loan	-0.138	0.049	-2.840	0.0046	-0.181
First in Family to Attend College	0.066	0.043	1.520	0.1276	0.086
High School GED	0.011	0.044	0.240	0.8065	0.014
Enrolled in Remediation	0.118	0.071	1.660	0.0982	0.154
Academic/Occupational Major	-0.180	0.085	-2.130	0.0335	-0.236
Liberal Studies Major	-0.084	0.073	-1.160	0.2473	-0.110
Business & Technology Major	-0.229	0.086	-2.650	0.0082	-0.300
Age at Baseline	0.007	0.002	2.880	0.0040	0.009
Number of Years Since First Enrolled at College	-0.002	0.004	-0.450	0.6523	-0.003
Placement Test Score	0.026	0.008	3.230	0.0013	0.033

Table D.170: Linear regression results of grade point average for non-FTIC students (exploratory analysis, Fall 2014-Spring 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.811	0.030	95.230	<.0001	--
TRT	0.118	0.042	2.820	0.0048	0.154
Hispanic	-0.214	0.078	-2.750	0.0061	-0.281
Black	-0.298	0.049	-6.100	<.0001	-0.390
Married	0.121	0.092	1.320	0.1861	0.159
FAFSA_Financially_Dependent	-0.186	0.057	-3.280	0.0011	-0.244
Received Student Loan	-0.142	0.047	-3.010	0.0027	-0.186
First in Family to Attend College	0.064	0.043	1.480	0.1386	0.083
Enrolled in Remediation	0.129	0.069	1.850	0.0642	0.169
Academic/Occupational Major	-0.178	0.084	-2.110	0.0352	-0.233
Business & Technology Major	-0.158	0.057	-2.740	0.0062	-0.206
Age at Baseline	0.007	0.002	2.940	0.0034	0.009
Placement Test Score	0.026	0.008	3.360	0.0008	0.034

Table D.171: Linear regression results of grade point average for non-FTIC students (exploratory analysis, Fall 2014-Fall 2017, full model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.789	0.030	93.070	<.0001	--
TRT	0.105	0.042	2.470	0.0135	0.136
Female	-0.025	0.046	-0.550	0.5819	-0.033
Hispanic	-0.158	0.079	-2.010	0.0444	-0.205
Black	-0.316	0.050	-6.260	<.0001	-0.410
Full Time	-0.068	0.046	-1.460	0.1443	-0.088
Married	0.055	0.091	0.600	0.5476	0.071
FAFSA_Financially_Dependent	-0.088	0.058	-1.510	0.1304	-0.115
Received Financial Aid	0.024	0.136	0.180	0.8573	0.032
Received Student Loan	-0.147	0.049	-2.980	0.0030	-0.191
First in Family to Attend College	0.024	0.044	0.540	0.5897	0.031
High School GED	0.007	0.045	0.170	0.8687	0.010
Enrolled in Remediation	0.154	0.075	2.050	0.0406	0.200
Academic/Occupational Major	-0.171	0.085	-2.030	0.0428	-0.223
Liberal Studies Major	-0.072	0.072	-0.990	0.3221	-0.093
Business & Technology Major	-0.236	0.086	-2.740	0.0063	-0.307
Age at Baseline	0.008	0.003	3.140	0.0017	0.010
Number of Years Since First Enrolled at College	-0.003	0.005	-0.550	0.5806	-0.003
Placement Test Score	0.015	0.008	1.870	0.0614	0.019

Table D.172: Linear regression results of grade point average for non-FTIC students (exploratory analysis, Fall 2014-Fall 2017, final model)

Parameter	Estimate	SE	*t*-ratio	*p*-value	Effect Size
Intercept	2.789	0.030	93.280	<.0001	--
TRT	0.106	0.042	2.510	0.0122	0.138
Hispanic	-0.160	0.078	-2.060	0.0400	-0.208
Black	-0.328	0.049	-6.670	<.0001	-0.426
Full Time	-0.062	0.046	-1.370	0.1725	-0.081
FAFSA_Financially_Dependent	-0.093	0.058	-1.620	0.1057	-0.121
Received Student Loan	-0.144	0.048	-3.030	0.0025	-0.188
Enrolled in Remediation	0.176	0.072	2.450	0.0144	0.229
Academic/Occupational Major	-0.167	0.084	-1.980	0.0480	-0.216
Business & Technology Major	-0.165	0.058	-2.840	0.0046	-0.214
Age at Baseline	0.008	0.002	3.340	0.0009	0.010
Placement Test Score	0.015	0.008	1.910	0.0569	0.019

Table D.173: Unique combinations of major Single Stop services received by students in school year 2014-2015

Unique Combinations of Major Services Received	N	%
benefits eligibility screening only	***316***	***27.4***
benefits eligibility screening, financial counseling and tax preparation	***228***	***19.8***
benefits eligibility screening and tax preparation	***114***	***9.9***
benefits eligibility screening and financial counseling	***98***	***8.5***
tax preparation only	***74***	***6.4***
benefits eligibility screening and additional services	***69***	***6.0***
benefits eligibility screening and legal counseling	***55***	***4.8***
financial counseling and tax preparation	***52***	***4.5***
benefits eligibility screening, legal counseling and additional services	19	1.6
benefits eligibility screening, financial and legal counseling	18	1.6
benefits eligibility screening, tax preparation and additional services	15	1.3
benefits eligibility screening, financial counseling and additional services	12	1.0
benefits eligibility screening, financial counseling, tax preparation and additional services	11	1.0
benefits eligibility screening, financial and legal counseling and tax preparation	11	1.0
financial counseling only	10	0.9
benefits eligibility screening, legal counseling and tax preparation	10	0.9
all five major services	7	0.6
legal counseling only	6	0.5
additional services only	5	0.4
benefits eligibility screening, legal counseling, tax preparation and additional services	5	0.4
financial counseling, tax preparation, and additional services	4	0.3
tax preparation and additional services	3	0.3
legal counseling and tax preparation	2	0.2
financial and legal counseling and tax preparation	2	0.2
benefits eligibility screening, financial and legal counseling and additional services	2	0.2
financial counseling and additional services	1	0.1
legal counseling and additional services	1	0.1
legal counseling, tax preparation and additional services	1	0.1
financial and legal counseling, tax preparation and additional services	1	0.1
financial and legal counseling	0	0.0
financial and legal counseling, and additional services	0	0.0
Total	1,152	100.0

Appendix E: Student Interview Protocol

CCP Single Stop Phone Interview Protocol

Background. Metis Associates, an independent research and evaluation firm in New York City, has been contracted to study the impact of Single Stop at CCP. The study has been ongoing since 2015, and it will be completed by early fall. Data for this study have been collected from multiple sources. The purpose of these interviews with students is to better understand how students used the Single Stop services and how the program might better serve students. In particular, we are hoping to better understand why some students may have received services in the past and did not return for further services from Single Stop. Participation in this interview is completely voluntary. You may choose to not answer any question you do not wish to answer, and you may end the interview at any time. Your comments during this interview will be kept anonymous. We will take the information that we learn from this interview and connect it with other information we have gathered, taking note of themes that come through across the various sources. Recommendations that emanate from these themes will be documented so that adjustments may be made to the program as appropriate. The interview should only take 10-15 minutes. Do I have your consent to participate in the interview?

Audio-recording. Also, please note that we would like to audio-record this interview. The audio-recordings will only be used to assist us with our notes. Only Metis staff members conducting the evaluation will have your responses, and the recordings will be destroyed following our completion of a summary of the findings from all student interviews conducted. Do I have your consent to audio record?

1. What is your current status at CCP? (Probe: Graduated? Taking classes this summer? Took classes in spring 2018? Planning to take classes in fall 2018?)

2. If not graduated, do you plan to graduate from CCP?

    a. If so, when do you anticipate graduating?
    b. If no, why not?

3. What are your plans following CCP? (Probe: Enroll in 4-year college? Work full time? Work part time? Other [specify]?)

4. Did you receive services from Single Stop in 2014-2015?

    a. If no, why not? (Probe: not enrolled at CCP at the time, not aware that Single Stop might be able to help, able to get help elsewhere, did not need any help at that time, other [specify])

5. If yes, what services did you receive from Single Stop in 2014-2015?

    a. Tax Preparation
    b. Health Benefit Screening/Assistance
    c. Financial Counseling
    d. Legal Counseling
    e. Other (specify)
    f. Don't Know/Can't Remember

6. If yes, use the following scale to indicate the quality of Single Stop services and explain your rating: (7-Exceptional, 6-Very High, 5-High, 4-Neutral, 3-Low, 2-Very Low, 1-Unsatisfactory)

    a. Staff's level of knowledge. Explain your rating.
    b. Staff's level of caring. Explain your rating.
    c. Staff's professionalism. Explain your rating.
    d. Staff's promptness. Explain your rating.
    e. Staff's follow up. Explain your rating.
    f. Staff's willingness to "go the extra mile. Explain your rating.
    g. Overall experience at Single Stop. Explain you rating.

7. Did you receive services from Single Stop in 2015-2016?
    a. If no, why not? (Probe: Single Stop had already addressed needs, not enrolled at CCP at the time, not aware that Single Stop might be able to help me, able to get help elsewhere, did not need any help at that time, other [specify]
    b. If yes, how would you rate each area and why?

8. Repeat for subsequent years (2016-2017 and 2017-2018)

9. Please take a minute to reflect on how your participation in the services may have affected you, both on a personal level and academically. (Probe: stay in school, achieve at higher level, allow to explore future plans).

10. Many students who receive services from Single Stop at CCP don't return to the Single Stop office for additional services in following years. We are interested in finding out more about why this may be the case. From your own perspective, why do you think this might be happening?

11. What suggestions do you have for improving Single Stop's services? In what ways could the program better meet your needs?

12. What else would you like to say about Single Stop services that we have not yet covered today?