

Intersection Between TRIO/SSS Programs and FYS: Effects on First-Generation Students

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This mixed-methods study served to better understand how collaboration between a TRIO Student Support Services (SSS) program and a First-Year Seminar (FYS) affects first-generation students' success during their first year at college. Quantitative analyses assessed differences between non-participants, FYS participants only, and TRIO/FYS participants (N = 2720) in first-term GPA and persistence. Compared to non-participants, TRIO/FYS participants had significantly higher GPAs (2.61 versus 2.33) and persistence (22% difference). This group also had higher persistence (12% difference) compared to the FYS only participants. Focus groups provided students' voices to share how these programs addressed the challenges faced by first-generation college students.

Keywords: trio, first generation students, academic achievement, postsecondary, college

INTRODUCTION

College attrition continues to be a major issue for universities and colleges nationwide with recent statistics indicating that students are most at risk of attrition during their first year at college (Claybrooks & Taylor, 2016; Kezar & Kitchen, 2019; Miller & Lesik, 2015; Walsh & Kurpius, 2016). Overall, about 40% of students in the U.S. fail to graduate from the college they entered as a freshman (U.S. Department of Education, 2017). Students who qualify as low-income and first generation are particularly at risk for dropping out before graduation (Ishitani, 2016).

First-generation college students, in opposition to other incoming students, reported increased skepticism in their ability to succeed in college and in life after graduation (Pratt et al., 2019). Moreover, first-generation students, despite increased efforts across academic curriculum, expect to encounter significant academic obstacles throughout their college careers (Pratt et al., 2019). Additionally, as a result of increased concerns about financial obligations, first-generation students maintain higher instances of concurrent employment along with university classes. As such, first-generation students reported less time and energy to attend to academic work as well as less interpersonal contact with their current faculty members than continuing-generation students (Katreovich & Aruguete, 2017; Pratt et al., 2019). Noting the above barriers, first-generation students' overall academic efficacy and social integration across the university is reduced with indications that decreased faculty support on campus is exasperated by a reluctance by first-generation students to seek out help, all of which tend to increase attrition (Katreovich & Aruguete, 2017; Stephens et al., 2012).

Student dropout can occur during several stages as students transition from secondary to post-secondary education (Valentine et al., 2011). While this initial time is crucial, students need support throughout their collegiate career to remain successful and graduate (Vuong et al., 2010). Campus supports and increased interpersonal connections for first-generation students, in particular, are needed to help work through feelings of isolation, excitement, and even marginalization (Demetriou et al., 2017; Jehangir, 2010). TRIO programs can potentially offset these barriers (Drotos et al., 2016; Trolan, 2014).

Student Support Programs

TRIO programs are federally funded and exist to support students with additional risk for attrition from disadvantaged backgrounds (U.S. Department for Education, 2017). A variety of organizations, including institutions of higher education (IHEs), may apply for and receive TRIO Student Support Services grants through the U.S. Department of Education (DoE). Although many Federal TRIO programs are designed to provide critical support services during the first year, many are established to support students throughout their four to six years at college. This support is multi-faceted and includes academic advising, instruction on financial literacy, tutoring, curriculum and instruction modification and support, and community building and mentoring.

In an effort to increase student persistence and retention, universities have also developed first-year seminar (FYS) programs. Researchers have consistently found that participating in an FYS may increase persistence and achievement for students, including underrepresented students (Black et al., 2016; Vaughan et al., 2014; Vaughan et al., 2019). These can include one-credit extended orientation seminars to multiple semester, five-credit academic courses (National Resource Center for the First-Year Experience and Students in Transition, 2006). In recent research, more academically rigorous FYS curriculums have shown to have a positive effect on students' likelihood to achieve as they continue into their second year. Effective FYS courses balance time in the classroom with specific learning outcomes associated with academic rigor (Cole, 2008; Vaughan et al., 2019). An academic FYS model can be effective for students who enter college less prepared than others. By providing students with a framework that enables them to complete college-level work, FYS courses are able to create an atmosphere of high expectations and high support, in which there is increased academic rigor embedded within a supportive atmosphere. In semester-long FYS courses, this structure works to increase all aspects of the student's transition to college. These types of programs may have the following outcomes: (a) to increase a student's practical skills associated with scholarship, (b) to increase campus involvement, and (c) to facilitate continuous engagement with the campus and the student's connections with their peers (Clark & Cundiff, 2011; Vaughan et al., 2019).

Purpose

Although TRIO/SSS programs and FYS programs are separately funded and developed, in some instances there is overlap of students served. As very little to no research exists that assesses effective partnerships between these two types of programs, this study seeks to identify the intersection/overlap of these two programs and to explore its effect on first-semester college students who also identify as first generation. TRIO programs tend to spend large amounts of federal money per student over four years (U.S.

Department for Education, 2017). Alternatively, many FYS program have limited resources when trying to provide effective programs. Therefore, identifying meaningful partnerships between TRIO and FYS could lead to choices that are the most effective for the resources used in both programs over the course of the short and long term.

Methodological Approach

There are benefits from using a mixed-method approach in this study. Mixed-methods research involves the analysis of both qualitative and quantitative data in order to provide more in-depth response to the research questions. Effective mixed-methods designs are not random pairings of two forms of data, but instead are an intentional integration of quantitative and qualitative data (Fetters et al., 2013). Mixed-methods designs produce comprehensive results that could not have been achieved by one data type alone (Ivankova et al., 2006).

This study follows an explanatory sequential mixed-methods design. In this particular design, the first phase is quantitative data collection and analysis, which is followed by qualitative data collection and analysis (Ivankova et al., 2006). The purpose of this type of design is to use qualitative data to provide insight into quantitative results. This study begins with a quantitative analysis to study the effects of one TRIO program and FYS course on student first-term GPA and persistence to the second year. The quantitative results demonstrated success in the outcomes of students who had these supports. In an effort to understand more of the “how” and “why” behind these results, a qualitative study using focus groups was used to garner in-depth student perspectives on the research questions. Thus, integration occurred at the study design level with the qualitative study building on the quantitative analysis. Results from the quantitative analysis informed data collection for the qualitative procedures (Fetters et al., 2013). The combined quantitative and qualitative information may show how these programs affect students and may help provide a rationale for continued funding for these programs. Additionally, this research identified the supports that are most meaningful to students. These results may lead to changes in programs in order to align them more closely to student needs and to ultimately increase program efficacy. Results from both types of data are integrated in the discussion.

Research Questions

The following research questions will be addressed: (1) How does dual enrollment in TRIO and FYS affect students’ perceptions of their transition to college? (2) How does dual enrollment in TRIO and FYS affect the first-term GPA and persistence to the second year of freshmen students as compared to other students in FYS or students enrolled in neither program? It is hypothesized that dual enrollment in TRIO and FYS will lead to higher outcomes for first-generation college students (as compared to those students who are not enrolled in either TRIO or FYS or are singularly enrolled in FYS). Additionally, it is predicted that students will report that resources offered through TRIO and FYS helped them successfully transition to college.

METHOD

Quantitative

Participants

After receiving approval from the Institutional Review Board, information from university data sets were collected from three cohorts of entering first-time, full-time students in Fall 2014 ($N = 1,799$; first-generation students $n = 842$), Fall 2015 ($N = 1,965$; first-generation students $n = 964$), and Fall 2016 ($N = 2,057$; first-generation students $n = 914$). Information about TRIO and FYS participants and non-participants are listed in Table 1. Information about first-term GPA and demographic information (e.g., gender, first-generation status, etc.) were collected from the data sets at the end of the first semester.

First-generation status was determined by student self-report during the admissions process. First generation for this study was defined as neither parent nor guardian earning a 4-year degree. Students of color identities were identified also through self-report when entering the university where they could select

from the following ethnicities or races: African American, Asian, Pacific Islander, Native American, Hispanic or White. If a student selected any ethnicity, ethnicities, or race other than white, they were classified as a student of color for the purposes of this study. Conditional admittance status was defined as students who entered with lower high school GPA and college entrance exam scores that were below the required standards for normal admittance. During the following fall semester (i.e., the beginning of students' second year), credit loads were collected on the census date (at the end of the add/drop period) to determine full-time enrollment at the university. This institution is a medium-sized, public four-year research university.

TABLE 1
FIRST-GENERATION STUDENT DEMOGRAPHIC INFORMATION 2014 – 2016 FOR NON-PARTICIPANTS, FYS PARTICIPANTS, AND TRIO/FYS PARTICIPANTS

	All	Non-participants	FYS ^a	TRIO/FYS
First-generation students	2720	2142	450	128
Male students	887	733	118	36
Students of color	1426	1086	221	119
Conditionally admitted	728	573	118	37

^a FYS refers to first-generation students who participated in the FYS and were not part of the TRIO program.

TRIO Program

The TRIO Student Support Services program (TRIO/SSS) is a federally funded TRIO program funded through the U. S. Department of Education with matching support from the university. For the most recent academic year, federal funds coupled with university funds totaled close to \$500,000. The program provides holistic academic, personal, and professional support services to 200 selected first-generation, limited income students. The program incorporates intrusive academic advising sessions partnered with enrichment workshop sessions for students to ensure successful and timely degree completion. The project has three standardized objectives that must be adhered to as a condition of grant funding related to persistence, good academic standing, and 6-year graduation success. Each reporting year, the TRIO program exceeds approved grant objectives in double digits. For many years, this TRIO program included a one-credit extended orientation model FYS that all first-semester freshmen were required to take; however, once the positive outcomes of the new three-credit research-based academic FYS were shared, the TRIO program director made the decision to require entering students to take the new course. The new FYS course is described next.

FYS Program

This 3-credit FYS applied to students' 40-credit general education requirement and lasted 16 weeks (a full semester). Overall, students (other than TRIO students) were not required to participate and self-selected into the seminar. The course was small (i.e., 20 – 25 students), highly interactive, and discussion-based with an emphasis on student-centered instruction. The curriculum combined research-based topics in the domain of educational psychology such as goal, information processing and motivation theories as well as more practical application topics such as time management, self-care and career planning. As mentioned earlier, it was a research-based peer academic course, rather than an extended-orientation model, that incorporated readings from peer-reviewed research, written assignments and research projects, presentations, and examinations.

Unlike many FYS, the curriculum was highly coordinated, and each section had an identical schedule of topics and assignments. A competitive process was used to select instructors and only instructors from specific domains (e.g., psychology, education, etc.) were eligible to apply. Each instructor then participated in a comprehensive week-long training prior to the semester followed by a concurrent, semester-long training to help ensure that each student received an equivalent course and experience.

TRIO/FYS

TRIO sections of FYS were similar with some notable differences. The instructor was selected and trained using the FYS process and participated in all of the training; however, this instructor also participated in summer activities for TRIO students and attended TRIO staff meetings during the semester. The purpose of the summer activities was to begin building relationships between the instructor and the TRIO students. The TRIO staff meetings allowed close coordination between the FYS instructor and the TRIO staff to promote problem-solving around specific student issues when needed.

Quantitative Data Analysis

The first analysis compared the proportion of students who persisted to the following fall semester based on whether they did not participate or whether they participated in the FYS or the TRIO/FYS in their entering fall semester. For the percentage of students who persisted, a chi-square test of homogeneity with a pairwise comparison (z-test with a Bonferroni adjustment) was used to assess differences between the proportions of persistence in the three groups (i.e., non-participants, FYS and TRIO/FYS group).

The second analysis measured differences in first-term GPA between the three groups (i.e., non-participants, FYS and TRIO/FYS group). Due to the homogeneity of variance assumption being violated, a Welch ANOVA with Games-Howell post hoc test (due to significant main effects) was conducted to assess the differences in mean first-term GPA.

Qualitative

Participants

Prior to the start of the fall semester, the researchers coordinated with the director of new student orientation to schedule a time to recruit incoming first-generation freshmen. Convenience sampling was used, and first-generation students enrolled in FYS self-selected into focus groups for participation in this study. Simultaneously, the researchers coordinated with the administrators of the TRIO program to schedule a time to recruit the incoming freshmen in TRIO for interviews. Interested students were asked to participate in focus groups. Focus groups took place prior to the commencement of the fall semester, and upon completion of the semester. Consent was obtained before holding the first focus group and was reestablished before the second round of focus groups. Each group contained no more than eight participants. Focus groups lasted approximately 45 minutes.

At the start of each focus group, the researcher explained to participants that the goal was to learn more about how to best support first-semester college students. Focus groups were semi-structured but participants were encouraged to bring up additional, relevant points. All focus groups were audio recorded. For the first round of focus groups in August, researchers asked participants about their feelings of preparedness for college, including any fears or anxiety they had about starting college. In the second round of focus groups in December, researchers asked participants about the success of their first semester, and what resources they utilized. Supports provided by the TRIO program and FYS course were specifically probed.

Qualitative Data Analysis

The constant comparison method of data analysis was utilized (Glaser, 1965). Every student response and quotation gleaned from the focus groups was compared with every other in a search for similarities, differences and emerging meaning units and themes. Emerging themes were clustered into categories based on similarity of content (Glaser, 1965). Each researcher read all transcripts, and then analyzed half of the before interviews and half of the after interviews. This procedure allowed for cross-analysis so that the

researchers could review and compare emerging themes in before and then after interviews. When themes differed, the researchers worked together to review descriptions of emerging themes and condense similar ideas. This iterative process continued until consensus was reached. Common themes that emerged from the interviews were examined in conjunction with quantitative findings and in consideration of current literature. Member-checking was utilized for this project. Participants were emailed a list of preliminary themes from focus groups and were asked to respond with edits or additions.

RESULTS

Quantitative

For the first analysis, all assumptions for the chi-square test of homogeneity were met including that all expected cell counts were greater than five. The chi-square test of homogeneity showed significant differences ($p < .001$) in proportion of students who persisted to their second year between the three groups. The z-test with Bonferroni correction showed that the TRIO/FYS group had significantly higher proportions of students (84.4%) who persisted as compared to the other two groups. The FYS group (72.4%) also had a significantly higher proportion of students who persisted as compared to students who did not participate in any program (62.4%). See Table 2.

In the second analysis assessing differences in first-term GPA, assumptions were first tested. There were no outliers and the data were normally distributed for each group, as assessed by boxplot and Normal Q-Q Plot, respectively. Homogeneity of variances was violated, as assessed by Levene's Test of Homogeneity of Variance ($p < .05$); therefore, the decision was made to use the Welch's ANOVA and Games-Howell post hoc analysis. First-term GPA was significantly different between the three groups, Welch's $F(2, 323) = 22.81$; $p < .001$; $R^2 = .13$. Games-Howell post hoc analysis revealed that students in both the FYS ($p < .001$) and TRIO/FYS ($p = .005$) groups had mean first-term GPAs that were significantly higher than the non-participant group. There was not a significant difference in first-term GPA between the FYS and TRIO/FYS groups ($p = .935$). See Table 2 for the details.

TABLE 2
2ND YEAR PERSISTENCE AND MEAN FIRST-TERM GPA FOR ALL GROUPS

	2 nd year persistence	First-term GPA		
		<i>M</i>	<i>SD</i>	95% <i>CI</i>
Non-participant	62.4% _a	2.33	1.17	[2.28, 2.38]
FYS	72.4% _b	2.64	0.91	[2.56, 2.73]
TRIO/FYS	84.4% _c	2.61	0.96	[2.44, 2.78]

Note. Each subscript letter denotes a subset of FYS categories whose column proportions do not differ significantly from each other at the .05 level.

Qualitative

In this explanatory sequential mixed-methods design, qualitative data led to expanded insights and understanding of the phenomenon being studied — the experience of first-generation college students and the effect of supports including the FYS and the TRIO programs. Focus groups occurred at the beginning and then the end of students' first semester in college.

Initial focus groups included a total of 23 students, who were broken into smaller groups based on availability and scheduling. Seventeen students were female and six were male. All students were enrolled

in the university's FYS course, and 11 of students were part of the TRIO program in addition to being enrolled in FYS.

Fifteen students participated in end-of-semester focus groups. Thirteen participants were female and two were male. An effort was made to include the same students in focus groups at the end of the semester. Twelve participants from the initial focus groups also participated in follow-up focus groups, which was an approximately 50 percent return rate. The majority of focus groups took place during the last two weeks of the fall semester, with the exception of one focus group that occurred during the first week of the following spring semester.

Pre-Semester Interviews

The decision to conduct before and after interviews, as a measure of the qualitative findings, was made in order to capture initial thoughts and feelings of incoming students regarding their transition to college as well as their post semester reflections. Both pre- and post-semester interviews were thematically coded. As a result of the initial focus groups, conducted prior to the start of the semester, five themes emerged from the data: (a) First-generation specific challenges; with subthemes of, (1) Lack of knowledge surrounding college and (2) TRIO supports; (b) Building autonomy; (c) Anxiety about relationships with professors; (d) Anxiety about college workload; and (e) Balance.

First-Generation Specific Challenges

Throughout the initial focus groups and interviews, it became evident that incoming freshmen held many different preconceptions regarding their time as a college student; nevertheless, these findings show thematic and emotional overlap as well as challenges specific to first generation students. The first-generation students attained for this study overwhelmingly discussed a lack of intellectual and experiential understanding of the daily, financial and institutional tasks of college and being first-generation. There were little parents could help with as both student and parent struggled to find the proper campus resources:

My mom had no clue what any of this [college] was going to entail, and I had no clue, so it was like, 'How do I get my textbooks? Do I put it on financial aid?' and I had to ask so many questions.

This sense of unpreparedness or a desire to decrease burden to the family permutated first-generation participants' discussion and seemed to mute or undermine excitement and pride for enrolling in college in the first place. Participants provided statements in which they appeared to be proactively grieving their family's inability to support and understand the unique challenges they will face in college:

I'm kind of a pioneer in this area [going to college], definitely for my family. They've always said, 'You do whatever you want with your life. We'll do the best we can to support you. Don't be afraid to ruin things, but we can only help you so much. Stand up for yourself.' But, I am first generation, and they don't know what to expect.

However, the second subtheme to emerge from the participants directly combated the above as students discussed the support they found in the TRIO program:

[TRIO], is probably the biggest support that I have, and probably everyone else here has. Over the past week we've kind of become a small family. We've made a lot of connections and gotten a lot of support.

Students expressed how the support of TRIO and the friendships with other first-generation students, in the weeks leading up to the beginning of the semester, allowed them the opportunity to reflect on their reasons for coming to college in the first place:

I just remind myself why I'm going to college, and how it's going to help me in the future. I just think of my siblings. I'm the oldest, and being the first-generation student, I'm showing them they can do and that it's worth it, we're going to get somewhere.

Building Autonomy

The new-found independence of college life was a source of excitement for many students in which they expressed both eagerness to experience new friends, freedom and opportunities as well as an ability to break away from high school personas and grow. Nevertheless, participants also reflected on a related theme focused on fear and apprehensions for leaving home, often for the first time. Students discussed, while their family, (in some cases) will be only a short distance away, there were still challenges for leaving all they had ever known to attend college.

Anxiety About Relationships With Professors

When asked to discuss concerns they had entering college, participants noted strong relationships with past teachers, and expressed a belief that their college professors would be aloof and less available for individual help. Plainly, students expressed anxiety that professors would not try to get to know them as an individual or care about their academic or personal success. Moreover, participants feared having a professor who was inaccessible and difficult to contact and linked their personal success to the perceived investment of their professors.

I'm nervous about professors showing that they want to help me. If they don't show that they want to help, I won't want to come in to them. I hope they're just welcoming.

Anxiety About College Workload

The ambiguous concept of homework/workload in college was an area of concern for many students. These fears were universally applied across type of work, amount of work and difficulty of work. All participants noted a belief and/or expectation that all of the aforementioned demands of college work would be significantly more difficult in college than in high school. As an outgrowth of these expectations, students questioned their readiness for collegiate level work:

High school was easy for me. It was very easy. Now coming here, I feel like high school didn't prepare me for college because college is a lot harder than high school.

Balance

Participants recounted past challenges balancing social and academic activities throughout high school and noted that balance has remained a challenge for them. In this way, balance emerged as a strong theme amongst participants. Students expressed a desire for a college life full of friends and academic pursuits while noting underlying fears of being consumed by one area of pursuit.

While balancing academics and social pursuits can present a struggle for all students, it can be especially challenging for first-generation students who may have additional family obligations as well as financial responsibilities. These unique constraints weighed on the participant who noted how interconnected and inversely related social, academic, familial and financial obligations are in day-to-day practice:

Throughout high school, I had a job. I had money to do things and buy whatever I wanted or whatever I needed. Now I'm here, that's also what I'm nervous and scared. If I do try and go look for a job, how am I going to balance? How am I going to balance working and then school? Then, again, it's the social part of it, but I also want to have an income to buy my own things.

Post-Semester Interviews

During end-of-semester interviews, participants talked about the support they received from FYS, the continuity between the FYS and TRIO programs, and challenges that they felt were specific to them as first-generation students.

Supports From FYS

Participants expressed that the FYS course was helpful in the following ways: (a) teaching time management strategies, (b) helping with motivation, (c) teaching skills relevant to other classes, and (d) providing a close instructor relationship. Students commented on the slower pace of the FYS course, which helped build skills rather than demand application of skills, as in some other classes.

This is a class that's a little more slow-paced. It helps to build up those skills rather than in other classes, where it's just like you've got to do this every week. You've got to keep I guess moving, but in [FYS], we take our time to understand something if that makes sense. I like how the assignments are spaced out. Just the timing of everything is really nice.

Participants also expressed that the course helped them reflect and improve on their own motivation:

[The course] talks about the motivation piece. When we got to that piece, it talked about being amotivated. I realized that for half the semester, I was just being there to be there. It made me realize that I actually need to step up my pace and find something in each class to be motivated about.

Students shared that skills learned in FYS were relevant to their other coursework, and that FYS taught skills that they were implicitly expected to know in order to succeed in their other classes. Time management was mentioned multiple times, with references to the master calendar and ideal schedule assignment within the course. Students also said their instructor for the class acted as a resource for them in dealing with any issues that came up, including changing majors or dealing with roommate problems.

Intersection of TRIO and FYS

Students who were enrolled in both the TRIO program and FYS noticed an overlap in support between the two. This included a sense of guidance from professors, mutual goals inherent in both organizations, and social opportunities that led to student connections and friendships both within FYS and TRIO. Students commented on the synergy between the programs; notably, building relationships with peers was easier as students in the FYS already knew one another from TRIO, and had additional opportunities from both FYS and TRIO to connect.

It is interesting to note that some participants actually referenced FYS and TRIO interchangeably, possibly seeing them as having a similar role in their college experiences. One student shared:

It's not just like [FYS], and [TRIO], it's combined, which is good. I definitely see a partnership because they both want us to succeed.

Another student commented on the mutual goals and support offered by the two organizations:

I believe [TRIO] is also here to help us. They want us to succeed as much as [FYS] does. [FYS] is there to help us grow, to help us learn, to help us succeed, so is [TRIO]. They go very well with each other.

Although students identified receiving support from both FYS and TRIO, they identified remaining challenges that were specific to them as first-generation students.

Challenges Specific to First-Generation Students

Students talked about wanting to make their families proud, and the unique pressure that came with being held up as an example while also facing challenges:

Graduating wasn't a choice in my house. And when it happened they were so happy, and then when I told them I was going to college they were even more happy. And now they hold me to a higher standard. And then they tell my friends and family about it. And everybody's hyping me up, but I'm over here drowning sometimes.

Some students also expressed surprise at the difficulty of their classes, and shared that they did not realize that failing was a real possibility. Instead, they thought that students who put in the effort would automatically pass, as evident by the following quotation: "I thought you just walked the straight line, and you don't fail classes." The reality of failing and retaking classes, and being judged on output alone rather than effort, came as a shock to some participants.

This was especially salient for students going home over Thanksgiving or winter vacation to see friends and family members. Participants expressed that their friends and family were congratulating them and saying "You're doing this!" and it was hard for these students to honestly express the struggles and difficulties they faced in college.

I think it's like none of my family has gone to college, at all, not even any of my cousins. And I'm the first one, so when I go home for a break everybody's like, 'You're in college. You're doing all this.' And you're like, 'Yo, I'm not doing that good,' or something. I don't wanna go home and be like bad news. I wanna be like, 'Oh, I'm doing great.'

DISCUSSION

This study explored how collaboration between a TRIO and FYS program at one university affected first-generation students jointly served by the programs. This question was answered through the use of an explanatory sequential mixed-methods design. Quantitative data compared three groups: TRIO/FYS participants, participants in FYS only, and participants in neither FYS nor TRIO. Compared to non-participants, students who utilized both FYS and TRIO had significantly higher GPAs (2.61 versus 2.33) and persistence to the second year (a 22% difference).

In an attempt to explain the gains afforded by the combination of FYS and TRIO, focus groups were conducted with first-generation freshmen college students at the beginning and end of the semester. The purpose of the first set of focus groups was to identify the perceptions, fears, and anxieties of students entering their first semester of college. The purpose of the second round of focus groups was to gauge how the FYS and TRIO programs supported students through their first semester.

Student responses showed that they viewed the FYS and TRIO programs as almost one and the same, even though these programs are run through two separate departments. This speaks to the collaboration between the departments, including shared goals, regular scheduled meetings, and overlapping curricula, and is illustrated by the following student quotation, "It's not just like [FYS], and [TRIO]; it's combined, which is good. I definitely see a partnership because they both want us to succeed." In both groups whether FYS only or TRIO/FYS, students described relationships and community that included their instructors and other students. For TRIO/FYS, this even began before the semester started. Additionally, students expressed that FYS helped them to develop time management strategies, motivation, and skills relevant to their other classes.

College retention in general is problematic, but the problem is especially dire for first-generation students, who are substantially more likely to drop out of college than their peers whose parents graduated from college (Ishitani, 2006). Previous research demonstrated that integrated academic programs, such as TRIO and a FYS, have potentiating benefits through continuous reinforcement of application of knowledge, mentorship and validation across the connected academic systems Moreover, such synergistic compliance

among two academic programs perpetuates constant innovation (Kezar & Kitchen, 2019). As this study provides additional evidence, academically rigorous, evidence-based courses can be an effective model for serving freshmen students (including students who traditionally are less academically prepared and served by TRIO programs) adjusting to college-level expectations. Zerr and Bjerke (2016) compared effects of a transition-themed versus academic-themed first-year seminars. Students reported that “the academic-themed seminar was forcing them to engage academically in ways that they did not always like but were able to acknowledge would be helpful for success in college” (Zerr & Bjerke, 2016, p. 80). As a result of the academic FYS, students were more academically engaged at the university (Zerr & Bjerke, 2016). Overall, there has been recent and consistent research that supports increasing the quality of instruction along with challenge and rigor for first-year seminars (Blaich et al., 2016; Campbell & Dortch, In Press; Olson, 2017; Pascarella et al., 2011; Pascarella et al., 2013; Wang et al., 2015; Vaughan et al., 2019). The quantitative findings point to the positive effects in achievement of partnering a research-based academic FYS model with a TRIO program and in the qualitative findings, the themes supported students’ beliefs that the tasks and expectations set in their FYS better prepared them for their other courses.

From a financial perspective, identifying effective FYS models that serve TRIO students over the short and long term supports a responsible use of significant amounts of federal funds as well as a targeted use of limited FYS funds for students who are at an additional risk.

Limitations and Future Research

The primary limitations to this research include conducting the analysis at one institution and the lack of an experimental design due to self-selection. Additionally, the effect size of 0.13 is moderate to low; however, the model only included one variable (i.e., FYS participation). With additional variables to explain the variance, most likely this effect size would be larger. Yet, by including only the one variable, results highlight the specific contribution of FYS and TRIO participation or non-participation on academic outcomes.

Future research that examines multiple similar universities would allow for sample sizes to be large enough to support propensity score matching across the groups. Although still only quasi-experimental, this would allow for more rigorous analyses. Continued longitudinal mixed-methods designs could provide both long-term student achievement information such as graduation rates, as well as interviews and focus groups to help identify how early freshmen experiences influenced students over time.

CONCLUSION

Collaboration across college faculty and administrators is critical in order to effectively serve at-risk students (Kezar & Kitchen, 2019; Trolan, 2014). This study provides evidence that cross-collaborations can be effective, especially between a research-based FYS and a TRIO program serving first-generation, low-income students. This study provides more information about what this type of collaboration looks like and how it may address the gap between first-generation students and students whose parents attended college.

The literature has identified benefits of FYS programs for students at additional risk (Connolly et al., 2017) but little research exists on partnerships between FYS and TRIO programs, even though these two programs have similar goals and are often serving the same students. Thus, this article provides a model for a potential partnership that works well.

Universities can no longer take a one-size-fits-all approach but instead must think more specifically about how to reach at-risk students (Trolan, 2014). “First-generation students are growing in numbers, and when they do not make good on the promise of access to college then we, the teachers and the institutions, have failed” (Jehangir, 2010, p. 549). University personnel must collaborate in order to serve the unique needs of this demographic, and make the goal of a college diploma a reality for these students.

REFERENCES

- Black, A., Terry, N., & Buhler, T. (2016). The impact of specialized courses on student retention as part of the freshman experience. *Academy of Educational Leadership Journal*, 20(1), 85-92.
- Blaich, C., Wise, K., Pascarella, E.T., & Roksa, J. (2016). Instructional clarity and organization: It's not new or fancy, but it matters. *Change: The Magazine of Higher Learning*, 48(4), 6-13.
- Campbell, C.M., & Dortch, D. (n.d.). *Reconsidering academic rigor: Posing and supporting rigorous course practices at two research institutions*. (In Press, Teaching College).
- Clark, M.H., & Cundiff, N.L. (2011). Assessing the effectiveness of a college fresh man seminar using propensity score adjustments. *Research in Higher Education*, 52, 616 - 639.
- Claybrooks, S.G., & Taylor, F.P. (2016). Student persistence and use of a college success course in proprietary postsecondary education. *College Student Journal*, 50(2), 199.
- Cole, N. (2008). How long should a training program be? A field study of “rules of thumb.” *Journal of Workplace Learning*, 20, 54–70. doi:10.1108/13665620810843647
- Connolly, S., Flynn, E.E., Jemmott, J., & Oestreicher, E. (2017). First year experience for at-risk college students. *College Student Journal*, 51(1), 1.
- Demetriou, C., Meece, J., Eaker-Rich, D., & Powell, C. (2017). The activities, roles, and relationships of successful first-generation college students. *Journal of College Student Development*, 58(1), 19-36.
- Drotos, S.M., & Cilesiz, S. (2016). Shoes, dues, and other barriers to college attainment: Perspectives of students attending high-poverty, urban high schools. *Education and Urban Society*, 48(3), 221-244.
- Fetters, M.D., Curry, L.A., & Creswell, J.W. (2013). Achieving integration in mixed methods designs—Principles and practices. *Health Services Research*, 48(6pt2), 2134-2156. doi:10.1111/1475-6773.12117
- Glaser, B. (1965). The constant comparative method of qualitative analysis. *Social Problems*, 12(4), 436-445. doi:10.2307/798843
- Ishitani, T.T. (2016). Time-varying effects of academic and social integration on student persistence for first and second years in college: National data approach. *Journal of College Student Retention: Research, Theory & Practice*, 18(3), 263-286. doi:10.1177/1521025115622781
- Ishitani, T.T. (2006). Studying attrition and degree completion behavior among first-generation college students in the United States. *The Journal of Higher Education*, 77(5), 861-885. doi:10.1080/00221546.2006.11778947
- Ivankova, N.V., Creswell, J.W., & Stick, S.L. (2006). Using mixed-methods sequential explanatory design: From theory to practice. *Field Methods*, 18(1), 3-20. doi:10.1177/1525822X05282260
- Jehangir, R. (2010). Stories as knowledge: Bringing the lived experience of first-generation college students into the academy. *Urban Education*, 45(4), 533-553.
- Katrevich, A.V., & Aruguete, M.S. (2017). Recognizing challenges and predicting success in first generation university students. *Journal of STEM Education*, 18(2), 40-44.
- Kezar, A., & Kitchen, J.A. (2019). Supporting first-generation, low-income, and underrepresented students' transitions to college through comprehensive and integrated programs. *American Behavioral Scientist*. doi.org/10.1177/0002764219869397
- Miller, J.W., & Lesik, S.S. (2014). College persistence over time and participation in a first-year seminar. *Journal of College Student Retention*, 16(3), 373-390. doi:10.2190/CS.16.3.d
- National Resource Center for the First-Year Experience and Students in Transition. (2006). *2006 National survey of first-year seminars: Continuing innovations in the collegiate curriculum* (Monograph No. 51). Columbia, SC: University of South Carolina, Author.
- Olson, J.S. (2017). Helping first-year students get grit: The impact of intentional assignments on the development of grit, tenacity, and perseverance. *Journal of The First-Year Experience & Students in Transition*, 29(1), 99-118.

- Pascarella, E.T., Salisbury, M.H., & Blaich, C. (2011). Exposure to effective instruction and college student persistence: A multi-institutional replication and extension. *Journal of College Student Development, 52*(1), 4-19.
- Pascarella, E.T., Wang, J.S., Trolian, T.L., & Blaich, C. (2013). How the instructional and learning environments of liberal arts colleges enhance cognitive development. *Higher Education, 66*(5), 569-583.
- Pratt, S.I., Harwood, H.B., Cavazos, J.T., & Ditzfeld, C.P. (2019). Should I stay should or should I go? Retention in first-generation college students. *Journal of College Student Retention, 20*(1), 105-118. doi: 10.1177/1521025117690868
- Stephens, N., Fryberg, S., Markus, H.R., Johnson, C., & Covarrubias, R. (2012). Unseen disadvantage: How American universities' focus on independence undermines the academic performance of first-generation college students. *Journal of Personality and Social Psychology, 102*(6), 1178-1197.
- Trolian, T.L. (2014). What the Wabash National Study can teach us about at-risk student populations. *New Directions for Student Services, 2014*(147), 77-87.
- U.S. Department of Education, National Center for Education Statistics. (2017). The condition of education 2017 (NCES 2017-144). In *Undergraduate retention and graduation rates*. Retrieved September 4, 2018, from <https://nces.ed.gov/fastfacts/display.asp?id=40>
- Valentine, J.C., Hirschy, A.S., Bremer, C.D., Novillo, W., Castellano, M., & Banister, A. (2011). Keeping at-risk students in school: A systematic review of college retention programs. *Educational Evaluation and Policy Analysis, 33*(2), 214-234.
- Vaughan, A.L., Parra, J., & Lalonde, T. (2014). First-generation college student achievement and the first year seminar: A quasi-experimental design. *The Journal of The First-Year Experience & Students in Transition, 26*(2), 53-69.
- Vaughan, A.L., Pergantis, S.I., & Moore, S.M. (2019). Assessing the difference between 1-, 2-, and 3-credit first-year seminars on college student achievement. *The Journal of The First-Year Experience & Students in Transition, 31*(2), 9-28.
- Vuong, M., Brown-Welty, S., & Tracz, S. (2010). The effects of self-efficacy on academic success of first-generation college sophomore students. *Journal of College Student Development, 51*(1), 50-64.
- Walsh, K.J., & Robinson Kurpius, S.E. (2016). Parental, residential, and self-belief factors influencing academic persistence decisions of college freshmen. *Journal of College Student Retention: Research, Theory & Practice, 18*(1), 49-67. doi:10.1177/1521025115579672
- Wang, J.S., Pascarella, E.T., Nelson Laird, T.F., & Ribera, A.K. (2015). How clear and organized classroom instruction and deep approaches to learning affect growth in critical thinking and need for cognition. *Studies in Higher Education, 40*(10), 1786-1807.
- Zerr, R.J., & Bjerke, E. (2016). Using multiple sources of data to gauge outcome differences between academic-themed and transition-themed first-year seminars. *Journal of College Student Retention: Research, Theory & Practice, 18*(1), 68-82. doi:10.1177/1521025115579673