Assessing First-Year Seminar Performance with College Engagement, Academic Self-Efficacy, and Student Achievement

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Retention is concerning in higher education as enrollment continues to increase, including the number of first-generation students. Research supports that student success can be impacted by academic self-efficacy and college engagement and implementing effective first-year seminars (FYS) may improve these constructs. This study examined the relationship between engagement and academic self-efficacy and FYS performance. The relationship of these constructs to academic outcomes (i.e., first-term GPA and persistence) was also explored. FYS performance was significantly related to both engagement and academic self-efficacy and each of these constructs were then positively related to achievement. Suggestions for improving the learning environment are included.

Keywords: first-year seminar, college engagement, academic self-efficacy, first-generation students

INTRODUCTION

The call to increase student engagement among institutions of higher education has become a rallying point for both curricular and administrative reform in recent years (Harper & Quaye, 2014). As both the expectation for and economic value of post-secondary degrees continues to rise (Jamelske, 2008), colleges and universities across the country have come to emphasize academic preparedness and retention rates as measures of institutional success (Jones & Braxton, 2009). Efforts to attain higher standards in these areas naturally draws attention to the importance of student adjustment in the transition from high school to college, as the rapid growth of first-year seminars (FYS) designed to enhance student retention and academic outcomes clearly suggests (Erickson, Peters, & Strommer, 2009). However, refining the practices and curricula of first-year experience programs by means of ongoing assessments and the

introduction of innovative practices remains an important consideration (Cole, Kennedy, & Ben-Avie, 2009; DeAngelo, 2014).

First-Year Seminars

Research has consistently demonstrated that these programs are effective in increasing persistence into the second year, as well as increasing graduation rates and overall GPA (Pascarella & Terenzini, 2005; Vaughan, Lalonde, & Jenkins-Guarnieri, 2014). Additionally, these effects have been even greater for at-risk populations including first-generation students, students of color and male students (Swanson, Vaughan, & Wilkinson, 2015; Vaughan, Parra, & Lalonde, 2014; Vaughan, Pergantis, & Moore, 2019). Yet, these programs vary greatly in terms of learning outcomes and scope (National Resource Center for the First-Year Experience and Students in Transition, 2017). Seminars can range from 1-credit courses that are an extended orientation and focus more on learning strategies and building community on campus while others are 3- to 5-credit courses that promote skills in college-level academic tasks. Although FYS impacts to student achievement have been consistent over the years, specific research on the effects of FYS curriculum designs that incorporate motivational constructs such as college engagement and academic self-efficacy have been lacking.

College Engagement and Academic Self-Efficacy

Within this movement to grow accountability by means of new pedagogical practices and curricular designs, the benefits of student engagement (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008) and academic self-efficacy (Wright, Jenkins-Guarnieri, & Murdock, 2013; DeWitz, Woolsey, & Walsh, 2009) for student success have increasingly become essential elements of retention and outcome discussions. Engagement is a multifaceted construct that includes both individual student efforts to achieve academic success and institutional efforts to support students in that process (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2011). Lei, Cui, and Zhou (2018) define student engagement as "students being actively involved in their learning tasks and activities" (p. 517). This meta- analysis found a positive correlation between student engagement and academic achievement even for those who previously were not high achieving students. Ongoing research into the impact of engagement practices using the National Survey of Student Engagement (NSSE) has clearly established the value of this construct in terms of educational persistence rates and degree attainment (Kuh, 2001). Research indicates NSSE benchmark scores are positively correlated with both six-year graduation rates (r = 0.75) and second-year persistence (r = 0.69; Pike, 2013).

Academic self-efficacy involves a personal judgment or assessment of one's capacity to achieve educational goals and complete academic tasks (Putwain & Sander, 2016; Chemers, Hu, & Garcia, 2001). For decades, research has validated the primary role of self-efficacy in relation to academic persistence, performance, and achievement (Komarraju & Nadler, 2013; Multon, Brown, & Lent, 1991). Studies examining various psychological correlates of academic achievement measures have shown academic self-efficacy to be a primary predictor of GPA (Krumrei-Mancuso, Newton, Kim, & Wilcox, 2013; Robbins et al., 2004). Higher levels of academic self-efficacy are associated with higher academic performance, and a recent meta-analysis of 51 studies showed moderate relationships between academic self-efficacy and academic performance (Honicke & Broadbent, 2016).

Conceptual parallels between engagement and self-efficacy are readily apparent, particularly in terms of associated student behaviors and characteristics such as dedication, enthusiasm, vigor, and inspiration (Breso, Schaufeli, & Salanova, 2011). If engagement is understood to take place when students are invested, attentive, and connected in the learning process, then the motivating effects of high self-efficacy certainly contribute to a student's ability to sustain such engagement efforts (Schunk & Mullen, 2012). Indeed, research has shown self-efficacy to be positively correlated with student engagement (Lam, Wong, Yang, & Liu, 2012), even as, "a lower sense of self-efficacy for learning and performing well in school can negatively affect student motivation and engagement" (Schunk & Mullen, 2012, p. 220). The evidence clearly indicates that lack of engagement and low academic self-efficacy can both heavily influence student attrition rates (Kuh, Kinzie, Schuh, & Whitt, 2011).

Insofar as first-year students pose the highest risk for attrition among undergraduates (Barefoot, 2004); first-year seminars are in part designed to provide incoming students with engagement and self-efficacy building opportunities that effectively mitigate this risk. While research indicates a moderate to high degree of correlation between high school engagement and college engagement (Astin & Lee, 2003), this may be due to shared causal factors rather than a direct relationship (Cole, Kennedy, & Ben-Avie, 2009). By viewing engagement as a situational variable rather than a stable trait, the importance of environmental factors that positively contribute to student engagement become more salient. This shifts the impetus away from expecting students to display continuity in engagement between high school and college, or to maintain high school achievement standards in the college transition. Instead, attention is drawn to how institutions can create an environment that is more conducive to transitional success by providing students with appropriate and intentional engagement opportunities.

Additionally, the value of academic self-efficacy as a predictor of college persistence has been thoroughly established in the literature (Wright, Jenkins-Guarnieri, &Murdock, 2013;Reason, 2009) This is particularly relevant in terms of first-year student outcomes, as academic self-efficacy has been shown to predict freshman academic performance and persistence even after controlling for high school GPA (Chemers, Hu, & Garcia, 2001). Meta-analysis results actually suggest that persistence is statistically unrelated to high school achievement measures such as GPA and standardized test scores after controlling for traits such as self-efficacy (Brown et al., 2008). Such results indicate academic self-perception plays a vital role in positive academic outcomes, and serves to further substantiate the notion that successful student transitions into college may prosper from institutional support in the promotion of skills that enhance academic self-efficacy beliefs.

Changing Demographics

The students continuing their education at the university level has shifted throughout the years presenting challenges to higher education as they serve these populations. Within a sixty-year period, the number of American students enrolled full-time in post-secondary education jumped from 2.4 to 12.7 million. That is a 430% increase, one that occurred independent of population growth over this span of time (Schwartz et al., 2013). These statistics reflect changes in the U.S. demographic landscape, including shifts in gender norms, socio-economic status, workforce expectations, and societal sponsorship for higher education endeavors. On a global level, there has been growth from 1 percent of college-aged people enrolled in higher education in 1900 to 20 percent of the college-aged cohort worldwide enrolled in 2000 (Schofer & Meyer, 2005). This growth is indicative of a substantial expansion into populations previously disinclined to pursue schooling at the university level, meaning that children of parents with technical backgrounds have increasingly elected to complete post-secondary programs.

Petty (2014) described these first-generation students as an "increasingly significant force entering into post-secondary education institutions" (p. 257). As of 2008, 4.5 million students in attendance at American universities were considered first-generation (Engle, Tinto, & Pell, 2008), and in 2014 it was determined that 15.9% of the post-secondary student body fit within this demographic (Irlbeck, Adams, Akers, Burri, & Jones, 2014). Despite this avenue for growth, challenges remain in terms of first-generation student retention. According to Engle and Tinto (2008), six years following commencement of undergraduate studies, "nearly half (43 percent) of low-income, first-generation students had left college without earning their degrees. Among those who left, nearly two-thirds (60 percent) did so after the first year" (p. 2). These statistics are not similarly reflected in other student populations. First-generation low-income students comprise a large number of the overall college population, and yet have significantly lower retention rates when compared to other demographic groups (Schademan & Thompson, 2016). Even though enrollment numbers for this population of students keep rising, first-generation students "continue to earn lower grades and graduate at lower rates than their middle and upper-class peers" (Yee, 2016, p. 831). Retention challenges for these students are garnering the attention of college educators, leading to efforts to address this vital issue in promoting and supporting the academic success of first-generation students (Mahan, Wilson, Petrosko, & Luthy, 2014).

Considering such disparities, the relative importance of providing these students with engagement opportunities as well as an environment that grows academic self-efficacy becomes all the more vital (Kuh et al., 2008). If a primary goal in modern higher education involves reducing attrition rates across all student demographics, then finding ways to improve outcomes for underrepresented students must stand as a curricular and pedagogical priority.

PURPOSE OF THE STUDY

The purpose of this study was to examine whether performance in students' FYS (as measured by FYS grade) is related to college engagement and academic self-efficacy and whether these constructs are related to academic outcomes (i.e., first-term GPA and persistence to spring) in the first year. In considering the nature and scope of the type of FYS program represented in this study, it directly serves as a means to promote student growth in areas such as engagement and efficacy. FYS programming serves many populations of students, with a large portion self-identifying as first-generation students, and should be looked at in regards to college engagement and self-efficacy. As such, it seems likely that variations in student engagement and self-efficacy between high school and college might be attributable to participation in this type of FYS program and students' commitment to its activities (i.e., performance in FYS). Many FYS models, particularly those that are an extended orientation model, tend to reflect grades that are at either extreme, "As" for attending and participating in class and "Fs" for nonattendance. However, this FYS model is a research-based academic model that is academically rigorous (further description is provided) and typically grades are normally distributed. Therefore, it is more likely that students' earned grades in this FYS reflect their commitment and efforts to the concepts, activities and assignments.

The following are the specific research questions for the study:

Research Question 1: *Are students' FYS performance (as measured by FYS course grade) related to academic self-efficacy and college engagement (controlling for high school engagement) after one semester?*

Research Question 2: *Are students' academic self-efficacy and college engagement related to students' first-term GPA and persistence to the spring semester?*

METHOD

Participants

Participants were first-time college students enrolled full-time in their entering fall semester at a medium-sized, highly residential with low transfers in, four-year public research university. Of the total number of entering full-time, first-year students (N = 1930), survey data was collected (after receiving IRB approval) from those students enrolled in the university's FYS course (n = 451). Data for high school engagement was collected during the third week of the FYS class (n = 398). Students were asked during class to complete the survey online while in the computer lab. Further data was collected from FYS participants (n = 208) for academic self-perception (measure of academic self-efficacy) and college engagement during the last FYS class session of the fall semester. This was also completed while in the computer lab for class. Because fewer participants took part in the second data collection phase, the final analyses were drawn from those students who completed the full battery of surveys (n = 208). Participants included 73 male students (35%), 103 first-generation students (49%), and 84 students of color (40%). Student demographics, FYS course grade, and spring credit loads were collected from university data sets after the spring semester census date.

FYS Program

Each facet of this program was intentionally designed to promote active engagement and higher levels of academic self-efficacy. This FYS is an optional 3-credit academic course for first-time, first-year students offered within the general education requirements. Having evolved beyond an extended-orientation model, the FYS incorporates peer-reviewed research, written assignments, and exams grounded in educational psychology-based principles of learning. Furthermore, the course emphasizes the value of cultivating research-oriented skills as both a consumer and an academic contributor. Students are taught how to effectively analyze course-relevant academic articles, even as they write their own research papers on a topic of their own choosing. By emphasizing the importance of research knowledge, this university's FYS course intends to help students become not only critical evaluators and consumers of research, but contributors who can effectively integrate research findings into their academic repertoires.

Student growth is fostered through the promotion of specific skills, knowledge sets, and self-awareness practices that enhance academic outcomes. Skills include processes such as active reading, note taking, and test preparation, as well as learning strategies such as advanced memory devices, visual or graphic organizing, and effective scheduling and studying plans. Importantly, motivation theories, as well as their real-world applications, such as self-efficacy, attributions, and growth mindsets are introduced throughout the semester and then emphasized with specific lessons and activities. Methods to enhance self-awareness are woven through the course by means of reflection papers, group discussion, and assignments requiring students to explore personal strengths and biases. Furthermore, community is fostered both inside the classroom through activities such as icebreakers. While outside the classroom, community is fostered through multiple opportunities to participate with peers in campus activities. These efforts lead to a broader social network that continues throughout their educational experiences.

Research supports various contextual and environmental factors such as instructor motivation and style as well as course design and methods that directly influence student responsiveness and competence in the college classroom setting (Linnenbrink & Pintrich, 2003). To promote instructional practices that increase student engagement and academic self-efficacy, this FYS program incorporates the four major recommendations for teachers and course instructors set forth by Linnenbrink and Pintrich (2003, p. 6):

1. Help students maintain relatively high but accurate self-efficacy beliefs.
2. Provide students with challenging academic tasks that most students can reach with effort.
3. Foster the belief that competence or ability is a changeable, controllable aspect of development.
4. Promote students' domain specific self-efficacy beliefs rather than global self-esteem.

These tenets are established through the coordinated curriculum of this FYS, which allows for instructional practices to be generally consistent across instructors. All instructors are selected from specific disciplines who undergo an intensive 45-hour training before the semester begins under the supervision of the program director. A guiding principle taught during the intensive training is the importance of student engagement by means of experiential learning activities, interactive instructional practices, and guided group discussions. Additionally, weekly staff meetings are held throughout the semester in an ongoing effort to increase mutual accountability, to ensure new training ideas are integrated across courses, and to promote open communication, sharing, and support among the FYS instructors.

Measures

The Engaged Learning Index

Student engagement in the learning process was measured using an adapted version of the Engaged Learning Index (ELI; Schreiner & Louis, 2006; 2011). Using the ELI, respondents rate their perspective on how each item applies to themselves using a Likert scale ranging from 1 (*Strongly disagree*) to 6 (*Strongly agree*). Example items include "I regularly participate in class discussions in most of my classes" and "I ask my professors questions during class if I do not understand" (Schreiner & Louis, 2006). Originally designed to gauge self-reported student engagement in high school, minor phrasing alterations were made to assess the college engagement experience. As a result, the ELI framework was

used to establish two nearly identical adapted versions: the Engaged Learning Index High School Scale (ELI-HS) and the Engaged Learning Index College Scale (ELI-C).

Adapting the ELI measure provided a means to compare and contrast self-reported student engagement across the high school and college experiences of first-year students. The directions provided to participants for the ELI-HS and ELI-C differed only in terms of the explicitly designated environments for each modified scale, requesting that participants reflect on the high school experience when completing the ELI-HS and their college experience for the ELI-C. In order to maintain item consistency, basic item modifications included changing the word "teacher" to "professor", and using the past tense for the ELI-HS and the present tense for the ELI-C. For example, the ELI-HS item "I asked my teachers questions during class if I didn't understand" was given a minor alteration for the ELI-C to read as "I ask my professors questions during class if I don't understand." The Cronbach's α reliability coefficient for these data were 0.85 for both the modified ELI-HS and for the modified ELI-C.

Academic Self-Perception Scale

Student academic self-efficacy was measured using the Academic Self-Perception (ASP) subscale from the School Attitudes Assessment Survey (SAAS; McCoach, 2002). The SAAS was designed to assess general trends in student attitudes toward both specific school dynamics and general scholastic experience. As a primary subscale within the SAAS, the ASP includes five items on a seven-point Likert scale ranging from 1 (*Strongly disagree)* to 7 (*Strongly agree),* with a Cronbach's α reliability coefficient of 0.88 (McCoach, 2002). The current study data had a Cronbach's α of 0.87. Item examples include "I am confident in my scholastic abilities" and "I learn new concepts quickly." High scores on this measure reflect positive perceptions of academic self-efficacy and correlate with general academic achievement outcomes (McCoach, 2002).

Data Analysis

To answer the first research question, multiple linear regressions were conducted. The first set of models assessed the relationship of students' FYS performance with academic self-efficacy, while controlling for gender (females are entered as 1 and males as 0 in all models), student of color and first-generation identity, and index score (a variable that is calculated by the state and combines high school GPA and college entrance exams as a measure of entering academic preparedness).

The second set of models assessed the relationship between students' FYS performance and college engagement while controlling for high school engagement (as well as the same variables in the first model).

To answer the second research question, multiple linear regression models were used to assess the relationships of academic self-efficacy and college engagement with first-term GPA (controlling for the same variables as above). As described previously, FYS course grades at this university tend to have a normal distribution similar to other college courses; however, this grade would still minimally contribute to at least one quarter of students' term GPA (i.e., 3 credits of at least a 12-credit full-time enrollment). As such, this analysis calculated a first-term GPA that did not include the FYS grade.

The second set of models used binomial logistic regression to assess the relationships of academic self-efficacy and college engagement with persistence to the spring semester (controlling for the same variables as above). For all models, control variables and variables of interest were entered simultaneously and SPSS Statistics 24 was used to complete all of the analyses.

RESULTS

Descriptive statistics for the dependent, independent, and control variables for all participants (n = 208) are listed in Table 1.

TABLE 1
VARIABLE DESCRIPTIVES AND CRONBACH ALPHA RESULTS

n = 208	High school engagement *M(SD)*	College engagement *M(SD)*	Academic self-efficacy *M(SD)*	FYS course grade *M(SD)*	First-term GPA (w/out FYS) M(SD)	Spring credit load *M(SD)*
All	4.11(0.72)	4.38(0.58)	4.57(0.73)	2.99(1.01)	2.61 (0.948)	13.65(3.45)
α	0.85	0.85	0.87			

For each multiple regression model, assumptions were first tested. In the first model (FYS performance and academic self-efficacy), there was linearity, independence of residuals (as assessed by a Durbin-Watson statistic of 1.881), homoscedasticity, and no evidence of multicollinearity (as assessed by tolerance values greater than 0.1, the lowest is 0.777). There were no significant outliers, high leverage or influential points and the assumption of normality was met (as assessed by a Q-Q Plot). Each of the subsequent multiple regression models were assessed and had similar results.

Question 1

FYS Performance and Academic Self-Efficacy

A multiple regression was run to predict mean academic self-efficacy from FYS performance, gender, first-generation and student of color identity, and index score. The multiple regression model significantly predicted mean self-efficacy, $F(5, 202) = 9.167$, $p < .001$, $R^2 = .19$. Only the variable of interest, FYS performance, added significantly to the prediction, $p < .001$.

FYS Performance and College Engagement

Multiple regression was similarly run to predict mean college engagement from FYS performance. The same control variables were included as before (i.e., gender, first-generation and student of color identity, and index score) with the addition of high school engagement. The model significantly predicted mean college engagement, $F(6, 201) = 9.114$, $p < .001$, $R^2 = .21$. The variable of interest, FYS performance, and high school engagement were significant in the model, $p = .023$ *and* $p < .001$, respectively.

Regression coefficients and standard errors for all of the variables found for Question 1 can be found in Table 2.

TABLE 2
SUMMARY OF MULTIPLE REGRESSION ANALYSIS – FYS PERFORMANCE AND ACADEMIC SELF-EFFICACY AND COLLEGE ENGAGEMENT

	Academic engagement				College engagement			
Variable	*B*	*SE*	*β*	*p*	*B*	*SE*	*β*	*p*
FYS performance	0.280	0.052	.387	<.001	0.093	0.041	.162	.023
High school engagement[a]					0.327	0.052	.406	<.001
Gender	-0.140	0.099	-.091	.161	-0.159	0.078	-.131	.043
First generation	-0.117	0.101	-.080	.246	-0.064	0.079	-.055	.416
Student of color	-0.051	0.105	-.034	.628	0.058	0.083	.050	.483
Index score	.002	.003	.049	.497	.001	.003	.030	.671
R^2	0.19				0.21			

[a] High school engagement was only entered into the college engagement model.

Question 2

Academic Self-efficacy and First-Term GPA

This multiple regression was run to predict first-term GPA (computed without FYS score) from mean academic self-efficacy, gender, first-generation and student of color identity, and index score. This model significantly predicted first-term GPA, $F(5, 202) = 22.841$, $p < .001$, $R^2 = .36$. Mean self-efficacy and index score were the only significant variables, $p < .001$.

College Engagement and First-Term GPA

This model significantly predicted first-term GPA (computed without FYS score) from mean college engagement, gender, first-generation and student of color identity, and index score, $F(5, 202) = 10.925$, $p < .001$, $R^2 = .21$. Mean college engagement and index score were the only significant variables, $p < .001$. Regression coefficients and standard errors for the variables related to first-term GPA can be found in Table 3.

TABLE 3
SUMMARY OF MULTIPLE REGRESSION ANALYSIS –ACADEMIC SELF-EFFICACY AND COLLEGE ENGAGEMENT AND FIRST-TERM GPA

	First-term GPA			
Variable	*B*	*SE*	*β*	*p*
Index	0.015	0.004	.260	<.001
Self-efficacy	0.605	0.075	.466	<.001
Gender	-0.020	0.112	-.010	.862
First generation	-0.083	0.116	-.044	.474
Student of color	-0.066	0.121	-.034	.585
R^2		0.36		
Index	0.019	0.004	.321	<.001
College engagement	0.388	0.103	.237	<.001
Gender	-0.017	0.125	-.008	.894
First generation	-0.150	0.128	-.079	.244
Student of color	-0.157	0.135	-.082	.245
R^2		0.21		

Academic Self-Efficacy and Persistence

Binomial logistic regression was run to predict persistence to the spring semester from mean academic self-efficacy, gender, first-generation and student of color identity, and index score. Linearity of the continuous variables with respect to the logit of the dependent variable was assessed via the Box-Tidwell procedure (with a Bonferroni correction applied). Based on this assessment, all continuous independent variables were found to be linearly related to the logit of the dependent variable and there were no studentized residuals with a value of ±3 standard deviations. The logistic regression model was statistically significant, $\chi^2(5) = 19.430$, $p = .002$. The model explained 25.0% (Nagelkerke R^2) of the variance in persistence and correctly classified 94.2% of cases. Only mean self-efficacy was significant, $p < .01$. For every unit increase in self-efficacy, a student was almost three (*Exp(B)* = 2.9) times as likely to persist.

College Engagement and Persistence

This binomial logistic regression was run to predict persistence to the spring semester from mean college engagement, gender, first-generation and student of color identity, and index score. Assumptions were assessed as in the previous models with similar results. The model was statistically significant, $\chi^2(5) = 16.526$, $p = .005$ and explained 21.0% (Nagelkerke R^2) of the variance in persistence and correctly classified 94.2% of cases. With the bonferroni adjustment, none of the variables were significant;

however, college engagement contributed more than the other variables where $p = .05$. For every unit increase in college engagement, a student was three (*Exp(B)* = 2.9) times more likely to persist. See Table 4 for the binomial logistic regression information for persistence.

TABLE 4
SUMMARY OF BINOMIAL LOGISTIC REGRESSION ANALYSIS – ACADEMIC SELF-EFFICACY AND COLLEGE ENGAGEMENT AND PERSISTENCE TO SPRING

		Persistence	
Variable	*B*	*SE*	e^B
Gender	0.794	0.809	2.21
First generation	2.518	1.093	12.40
Student of color	0.716	0.709	2.05
Index	0.021	0.019	1.02
Self-efficacy	1.054*	0.420	2.87
Nagelkerke R^2		0.25	
χ^2		19.430	
df		5	
Gender	0.569	0.749	1.77
First generation	2.620	1.087	13.73
Student of color	0.463	0.690	1.59
Index	0.018	0.018	1.02
College engagement	1.082	0.571	2.95
Nagelkerke R^2		0.21	
$\chi 2$		16.526	
df		5	

* Significant to the .01 level with the Bonferroni adjustment.

DISCUSSION

This research lends further support to the importance of student engagement and academic self-efficacy as factors in first-year student outcomes. Students' performance in their FYS was significantly related to both academic self-efficacy and college engagement (even after controlling for high school engagement) and accounted for 19 and 21% of the variance, respectively. Similarly, both engagement and academic self-efficacy were positively related to first-term GPA and persistence to the spring semester. The strongest findings included 36% of the variance in first-term GPA being accounted for by academic self-efficacy. For persistence, unit increases in academic self-efficacy and engagement meant students were three times more likely to continue to their second semester.

It is also important to note that the control variable of index score, a composite score that reflects high school GPA and college entrance exam scores, and first-generation status was not significant in the models relating FYS performance with self-efficacy and engagement. This indicates that students' performance in their FYS was a significant contributor to college engagement and academic self-efficacy above and beyond students' entering academic performance and preparedness. This finding suggests that students' entering characteristics may not be as important to their success as factors such as engagement and academic self-efficacy. Student engagement and academic self-efficacy are factors that are malleable and can be impacted through experiences such as FYS programs. This provides evidence supporting the idea that institutions can provide learning environments that promote increased engagement and efficacy for all students regardless of entering academic abilities.

This clearly highlights the value of these factors in relation to student success, and provides further evidence for the positive impact of this type of FYS program on growing student engagement and

academic self-efficacy via both specific instructional practices and curricular design. Insofar as college persistence is significantly related to student engagement (Kuh et al., 2008) and academic self-efficacy (Chemers et al., 2001), those FYS programs which make these factors a pedagogic priority may actively contribute to overall reductions in student attrition.

Recommendations for FYS Curriculum and Training Development

Generally, the results of the study lend further credibility to both the overarching mission and specific practices of this type of FYS program. The course is designed to improve student engagement and academic self-efficacy via a curriculum rooted in learning models from educational psychology and student-centered instructional practices. Academic self-efficacy is promoted through FYS curricular components that help students better grasp the skills needed for a successful college experience. While content areas include the development of skills for studying, note taking, test preparation, time management, memorization, and scheduling practices, more process-oriented issues are also addressed using learning models of motivation, causal attributions, information processing, and goal development.

Furthermore, instructional practices and assignments are designed to meet specific criteria for effectively promoting engagement and academic self-efficacy (Linnenbrink & Pintrich, 2003). Students are explicitly taught the conceptual and practical differences between self-efficacy and self-esteem. In doing so, students learn competence and ability are fluid and controllable processes rather than fixed traits or attributes. Course instructors encourage students to accurately appraise their efforts in situational rather than global terms, as well as to determine how situational and personal barriers serve to limit academic success. Course assignments are designed to be challenging yet reasonable to complete with due effort. Through a combination of explicit curricular components and implicit instructional practices, FYS students are provided a unique chance to build their academic self-efficacy in an engaging manner.

In order to ensure delivery of the specific curriculum, instructor training must be early, comprehensive and ongoing. By providing support before the semester and then concurrently, fidelity of delivery is more assured and impacts to student outcomes are more likely. Intentional pedagogical practices of instructors promote engagement in and outside of the classroom. In this particular FYS example, this begins with instructor preparation during a 45-hour training week before the semester begins where course lesson plans are shared and feedback is given. During the training week, mock lessons are presented by each instructor in order to receive feedback surrounding lesson flow, classroom management through transitions and student engagement. Main focuses of training week are to promote instructor self-efficacy, team building, assignment adjustments and brainstorming student classroom engagement. Throughout the semester, instructors participate in weekly meetings where student engagement activities are presented with materials for each instructor and feedback is given. During the course of the semester, instructors are encouraged to provide opportunities during office hours for one-on-one student engagement, along with providing other outside opportunities for community to be built within the classroom via athletic and other campus events. Direct instruction, active participation, removal of personal technology devices and intentional course assignments create a space for students to take control in their learning.

Program efforts to promote engagement, while largely centered around pedagogical principles of active participation and group discussion, go still further in terms of making each student the active instigator of their own learning. This is evident in terms of the course research project, which provides many students with their first opportunity to develop a college-level paper under the direct guidance of an instructor. Students choose their own topic of interest, and are then charged with the task of finding journal articles to be appropriately cited within the paper. Every step of the informational process is guided, from teaching students how to find, cite, and incorporate journal articles into their work, to instructors working with students individually to refine their concepts and compositions. However, students are provided a space to explore their topics and compose their papers in a manner that suits their personal style, meaningful interests, and degree of previous writing experience.

Such course practices are meant to give first-year students the opportunity to discover their own strengths and limitations within a supportive and engaging atmosphere. By providing FYS students with a

degree of foundational knowledge on learning and self-efficacy issues, these students may be better equipped to identify potential areas for academic growth in their discipline-based courses and to implement realistic strategies for creating meaningful personal change.

Additionally, discipline-based faculty instructors can utilize student-centered learning techniques including group discussions during instructional time, scaffolded assignments with continuing written feedback at each step, and increased accessibility to students via email and office hours. These techniques are applicable within any discipline-based content area increasing students' academic self-efficacy and engagement with course content during instructional time.

Limitations and Future Directions

Several key limitations influence the generalizability of this study, particularly as a result of small sample size and the lack of a control group. Although the sample meets a minimum 20:1 standard ratio (Kline, 2011), drawing from a significantly larger sample would prove beneficial for future studies. Also, the lack of a control group makes it particularly difficult to generalize the findings as statistical comparisons between FYS and non-FYS participants would lend greater insight into the comparative effects of this FYS program to the broader freshman student population. Similarly, as a correlational design it is not possible to determine the direction of some of the findings. Specifically, does FYS performance lead to higher self-efficacy and engagement or does higher levels of these constructs lead to higher performance? These findings are limited to their significant relationships.

The high school and college engagement scales were used to measure variations in student engagement before (i.e., in high school) and after (i.e., in college) participation in this FYS. Gauging high school engagement at the beginning of the first college semester rather than during or following the final high school semester might allow for memory biases such as rosy retrospection, whereby students may tend to perceive and rate memories of past experiences more positively than they would have rated them at the time of the event (Latimer & Raghubir, 2013). Assessing high school engagement levels immediately before or after high school graduation might provide a more accurate control variable in the regression models when measuring college engagement after the first semester.

Drawing upon four- to six-year graduation rates, future studies might uncover the short- or long-term effects of engagement and academic self-efficacy gains pinpointed in this study. Beyond the confines of this FYS program alone, there are ample opportunities to engage students and reinforce academic self-efficacy skills in discipline-based classes. As universities increasingly seek to incorporate engagement practices as a matter of due course (Kuh, 2001), monitoring student gains beyond the first-year experience becomes all the more important. Future studies that take this longitudinal approach, combined with larger sample sizes and control groups, may lend further insight into the value of pedagogical and curricular standards that promote engagement and academic self-efficacy across the college experience.

CONCLUSION

With increasing enrollments of at-risk students (Lee et al., 2011; Reason, 2009), institutions are trying to establish more effective means to support success and completion for all students. As there are multiple types of FYS programs delivered nationally (National Resource Center for the First-Year Experience and Students in Transition, 2017), it may be difficult for university administrators and faculty to determine the appropriate type of program most suitable for their student populations. There may also be hesitation to provide more challenging academic college-level tasks within these types of programs when serving less academically prepared students. However, this study provides evidence that a rigorous, academic course that mirrors other three-credit freshmen courses can serve all students and promote their success. Furthermore, intentional curriculum planning with both theoretical and application tenets and ongoing instructor training is essential to ensure consistent student-centered instructional practices and learning tasks that can lead to increased college engagement and academic self-efficacy.

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