Innovative Higher Education (2019) 44:219–231
https://doi.org/10.1007/s10755-019-9459-1

Exploring the Effectiveness of Academic Coaching for Academically At-Risk College Students

M. Kyle Capstick[1] · Leigh M. Harrell-Williams[1] · Colton D. Cockrum[2] · Steven L. West[1]

Published online: 6 February 2019

Abstract

The purpose of this study, which was conducted over the course of five semesters at one institution, was to determine the effectiveness of the Academic Coaching for Excellence (ACE) program for academically at-risk students. The study utilized archival data, which had been collected by the Center for Academic Retention and Enrichment Services (CARES), for 1434 undergraduate students in a cohort-based, nonequivalent groups post-tests design. Results indicated that full- and part-time students who participated in academic coaching had significant GPA increases, were more likely to earn at least a 2.00 GPA in the intervention semester, and were more likely to be retained at the university the following semester than were those students who did not participate in the program. Implications for higher education professionals are discussed.

Keywords Academic coaching · At-risk students · College students · Program evaluation · Academic success · Retention

M. Kyle Capstick is an adjunct professor at the University of Memphis and the Director of Learning Services for Middle School at St. George's Independent School in Collierville, Tennessee. She earned her Ed.D. in Counseling from the University of Memphis. Her special interests are academic coaching, academic success within secondary and higher education, and understanding effective supports for students with learning differences. Email: mkcpstck@memphis.edu

Leigh M. Harrell-Williams is an Assistant Professor of Quantitative Research Methodology in the Department of Counseling, Educational Psychology, and Research at the University of Memphis. She earned her Ph.D. in Educational Research and Evaluation from Virginia Tech. Her particular interests are statistics education, students' beliefs and attitudes towards STEM content areas, and educational and psychological measurement. Email: leigh.williams@memphis.edu

Colton D. Cockrum is Assistant Vice Provost for Institutional Effectiveness, Accreditation, and Academic Assessment at the University of Memphis. He earned his Ed.D. in Higher and Adult Education from the University of Memphis. His focus is on academic coaching and institutional effectiveness. Email: ccockrum@memphis.edu

Steven L. West is Professor and Chair of the Department of Counseling, Educational Psychology, and Research at the University of Memphis. He earned his Ph.D. from Texas Tech University. His work focuses on barriers to success for students with disabilities, disability accommodations, and equity in access. Email: slwest@memphis.edu

✉ M. Kyle Capstick
mkcpstck@memphis.edu

Extended author information available on the last page of the article

College persistence and retention have been areas of focus in higher education for decades (Shapiro et al., 2016; Stewart, Lim, & Kim, 2015; Tinto, 1993). Only 10% of full-time bachelor's degree-seeking students at public institutions graduate in the traditional four-year timeframe, and both the five-year (39.3%) and six-year graduation rates (50%) indicate that higher education institutions have room for improvement (Shapiro et al., 2016). Since 2010 many states have implemented an outcome/performance-based funding model, which rewards institutions for student retention and degree completion (National Conference of State Legislatures, 2015; Ordway, 2015; Sanford & Hunter, 2011). Hence, many publicly funded state institutions have directed their focus and attention to retention and persistence efforts by creating and implementing additional student success programs.

Of particular interest are programs that target vulnerable student populations, such as academically underprepared students (DeNicco, Harrington, & Fogg, 2015), first-generation college students (Atherton, 2014; Cataldi, Bennett, & Chen, 2018), racial minority students (Niu, 2015), low socioeconomic status students (Sandoz, Kellum, & Wilson, 2017), and non-traditional age students (Rabourn, Shoup, & BrckaLorenz, 2015). More recently, males have come to be considered a vulnerable population due to the recent trend that female students are entering college more prepared and graduating at higher rates than are males (Chen, 2016; Lee, Flores, Navarro, & Kanagui-Muñoz, 2015).

Initially introduced to higher education in 2000 when an independent company, InsideTrack, offered student support services to colleges and universities nationwide, academic coaching is a one-on-one intervention designed to work with academically at-risk students by focusing on their strengths, goals, study skills, degree of engagement, academic planning, and overall college performance (Bettinger & Baker, 2011). Although academic coaching has experienced continued growth at higher education institutions, it has not been the focus of much research. Hence, this article defines the concept of on-campus academic coaching and reports on an evaluation of its effectiveness at a mid-sized, southeastern, state university.

Academic Coaching: The Concept

Academic coaching is characterized as a collaborative relationship between an individual acting as an academic coach and a student who focuses on the student's personal and professional goals through the development of self-awareness; strength building; academic planning; and definition of the student's purpose, interests, and values in order to aid in completion of the degree (National Academic Advising Association, 2017). Through this process the coach and student focus on exploring the internal and external barriers that impinged on the student's academic success in the previous semester; and together they then develop useful study strategies, establish appropriate test taking methods, work on time management skills, and create SMART goals (i.e., specific, measurable, action-oriented, realistic, time-framed long-term and short-term goals) (*Academic coaching for excellence quality enhancement plan*, n.d.). The coach serves as a liaison to campus resources that can aid in the student's overall academic success and retention.

Academic coaching emerged from the positive findings about student mentoring experiences. Specifically, students who noted an effective experience with their mentor had better outcomes in and beyond college (Smith, 2009). Across higher education in general, both informal and formal mentoring efforts have grown as the need for retention, degree completion, and student support has moved to the forefront of institutional concerns (Crisp, Baker,

Griffin, Lunsford, & Pifer, 2017). The informal mentoring relationship is similar to academic coaching; however, where informal mentoring is often major or career path specific, academic coaching has a broader approach in that it offers the foundational tools to help the student navigate the college and disciplinary environment. In comparison to informal mentoring it can be conceptualized as a more formal and holistic mentoring experience. This kind of student support program can also be differentiated from other support programs such as academic advising, tutoring, or counseling, in that the academic coach serves as a liaison to those other campus supports while also collaboratively working with the student on their academic development. Coaches work with the student to encourage and support goal setting, self-learning, and behavioral change. Accordingly, students referred to coaching meet individually with their coach at regularly scheduled times for the duration of the intervention to create an atmosphere of support and accountability.

The limited amount of research available on the effectiveness and practice of academic coaching is likely due to its newer development as a student support program. Additionally, there are various approaches to coaching, which limits the depth of the research available in any one particular context. Coaching has been implemented by third-party services (Bettinger & Baker, 2011), such as peer coaching through guided materials (Franklin & Franklin, 2012), for special populations such as those with attention deficit hyperactivity disorder (Field, Parker, Sawilowsky, & Rolands, 2010), for those with varying disabilities (Bellman, Burgstahler, & Hinke, 2015; Mitchell & Gansemer-Topf, 2016), and for retention purposes (Perez, 2014; Robinson, 2015; Robinson & Gahagan, 2010). Because the implementation of academic coaching at higher education institutions is increasing to meet the needs of a variety of different student populations (Robinson, 2015), the intent of the study reported here was to expand the research by looking at a large sized population of students from multiple semesters.

The Academic Coaching for Excellence Program

The Academic Coaching for Excellence (ACE) program was designed specifically by the institution where this study was conducted and was piloted in fall 2014. It has been implemented as an academic support program on-campus for undergraduate students who have fallen below the academic good standing threshold (i.e., below a 2.00 GPA) within their first 59 credit hours of college. Students are referred to the program the semester after falling below a 2.00 GPA, which means they have been notified of "academic warning" status (Center for Academic Retention and Enrichment Services, n.d.); this referral can occur after a student's first semester at the University or any semester after that until they exceed 59 credit hours. ACE is specifically designed for students on "academic warning"; however, the same coaching model is available and open to students on an "opt-in" or University referral basis.

The ACE program provides individualized and personalized coaching sessions to engage students so as to help them navigate the cumbersome and often confusing college experience while mobilizing them towards academic success in order to retain them and keep them on their projected path towards degree completion. Students are required to meet on a bi-weekly basis with their designated academic coach for 45 to 60-min sessions. The academic coaches for this program are graduate students who are on assistantships or internships and who are pursuing degrees in counseling, higher education, and related fields. Each coach is supervised by the program director and participates in summer and winter semester training sessions.

The Study

Purpose

The purpose of this study was to assess the effectiveness of the Academic Coaching for Excellence (ACE) program at a mid-sized, urban research university in the southeastern United States. As explained above, the program was designed for academically at-risk students within their first 59 credit hours of college. For the purpose of this study, academic success was defined as a student earning a 2.00 or above grade point average (GPA) in the academic semester in which the coaching intervention took place. Additionally, retention was defined as the student returning and completing the semester after the intervention semester. The two research questions were as follows:

- How do students on academic warning who participated in ACE compare to non-participants in terms of academic success and retention?
- How are student demographics (i.e., first-generation status, race/ethnicity, socioeconomic status, gender, age), enrollment status (i.e., full-time, part-time), high school performance (i.e., high school GPA and ACT score), and number of academic coaching sessions related to student academic success and retention for students who participated in ACE from spring 2015 to spring 2017?

Participants and Context

The University is located in a residential area of a southern city with a high poverty level (26.9%) and high percentage of minority residents (over 60% African American) (U.S. Census, n.d.). The University enrollment averages around 21,000 students, about 70% of whom are undergraduate students. From 2014 to 2015 through 2016–2017 academic years, the enrollment averaged nearly 40% Black and Hispanic students (Office of Institutional Research, n.d.).

The total cross-sectional sample for this study consisted of 1434 academically at-risk undergraduate students who were on academic warning during the spring 2015 through spring 2017 semesters (5 academic semesters). They were referred for the coaching intervention by the University's Center for Academic Retention and Enrichment Services office upon review of their transcripts from the previous semester. The largest cohort of referred students was in the spring 2017 cohort ($n = 523$) and the smallest was fall 2015 ($n = 111$), with larger spring cohorts on average as they included first semester freshmen who fell below the 2.00 GPA threshold for referral after their first fall semester. There were approximately the same number of males and females in the sample (50.5% men and 49.5% women). The majority of the students were of traditional age (under 25 years old; 93.5%). Just over 44% of the students were first-generation college students, and approximately 68.1% were Pell-Grant recipients. With regard to race/ethnicity, the majority of the sample was African American (55.8%), followed by White (34.6%); only 9.6% identified their race/ethnicity as "other" (i.e., Asian, mixed race/ethnicity, American Indian, Native Hawaiian, Pacific Islander, or unknown). Although Black and Hispanic students represented only 40% of the undergraduate students across these academic years, in this study, these minority students made up 60% of the academic warning sample. The majority of the students (80.9%) were considered full-time

Table 1 Descriptive statistics for student variables by enrollment and participation status

Variable	Full-time Students				Part-time Students			
	Participated		Did Not Participate		Participated		Did Not Participate	
	n	Percent	n	Percent	n	Percent	n	Percent
Pell Grant (Low SES)	603	66.80%	179	69.60%	140	74.10%	55	64.70%
Gender: Female	452	50.10%	108	42.20%	110	58.20%	40	47.10%
First-Generation	386	42.70%	110	42.80%	99	52.40%	39	45.90%
Traditional Age	875	96.90%	246	95.70%	151	79.90%	71	83.50%
Race/Ethnicity: White	334	37.00%	92	35.80%	50	26.50%	21	24.70%
Race/Ethnicity: Black	478	52.90%	137	53.30%	127	67.20%	58	68.20%
Race/Ethnicity: Other	76	8.40%	22	8.60%	11	5.80%	6	7.10%
Transfer Student	106	11.70%	27	10.50%	60	31.70%	28	32.90%
Lived On Campus	329	36.40%	72	28.00%	33	17.50%	11	12.90%
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
ACT Score	20.87	3.57	20.1	3.52	19.68	3.34	19.68	3.34
HS GPA	3.04	0.47	2.95	0.47	2.85	0.56	2.83	0.55
Prior Term GPA	0.99	0.65	0.79	0.65	0.72	0.67	0.59	0.6
Intervention Term GPA	1.51	1.12	0.83	0.99	1.47	1.14	0.88	1.12
Number of Coaching Sessions	4.16	1.89	–	–	3.84	1.81	–	–

students because they had taken 12 or more academic credit hours in the intervention semester. Only 15.5% of these students had transferred to the University prior to being placed on academic warning. The majority of students were commuters (68.9%) during the intervention semester. Table 1 provides demographics by enrollment and participation status.

Data Collection and Analysis

Starting in spring 2015, the data about the students referred to coaching were collected and maintained in a database by staff in the Center for Academic Retention and Enrichment Services (CARES) at the University. After the first author obtained a determination from the IRB office that this project was exempt because the data was to be de-identified, the CARES office shared the de-identified data for students from spring 2015 through spring 2017 for the purpose of program evaluation. The actual data analysis took place in fall 2017.

All analyses were conducted using SPSS version 24 and run separately for full-time and part-time students. The first question compared the GPAs and retention of coaching program participants to coaching-referred non-participants. Of the 1434 students, 24% were considered non-participants as they attended zero academic coaching sessions. Repeated measures ANOVA compared the mean GPA for participants and non-participants. One logistic regression model assessed the relationship between participation and whether the student intervention semester GPA was at least 2.00, and another assessed participation and retention the following semester. These methods controlled for previous semester GPA as this is a typical covariate for predicting current academic performance and first semester GPA has been shown to predict second semester GPA (Gow, McKenzie, & Schweitzer, 2004; Westrick, Le, Robbins, Radunzel, & Schmidt, 2015).

The second question addressed how well student demographics (i.e., first-generation status, race/ethnicity, SES, gender, age), enrollment status, high school performance (i.e., high school GPA, ACT score), and number of academic coaching sessions explained academic success for

students who participated in the coaching program. Multiple linear regression was conducted using intervention semester GPA as the response variable. Verification of the regression assumptions are not presented here (Capstick, 2018).

Results

Academic Performance

Change in GPA We conducted repeated measures ANOVA to compare the effect of student participation in academic coaching on the intervention semester GPA, controlling for the prior semester GPA. Similar results were found for both full-time and part-time students, with significant participation by semester interaction effects and significant participation and semester main effects. The interaction effects had small effect sizes, approximately 3.0% for both full and part-time students. The average semester GPA for all students was higher in the intervention semester than in the previous semester, whether they participated or not. However, on average, those students who participated in coaching saw a greater increase in GPA (.52 increase for full-time .75 increase for part-time) than did those who did not participate (.04 increase for full-time, .28 increase for part-time). (See Table 1 for means and Table 2 for ANOVA summary.) The participation effect size estimates were medium in size, with approximately 6.6% of the variation in GPA explained by participation for full-time students and 5.3% explained for part-time students.

Academic Success Logistic regression results indicated that participation in academic coaching was a significant predictor of a student earning a 2.00 or higher in the intervention semester for both full-time and part-time students, even when controlling for previous semester GPA (see Table 3). The odds ratios indicated that participants in coaching sessions are twice as likely to do so as are non-participants. Specifically, 38.6% of full-time students and 41.3% of part-time students who participated in academic coaching had an intervention semester GPA of at least a 2.00 or higher (38.6%) as compared to non-participants (17.1% full-time, 19.8% part-time).

Predicting Coaching Semester GPA for Participants We conducted multiple linear regression to examine the relationship between coaching semester GPA and student demographics (i.e., first-generation status, race/ethnicity, SES, gender, age, high school GPA, and ACT score)

Table 2 Repeated measures ANOVA results

Source of Variation	F	df1	df2	Partial Eta Squared
Full-time students				
Semester	49.518**	1	1156	.041
Participation	82.745**	1	1156	.067
Semester x Participation	35.757**	1	1156	.030
Part-time students				
Semester	38.402**	1	272	.124
Participation	16.553**	1	272	.057
Semester x Participation	7.894**	1	272	.028

** $p < .01$

Table 3 Logistic regression results for assessing success and retention by participation status

	Full-Time Student Model				Part-Time Student Model			
	Coeff.	Std. Error	Wald	OR	Coeff.	Std. Error	Wald	OR
Outcome: Academic Success (Semester GPA > 2.00)								
Previous Semester GPA	.521	.100	27.243**	1.683	.045	.200	.051	1.046
Participation	1.057	.183	33.513**	2.877	1.082	.310	11.022**	2.796
Outcome: Retention								
Previous Semester GPA	.372	.094	15.771**	1.451	.054	.189	.082	1.056
Participation	.683	.145	22.221**	1.979	.377	.263	2.056	1.459

* $p < .05$, ** $p < .01$

for students who attended at least one coaching session, while controlling for previous semester GPA. For full-time students the number of coaching sessions, previous term GPA, Pell status, and age were significantly related to coaching term GPA (see Table 4); and approximately 24% of the variation in coaching term GPA was explained by the variables in the model. The standardized beta estimates indicated that number of sessions had more impact than did previous term GPA, Pell status, or age. Full-time students showed an average GPA increase of .185 for each session attended. Full-time Federal Pell-Grant recipients earned GPAs that were .282 points lower than did their non-Pell-Grant student counterparts. Full-time students under 25 years old (traditional students) had a GPA that was .581 points lower than that of their non-traditional counterparts. For part-time students only the number of coaching sessions and Pell grant status were significant, with approximately 21% of the variation in coaching term GPA explained by the model. The standardized beta estimates indicated that number of sessions had more impact than did Pell status. Part-time students showed an average GPA increase of .182 points for each session attended. Part-time students who had received a Pell grant tended to earn .50 points lower GPA points compared to others.

Table 4 Regression coefficients for part-time and full-time student models

	Full-Time Student Model				Part-Time Student Model			
	Unstd. B	SE	B	t	Unstd. B	SE	B	t
Intercept	1.238	.322	–	–	.714	.729	–	–
Number Coaching Sessions	.185**	.013	.395	14.321	.182**	.034	.362	5.321
Previous Semester GPA	.264**	.047	.154	5.584	.138	.126	.076	1.094
Gender	.056	.065	.025	.873	−.034	.164	−.014	−.206
Under 25 Years Old	−.581**	.171	−.093	−3.395	−.395	.237	−.133	−1.664
First Generation	−.038	.065	−.017	−.594	−.105	.165	−.045	.525
Race/Ethnicity - Black	−.129	.077	−.057	−1.67	−.071	.215	−.028	−.328
Race/Ethnicity - Other	.025	.116	.006	.217	−.123	.360	−.026	−.342
Pell Grant Recipient	−.282**	.074	−.117	−3.80	−.501*	.197	−.194	−2.543
High School GPA	.076	.071	.032	1.074	.130	.167	.062	.781
Composite ACT	−.007	.011	−.022	−.654	.022	.028	.062	.768

* $p < .05$, ** $p < .01$. The model F test was significant for full-time students, F (10, 1056) =32.535, $p < .001$, and part-time students, F (10, 178) = 4.712, $p < .001$. The indictor variables for race/ethnicity used White as the reference group

Academic Retention

Logistic regression results indicated that participation in coaching was a significant predictor of retention in the semester after the intervention semester for full-time students only (see bottom half of Table 3), even after controlling for the previous semester GPA. Full-time students on academic warning who participated in academic coaching were more likely to be retained the following semester (63.8%) as compared to those who did not participate in academic coaching (45.7%). No significant relationship was found between retention and participation for part-time students.

Discussion

Across the United States, in general, the funding model for state higher education institutions has shifted in a way that holds institutions accountable not only for admitting students but supporting them in their ability to obtain the degree. Thus, higher education institutions must focus increased attention on academically vulnerable student populations in order to improve their academic performance and, ultimately, their retention and graduation. Academic coaching is one such support program.

Benefits of Participation in Academic Coaching

The results of this study show that all of the academically at-risk full-time and part-time students saw an increase in their GPA in their first semester on academic warning, whether they participated in the academic coaching intervention or not. While this result is noteworthy, the exact reasoning for this increase remains unknown without more information from the students themselves. Speculation might include an increase in the students' motivation, a decrease in credit hours attempted, or possibly changing their external work or social commitments in order to focus their attention more on academics. However, for the students that participated in at least one academic coaching session, approximately a ½ point larger increase in GPA was noted than for non-participants. The larger gain suggests that students benefit from being guided through the academic demands of college by an academic coach while learning study skills, having emotional support, and receiving guidance in navigating the college process. These results are similar to those regarding college academic development and college transition courses which contribute to improvement in academic performance (Hoops & Artrip, 2016).

Students who participated in coaching were more likely to earn a 2.00 in the intervention semester than those who did not. For those who participated in coaching, the number of coaching sessions was a significant predictor of success, with an average increase in GPA slightly greater than .18 per coaching session. This information indicates that there is a need for repetitive coaching sessions to help ensure that students are able to achieve the 2.00 GPA or better as participation in five sessions would result on average in a full point increase in GPA. Similarly, Cholewa and Ramaswami (2015) found that students who received three to four hours of counseling were more likely to show a positive impact on their GPA than were those who received fewer hours of counseling, implying that students benefit from multi-session/multi-hour interventions rather than a one-time intervention.

Full-time students were more likely to be retained at the institution following the intervention when compared to those who did not participate. Participation in academic coaching was not

significantly associated with the retention of part-time students. These findings indicate that the academic coaching intervention may be influential in full-time students' decision to come back to the institution following their intervention semester and influential in their sense of confidence in their ability to complete that semester. Goldrick-Rab and Pheffer (2009) suggested that students tend to stay at an institution rather than transferring or leaving higher education when they are more successful academically. Because academic coaching positively impacted students' academic success, coaching may also impact the decision to stay at the institution.

The Influence of Student Demographics

Although previous studies have shown that a variety of demographic variables influence student academic success and retention (Atherton, 2014; Westrick et al., 2015), only socioeconomic status (SES) and age were significant predictors in this study when evaluating the relationship between academic coaching and students' academic success and retention.

Socioeconomic Status Both full-time and part-time non-Pell Grant students were more likely to have a higher intervention semester GPA as compared to their low SES counterparts. These findings are significant to note as the literature shows mixed results about whether or not SES impacts academic performance. Westrick et al. (2015) found that SES is a weak indicator for academic success, whereas others have shown that SES is a medium to strong predictive factor (Chen, 2016; Sirin, 2005). Carnevale, Smith, Melton, and Price (2015) also found that lower SES students work full-time at a higher rate than do their higher SES peers, which is negatively associated with degree completion. The students on academic warning with low SES backgrounds may be balancing additional obstacles, such as work demands, family needs, and educational deficits, which may be negatively impacting their ability to be academically successful even with the additional supports from academic coaching. The results indicate that, though effective, an individualized academic support program such as academic coaching is not meeting the needs entirely for the low SES students to the same extent that it does for their higher SES counterparts.

Age Research has shown that non-traditional students (i.e., those student 25 years and older) tend to have more external obstacles that impact their academic success and retention when compared to traditional age students (Trenz, Ecklund-Flores, & Rapoza, 2015). However, this study found that non-traditional full-time students had a higher average GPA than did traditional full-time students. Chung, Turnbull, and Chur-Hansen (2017) found that non-traditional age students are considered to be more resilient than their traditional student counterparts, which may assist non-traditional students as they overcome the obstacle of falling into academic warning.

Other Demographic Variables While other studies found that race/ethnicity and first generation status were significant predictors of academic success and retention (Cataldi et al., 2018; Flynn, 2015; Strand, 2013; Tate, 2017), neither was significant in this study. However, students from racial minorities also tend to have other characteristics that impact success, such as low SES (Engle & Tinto, 2008), first-generation status (Postsecondary National Policy Institute, 2018), or academic under-preparation (Chen, 2016) at a higher rate than do their White counterparts. This may explain why race/ethnicity and first generation status were not significant when Pell status was included in the regression model because approximately 76.9% of the racial minority who participated in the coaching program students were also Pell recipient grant recipients.

Implications and Recommendations

The findings of this study indicated that the ACE program is an effective intervention for students on academic warning in terms of academic performance and retention at this mid-sized, public, urban research institution in the southeastern United States. As state institutions focus on specific populations such as low-income students, underrepresented minority groups, and non-traditional age students (Tennessee Higher Education Commission, 2015), an effective student support program such as academic coaching may be a program meriting the investment.

Other student populations worth exploring with this intervention include veterans and online students as these populations often include non-traditional age students. Of all student veterans, only 15% are considered below 24 years old, whereas most student veterans are between the ages of 24 and 40 (Department of Veteran Affairs, 2014). Additionally, online student enrollment is consistently on the rise with a growth of 7.3% between fall 2015 and 2016 at public institutions (Friedman, 2018). With courses more easily accessible, many non-traditional and working students are now able to access courses with the hope of attaining a degree. The current average age of online students is 32, and of this group 84% are employed while taking online courses (Friedman, 2017). With both populations heavily influenced by the non-traditional student demographic, it may be worthwhile to expand coaching practices in these student niches.

Additionally, continued resources are needed to aid in the support of the low SES student population. The academic deficit with which this population enters college is troublesome; yet their ability to succeed with guidance from an academic coach is evident based on this study's findings. Therefore, one recommendation is to implement academic coaching at the start of the first semester of college enrollment as a preventative measure, instead of reacting after students receive a low academic GPAs from which it can be difficult to recover.

Though academic coaching programs have increased on college campuses in a variety of ways and for different populations, a consistent framework to the practice is needed to allow for cross-comparison of programs. We suggest that establishing a professional community regarding academic coaching in order to create best practices and ethics would be beneficial. Currently many student support programs have governing bodies to encourage student welfare and establish core competencies as a framework: advising (National Academic Advising Association), counseling (American College Counseling Association), tutoring (Association of Colleges for Tutoring & Learning Assistance), and first-year support (National Resource Center for First Year Experience and Students in Transition). Many of these organizations recognize academic coaching within their associations, however there is not a professional organization that individualizes the practice as its own and allows it to distinguish itself from the others.

Finally, the financial resources needed to implement an academic coaching program on a college campus may vary. In this particular study the main cost associated with it was in the form of graduate assistantships. These graduate assistantships cost the university tuition dollars and a monthly stipend over 9 months (two semesters). Using graduate assistants as academic coaches, however, represents a more cost-effective approach than hiring full-time employees, which would mean higher salaries and benefit costs. The graduate assistants hired for the program examined in this study come from degree programs in counseling, higher education, and similar helping professions; and they are trained in academic coaching by the program supervisor. An additional cost to consider for the implementation of a coaching program is the need for technology. Most academic coaches have their own laptops that can be used to look up student grades, early interventions, and appropriate resources. However, a university that

wants to create a program should consider regular technology costs that could cover the cost of new laptops every couple of years and possible software needs. Finally, some initial startup costs for physical space is necessary for the program; however; when set up within an existing department space this need is less problematic.

Future Research

Overall, the positive results found in the study for students who were placed on academic warning are encouraging. In terms of performance and retention, this academically at-risk student population has found promise in the relational intervention that challenges and supports them by providing a connection to an on-campus academic coach to develop their academic potential. Finer tuned research is necessary in order to further understand what elements of coaching are most effective and how many sessions are needed in order to establish an efficient program. Additionally, utilizing qualitative research to understand the differences between student groups and their experiences would likely illuminate areas of growth and best practices for the program. Finally, looking more specifically at the components of academic coaching that are impacting the student (i.e., academic skills, self-efficacy, resiliency) and the dynamics of the coaching relationship (i.e., working alliance, coach's experience and training) would provide a richer understanding of the inner workings of the coaching experience and practice.

Conclusion

This study aimed to explore the effectiveness of the Academic Coaching for Excellence (ACE) program at a mid-sized, urban research institution in the southeast United States and to add to the growing literature on academic coaching. The results suggest that the intervention is effective in increasing overall academic performance, moving students toward degree completion, and promoting retention of these academically at-risk students. We believe that they also provide a basis for recommending implementation of such a program at other institutions.

References

Academic coaching for excellence quality enhancement plan (n.d.). Retrieved from University of Memphis website: https://www.memphis.edu/academiccoaching/academic_coaching/index.php

Atherton, M. C. (2014). Academic preparedness of first-generation college students: Different perspectives. *Journal of College Student Development, 55*, 824–829. https://doi.org/10.1353/csd.2014.0081

Bellman, S., Burgstahler, S., & Hinke, P. (2015). Academic coaching: Outcomes from a pilot group of postsecondary STEM students with disabilities. *Journal of Postsecondary Education and Disability, 28*, 103–108.

Bettinger, E., & Baker, R. (2011). *The effects of student coaching in college: An evaluation of a randomized experiment in student mentoring*. (NBER Working Paper No. 16881). Cambridge, MA: National Bureau of Economic Research. https://doi.org/10.3386/w16881

Capstick, M. K. (2018). E*xploring the effectiveness of academic coaching for academically at-risk college students* (Unpublished doctoral dissertation, The University of Memphis).

Carnevale, A. P., Smith, N., Melton, M., & Price, E. W. (2015). *Learning while earning: The new normal.* Retrieved from Georgetown University Center on Education and the Workforce website: https://cew.georgetown.edu/wp-content/uploads/Working-Learners-Report.pdf

Cataldi, E. F., Bennett, C. T., & Chen, X. (2018). *First-generation students: College success, persistence, and postbachelor's outcomes* (NCES 2018–421). Retrieved from National Center for Education Statistics website: http://nces.ed.gov/pubsearch

Center for Academic Retention and Enrichment Services (n.d.). *Academic warning*. Retrieved from University of Memphis website: http://www.memphis.edu/cares/academicwarning.php

Chen, X. (2016). *Remedial coursetaking at U.S. public 2- and 4-year institutions: Scope, experiences, and outcomes* (NCES 2016–405). Retrieved from National Center for Education Statistics website: http://nces.ed.gov/pubsearch

Cholewa, B., & Ramaswami, S. (2015). The effects of counseling on the retention and academic performance of underprepared freshmen. *Journal of College Student Retention: Research, Theory and Practice, 17*, 204–225. https://doi.org/10.1177/1521025115578233

Chung, E., Turnbull, D., & Chur-Hansen, A. (2017). Differences in resilience between "traditional" and "non-traditional" university students. *Active Learning in Higher Education, 18*, 77–87. https://doi.org/10.1177/1469787417693493

Crisp, G., Baker, V. L., Griffin, K. A., Lunsford, L. G., & Pifer, M. J. (2017). Mentoring undergraduate students. *ASHE Higher Education Report, 43*, 7–103. https://doi.org/10.1002/aehe.20117

DeNicco, J., Harrington, P., & Fogg, N. (2015). Factors of one-year college retention in a public state college system. *Research in Higher Education Journal, 27*, 1–13.

Department of Veteran Affairs (2014). *Characteristics of student veterans.* Retrieved from https://www.mentalhealth.va.gov/studentveteran/docs/ed_todaysStudentVets.html

Engle, J., & Tinto, V. (2008). *Moving beyond access: College success for low-income, first- generation students.* Retrieved from The Pell Institute for the Study of Opportunity in Higher Education website: https://files.eric.ed.gov/fulltext/ED504448.pdf

Field, S., Parker, D., Sawilowsky S., & Rolands, L. (2010). *Quantifying the effectiveness of coaching for college students with attention deficit/ hyperactivity disorder* (final report to the Edge Foundation). Retrieved from Edge Foundation website: https://edgefoundation.org/wp-content/uploads/2011/03/Edge-Report-11-10a-exec-summary.pdf

Flynn, E. E. (2015). It's all about saving face: Working with the urban college student. *College Student Journal, 49*, 187–194.

Franklin, J., & Franklin, A. (2012). The long-term independently assessed benefits of coaching: A controlled 18-month follow-up study of two methods. *International Coaching Psychology Review, 7*, 33–38.

Friedman, J. (2017, April 4) *U.S. News data: The average online bachelor's student.* Retrieved from https://www.usnews.com/higher-education/online-education/articles/2017-04-04/us-news-data-the-average-online-bachelors-student

Friedman, J. (2018, January 11) *Study: More students are enrolling in online courses.* Retrieved from https://www.usnews.com/higher- education/online-education/articles/2018-01-11/study-more-students-are-enrolling-in-online-courses

Goldrick-Rab, S., & Pheffer, F. (2009). Beyond access: Explaining socioeconomic differences in college transfer. *Sociology of Education, 82*, 101–125.

Gow, K., McKenzie, K., & Schweitzer, R. (2004). Exploring first-year academic achievement through structural equation modelling. *Higher Education Research and Development, 23*, 95–112.

Hoops, L. D., & Artrip, A. (2016). College student success course takers' perceptions of college student effectiveness. *Learning Assistance Review, 21*, 55–67.

Lee, H., Flores, L. Y., Navarro, R. L., & Kanagui-Muñoz, M. (2015). A longitudinal test of social cognitive career theory's academic persistence model among Latino/a and white men and women engineering students. *Journal of Vocational Behavior, 88*, 95–103. https://doi.org/10.1016/j.jvb.2015.02.003

Mitchell, J. J., & Gansemer-Topf, A. M. (2016). Academic coaching and self-regulation: Promoting the success of students with disabilities. *Journal of Postsecondary Education and Disability, 29*, 249–256.

National Academic Advising Association (2017). *Academic Coaching Advising Community.* Retrieved from https://www.nacada.ksu.edu/Community/Advising-Communities/Academic-Coaching.aspx

National Conference of State Legislature (2015). *Performance-based funding for higher education.* Retrieved from www.ncsl.org/research/education/performance-funding.aspx

Niu, S. N. (2015). Leaving home state for college: Differences by race/ethnicity and parental education. *Research in Higher Education, 56*, 325–359. https://doi.org/10.1007/s11162-014-9350-y

Office of Institutional Research (n.d.). *Enrollment monitor for fall* 2017. Retrieved from The University of Memphis website: http://www.memphis.edu/oir

Ordway, D. M. (2015, July 15). *Performance funding for colleges: Research roundup.* Retrieved from https://journalistsresource.org/studies/society/education/performance-funding-colleges-research-roundup

Perez, E. (2014). *Exploring student perceptions of academic mentoring and coaching experiences*. Retrieved from ERIC database. (ED557015).

Postsecondary National Policy Institute (2018). *Factsheets: First-Generation students*. Retrieved from https://pnpi.org/factsheets/first-generation-students/

Rabourn, K. E., Shoup, R., & BrckaLorenz, A. (2015, May). *Barriers in returning to learning engagement and support of adult learners*. Paper presented at the annual forum of the Association for Institutional Research, Denver, CO. Retrieved from http://nsse.indiana.edu/pdf/presentations/2015/AIR_2015_Rabourn_et_al_paper.pdf

Robinson, C., & Gahagan, J. (2010). In practice: Coaching students to academic success and engagement on campus. *About Campus, 15*(4), 26–29. https://doi.org/10.1002/abc.20032

Robinson, C. E. (2015). *Academic/success coaching: A description of an emerging field in higher education.* (Doctoral dissertation, University of South Carolina - Columbia). Retrieved from http://scholarcommons.sc.edu/etd/3148

Sandoz, E. K., Kellum, K. K., & Wilson, K. G. (2017). Feasibility and preliminary effectiveness of acceptance and commitment training for academic success of at-risk college students from low income families. *Journal of Contextual Behavioral Science, 6*, 71–79. https://doi.org/10.1016/j.jcbs.2017.01.001

Sanford, T., & Hunter, J. (2011). Impact of performance funding on retention and graduation rates. *Education Policy Analysis Archives, 19*, 1–30. https://doi.org/10.14507/epaa.v19n33.2011

Shapiro, D., Dundar, A., Wakhungu, P. K., Yuan, X., Nathan, A., & Hwang, Y. (2016). *Time to degree: A national view of the time enrolled and elapsed for associate and bachelor's degree earners* (Signature Report No. 11). Retrieved from National Student Clearing House Research Center website: https://nscresearchcenter.org/signaturereport11/

Sirin, S. R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research, 75*, 417–453.

Smith, B. (2009). *Mentoring programs: The great hope or great hype?* (ASHE/Lumina Policy briefs and critical essays, No. 7). Ames, IA: Iowa State University, Department of Educational Leadership and Policy Studies.

Stewart, S., Lim, D. H., & Kim, J. (2015). Factors influencing college persistence for first-time students. *Journal of Developmental Education, 38*(3), 12–16.

Strand, K. J. (2013). *Making sure they make it! Best practices for ensuring the academic success of first-generation college students*. Retrieved from ERIC database. (ED561082).

Tate, E. (2017, April 26). *Graduation rates and race.* Retrieved from https://www.insidehighered.com/news/2017/04/26/college-completion-rates-vary-race-and-ethnicity-report-finds

Tennessee Higher Education Commission (2015). *Postsecondary attainment in the decade of decision: The master plan for Tennessee postsecondary education 2015–2025*. Retrieved from https://www.tn.gov/content/dam/tn/thec/bureau/research/other-research/master-plan/MasterPlanSummary.pdf

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition (2nd. ed.)*. Chicago, IL: The University of Chicago Press.

Trenz, R. C., Ecklund-Flores, L., & Rapoza, K. (2015). A comparison of mental health and alcohol use between traditional and nontraditional students. *Journal of American College Health, 63*, 584–588. https://doi.org/10.1080/07448481.2015.1040409

U.S. Census Bureau (n.d.) *QuickFacts.* Retrieved from https://www.census.gov/quickfacts/memphiscitytennessee

Westrick, P. A., Le, H., Robbins, S. B., Radunzel, J. M., & Schmidt, F. L. (2015). College performance and retention: A meta-analysis of the predictive validities of ACT® scores, high school grades, and SES. *Educational Assessment, 20*, 23–45.

Affiliations

M. Kyle Capstick[1] · Leigh M. Harrell-Williams[1] · Colton D. Cockrum[2] · Steven L. West[1]

[1] Department of Counseling, Educational Psychology, and Research, University of Memphis, Memphis, TN, USA

[2] Office of Institutional Effectiveness, Accreditation, and Academic Assessment, University of Memphis, Memphis, USA