



AUTHORS

Renee M. Fauria, Ed.D.
Sam Houston State University

Matthew B. Fuller, Ph.D.
Sam Houston State University

Abstract

Researchers evaluated the effects of Educationally Purposeful Activities (EPAs) on transfer and nontransfer students' cumulative GPAs. Hierarchical, linear, and multiple regression models yielded seven statistically significant educationally purposeful items that influenced undergraduate student GPAs. Statistically significant positive EPAs for transfer students were: (a) receiving prompt written or oral feedback from faculty on academic performance, (b) tutoring or teaching other students (paid or voluntary), (c) asking questions in class or contributing to class discussions, and (d) working harder than they thought they could to meet an instructor's standards or expectations. A negative statistically significant activity of transfer students was having serious conversations with students of a race different from their own. Overall, the effects of EPAs on undergraduate GPAs are somewhat more robust for transfer students. A recommendation to incorporate specific EPAs in transfer students' curriculum followed.

Transfer Student Success: Educationally Purposeful Activities Predictive of Undergraduate GPA

Students attending more than one postsecondary institute in pursuit of a baccalaureate degree have been on the rise since the end of the 20th century (NCES, 2005, 2007). During the 21st century almost 60% of students attended multiple institutes, transferred, and/or co-enrolled prior to graduating. These mobility patterns referred to as *student swirling* are today more the norm than the exception in higher education (Borden, 2004; Marling, 2013; Wang, 2009). Several reasons are responsible for the change. First, affordable tuition is attracting students to take core courses at community colleges before transferring to 4-year institutions (Ashmore, 2011; Marling, 2013). Second, students are finding community colleges a convenient buffer between high school and a best-fit institution. Third, states are encouraging enrollment in community colleges to help limit 4-year public institutional expenditures (Bautsch, 2013; Marling, 2013).

President Obama's challenge that every American complete at least one year of college education is contributing to the transfer boom, as are other initiatives (Lumina Foundation, 2009; U.S. Department of the Treasury, 2012; White House, 2014). Increasing the overall number of undergraduate degree completions to 60% by 2015 is a national goal of the current administration (Ebersole, 2010). Consequently, higher enrollments of nontraditional (i.e., over age 25), low-income, minority students have resulted in 67% of community college students desiring a transfer to 4-year institutions for their baccalaureate degrees (Young & Litzer, 2013).

CORRESPONDENCE

Email
renee.fauria@gmail.com

Traditional 2-year community college transfers to 4-year institutions are not the only transfers occurring (Ashmore, 2011; Marling, 2013). Student mobility patterns include reverse transfers, double dipping, and stepping out or stopping out (de los Santos & Wright, 1990). Reverse transfers are transfers from 4-year institutions to 2-year institutions, double dipping is enrollment in more than one institution, and stepping/stopping out refers to hiatuses taken by students of higher education, either temporary or permanent. Changes in

demographics and transfer mobility patterns have higher education administrators grappling to accommodate a new population of students (de los Santos, Jr. & Sutton, 2012). Subsequently, transfer student success is an increasingly worthwhile enterprise and variables that can improve transfer student success are desirable to administrators (Wang, 2009). However, some researchers (Fauria & Slate, 2014; NCES, 2005; Pascarella & Terenzini, 2005; Porter, 2011) revealed a negative association between transfer persistence and completion.

The numbers of transfer students to institutions of higher education keeps proliferating. However, transfer student persistence and completion rates towards baccalaureate degree obtainment continue to be lower than nontransfer student persistence and completion rates.

Although transfer student completion rates are difficult to monitor, a trend of non-completion is apparent. Transfer students are less apt to attain their baccalaureate degree in a given 6-year period than nontransfer students (NCES, 2005). Fauria and Slate (2014) determined that of 38 institutions in Texas, across 11 years, transfer students were four times less likely to persist after one year than nontransfer students. Furthermore, the majority of students who start at community colleges intending to transfer to 4-year institutions never do (Handel & Williams, 2012). Community colleges enroll over 40% of the United States' undergraduates (Cochrane & Shireman, 2008; College Board, 2014), but only 11% of those students starting at community colleges actually obtain baccalaureate status (U.S. Department of Education, 2011).

Swirling behaviors by students who transfer to multiple institutions of higher education can negatively influence degree completion (Adelman, 2006). Concurrent enrollment is part of the changing mobility patterns and has a statistically significant negative effect on persistence (Johnson & Muse, 2012). Transfer student adjustment, known in the literature as transfer shock, was widely studied as it relates to lowered GPAs (Diaz, 1992; Hills, 1965; Laanan, 2001). Adelman (2006), in a national longitudinal study, concluded that students earning grades in the top 40% of their class have advanced academic momentum that ultimately leads to degree completion. The Transfer Student Questionnaire (Laanan, 2004, 2007) was an instrument developed to measure transfer adjustment. In particular, student involvement or engagement, integration, satisfaction, and effort are known to impact student academic success positively for transfer and nontransfer students alike (Astin, 1984; Bean, 1980; Pace, 1990; Tinto, 1975).

Student engagement is considered important for college success. Chickering and Gamson (1987) described seven principles of good practice for academic success in college. Several of these principles included (a) prompt feedback from instructors, (b) high expectations, and (c) a respect for diverse talents and ways of learning. In essence, the higher the number of engagement activities, the more students learn and the higher the probability of students reaching completion (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2006).

The National Survey of Student Engagement (NSSE) is an 84-item self-report survey (NSSE, 2014b) divided into five benchmarks as follows: (a) Level of Academic Challenge (LAC), (b) Active and Collaborative Learning (ACL), (c) Student-Faculty Interaction (SFI), (d) Enriching Educational Experiences (EEE), and (e) Supportive Campus Environment (SCE; Kuh, 2003). The NSSE is a popular instrument for measuring educational experiences valuable for successful student outcomes (NSSE, 2014b). For over a decade, undergraduate freshman and senior students have been administered the NSSE (NSSE, 2014a). Many institutions rely on the NSSE to provide valuable information that can lead the institution to guide student success (Doherty, 2007). Kuh, Kinzie, Cruce, Shoup, and Gonyea (2006) extracted 19 NSSE items for an overall measure of educationally purposeful engagement. The benefit of a composite score was that it might easily assess a student's potential for completion. These 19 items or Educationally Purposeful Activities (EPAs) were the best single predictor of learning (Atkins, 1993; Pace, 1990; Pascarella & Terenzini, 1991, 2005). EPAs described by the NSSE might be predictive of higher GPAs and greater degree completions.

Statement of the Problem

The numbers of transfer students to institutions of higher education keeps proliferating. However, transfer student persistence and completion rates towards baccalaureate degree obtainment continue to be lower than nontransfer student persistence and completion rates. Student engagement can improve GPAs and lead to greater completion rates. Yet, transfer students' EPAs leading to academic success have not been explored as systematically as nontransfer students' EPAs. Furthermore, existing studies conflict with one another as to whether EPAs are relevant to undergraduate GPAs of transfer students. Therefore, a gap exists

in the literature identifying EPAs of transfer students that could lead to academic success. Hence, this study probed EPAs that might improve transfer students' probability of completion.

Rationale for the Study

The rationale for this study was twofold: (a) to broaden the base of knowledge for baccalaureate completion of transfer students and advance institutional as well as national objectives of undergraduates, and (b) to determine EPAs of transfer students that positively influence student GPAs towards completion. This article will seek to understand educational purposeful activities of transfer students that may or may not be distinct from traditional students and thereby close a gap in the literature regarding specific EPAs of transfer students as they relate to high cumulative GPA.

Definition of Terms

Engagement is defined as “the time and energy students devote to educationally sound activities inside and outside of the classroom, and the policies and practices that institutions use to induce students to take part in these activities” (Kuh, 2003, p. 25). Student swirling refers to patterns of student mobility different from the traditional 2-year transfers from community colleges to 4-year institutions or from a onetime transfer from a 4-year institution to another 4-year institution (de los Santos & Wright, 1990). Transfer student refers to any undergraduate student who leaves their initial institution of higher learning for another institution of learning (Cuseo, 1998). Nontransfer student refers to any undergraduate student who remains at the same institution of higher education from first year until degree completion.

Literature Review

The authors reviewed articles related to transfer student success and transfer student engagement variables. Bach et al. (2000) determined differences in transfer rates of community college students having Articulation Agreement of Transfers (AAOT) from those that did not. Transfers to 4-year institutions increased substantially with AAOTs.

Lester, Leonard, and Mathias (2013) explored the relationship between student engagement in college activities and persistence. Transfer students viewed academic engagement, different from social engagement, as activities that involved meaningful connections with faculty, academic content, and learning challenges. The probability of student persistence increased slightly with social engagement activities; however, this relationship was not linear. Furthermore, a negative relationship between increased academic engagement and persistence was determined; this contradicts the value of EPAs in degree completion.

By contrast, Pike, Kuh, and McCormick (2010) examined learning community involvement and EPAs. A positive relationship between student engagement and learning communities was determined using the NSSE data. Involvement in a learning community did not directly impact student learning but it did increase engagement, which positively influenced academic outcomes.

A review of senior transfer data by Kuh (2003) determined that transfer students were less engaged on four out of the five NSSE benchmarks. The benchmarks in ascending order from least engaged to most engaged were (a) enriching educational experiences, (b) student-faculty interaction, (c) supportive campus environment, and (d) active and collaborative learning. Enriching educational experiences had the largest effect size differentiating transfer students from nontransfer students. Kuh offered two explanations as to why transfer students' engagement lagged behind nontransfers. Transfer students are older “(63 percent are at least 24, compared to 13 percent of nontransfer students) and commuters; thus they are more likely to spend more hours a week working and caring for dependents” (Kuh, 2003, pp. 29-30).

The Community College Survey of Student Engagement (CCSSE) is similar to the NSSE and is usually administered to returning students at community colleges (CCSSE, 2015). The CCSSE (2005) determined that high-risk students who were academically underprepared, first-generation, nontraditional learners, and students of color tended to be more engaged than traditional students, though they were less likely to persist. In other words, high-risk students engaged in numerous EPAs (e.g., coming prepared to class, interacting with faculty outside of class and using campus services) were not graduating. An executive summary of the report

The purpose of this study was to compare the influences of educationally purposeful activities on cumulative undergraduate GPA between transfer and nontransfer student populations.

offered that perhaps even the most engaging of educational experiences might not be enough to ward off financial, academic, work related, or personal challenges of such students.

Astin (1993) determined that the single most influencing variable to academic achievement was involvement with other students. Student interactions with one another had strong positive effects on leadership capability, academics, self-reported growth in solving problems, and in critical thinking skills. Faculty interactions were second to student interactions. No distinction of engagement activities from transfer versus nontransfer students was attempted.

Steele and Fullagar (2009) studied a psychological construct of engagement referred to as *flow* in a college setting. Flow is an optimum balance between doing worthwhile tasks and a state of total absorption. A positive relationship between academic work and flow supports student engagement as necessary for success.

Transfer students reported statistically significant mean differences with means that were higher than their nontransfer counterparts for four of these EPA variables.

Focus groups revealed successful transfer transition experiences of 2-year community college goers to 4-year state institutions in the state of Texas (Ellis, 2013). Academically prepared, motivated, persistent, and successful students were also highly engaged. Faculty-student interactions were encouraged by both community colleges and universities. However, students claimed faculty interactions were more difficult in the university setting (Ellis, 2013).

Contrary to Ellis (2013), Miller (2013) determined a lack of engagement from many community college transfer students in the state of Texas created barriers to completion. The nontraditional group of transfer students studied, worked, and cared for family members, leaving little time for interactions outside the classroom. In addition, transfer students claimed bonding that typically occurs in the first year was absent due to transferring, and that social cliques were already established. The assumption is that without an attachment to the institution many transfer students slip through the cracks and do not complete.

Wang (2009) claimed that few studies had evaluated community college transfer students and factors predictive of their baccalaureate completion. Gender, socioeconomic status, high school curriculum, college GPA, successful math remediation, educational expectation prior to entering college, and college involvement were all variables influencing positive outcomes. Wang considered how exploring involvement on college transfer student outcomes might be beneficial especially since engagement has had a positive influence on traditional students.

Finally, Webber, Laird, and BrekaLarenz (2013) studied the effects of student-faculty involvement in undergraduate research. Student responses analyzed from over 450 institutions administering the NSSE revealed that student and faculty engagement in research activities was important for student success (Webber et al., 2013). However, differences between transfer and nontransfer students were not explored in the study.

Research Question(s)

The following questions guided this study's analysis: (a) What are the influences of educationally purposeful activities on transfer students' cumulative undergraduate GPA?, and (b) What are the influences of educationally purposeful activities on nontransfer students' cumulative undergraduate GPAs? The purpose of this study was to compare the influences of educationally purposeful activities on cumulative undergraduate GPA between transfer and nontransfer student populations. Delineation of educationally purposeful activities that could improve transfer students probability of completion was a major objective.

Method

Instrumentation and Data Source

The NSSE has been a significant source of data and evidence for higher education institutions since its inception in 1999 (Kuh, 2001). Administration of the NSSE is hosted each year by the Indiana University Center for Postsecondary Research and is given to both American and Canadian freshmen and senior undergraduates. The NSSE is an 84-item questionnaire "specifically designed to assess the extent to which students are engaged in empirically derived good educational practices and what they gain from their college experience" (Kuh, 2001, p.

2). Paper and web versions of the survey are available; however, participants in the present study completed the web version 2011 survey.

A multitude of studies call upon NSSE data, and several are of interest in the present study. At least three data reduction models are widely recognized as effective and reliable means of gaining a broad sense of NSSE data: (a) the Indiana University- Bloomington's NSSE Benchmark Scores (Kuh, 2001); (b) Pike's (2006) Scalets; and (c) Kuh, Kinzie, Cruce et al.'s (2006) Educationally Purposeful Activities. The existence of strong positive correlations between NSSE Benchmark Scores and GPAs has been well documented (Carini, Kuh, & Klein, 2006; Gordon, Ludlum, & Hoey, 2008; Kuh, 2001). Although a positive relation between NSSE items and GPA has been established, a growing body of research has addressed the limitations of using NSSE data as a predictor of collegiate outcomes or GPA (Ewell, 2002; Fuller, Wilson & Tobin, 2011; Gordon et al., 2008; Olivas, 2011; Porter, 2011). In spite of researchers being divided on the worth of NSSE as a predictive instrument, NSSE continues to enjoy strong participation, surveying nearly 484,919 students from 716 institutions in 2014 (NSSE, 2014a).

The NSSE data for this project were collected from freshmen and senior students at a large public American institution of higher education in Texas during the 2010-2011 academic year. Like many institutions, the university included undergraduate GPA as one indicator of student success among many on which it focuses. Given the importance of undergraduate GPA in regards to student learning, administrative procedures, and student personal goals, the use of GPA as a criterion variable in the present analysis is warranted. Moreover, this study explores the influence of student input characteristics as critical indicators of student abilities. By including SAT-Math and SAT-Verbal test scores as indicators of students' precollege abilities in the model, this study more directly addressed the influences of student engagement on individual students by allowing the researchers to control for the effects of student intellect prior to college. By comparing transfer student to nontransfer student GPAs, the researchers can gain a sense of the influences of EPAs on this important outcome variable (i.e., cumulative GPA).

Procedure

The current study employed repeated hierarchical regression to explore the relationship between students' NSSE variables for EPAs and cumulative undergraduate GPA. NSSE data were obtained from the study institution's institutional research staff that cleaned the data to include only those students who completed every question on the survey. For any student who had graduated by the time this study was conducted, their final undergraduate, cumulative GPA was used (i.e., Fall 2013). Roughly half of the students (365) had graduated by the point this study was initiated. Fifty-four percent of participants were senior students, while the remaining students were in the first year of college. Nineteen of the 377 freshmen students were no longer enrolled at the study institution college in the years since the survey was completed. No senior students had discontinued college without earning a degree since the survey's completion. Cumulative undergraduate GPA at the point of the study's initiation was included.

Nineteen NSSE variables comprising the EPA scales were included in the regression models. Descriptive statistics for all variables and both populations are reported in Table 1. To verify that the assumptions for the hierarchical regression analyses were met, all causal variables were plotted against their respective predictor variables to determine linearity and Q-Q plots to check for normality of data (Lomax, 2001). All plots demonstrated the possibility of linear relationships and normal distributions for both causal and predictor variables suggesting the regression analyses could proceed. Next, independent samples *t*-tests were conducted on all causal, control, and dependent variables to determine mean differences between the two groups (see Table 1). Significance levels of $p \leq 0.05$ were used throughout these analyses.

Following the guidelines offered by Lomax (2001), we conducted hierarchical linear regression to explore the relationship between sets of two continuous variables. These analyses were conducted first for students who began their undergraduate career at the study institution (i.e., nontransfer students) and then were repeated for students who did not begin their undergraduate career at the study institution (i.e., transfer students). Comparing the

In other words, while EPAs have some slight influences on undergraduate GPA, they may be more important for transfer students as the net effect is more influential on transfer student GPAs than nontransfer student GPAs.

resulting statistics for both groups of students highlights areas of difference and similarity and allows recommendations regarding student experiences to emerge.

Institutions may find it effective to design tutoring or peer-leadership programs that pair experienced students with less experienced students in specific academic areas.

For both populations a hierarchical linear regression model was developed that included in its first block the students' SAT-Math and SAT-Verbal test scores. This allowed the researchers to control for the variance explained by the influence of precollege indicators on student GPA, the dependent variable under exploration in this study. Subsequent blocks entered a total of 19 EPA variables into the model, similar to the Kuh's (2001) treatment of these variables in prior studies. Variables were entered into specific blocks based upon confirmatory factor analysis with varimax rotation. This factor analysis confirmed that a factor structure similar to Kuh (2001) was noted and could be used for this study.

Results

Concerning mean differences between transfer ($n = 346$) and non-transfer students ($n = 377$), transfer students did not exhibit a statistically significant mean difference in the dependent variable, cumulative undergraduate GPA (see Table 1). However, the means for transfer students' SAT-Math and SAT-Verbal test scores were lower than for nontransfer students (see Table 1), a statistically significant difference that may have been a result of the participants' attendance at other institutions prior to attendance at the study institution. Six of the 19 EPAs exhibited statistically positive mean differences between transfer and nontransfer students (see Table 1). Transfer students reported statistically significant mean differences with means that were higher than their nontransfer counterparts for four of these EPA variables. This suggests that in many ways transfer students were more engaged than their nontransfer counterparts but that nontransfer students may possess higher measures of academic abilities (SAT-Math and SAT-Verbal scores).

Nontransfer Student Results

Establishing positive, constructive dialogue between faculty, staff, and students to help students celebrate their successes and their ability to exceed the expectations of college may prove useful.

When the control variables (SAT-Math and SAT-Verbal), the predictor variables (EPAs), and dependent variables (GPA) were entered into a hierarchical linear regression model for nontransfer students, tutoring other students [$\beta = 0.156$, $t(367) = 2.69$, $p = 0.008$], participating in a community based project as a part of a course [$\beta = -0.160$, $t(367) = -2.58$, $p = 0.010$], students' perception of working harder than they thought they could to exceed an instructor's expectations [$\beta = 0.138$, $t(367) = 2.12$, $p = 0.035$], and making a class presentation [$\beta = 0.199$, $t(367) = 3.12$, $p = 0.002$] were retained to the final block of the model as statistically significant predictors of undergraduate cumulative GPA. The full model for nontransfer students explained a respectable portion of the variance for nontransfer students, $R^2 = 0.263$, $F(1, 367) = 4.808$, $p \leq 0.05$. The control variables, SAT-Math and SAT-Verbal, explained 12.2% of the variance, leaving a modest 14.1% of the variance to be explained by the predictor variables. Several other variables (i.e., asking questions in class, coming to class unprepared), originally entered into their respective blocks were initially significant predictors, but were not retained as significant predictors of the dependent variable in later blocks.

Transfer Student Results

Significant predictors of transfer student undergraduate cumulative GPA included receiving prompt written or oral feedback from a faculty member on performance [$\beta = -0.255$, $t(326) = -2.22$, $p = 0.029$], tutoring other students [$\beta = 0.238$, $t(326) = 3.80$, $p = 0.001$], asking questions in class [$\beta = 0.166$, $t(326) = 2.68$, $p = 0.008$], perceptions of working harder than they thought they could to exceed an instructor's expectations [$\beta = 0.288$, $t(326) = 2.375$, $p = 0.020$], and having serious conversations with students of a different race [$\beta = -0.126$, $t(326) = -5.57$, $p = 0.047$]. Compared to nontransfer students, more variance was explained in the model predicting transfer student GPAs [$R^2 = 0.299$, $F(1, 326) = 1.170$, $p \leq 0.05$], which explained 23.4% of the variance. Control variables only accounted for 6.5% of the variance for transfer students, allowing the independent variables of interest to explain a modest 16.9% of the variance.

Table 1
Descriptive Statistics of Educationally Purposeful Activity for Transfer and Nontransfer Students

Educationally purposeful activity ^a	Transfer		Nontransfer		Sig.
	<i>M</i>	<i>σ</i>	<i>M</i>	<i>σ</i>	<i>p</i> ≤ 0.05
a. Final, Cumulative GPA	3.08	.471	3.13	.599	
b. SAT-Math Score	489.91	86.92	515.77	74.79	***
c. SAT-Verbal Score	479.31	91.32	516.25	81.75	***
d. Asked questions in class or contributed to class discussions	3.012	.828	2.860	.862	***
e. Made a class presentation	2.614	.905	2.321	.932	***
f. Prepared two or more drafts of a paper or assignment before turning it in	2.635	.974	2.601	.988	
g. Come to class without completing readings or assignments	2.015	.727	2.074	.789	
h. Worked with other students on projects DURING CLASS	2.632	.919	2.404	.875	
i. Worked with classmates OUTSIDE OF CLASS to prepare class assignment	2.737	.932	2.529	.906	
j. Tutored or taught other students (paid or voluntary)	1.827	.961	1.866	.945	***
k. Participated in a community-based project (e.g., service learning) as part of a regular course	1.611	.819	1.752	.909	***
l. Used an electronic medium (listserv, chat group, Internet, instant messaging, etc.) to discuss or complete an assignment	2.787	1.064	2.760	1.014	
m. Used e-mail to communicate with an instructor	3.469	.722	3.441	.706	
n. Discussed grades or assignments with an instructor	2.898	.896	2.792	.884	
o. Talked about career plans with a faculty member or advisor	2.416	.990	2.344	.918	
p. Discussed ideas from your readings or classes with faculty members outside of class	2.083	.971	1.963	.950	
q. Received prompt written feedback or oral feedback from faculty on your academic performance	2.922	.816	2.843	.855	***
r. Worked harder than you thought you could to meet an instructor's standards or expectations	2.925	.829	2.812	.844	***
s. Worked with faculty members on activities other than coursework (committees, orientation, student life activities, etc.)	1.765	.954	1.906	.973	
t. Discussed ideas from your readings or classes with others outside of class (students, family members, co-workers, etc.)	2.938	.856	2.817	.894	
u. Had serious conversations with students of a different race or ethnicity than your own	2.765	.964	2.874	.959	***
v. Had serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values	2.697	.992	2.871	.972	

Note: *n* = 324 for transfer students and *n* = 351 for nontransfer students. *** = *p* ≤ 0.05.

^a Educationally Purposeful Activity items were taken from the 2011 NSSE version. Items from The College Student Report, National Survey of Student Engagement, Copyright 2001-15 The Trustees of Indiana University.

Discussion

The hierarchical linear regression model for transfer students explained slightly more of the variance in the equation. This is due in part to the fact that SAT-Math and SAT-Verbal test scores of precollege ability explained less of the variance in transfer student undergraduate GPAs. Student engagement in EPAs explained considerably more of the variance in cumulative GPAs for undergraduate transfer students than for undergraduate nontransfer students. In other words, while EPAs have some slight influences on undergraduate GPA, they may be more important for transfer students as the net effect is more influential on transfer student GPAs than nontransfer student GPAs. An independent samples *t*-test conducted in the current study determined that nontransfers had higher precollege academic abilities (SAT-Math and SAT-Verbal scores) than transfers. The phenomenon of transfer shock is well researched (Diaz, 1992; Hills, 1965; Laanan, 2001) and a relationship between transfers and lowered GPAs has been established. Perhaps a reasonable explanation for why the EPAs influenced transfer students' GPAs more than nontransfer students' GPAs is in part due to transfer shock. Or maybe a precollege use of EPAs by nontransfers to achieve higher GPAs had already been developed. Indeed, because of transfer swirling behaviors EPAs might not be utilized as often by transfer students. Thus, EPAs, such as those in this study and in Kuh's (2001) study, might prove useful to improving transfer student GPAs, and could precipitate other advantageous effects in the retention of transfer students

Of interest is that many of the above tried and true engagement variables were not predictive of GPA. These results suggest that many EPAs might be less important than previously thought.

Two variables were significant predictors of GPA for both transfer and nontransfer students. Tutoring other students appears to be a high impact practice that could support both transfer and nontransfer students' attainment of personal GPA goals. The influence of this practice seems slightly more pronounced for transfer students. Students are often required to obtain a specific high GPA or demonstration of strong grades in classes they hope to teach. Thus, the effect of this variable may be due to institutional policies that could be creating an artificial effect. However, peer teaching and tutoring may also precipitate the kinds of engagement and connection with an institution that influence students' academic abilities. Institutions may find it effective to design tutoring or peer-leadership programs that pair experienced students with less experienced students in specific academic areas. Similarly, students' perceptions of themselves as working harder than they thought they could to exceed a faculty member's expectations was a significant predictor of GPA for both groups. Such self-regulated motivation to work hard is similar to influences noted in the literature on self-efficacy (Bandura, 1986; Pajares & Schunk, 2001; Zimmerman, 1990). Establishing positive, constructive dialogue between faculty, staff, and students to help students celebrate their successes and their ability to exceed the expectations of college may prove useful. The student-academic advisor relationship is key to the development of a student's self-image that notices his or her ability to exceed expectations (Pargett, 2011; Pietras, 2010).

Two significant predictors had negative influences on undergraduate cumulative GPA: (a) nontransfer students' participation in a community-based project as a part of a regular class and (b) transfer students' engagement in serious conversations with someone of a different race. Nontransfer students represent half of the sample population with the majority of these students being first year students. The slight negative influence on GPA of nontransfer students' involvement in community-based projects might be due to collegiate adjustment, time management, or priority setting in this new first-year experience. Mandatory involvement in a community-based project in addition to an already stressful student community might be too much too soon. Moreover, the negative influence on GPA of transfer students having serious conversation with someone of a different race might be due to tension such conversation might have on students. Observational studies of first-year student seating patterns in college cafeterias at high volume times by Corwin and Cintrón (2011) revealed cliquing behaviors; many first year co-eds sat next to peers they knew (e.g., from the same high school, state, or church organization). Similar behaviors of transfer students could explain the negative effect of having a serious conversation with students of a different race because new transfers would naturally gravitate towards students comparable to themselves.

Several predictors of undergraduate cumulative GPA emerged differentiating engagement experiences of transfer students from nontransfer students. Transfer students who engaged in the EPAs of asking questions in class or contributing to class discussions, and who received prompt feedback (i.e., oral or written) from faculty on their academic performance

had increased chances of persisting to degree completion. Having a serious conversation with a student of a different race or ethnicity other than their own negatively influenced transfer students' successes but had no impact on nontransfer students. Making a class presentation had a positive influence on nontransfer students but no impact for transfer students. Participation in a community-based project (e.g., service learning) as part of a course had a negative influence on nontransfer students but not for transfer students.

Finally, a majority of the EPAs did not emerge as predictive of cumulative undergraduate GPA. Transfer student activities that had no significant effect were (a) making a classroom presentation, (b) preparing two or more drafts of a paper or assignment before turning it in, (c) coming to class without completing readings or assignments, (d) working with other students on projects during class, (e) working with classmates outside of class to prepare class assignments, (f) participating in a community-based project as part of a regular course, (g) using an electronic medium to discuss or complete an assignment, (h) using e-mail to communicate with an instructor, (i) discussing grades or assignments with an instructor, (j) discussing ideas from your readings or classes with faculty members outside of class, (k) talking about career plans with a faculty member or advisor, (l) working with faculty members on activities other than coursework, (m) discussing ideas from your readings or classes with others outside of class, and (n) having serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values. Of interest is that many of the above tried and true engagement variables were not predictive of GPA. These results suggest that many EPAs might be less important than previously thought.

Nontransfer student activities that had no significant effect were (a) asking questions in class or contributing to class discussions, (b) preparing two or more drafts of a paper or assignment before turning it in, (c) coming to class without completing readings or assignments, (d) working with other students on projects during class, (e) working with classmates outside of class to prepare class assignments, (f) using an electronic medium to discuss or complete an assignment, (g) using e-mail to communicate with an instructor, (h) discussing grades or assignments with an instructor, (i) talking about career plans with a faculty member or advisor, (j) discussing ideas from your readings or classes with faculty members outside of class, (k) receiving prompt written or oral feedback from faculty on your academic performance, (l) working with faculty members on activities other than coursework, (m) discussing ideas from your readings or classes with others outside of class, and (n) having serious conversations with students who are very different from you in terms of their religious beliefs, political opinions, or personal values. Again, given that so many EPAs were not statistically significant or predictive of GPA could indicate that certain engagement activities might be less important than previously believed.

Of interest to note was that for transfer students and nontransfer students alike, 11 of the nonsignificant EPAs involved interactions with others (see Table 1 items h, j, l, m, n, o, p, q, s, t, and v) whereas only two nonsignificant EPAs involved self (see Table 1 items f, and g). The majority of engagement activities involving other students, faculty, and community members had no statistically significant effect on cumulative GPA. Inversely, only two of the self-engaging activities (i.e., preparing two or more drafts of a paper or assignment before it is due, and coming to class without completing readings or assignments) had no statistically significant effect on cumulative GPA. These results suggest the need for continued dialogue about the value of self-regulatory versus peer-interactional EPAs in higher education practice.

Finally, and perhaps the most meaningful finding from this study relates to the limitations of GPA as a sole indicator of success as acknowledged by other researchers (Astin, 1993; Fuller et al., 2011; Porter, 2011; Zumwalt & Craig, 2005). Though it has been a trusted metric of student academic performance for many decades, GPA may be ill suited to measure aspects of race interactions, student talent development, or attitudinal aspects of the collegiate experience. These results suggest a need for caution when designing systems to measure or track student success and, at least, GPA should not be the sole measure to guide institutional policy and program development. Though easily calculated and readily available for many students, GPA is not without its limits in measuring student success. As Porter (2011) noted, "...studies use grade point average as a measure of student learning, but GPA is flawed in many respects" (p. 66). Inconsistencies in grading approaches, difficulty in quantifying differing content across disciplines, and the inclusion of non-academic "bonus points" (i.e., attendance

The majority of engagement activities involving other students, faculty, and community members had no statistically significant effect on cumulative GPA.

Transfer students and their patterns of mobility are changing higher education. Traditional models to evaluate success are inappropriate for contemporary transfer students.

points) are just a few limitations noted in GPA (Astin, 1993). For other researchers, (Bacon, 2006; Clark, 1964; Gore, 2006), the reliability and validity of GPA have long been established as meaningful indicators of human success. Our findings suggest a moderated position on GPA that advocates its use as one of many indicators of success in future studies. Any institutional approach that seeks to use GPA as a measure of success should do so accordingly; using it as one measure among many aimed at supporting student success and growth.

Conclusion

Predicting college student success is complicated. However, knowing the likelihood of a student's participation in specific EPAs that improve GPA could be an additional indicator of college success and better than GPA alone.

Transfer students and their patterns of mobility are changing higher education. Traditional models to evaluate success are inappropriate for contemporary transfer students. The results of this study indicate specific EPAs that could enhance transfer student GPAs. Requiring faculty to provide prompt written or oral feedback and encouraging questions in class is most desirable to enhance a transfer student's GPA. Administrators could provide faculty-training sessions to address transfer students' needs and to involve faculty in transfer orientations. In addition, notifying faculty of transfer students who are enrolled in their classes would be helpful. Faculty must challenge their students to strive for high expectations and to work harder than they ever thought they could. In addition, faculty should respond quickly to all student requests and be particularly sensitive to transfer students' feedback needs. Transfer students anxious in their new environment worry about capability, and swift feedback could assuage that anxiety. Additionally, professors can offer classroom opportunities for students to tutor other students. The benefits of tutoring with or without pay are valuable to all students.

In a broader context, an overdependence on test criteria causes colleges to admit finite numbers of students who possess the highest standardized scores and GPAs. This practice leaves little room for the increasing numbers of students who may have less optimal scores but want to attend college. Informed use of NSSE data might counterbalance this dependence on GPA and admission tests (i.e., SAT and ACT). Predicting college student success is complicated. However, knowing the likelihood of a student's participation in specific EPAs that improve GPA could be an additional indicator of college success and better than GPA alone. If college administrators were aware of EPAs that benefit student GPAs then those EPAs could be incorporated in higher education curriculum.

Finally, the researchers of this study were particularly interested in a transfer student population that is typically diverse and nontraditional. Previous research (Kuh, Cruce, Shoup, Kinzie, & Gonyea, 2008) demonstrated that nontraditional students derived increased academic benefits from EPAs more so than traditional students did. Similarly, the current study confirmed that transfer students were more affected by EPAs than were nontransfer students. Further research to explore whether specific EPAs embedded into transfer student curriculum are effective in increasing transfer completion rates is recommended. In addition, grouping together EPAs (e.g., self-regulatory versus peer-interactional) might provide fodder for future research.

References

- Adelman, C. (2006). *The toolbox revisited: Paths to degree completion from high school through college*. U.S. Department of Education. Retrieved from ERIC database. (ED490195)
- Ashmore, N. (2011, July). The savvy consumers of the transfer student marketplace. *The Lawlor Review*. Retrieved from <http://www.thelawlorgroup.com/savvy-consumers-transfer-student-marketplace/>
- Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel*, 25(4), 297-308.
- Astin, A. W. (1993). What matters in college? *Liberal Education*, 79(4), 4-12.
- Atkins, M. J. (1993). *Assessment issues in higher education*. Retrieved from ERIC database. (ED369370)
- Bach, S. K., Banks, M. T., Kinnick, M. K., Ricks, M. F., Stoering, J. M., & Walleri, R. D. (2000). Student attendance patterns and performance in an urban postsecondary environment. *Research in Higher Education*, 41(3), 315-330.
- Bacon, D. R. (2006). GPA in research studies: An invaluable but neglected opportunity. *Journal of Marketing Education*, 28(1), 35-42. doi:10.1177/0273475305284638
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bautsch, B. (2013). State policies to improve student transfers. *Hot Topics in Higher Education*. Retrieved from <http://www.ncsl.org/documents/educ/student-transfer.pdf>
- Bean, J. P. (1980). Dropouts and turnover: The synthesis and test of a causal model of student attrition. *Research in Higher Education*, 12(2), 155-187. doi: 10.1007/BF00976194
- Borden, V. M. (2004). Accommodating student swirl: When traditional students are no longer the tradition. *Change: The Magazine of Higher Learning*, 36(2), 10-17. doi:10.1080/00091380409604963
- Carini, R. M., Kuh, G. D., & Klein, S. P. (2006). Student engagement and student learning: Testing the linkages. *Research in Higher Education*, 47(1), 1-32. doi: 10.1007/s11162005-8150-9
- Chickering, A. W., & Gamson, Z. F. (1987). *Seven principles for good practice of undergraduate education*. Retrieved from: <http://teaching.uncc.edu/sites/teaching.uncc.edu/files/media/files/file/InstructionalMethods/SevenPrinciples.pdf>
- Clark, E. L. (1964). Reliability of grade point averages. *The Journal of Educational Research*, 57(8), 428-430. doi: 10.1080/00220671.1964.10883112
- Cochrane, D. F., & Shireman, R. (2008). *Denied: Community college students lack access to affordable loans*. Berkeley, CA: Institute for College Access & Success.
- College Board. (2014). *College Board Advocacy and Policy Center*. Retrieved from <http://completionarch.collegeboard.org/enrollment>
- Community College Survey of Student Engagement (CCSSE). (2005). Engaging students challenging the odds. *Community College Survey of Student Engagement Findings*. Retrieved from https://www.ccsse.org/center/resources/docs/publications/CCSSE_reportfinal2005.pdf
- Community College Survey of Student Engagement (CCSSE). (2015). *Why CCSSE?* Retrieved from <http://www.ccsse.org/>
- Corwin, J. R., & Cintrón, R. (2011). Social networking phenomena in the first-year experience. *Journal of College Teaching & Learning (TLC)*, 8(1), 25-37.
- Cuseo, J. B. (1998). *The transfer transition: A summary of key issues, target areas, and tactics for reform*. Retrieved from ERIC database. (ED42577)
- de los Santos, A. G., & Wright, I. (1990). Maricopa's swirling students: Earning one-third of Arizona State's bachelor's degrees. *American Association of Community and Junior Colleges Journal*, 60, 32-34.
- de los Santos, A. G., Jr., & Sutton, F. (2012). Swirling students: Articulation between a major community college district and a state-supported research university. *Community College Journal of Research and Practice*, 36, 967-981. doi: 10.1080/10668920903182641

- Diaz, P. E. (1992). Effects of transfer on academic performance of community college students at the four-year institution. *Community/Junior College Quarterly of Research and Practice*, 16(3), 279-291. doi: 10.1080/0361697920160307
- Doherty, K. (2007). Linking student engagement and strategic initiatives: Using NSSE results to inform campus action. *Assessment Update*, 19(3), 3-5.
- Ebersole, J. (2010). Degree completion: Responding to a national priority. *Continuing Higher Education Review*, 74, 23-31.
- Ellis, M. M. (2013). Successful community college transfer students speak out. *Community College Journal of Research and Practice*, 37(2), 73-84. doi: 10.1080/10668920903304914.
- Ewell, P. (2002). From promise to progress how colleges and universities are using student engagement results to improve collegiate quality. *NSSE Annual Report*. Retrieved from http://nsse.iub.edu/2002_annual_report/html/pdf/1055-0108%20Report.3.comb.pdf
- Fauria, R. M., & Slate, J. R. (2014). Persistence rate differences of university students by race: A within groups comparison. *International Journal of University Teaching and Faculty Development*, 4(1), 1-10.
- Fuller, M., Wilson, M., & Tobin, R. (2011). The National Survey of Student Engagement as a predictor of undergraduate GPA: A cross-sectional and longitudinal examination. *Assessment & Evaluation in Higher Education*, 36, 735-748. doi: 10.1080/02602938.2010.488791
- Gordon, J., Ludlum, J., & Hoey, J. J. (2008). Validating NSSE against student outcomes: Are they related? *Research in Higher Education*, 49(1), 19-39.
- Gore, P. A., Jr. (2006). Academic self-efficacy as a predictor of college outcomes: Two incremental validity studies. *Journal of Career Assessment*, 14(1), 92-115. doi: 10.1177/106907270528136
- Handel, S. J., & Williams, R. W. (2012). The promise of the transfer pathway: Opportunity and challenge for community college students seeking the baccalaureate degree. *The College Board*. Retrieved from <http://advocacy.collegeboard.org/sites/default/files/community-college-transfer-pathway-5163.pdf>
- Hills, J. R. (1965). Transfer shock: The academic performance of the junior college transfer. *The Journal of Experimental Educational*, 201-215. doi:10.1080/00220973.1965.11010875
- Johnson, I. Y., & Muse, W. B. (2012). Student swirl at a single institution: The role of timing and student characteristics. *Research in Higher Education*, 53, 152-181. doi:10.1007/s11162-011-9253-0
- Kuh, G. D. (2001). *The National Survey of Student Engagement: Conceptual framework and overview of psychometric properties*. Bloomington, IN: Indiana University Center for Postsecondary Research.
- Kuh, G. D. (2003). What we're learning about student engagement from NSSE. *Change: The Magazine of Higher Learning*, 35(2), 24-32. doi:10.1080/00091380309604090
- Kuh, G. D., Cruce, T. M., Shoup, R., Kinzie, J., & Gonyea, R. M. (2008). Unmasking the effects of student engagement of first-year college grades and persistence. *The Journal of Higher Education*, 79(5), 540-563. doi: 10.1353/jhe.0.0019
- Kuh, G. D., Kinzie, J., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2006). *What matters to student success: A review of the literature*. Commissioned Report for the National Postsecondary Education Cooperative. Retrieved from http://nces.ed.gov/npec/pdf/Kuh_Team_Report.pdf
- Kuh, G. D., Kinzie, J., Cruce, T., Shoup, R., & Gonyea, R. M. (2006). *Connecting the dots: Multi-faceted analyses of the relationships between student engagement results from NSSE, and the institutional practices and conditions that foster student success*. Center for Postsecondary Research Indian University Bloomington, IN. Retrieved from http://nsse.iub.edu/pdf/connecting_the_dots_report.pdf
- Laanan, F. S. (2001). Transfer student adjustment. *New Directions for Community Colleges*, 2001(114), 5-13. doi: 10.1002/cc.16
- Laanan, F. S. (2004). Studying transfer students: Part I: Instrument design and implications. *Community College Journal of Research and Practice*, 28(4), 331-351. doi: 10.1080/10668920490424050
- Laanan, F. S. (2007). Studying transfer students: Part II: Dimensions of transfer students' adjustment. *Community College Journal of Research and Practice*, 31(1), 37-59. doi: 10.1080/10668920600859947
- Lester, J., Leonard, J. B., & Mathias, D. (2013). Transfer student engagement blurring of social and academic engagement. *Community College Review*, 41(3), 202-222. doi:10.1177/0091552113496141

- Lomax, R. G. (2001). *An introduction to statistical concepts for education and behavioral sciences*. Mahwah, NJ: Lawrence Erlbaum.
- Lumina Foundation. (2009). Strategic plan: 2013 to 2016. Retrieved from <http://www.luminafoundation.org/files/file/2013-lumina-strategic-plan.pdf>
- Marling, J. L. (2013). Navigating the new normal: Transfer trends, issues, and recommendations. *New Directions for Higher Education*, 162, 77-87. doi:10.1002/he.20059
- Miller, A. (2013). Institutional practices that facilitate bachelor's degree completion for transfer students. *New Directions for Higher Education*, 162, 39-50. doi:10.1002/he.20055
- National Center for Education Statistics (NCES). (2005). *The condition of education: Transfers from community colleges to 4-year institutions*. Washington, DC: U.S. Department of Education, NCES. Retrieved from <http://nces.ed.gov/pubs2005/2005094.pdf>
- National Center for Education Statistics (NCES). (2007). *The condition of education: Transfers from community colleges to 4-year institutions*. Washington, DC: U.S. Department of Education, NCES. Retrieved from <http://nces.ed.gov/pubs2007/2007064.pdf>
- National Survey of Student Engagement (NSSE). (2014a). *NSSE 2014 Student participation*. Retrieved from <http://nsse.iub.edu/html/about.cfm>
- National Survey of Student Engagement (NSSE). (2014b). *NSSE 2014: What is the survey about*. Retrieved from <http://nsse.iub.edu/html/about.cfm>
- Olivas, M. A. (2011). If you build it, they will assess at: Or, an open letter to George Kuh, with love and respect. *The Review of Higher Education*, 35(1), 1-15. doi: 10.1353/rhe.2011.0032
- Pace, C. R. (1990). *The undergraduates: A report of their activities and progress in college in the 1980's*. Retrieved from ERIC database. (ED375701)
- Pajares, F., & Schunk, D. H. (2001). Self-beliefs and school success: Self-efficacy, self-concept, and school achievement. In R. Riding & S. Rayner (Eds.), *Perception* (pp. 239-266). London: Ablex Publishing. Retrieved from <http://www.uky.edu/~eushe2/Pajares/PajaresSchunk2001.html>
- Pargett, K. (2011). *The effects of academic advising on college student development in higher education* (Master's thesis). Retrieved from <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1083&context=cehsedaddiss>
- Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students* (Vol. 1). San Francisco, CA: Jossey-Bass.
- Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research* (Vol. 2). San Francisco, CA: Jossey-Bass.
- Pietras, S. A. (2010). *The impact of academic advising on GPA and retention at the community college level*. Retrieved from http://www.isu.edu/acadaff/pdf/Retention%20Documents/Pietras_AdvisingGPARetention_diss.pdf
- Pike, G. R. (2006). The convergent and discriminant validity of NSSE scalet scores. *Journal of College Student Development*, 47, 551-564. doi: 10.1353/csd.2006.0061
- Pike, G. R., Kuh, G. D., & McCormick, A. C. (2010). An investigation of the contingent relationships between learning community participation and student engagement. *Research in Higher Education*, 52, 300-322. doi: 10.1007/s11162-010-9192-1
- Porter, S. (2011). Do college student surveys have any validity? *The Review of Higher Education*, 35(1), 45-76. doi: 10.1353/rhe.2011.0032
- Steele, J. P., & Fullagar, C. J. (2009). Facilitators and outcomes of student engagement in a college setting. *The Journal of Psychology*, 143(1), 5-27. doi: 10.3200/JRLP.143.1.5-27
- Tinto, V. (1975). Dropout from higher education: A theoretical synthesis of recent research. *Review of Educational Research*, 45, 89-125.
- U.S. Department of Education. (2011). *Fast facts*. Retrieved from <http://nces.ed.gov/fastfacts/display.asp?id=98>
- U.S. Department of the Treasury. (2012, December). *The economics of higher education: A Report Prepared by the Department of the Treasury with the Department of Education*. Retrieved from http://www.treasury.gov/connect/blog/Documents/20121212_Economics%20of%20Higher%20Ed_vFINAL.pdf

- Wang, X. (2009). Baccalaureate attainment and college persistence of community college transfer students at four-year institutions. *Research in Higher Education*, 50, 570-588. doi: 10.1007/s11162-009-9133-z
- Webber, K. L., Laird, T. F. N., & BrekaLorenz, A. M. (2013). Student and faculty member engagement in undergraduate research. *Research in Higher Education*, 54, 227-249. doi: 10.1007/s11162-0129280-5
- White House. (2014). *Education knowledge and skills for the jobs of the future: Support for higher education*. Retrieved from <http://www.whitehouse.gov/issues/education/higher-education>
- Young, J. T. N., & Litzer, E. (2013). Confirmatory factor analysis of transfer student adjustment. *Community College Journal of Research and Practice*, 37(11), 877-891. doi: 10.1080/10668926.2010.515514
- Zimmerman, D. (1990). Self-regulated learning and academic achievement: An overview. *Educational Psychologist*, 25(1), 3-17. doi: 10.1207/s15326985Sep2501.2
- Zumwalt, K., & Craig, E. (2005). Teachers' characteristics: Research on the indicators of quality. In M. Cochran-Smith & K. Zeichner (Eds.), *Studying teacher education: The report of the AERA panel on research and teacher education*. Mahwah, NJ: Lawrence Erlbaum Associates.