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The Effect of Community Service Learning on Undergraduate Persistence in Three Institutional Contexts

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This study explores the role of community service learning (CSL) in promoting undergraduate persistence relative to other experiences students have in college, their entering characteristics, and institutional features. By following the 2009 freshmen cohort at three Midwestern universities over three years, this study finds that students' experiences while in college (CSL, full-time enrollment, and GPA) have a stronger effect on the likelihood of reenrollment than students' entering characteristics (age, gender, and race). Our separate analyses for each institution allow us to consider how the differences between the three universities (student body composition, retention rate, CSL program) might lead CSL courses to play a particularly critical role in student persistence in certain types of universities.

As colleges and universities work to increase the percentage of their student populations that complete degrees, some types of institutions face greater obstacles than others. In general, colleges where most students live on campus and enroll full-time achieve higher retention rates than do colleges where most students live and work off-campus and attend part-time. Students at private universities, especially those that are more selective, are more likely to complete their degree than students at public universities (Astin & Oseguera, 2012). Such differences are mostly beyond the control of university administrators and faculty; however, active learning methods that may promote student engagement and reinforce identification with the university—such as community service learning (CSL)—might help public commuter universities increase their retention rates (Kuh, 2012).

This study draws upon the design of Astin and Oseguera's (2012) ambitious analysis of 262 colleges and universities to provide information for those seeking to predict and promote the retention of students. The large number of variables in that analysis included (a) pre college characteristics; (b) environmental "contingencies" of attendance; and (c) characteristics of the institution attended. In this study, we compare and follow the freshmen cohorts of three Midwestern universities for three years to determine

whether enrollment in CSL promotes student persistence in some types of institutions compared to others, and also whether this impact differs in accordance with students' characteristics at college entry and their different experiences in college.

Our theoretical framework for this research is Tinto's theory (1993) which identifies four categories of predictors of persistence: academic integration, social integration, financial pressures, and psychological differences. Social integration is particularly important at four-year universities and colleges with large percentages of full-time students living on campus and enjoying a rich campus life. In contrast, academic integration is more critical to the success of individuals enrolled in institutions with large percentages of part-time students who live and work off campus (Braxton, Hirschy, & McClendon, 2004). Because of external pressures on such students there is a tendency to come to campus for class and then rush to meet other responsibilities, leaving little opportunity for building a sense of community on campus.

Our supposition is that students' engagement in CSL increases both academic and social integration, leading to greater commitment to the institution, and more likely completion of their degree (Braxton et al., 2004; Tinto, 2012). Recent studies explored

whether “active learning” methods such as CSL enhance the engagement of all students in their courses (Kuh, Kinzie, Schuh, Whitt, & Associates, 2010) and whether such engagement increases their retention, with encouraging indications that it may (Bringle, Hatcher, & Muthiah, 2010; Lockeman & Pelco, 2013). This study considers whether the effect of CSL is particularly critical in institutions with higher proportions of commuter, part-time students for whom academic integration promotes persistence. Our theoretical framework and model together examine the effects within three universities, allowing us to see more clearly how these factors operate in different contexts.

Literature Review

In using Astin and Osegeura’s (2012) model, we consider what is known about the impact of factors within the three categories they created: (a) the effect of students’ own demographic and other entering characteristics; (b) the effect of experiences students have while in college; and (c) the effect of institutional traits. Terms used throughout this section are *persistence* and *degree completion*. In most studies, persistence is defined as the reenrollment of students in college with students’ enrollment followed from year to year. Degree completion is defined as students’ graduation with a degree from an institution usually within six years. “Retention” is used here to refer to either persistence or degree completion.

Students’ Entering Characteristics

The likelihood of degree completion varies with students’ demographic characteristics, financial resources, and academic success in high school and on standardized tests (Astin & Oseguera, 2012). In this study, we focus on the effect of students’ age, race, gender, transfer status, and whether they are the first generation in their family to complete a degree. Students’ age is the variable most often used to define “nontraditional” student status because older students are more likely to have delayed enrollment, be married with dependents, and work full-time. While age is not a strong predictor of retention by itself, undergraduates with these nontraditional characteristics are less likely to obtain their degree than traditional students (Villamar, 2005). Multiple responsibilities and time constraints make it less likely that such students will live on campus and participate in campus life, experiences positively related to social integration and degree completion (Braxton & Hirschy, 2005).

Students of color and those who are the first generation in their family to complete a degree are sometimes referred to as “underrepresented” students.

Nora, Barlow and Crisp (2005) found that Asian students are more likely to reenroll the second year (83%) than White students (66%); and Snyder and Dillow (2012) found that African American undergraduates are less likely to complete their degree within six years (39%) than Latino (50%) or White students (62%). First generation students and students of color may experience a cultural mismatch between the campus and their lives outside of the university that can impede their persistence (Stephens, Fryberg, Markus, & Johnson, 2012). Eleven percent of first generation students complete their degree compared to 50% of students whose parents have a degree (Pascarella & Terenzini, 2005).

Students’ gender is consistently related to degree completion. Female students are more likely to complete their degrees (61%) than male students (56%) (Aud et al., 2013). Astin and Oseguera (2012) found that this gender gap narrows slightly with time but women are still more likely to graduate in six years as opposed to four years after enrollment.

Finally, transfer students are found to be less likely to complete their degrees (Pascarella & Terenzini, 2005). Transferring from one four-year institution to another puts students at particular risk compared to those who begin at a two-year college and transfer to a university to complete their baccalaureate degrees. Those who transfer but return to their original school improve their chances of completing a degree (Pascarella & Terenzini).

Experiences in College

Students’ social and academic experiences while in college can promote engagement that heightens students’ commitment to the institution (Astin & Oseguera, 2012). Participation in active and collaborative activities has been found to contribute to students’ commitment to the institution and actual reenrollment the subsequent fall (Braxton, Jones, Hirschy, & Hartley, 2008) as well as to better predict success than student preparedness (Kuh, Kinzie, Buckley, Bridges, & Hayek, 2007). Although few studies have examined the effect of active learning (as measured by the National Survey on Student Engagement) on the retention of nontraditional students, Kuh (2012) finds that underrepresented students who engage in such methods are more likely to persist.

CSL has been found to promote undergraduate students’ persistence toward their degree. Gallini and Moely (2003) found that students who take a CSL course are more likely to express the intention to reenroll, a study that was later replicated and confirmed with a larger sample (Cress, Burack, Giles, Elkins, & Stevens, 2010). Bringle, Hatcher, and Muthiah (2010) went beyond students’ stated intent to reenroll to determine whether students in 11

Indiana colleges who took a CSL course were actually more likely to reenroll. They did identify such a pattern but the effect was not significant after controlling for course quality. A later study of one university (Lockeman & Pelco, 2013) found that enrollment in CSL courses was a strong predictor of students' likelihood to graduate within six years, controlling for GPA. Minority and low income students who participated in CSL were more likely than their peers to graduate within this time frame. CSL courses are believed to promote retention by enhancing students' academic integration within the institution, and, subsequently, their commitment to completing their degrees there.

Part-time enrollment is a powerful predictor of nonpersistence (Marti, 2008) and a particularly significant one since 37% of undergraduates (22% in four-year and 58% in two-year institutions) are part-time (Aud et al., 2013; Chen, 2007). Berkner, He, Mason, Wheelless, and Hunt-White (2007) found that only 17% of full-time students were likely to withdraw without a degree from a four-year college while 70% of students enrolled part-time were likely to do so. Students who are exclusively part-time (as opposed to those who alternate between full-time and part-time enrollment) have distinct characteristics. They tend to be older, female, first generation, married, working full-time, and identifying primarily as an employee rather than as a student (Chen, 2007). Similarly, working full-time while in college is negatively related to student success although part-time work for full-time students is not found to deter students' persistence (Astin & Oseguera, 2012).

Overall, students' GPA is the strongest predictor of success in college (Bean, 2005). Grades have a particularly strong effect on student persistence from the first year to the second year with an indication that the effect decreases somewhat over time (Pascarella & Terenzini, 2005). Measures of academic integration such as full-time enrollment, participation in courses that provide engaging activities such as CSL, and successful completion of courses as measured by GPA are college experiences that promote retention.

Institutional Characteristics

Features of institutions themselves also affect students' likely success, even after controlling for their entering characteristics (Astin & Oseguera, 2012). The rate of retention varies across the nation depending on public versus private control of the college or university, its size, selectivity, and climate. National statistics on undergraduate degree completion show that 59% of full-time undergraduate students who enrolled for the first time in 2005 completed their degrees within 6 years at that same institution. This degree completion rate within six years varied by

type of institution: 65% of students at private non-profit four-year institutions, 57% of students at public four-year institutions, 42% of students at for-profit four-year institutions, and 31% of students at two-year institutions. The more selective these institutions, the higher their retention rates (Aud et al., 2013). Regarding persistence, among full-time undergraduate students who enrolled for the first time in 2010, 79% of students at four-year institutions enrolled the following year at that same institution, while 60% of students at two-year institutions did so. Similarly, students at private nonprofit institutions returned at a higher rate than students at two-year institutions as did students at more selective institutions (Aud et al.). Overall, students at smaller institutions were more likely to graduate, as were those enrolled in more selective institutions that admit a relatively lower percentage of those who apply (Astin & Oseguera).

Institutions also vary in the climate students experience while on campus. Campus racial climate and other aspects of institutional culture are found to influence students' departure decisions (Astin & Oseguera, 2012). Campus life is strongly affected by the proportion of the student population who live on campus in a residence hall, as is student retention (Astin & Oseguera). Students' sense of community is related to their social integration (Braxton & Hirschy, 2005) and, therefore, their commitment to the institution (Astin & Oseguera).

Braxton and Lee (2005) undertook a meta-analysis of peer-reviewed studies designed to test Tinto's thirteen propositions about how the factors that affect student departure from college interrelate. Studies of residential institutions were analyzed separately from those of four-year commuter colleges in order to test Braxton, Hirschy and McClendon's (2004) contention that social integration may not be as important as academic integration for students at colleges where large percentages attend part-time and work and live off campus. With the strict test of reliability established by the authors, Braxton and Lee found that residential university students' social integration into campus life affected their commitment and subsequent persistence in college, but that social integration was not as critical to student success at commuter colleges.

Research Questions

This study asks the following three research questions: (a) Are students who take CSL courses more likely to reenroll or complete their degrees? Based on the service-learning literature, it is expected that having taken a CSL course during the academic year will have a positive impact on reenrollment and degree

completion; (b) Does this relationship vary with students' entering characteristics or experiences on campus? We anticipated that some of the interactions would be significant, showing that CSL is especially supportive of student success for older, part-time students; on the other hand, older or part-time students might be less likely to engage in CSL courses; (c) Is the importance of CSL for student retention stronger in some types of institutions than others? While the three universities in this study are similar in the low percentage of undergraduates who live on campus, the University of Wisconsin-Parkside has the highest percentage of part-time students and commuting freshmen. Therefore, we expected to see differences in the role of CSL in predicting retention at this institution as theorized by Braxton, Hirschy and McClendon (2004).

Our hypothesis is that students who take CSL courses are more likely to persist toward graduation, but that this trend will vary with students' entering characteristics, experiences in college, and the institutional features of the university they attend.

Methods

Participants

Data were gathered on the cohort of students who enrolled at three universities for the first time in fall of 2009 both as freshmen and transfer students. The three participating universities were DePaul University, University of Southern Indiana, and University of Wisconsin-Parkside. Table 1 compares characteristics of these institutions and their student populations in 2009.

The characteristics of these universities vary by private/public control, selectivity, urban/rural location, racial diversity, percentage of students enrolled full-time and transferring from other schools, percentage of freshmen living off campus, and percentage of students engaged in CSL and rates of retention. Following is a brief description of each university, highlighting differences among the three, based on the frequencies in Table 1.

DePaul University (DPU) is an urban, private university with a total enrollment of 24,000 students, the largest of the three campuses. DPU is also the most selective with an average ACT score of 25 among freshmen enrolled in 2010. Its Chicago location may account for a racially diverse student population and large number of transfer students given that there are many community colleges and other universities in the area. As with private universities nationwide, DePaul has a higher rate of retention compared to the other two campuses (Aud et al., 2013). Eighty-one percent of these freshmen ($n=4348$) were reenrolled or had graduated (i.e., transfer students) the fall after

their admission. Ten percent of this cohort enrolled in a CSL course during its freshmen year.

The University of Southern Indiana (USI) is a public university located in a small urban area serving rural communities with a total enrollment of 10,000 students. The average ACT score of enrolled freshman was 21 in 2010. USI has the highest percentage of White students of the three institutions, perhaps owing to its rural location. Most freshmen are entering college for the first time rather than transferring from other institutions. As with the other public university (UWP) in this study, the rate of retention is lower than the private institution. Sixty-eight percent of these freshmen ($n=2768$) were enrolled or had graduated the fall after their admission. However, this university is similar to the private university in the proportion of students enrolled full-time rather than attending part-time. Fifty-one percent of all freshmen live on campus. Seven percent of this cohort enrolled in a CSL course during freshmen year.

The University of Wisconsin-Parkside (UWP) is a suburban, public university with a total enrollment of 4800. The average ACT score of enrolled freshman was 21 in 2010. UWP is distinctive in having a high percentage of part-time students. As with the other public university (USI) in this study, there is a lower rate of retention compared to the private university (DPU), which is true nationally. Sixty-five percent of the cohort ($n=1155$) were enrolled or had graduated the fall after their admission. This university also has a higher percentage (13%) of students in the sample who take CSL courses in their first year. Forty-one percent of all freshmen live on campus.

CSL at the Three Universities

There is commonality with some variation among the three universities in the specificity of their definition for CSL as well as in their process for vetting CSL courses, the departments that tend to offer CSL courses, and the level at which they are offered.

Defining CSL. All three universities require that (a) CSL projects support the learning outcomes for the course, (b) students reflect on their experiences, and (c) students produce some product for the community partner that addresses a community need. Community partners can be entire communities, specific community agencies, or individuals. Each university has developed a definition or conceptualization of CSL, with DPU being the most precise and USI and UWP being more general. DePaul defines CSL as "...a pedagogical tool intentionally integrating relevant and meaningful service with community, academic learning and civic learning"; USI focuses on meeting a need identified in the community, with stated outcomes for students and community as well as reflection; UWP specifies that CSL courses

include five specific components, including stated outcomes and reflection.

Vetting process. All universities have a formal vetting process for CSL courses. Staff and directors of CSL programs contact faculty who have taught CSL courses previously, consult with faculty who indicate their interest in offering a CSL course (DPU and UWP), or review applications or indications of interest from faculty (USI) for courses to be considered CSL. All universities house a listing of CSL courses for each term in a database. Courses with a CSL designation are published online each semester at USI and UWP. At DePaul, a percentage of CSL courses are required for the Junior Year Experiential Learning Requirement that is part of the core liberal studies curriculum.

Directors of CSL at each university help connect faculty with potential community partners. All universities have developed measures assessing stakeholders on their CSL experiences. DePaul has the largest number of staff supporting campus-community partnerships.

CSL courses offered. There are two primary variations in CSL courses offered each semester across the three universities: the percentage of course offerings in lower and upper division classes and the percentage of course offerings in various disciplines. Half the CSL courses at DPU are 100 or 200 level classes, while a much smaller percentage of CSL classes are 100 or 200 level at USI and UWP. Despite this difference, the percentages of students in each sample that participated in CSL courses in each year are similar (see Table 1). Focus group discussions with faculty at UWP indicate that faculty hesitate to offer CSL in their lower division classes because they perceive students at this level as less mature and less capable of satisfactorily completing projects to partners' satisfaction—which could damage the university's reputation.

At all three universities, CSL classes are most likely to be in the Arts and Humanities, while CSL in the Natural Sciences and Engineering are least likely. However, there are some significant differences. At USI, CSL classes are strongly represented in Education (27%) and Health Professions (25%); at UWP, CSL classes are strongly represented in the Business School (27%); and at DPU, honors, freshmen seminars and a community studies minor account for a large proportion of CSL courses (25%).

Measures

Students' *entering characteristics* were measured at all three universities with variables for age, first generation status, race, gender, and transfer status. *Students' experiences in college* were measured with

variables for GPA, full-time enrollment, and whether students enrolled in CSL courses. The three samples were analyzed separately. Therefore, *institutional characteristics* of the participating universities were not measured in the regression but were considered as contributing factors in the discussion.

Independent variables. Included in the analysis were dichotomous measures of age (24 years of age and older coded 1) and first generation status (neither parent has a college degree coded 1). We also included a dichotomous measure of race (White, coded 1, excluding unknowns and international students), gender (coded 1, if male), and whether the student entered as a new freshmen (coded 1) or a transfer student. These variables were only measured for fall 2009 when students entered college.

On the other hand, students' experiences in college were measured each term. For example, students who entered school full-time could become part-time, especially in their last year of school when they may have completed most credits for graduation. Full-time status was defined by each of the universities (24 semester hours for UWP and USI; 12 quarter hours for DPU). For each year, we created a new variable measuring students as full-time if they were registered for the full number of credit hours each term. Students' GPA attained at the end of each academic year was entered for each year of analysis.

CSL was a dichotomous variable measuring whether or not a student had enrolled in a CSL course (coded 1 if enrolled). During each fall term 2010, 2011, and 2012, we reviewed if the student took a CSL class that fall or the previous spring term. This is an additive variable measuring presence or absence of a CSL experience. Students who took a CSL class in their first year or any subsequent year were coded as 1, i.e., enrolled in CSL. Students who had a '0' code had never taken a CSL course during their tenure at the university.

Dependent Variable. Our dependent variable measured whether the student was still enrolled or had graduated in fall 2010, fall 2011, and fall 2012 for each year (coded as 1 for those reenrolled or graduated).

Analysis

Data were obtained through each university's office that collects enrollment information. CSL course designations were already in place. Some variables required recoding into dichotomies, i.e., age and race. Others required no transformations, i.e., gender, first generation status (not available for DPU), and freshmen versus transfer entry status.

The binary nature of the dependent measure necessitates a logistic regression analysis that provides the likelihood of success for reenrollment or graduation,

Table 1
Comparing Samples from 3 Universities

Variable	University of Southern Indiana	DePaul University	University of Wisconsin-Parkside
2009 Cohort Sample	<i>N</i> =2768	<i>N</i> =4348	<i>N</i> =1155
2010 Enrolled or Grad	1880 (68%)	3521 (81%)	752 (65%)
2011 Enrolled or Grad	1526 (55%)	3232 (74%)	591 (51%)
2012 Enrolled or Grad	1324 (48%)	2810 (65%)	476 (41%)
09/10 Took CBSL	183 (7%)	415 (10%)	154 (13%)
10/11 Took CBSL	355 (13%)	322 (7%)	156 (13%)
11/12 Took CBSL	426 (15%)	454 (10%)	174 (15%)
09/11 Took CBSL	491 (18%)	692 (16%)	280 (24%)
09/12 Took CBSL	781 (28%)	1042 (24%)	393 (34%)
Freshmen	2087 (75%)	2526 (58%)	828 (72%)
Transfer	681 (25%)	1822 (42%)	327 (28%)
White	2453 (89%)	2325 (53%)	816 (71%)
Students of Color	315 (11%)	1601 (37%)	339 (29%)
Male	1180 (43%)	1895 (44%)	499 (43%)
Female	1588 (57%)	2453 (56%)	656 (57%)
Under 24	2476 (89%)	3676 (85%)	1020 (88%)
24+	292 (11%)	672 (15%)	135 (12%)
FT 09/10	2216 (80%)	3570 (82%)	513 (44%)
PT 09/10	552 (20%)	777 (18%)	642 (56%)
FT 10/11	1559 (83%)	3074 (84%)	409 (35%)
PT 10/11	321 (17%)	583 (16%)	746 (65%)
FT 11/12	1206 (91%)	2372 (89%)	335 (29%)
PT 11/12	118 (9%)	282 (11%)	820 (71%)

given the independent measures in this model. By adding interaction terms based upon significant predictors of reenrollment or graduation, we learn whether CSL's effect on persistence varies with combinations of students' characteristics. The outcome of this analysis provides information on the relative strength of each predictor variable in the model and the probability of its effect on reenrollment or graduation (Field, 2009).

Backward stepwise analysis is employed in order to see the relative effects of independent variables, net of significant predictors. Measures of student characteristics and if students took CSL courses are

entered in Step 1. These include age, first generation status, freshmen enrollment, race/ethnicity, gender, and presence of a CSL course in each academic year. Two variables—full-time enrollment and GPA—were expected to be powerful predictors of persistence, based on previous research (Bean, 2005; Kuh et al., 2007). Therefore, these variables are added in Steps 2 and 3, respectively, so that their influence can be assessed in relation to the effects of measures entered at Step 1. Step 2 included all the variables entered at Step 1 plus full-time status (for the full academic year), and Step 3 included all of the aforementioned variables plus GPA.

We then ran a step 4, where we entered interaction terms if these effects were significant in the previous steps and full-time enrollment and GPA. For example, if both CSL and full-time enrollment were significant predictors of persistence, an interaction term was added to the model to assess whether CSL affects the persistence of full-time students differently from part-time students. If none were significant, the analysis stopped at Step 3, since single, linear effects of our variables on reenrollment and graduation were already statistically significant.

Results

Tables 2 through 4 display the significant predictors of persistence at Steps 1 and 3 (Step 2, when full-time enrollment is entered without GPA, is not shown), comparing each university for the three years that data were collected. In these results, however, we describe significant predictors at each step of the analysis so that the impact of students' entering characteristics is not lost when the more powerful predictors of full-time enrollment and GPA are entered into the model.

By the end of the third year of the study (see Table 4), students who took CSL courses were more likely at Step 1 in our analysis to reenroll or graduate at all three universities than students who did not. However, the power of that predictor was stronger in the two public universities than the private (DPU: $B=.385$; USI: $B=1.244$; UWP: $B=1.648$); additionally, it disappeared at Step 3 for the private university while becoming weaker for the two public universities once full-time enrollment and GPA were included (USI: $B=.724$; UWP: $B=.537$). There were some significant interactions for each university, but these were inconsistent over time and campus and did not affect interpretation of data. CSL benefitted students' persistence evenly across various categories of students, such as full-time or part-time enrollment.

Students' Entering Characteristics

Different entering characteristics were significant predictors at different steps, and their influence was inconsistent across the three campuses; their odds ratios were consistently less powerful predictors of persistence than CSL before full-time status and GPA were entered into the analysis. For the first academic year at Step 1, before controlling for full-time status and GPA, those who returned for their second year (see Table 2) at DPU and USI were more likely to be younger (DPU: $B=-.556$; USI: $B=-.427$). Those who returned for their second year at USI were also more likely to be female ($B=-.147$), White ($B=.267$), and not first generation ($B=-.248$), but more likely to be transfer students at DPU ($B=-.103$). At UWP, none of

students' entering characteristics were significant predictors of reenrollment at Step 1; but after controlling for full-time and GPA at Step 3, students of color reenrolled at UWP ($B=-.295$) and DPU ($B=-.158$) and first generation students ($B=.345$) reenrolled or graduated at UWP. On the other hand, at DPU, first time freshmen ($B=.223$) were more likely than transfer students to reenroll after controlling for full-time status and GPA; and at USI, transfer students ($B=-.496$) and males ($B=.223$) were more likely than freshmen to persist after controlling for full-time status and GPA.

For the second year of the study (see Table 3), at Step 1, students who returned for their third year (or graduated) at DPU and USI were younger (DPU: $B=-.523$; USI: $B=-.448$) and also at USI, White ($B=.433$) and not first generation ($B=-.220$); at DPU, transfer students ($B=-.113$). Once again at UWP, none of the entering characteristics were significant at Step 1, while at Step 3 men ($B=.462$) were more likely to persist there and at USI ($B=.223$). While younger students ($B=-.643$) and transfer students ($B=-.774$) also reenrolled for their third year (or graduated) at USI, after controlling for full-time and GPA, students of color were more likely to return (or graduate) at DPU at Step 3 ($B=-.158$).

For the final year of the study (see Table 4), at Step 1, students who returned for their fourth year (or graduated) at DPU and USI were likely to be White (DPU: $B=.130$; USI: $B=.657$) and younger (DPU: $B=-.504$; USI: $B=-.665$). At DPU and UWP, returning or graduating students were more likely to be students who had transferred (DPU: $B=-.192$; UWP: $B=-.362$) and female (DPU: $B=-.075$; UWP: $B=.292$). After controlling for full-time status and GPA, younger students were still more persistent at DPU ($B=-.513$) and USI ($B=-.562$), with transfer students ($B=-.455$) and females ($B=-.227$) still more persistent at DPU. However, after controlling for full-time and GPA at UWP, students of color were more likely to reenroll for their fourth year or have graduated ($B=-.466$).

Experiences in College

CSL, full-time enrollment, and GPA are much more powerful predictors of retention than students' entering characteristics in this study. Compared with students who participated in CSL, were enrolled full-time, and had high GPA's, the significant effects of age, race, first generation status, entering the university as a freshman, and being male have relatively small and inconsistent impacts on persistence of students across all three campuses. On the other hand, CSL is a significant predictor of students' reenrollment or graduation at Step 1 for all three universities for the cohort's second year (DPU: $B=.273$; USI: $B=.673$, UWP: $B=.638$), third year (DPU: $B=.304$; USI: $B=1.504$; UWP: $B=1.027$) and fourth year

Table 2
Logistic Regression on Fall 2010 Enrollment/Graduation All Variables in Model

	University of Southern Indiana			DePaul University			University of Wisconsin-Parkside			
	B (SE)	Odds Ratio		B (SE)	Odds Ratio		B (SE)	Odds Ratio		
	Step 1		Step 3	Step 1		Step 3	Step 1		Step 3	
Included										
Constant	.882 (.132)	1.9555	0.016	1.349 (.093)	3.855	0.105	.549 (.066)	1.732	-2.282 (.283)	0.102
Service Learning	.673 (.190)	1.35		.273 (.087)	1.725	--	.638 (.201)	1.892	.489 (.229)	1.63
Race	.267 (.125)	1.306		--		0.73	--	--	-.295 (.159)	0.745
Age	-.427 (.128)	0.656		-.556 (.060)	0.329	--	--	--	--	--
First Generation	-.248 (.087)	0.781		NA		--	--	--	.345 (.148)	1.412
Entry Status	--	--	0.609	-.103 (.051)	0.813	1.561	--	--	--	--
Gender	-.147 (.083)	0.734	1.249	--		--	--	--	--	--
Full-time			12.145			8.765			1.002 (.173)	2.724
GPA			3.433			3.202			.990 (.098)	2.692
	Note: R=.05 (Cox & Snell)		Note: R=.24 (Cox & Snell)		Note: R=.23 (Cox & Snell)		Note: R=.01 (Cox & Snell)		Note: R=.25 (Cox & Snell)	

Table 3
Logistic Regression on Fall 2011 Enrollment/Graduation All Variables in Model

	University of Southern Indiana						DePaul University						University of Wisconsin-Parkside					
	Step 1		Step 3		Step 1		Step 3		Step 1		Step 3		Step 1		Step 3			
	B (SE)	Odds Ratio	B (SE)	Odds Ratio	B (SE)	Odds Ratio	B (SE)	Odds Ratio	B (SE)	Odds Ratio	B (SE)	Odds Ratio	B (SE)	Odds Ratio	B (SE)	Odds Ratio		
Constant	-2.86 (.125)	0.752	-4.505 (.379)	0.016	.955 (.068)	2.599	-2.549 (.328)	0.078	-3.46 (.117)	0.707	-3.671 (.425)	0.025						
Service Learning	1.504 (.124)	4.5	--	--	.304 (.059)	1.838	--	--	1.027 (.147)	2.794	--	--	--	--	--	--		
Race	.433 (.125)	1.543	--	--	--	--	-1.158 (.066)	0.729	--	--	--	--	--	--	--	--		
Age	-4.48 (.130)	0.639	-6.43 (.274)	0.526	-5.23 (.056)	0.349	--	--	--	--	--	--	--	--	--	--		
First Generation	-2.20 (.085)	0.083	--	--	NA	--	--	--	--	--	--	--	--	--	--	--		
Entry Status	--	--	-7.74 (.274)	0.461	-1.13 (.45)	0.798	--	--	--	--	--	--	--	--	--	--		
Gender	--	--	.223 (.107)	1.249	--	--	--	--	--	--	.462 (.184)	1.587	--	--	--	--		
Full-time			2.233 (.182)	9.326			1.060 (.068)	8.326			1.229 (.212)	3.419						
GPA			1.734 (.159)	5.666			1.367 (.111)	3.922			1.434 (.163)	4.194						
	Note: R ² = .07 (Cox & Snell)						Note: R ² = .05 (Cox & Snell)						Note: R ² = .27 (Cox & Snell)					

Table 4
Logistic Regression on Fall 2012 Enrollment/Graduation All Variables in Model

	University of Southern Indiana						DePaul University						University of Wisconsin-Parkside																	
	Step 1		Step 3		Step 1		Step 3		Step 1		Step 3		Step 1		Step 3															
	B (SE)	Odds Ratio	B (SE)	Odds Ratio	B (SE)	Odds Ratio	B (SE)	Odds Ratio	B (SE)	Odds Ratio	B (SE)	Odds Ratio	B (SE)	Odds Ratio	B (SE)	Odds Ratio														
Included																														
Constant	.882 (.209)	2.415	-4.505 (.450)	0.011	.437 (.058)	1.548	-3.994 (.422)	0.018	-.566 (.136)	0.568	-2.156 (.507)	0.116																		
Service Learning	1.244 (.182)	3.47	.724 (.214)	2.062	.385 (.045)	2.162	--	--	1.658 (.135)	5.248	.537 (.212)	1.71																		
Race	.657 (.220)	1.928	--	--	.130 (.035)	1.298	--	--	--	--	-.466 (.234)	0.627																		
Age	-.665 (.234)	0.514	-.562 (.298)	0.591	-.504 (.055)	0.365	-.513 (.116)	0.358	--	--	--	--																		
First Generation	--	--	--	--	NA	NA	NA	NA	--	--	--	--																		
Entry Status	--	--	--	--	-.192 (0.040)	0.681	-.455 (.071)	0.402	-.362 (.142)	0.697	--	--																		
Gender	--	--	--	--	-.075 (0.035)	0.86	-.227 (.061)	0.635	-.292 (.131)	0.747	--	--																		
Full-time			2.239 (.197)	9.387			.488 (.198)	1.63			1.927 (.235)	6.867																		
GPA			1.641 (.163)	5.161			10.483 (.126)	4.408			.806 (.187)	2.239																		
	<i>Note: R= .05 (Cox & Snell)</i>						<i>Note: R= .08 (Cox & Snell)</i>						<i>Note: R= .15 (Cox & Snell)</i>						<i>Note: R= .14 (Cox & Snell)</i>						<i>Note: R= .25 (Cox & Snell).</i>					

(DPU: $B=.385$; USI: $B=1.244$; UWP: $B=1.658$). At Step 3, after controlling for full-time status and GPA, CSL remained a significant predictor of students' enrollment or graduation their second year only at UWP ($B=.489$); CSL was not significant at any of the universities for the cohort's third year, but was significant at USI ($B=.724$) and UWP ($B=.537$) for the cohort's fourth year.

During all three academic years of the study at all three campuses, students' full-time enrollment and GPA were related to student reenrollment or graduation the following fall. As shown in Table 2, even at UWP, where students who took CSL classes in their first year had a greater likelihood of persistence, the most significant predictors of reenrollment were full-time status ($B=1.002$) and GPA ($B=.990$). Table 3 reveals that in the second year, once these strong predictors of persistence are introduced in Step 3, the significant effects of CSL disappear at all three universities. When full-time enrollment and GPA are added to the model in the third year (Table 4), CSL remains a significant predictor of persistence at USI and UWP, the public universities, but full-time status (USI: $B=2.239$; UWP: $B=1.927$) and GPA (USI: $B=1.641$; UWP: $B=.806$) still account for much of the predicted variance in persistence. At DPU where CSL loses significance in Step 3 after full-time enrollment and GPA are included in the analysis, GPA is a particularly powerful predictor of persistence ($B=10.483$).

Institutional Characteristics

This study was designed to analyze the three samples separately and the unit of analysis is the individual student at each university. As seen in Table 1 (and detailed above), the three universities are not classic examples of residential or commuter colleges. The two public universities, USI and UWP, are alike in their selectivity, rate of retention, and in the percentage of transfer students in their cohort, which are lower than DPU, the private school. On the other hand, DPU and UWP have a higher proportion of students of color in their entering class, while USI and DPU have more full-time than part-time students. In this study, the role of CSL in the persistence of students is stronger at the two public universities, and strongest at the university with the greatest proportion of part-time students (UWP).

Discussion

This study confirms previous studies by Bringle, Hatcher, and Muthiah (2010) and Lockeman and Pelco (2013) that students who enrolled in CSL courses are more likely to reenroll in subsequent terms. As with Bringle, Hatcher, and Muthiah's study, we found

that first year students who enrolled in CSL courses were more likely to reenroll their second year than first year students who did not. However, this effect disappeared when accounting for full-time enrollment or GPA on two of the campuses in the first year. The effect of CSL held during the students' first year for those on the campus with the most part-time students and commuting freshmen, but not in their second year. In the third year (Fall 2012), the effect of CSL was a strong predictor of reenrollment, even after accounting for full-time enrollment and GPA at the two public universities. Lockeman and Pelco also found a significant impact of CSL courses in the third year on the likelihood that students would graduate.

These two previous studies were able to control for important contributing factors that this study did not. Bringle, Hatcher, and Muthiah (2010) found that CSL students were more likely to have intended to graduate from the institution before registering for a CSL course, an important consideration when evaluating the effect of CSL courses. Lockeman & Pelco (2013) found that CSL students had higher GPAs and earned more credit hours despite greater financial need. Financial need is a predictor of retention (Astin & Oseguera, 2012) for which this study did not control. On the other hand, our study advances these studies by considering the impact of many of the same variables on 3 different types of campuses—and explores the impact of more indicators of nontraditional students.

Our study also shows that CSL benefits students regardless of their entering characteristics or part-time status, a finding that may support efforts to engage nontraditional students in CSL courses. We found no consistent evidence of a nonlinear relationship between CSL and any measures of nontraditional status at any of the three universities. From this we conclude that nontraditional students benefit as much from enrolling in CSL courses as traditional students.

As with Lockeman and Pelco (2012), we found that entering characteristics were not strong predictors of retention, but some trends are important to note. Age had a significant impact at the two universities with higher full-time enrollment. Older students were less likely to persist from their second to third year and their third to fourth year at both DPU and USI. However, there was no age effect at UWP, which has the same percentage of older students as the other two universities but a higher percentage of part-time students and freshmen commuters. Perhaps older students who are likely to work and enroll part-time succeed in a campus culture where their experience is common, as has been found with other types of underrepresented students (Braxton, Hirschy, & McClendon, 2004).

Full-time students in this study were, indeed, con-

sistently more likely to persist at each type of university throughout the cohort's degree-seeking career. This is consistent with other retention studies that find that students who are enrolled full-time are able to participate in campus activities that promote social as well as academic integration and lead to persistence and graduation (Nora, Barlow, & Crisp, 2005). However, the rising cost of an undergraduate education makes it impossible for many students to leave the workforce entirely in pursuit of a degree. Because working students spend less time on campus, they are less likely to become fully integrated into and committed to the institution (Tinto, 2012).

We also found that at the two schools that have the most students of color in the respective cohort—UWP (29%) and DPU (37%)—these students were more likely to reenroll in their second year than White students; and at UWP, students of color were more likely to enroll for their fourth year as well. White students are more likely to persist nationally and we found this pattern during all three years at USI and for reenrollment for their senior year at DPU, but the significance of this trend disappeared at both schools after controlling for GPA. We conclude that students of color are more likely to persist in the universities with larger percentages of these students enrolled because they see what Braxton, Hirschy and McClendon (2004) call “communal potential”—the likelihood that they will find other students with common experiences for socializing, allowing for social integration.

By comparing three universities, this study indicates that the effect of CSL on retention may not be uniform across all types of institutions. Those who took CSL courses were more likely to persist on all three campuses, but this effect was stronger at the two public institutions where overall rates of retention were lower. As with Astin and Oseguera (2012), we found that students enrolled in public universities were less likely to reenroll, a trend that is found nationally. In our cohorts, students at the two public institutions were less likely to be enrolled or have graduated after three years (48% at USI and 41% at UWP) than students enrolled in the private university (65%). Similarly, these public universities are less selective at admissions than the private university, an institutional characteristic also associated with lower retention (Astin & Oseguera).

Given this difference, it is important to consider the implications of our finding that CSL was particularly critical to student success at the less selective institutions with the lowest retention rates. While our study does not include students' ACT score as an entering characteristic, it does raise the question whether CSL has greatest benefits at institutions with lower proportions of academically well-prepared stu-

dents. A pedagogy that is as powerful as students' GPA in predicting persistence, even though a relatively small percentage of the sample engaged in such courses during the three years of this study (28% at USI and 34% at UWP), may be worth expanding to more classrooms.

In this study, CSL is particularly important for student retention at a campus with higher percentages of part-time students (56% first year at UWP) and commuters. UWP also had the highest percentage of their cohort taking a CSL course (34%) over the three years of the study and was the only campus where CSL predicted enrollment for the second year. As Braxton and Hirschy (2005) theorized, CSL may affect retention differently at different types of universities because collaborative and interactive teaching methods, such as CSL, engage students who spend little time on campus and are, otherwise, less likely to be integrated with and committed to the institution. The need for the engagement provided by active learning may be greater in institutions where external pressures are strongest due to work and family responsibilities for the majority of the student body.

Limitations

While variation among the three universities provides information about unique effects of CSL on retention, some differences could not be accounted for. We surmise that CSL is more important to the retention of students at public than private universities, but there may simply be other characteristics of the two public campuses at work. The three institutions were similar in their definition and support for CSL courses but different in the departments that promote CSL in their courses. Also, the underrepresentation of students in the natural sciences and engineering at all three institutions means that the results of this study cannot be generalized to students with these majors.

Similarly, this study does not control for certain characteristics that might distinguish students who choose CSL courses from those who do not, raising the possibility that there is some quality of CSL students that account for their persistence rather than the CSL course itself. Our three institutions did not have information about whether students knew that they were registering for a CSL course as did Lockeman and Pelco (2013). Bringle, Hatcher, and Muthiah (2010) controlled for student reports of course quality, which was also information that this study does not include.

While we are grateful to our campus research departments for their commitment to following the same research protocol so that data sets and analyses were identical, still there were practices in the collection of data that varied. The private university was on

the quarter system and did not gather data on first generation students at admission, while the two public universities were on semesters. These are the kinds of limitations of comparing institutions using archival data as opposed to administering the same survey to a sample of students at multiple institutions (Bringle et al., 2010).

Implications for Future Research

Our results have several implications for future research. First, other studies that compare different types of institutions could further refine our findings and, if indicating similar trends, support their generalizability. Are students at universities that are less selective at admission and enroll higher percentages of part-time students more likely to benefit from CSL? Secondly, further examination of the role of CSL in student persistence should control for full-time enrollment. While we found that part-time students were just as likely as full-time students to benefit from CSL in terms of their persistence, further research is needed to examine this hypothesis in other settings; this could include highly residential universities with fewer part-time students as well as both community colleges and online programs with higher percentages of nontraditional students. Third, we are left with a question that may require qualitative and mixed methods research: If part-time students are not experiencing unique benefits from CSL, as found in this study, why is a campus with larger percentages of part-time students benefitting more than campuses with larger percentages of full-time students? Further study of the effect of campus climate upon student retention might help to explain why students at schools with larger proportions of working and commuting students are finding their experience is enhanced by the collaborative, community-based nature of CSL courses. Finally, given the underrepresentation of students in the natural sciences and engineering in most CSL research, studies that focus specifically on the impact of CSL on persistence of students in the STEM disciplines might show the importance of the method for these students' success.

Implications for Practice

This study suggests that methods of active learning such as CSL could be expanded in order to promote the persistence of part-time students. We provide some evidence that such programs are crucial to the success of students enrolled in institutions where many students are enrolled part-time with limited opportunities for the kinds of interactions with faculty and other students that enhance their academic and social integration. Working collaboratively on a community-based project and learning experientially off-

campus where older, working students are more likely to feel competent can boost self-confidence in their role as students and commitment to both the institution and the community.

Learning communities are consistently found to be a curricular device that promotes retention of all students (Tinto, 2012), including those at commuter colleges (Kuh et al., 2007). When students take several courses as a cohort, they are more likely to be engaged in activities both inside and outside the classroom and to feel supported by the institution. As a result they are more likely to persist from one year to the next (Tinto, 2012). Since active learning enhances this effect (Tinto), the systematic inclusion of CSL within learning communities is likely to enhance retention further, especially for those who spend the least time on campus. Their social and academic integration is promoted when students in learning communities participate in a project that promotes community well-being and students' civic engagement skills.

Despite their busy schedules, part-time students appreciate opportunities to contribute to their communities (Rosenberg, Reed, Statham, & Rosing, 2012), but increasing their involvement in CSL courses may require some adjustments to current practice. Older, working students are looking for CSL experiences that take into account their community connections as well as the knowledge and skills developed from their work experience, so they would prefer some choice in the placement selection process (Reed, Rosing, Rosenberg, & Statham, 2011). Currently, most CSL placements are arranged for students in order to maintain consistency and quality from ongoing community partnerships. However, other models are emerging from institutions that offer CSL courses online (Walder, McGorry, & Widener, 2012) where processes have been developed for students to identify local sites for community projects. CSL practitioners and researchers may consider a wider adoption of such practices that would facilitate the enrollment of part-time students in CSL courses, as well as placements that take into account their work lives, community networks, and need for social and academic integration into the institution. Encouraging students to build upon existing community connections may promote long-term engagement as well as retention.

Conclusion

As the cost of higher education increases, so does the importance of ensuring that when students invest in a college degree they are likely to achieve it. This study provides evidence that the CSL pedagogy contributes in particular on campuses where students are

most at risk. By reinforcing our commitment to CSL, and by making it part of the mission of the university and acting on that mission to support its institutionalization, faculty and administrators may respond to the call of the National Task Force on Civic Learning and Community Engagement (2012) for action on our increasingly diverse campuses: "...universities offer an intellectual and public commons where it is possible not only to theorize about what education for democratic citizenship might require in a diverse society, but also to rehearse that citizenship daily in the fertile, roiling context of pedagogic inquiry and hands-on experience." (p. 2).

Note

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