Abstract

Community-based learning (CBL) has been linked to improved student civic engagement. However, few studies have evaluated the long-term impact of CBL on student engagement. This study examines students' self-evaluation (N=1,257) of the impact CBL experiences on their civic engagement attitudes and skills at an R1 Liberal Arts institution. The study data comes from the Community Based Learning Impact Scale (CBLIS), a 40-question survey of undergraduates and graduates enrolled in a CBL course. Using data from 2011–2018, a civic engagement score based on 12 CBLIS questions was created and analyzed using T-tests, ANOVA, regression, and time series analysis to determine the impact student CBL experiences had on improvements in civic engagement attitudes and skills. Compared with white students, students of color reported greater improvements in civic attitudes and skills. Overall, students reported a significant improvement in their civic engagement after completing their CBL course (p=.001). Number of hours spent on CBL and adequate time to complete the work were significant predictors of improvements for Black/African American, Asian American, and Hispanic students' civic engagement attitudes and skills. Interestingly, no significant findings emerged between civic engagement score and number of hours of outside school commitments for any groups in this study.

The Impact of Community-based Learning on Civic Engagement

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Introduction

Over the past 30 years, American colleges and universities have sought to increase their students' civic engagement skills and attitudes as a part of the core institutional mission. Through Campus Compact, more than 1,000 college and university presidents have committed their institutions to build democracy through civic education and community development. To support this work, Campus Compact has published a widely cited handbook, *Assessing Service-Learning and Civic Engagement: Principles and Techniques* (Gelmon, 2001). The Association of American Colleges and Universities (AAC&U) has also organized and funded work to support Civic Learning and Civic Engagement, including publishing a Civic Engagement VALUE Rubric in 2009 and a white paper reviewing evidence on Civic Learning in higher education (Finley, 2012). Finally, the Carnegie Foundation introduced a voluntary Carnegie Classification for Community Engagement in 2006. Improving civic engagement in higher education was an important goal for creating the classification. In 2017, 361 campuses received the Community Engagement Classification.

Community-based learning (CBL), similar to service-learning, has been shown to increase students' civic engagement skills (Celio, Durlak, & Dymnick, 2011; Steinberg, Hatcher, & Bringle, 2011). CBL is a course-based educational experience in which students participate in an organized community service activity that meets identified community needs and then reflect on the service activity to deepen understanding of course content, the discipline, and civic responsibility (Bringle & Hatcher, 1995).

Supported by Campus Compact and the AAC&U, and often in pursuit of the Carnegie Community Engagement Classification, institutions have surveyed students to assess the impact of CBL on students' civic engagement. Published analyses of results of these student surveys have indicated a positive relationship between students' participating in CBL and improvement in their civic engagement skills. Although different surveys use different questions with different wording, they all rely on students' self-reports of their attitudes and behaviors. The surveys also largely agree on what domains should be used to measure civic engagement: self-identity, interpersonal skills, professional identity/skills, and civic action.

Published studies evaluating findings from these student surveys have used cross-sectional and longitudinal designs. Moely, Mercer, Ilustre, Miron, and McFarland (2002a) analyzed 761 Tulane University undergraduate student responses to their Civic Attitudes and Skills Questionnaire (CASQ) in 1995 and another 725 students in 2000. Similarly, Pike, Bringle, and Hatcher (2014) studied over 600 undergraduates from Indiana University-Purdue University Indianapolis (IUPUI) using their Civic-Minded Graduate (CMG) Scale at one point in time. Nokes, Nickitas, Keida, and Neville. (2005) surveyed 14 Hunter College nursing students before and after a field practicum. While the majority of studies used cross-sectional designs, a few other studies have used longitudinal designs. Palombaro et al. (2017) tracked 37 Widener University physical therapy students using their Civic-Minded Professional (CMP) Scale.

This present study uses the Community Based Learning Impact Scale (CBLIS) and a longitudinal trend design with a relatively large number of students sampled (Carlisle et al., 2017). This paper examines student reports of the impact of their CBL on their civic engagement attitudes and skills over 8 years and 21 quarters at an R1 Liberal Arts institution. We compare student reports of civic engagement attitudes and skills across student demographic characteristics such as race, gender, and year of school, as well as differences in reports of civic engagement by number of hours engaged in their CBL work outside the course, differences in student commitments outside the course, and differences in civic engagement by belief that course provided adequate time to complete the course requirements. These quarter-by-quarter comparisons reduce the effects of any single quarter or a single instructor.

Literature Review

Research on CBL has conceptualized civic engagement outcomes in higher education in several overlapping ways. Steinberg et al. (2011) summarized the previous research on CBL and civic engagement, arguing that service-learning may be one of the most powerful and effective methods for achieving civic learning outcomes. All studies have been concerned with a mix of educational/professional and civic/public outcomes, which require individual, group, and social skills. Celio et al. (2011) conducted a meta-analysis of 62 studies of service-learning and found that compared to

controls, students participating in service-learning programs demonstrated significant gains in five outcomes areas, including civic engagement. For example, Kirlin (2003) reviewed existing political science, education, and psychology literature on "civic skills" and identified four basic civic engagement skills: organization, communication, collective decision-making, and critical thinking. The AAC&U (Musil, 2009) has developed a "civic learning spiral" with six domains: self, communities, knowledge, skills, values, and public action. Steinberg et al. (2011) summarized three dimensions of a "civic-minded graduate": self-identity, educational experiences, and civic experiences.

Student Surveys of CBL and Civic Engagement

In the past two decades, researchers at several higher education institutions have developed surveys to assess the effects of CBL on students. Although these surveys use different questions with different wording, they all rely on students' self-reporting of their attitudes and behaviors. The surveys also largely agree on what domains should be used to measure civic engagement: self-identity, interpersonal skills, professional skills and identity, civic action, and diversity attitudes. For example, a study of Campus Compact members found that student surveys were the most common means of assessing CBL. Of 121 members, 73 have used student surveys (Waters & Anderson-Lain, 2014). A separate meta-analysis of CBL research found that student surveys largely rely on students self-reporting their growth or skills (Celio et al., 2011).

Among the first surveys to comprehensively assess the impact of CBL on civic engagement was Tulane University's Civic Attitudes and Skills Questionnaire (CASQ) (Moely et al*.,* 2002a). Moely and her Tulane colleagues developed 84 questions that asked students to self-report their civic attitudes and skills. After conducting principal factor analysis on an initial set of survey responses, the team identified six factors accounting for approximately 40% of the variance in the survey results: civic action, interpersonal skills, political awareness, leadership skills, social justice attitudes, and diversity attitudes (Moely et al*.,* 2002a). With these six factors defined, they revised the CASQ to 45 questions. The Tulane researchers then administered the survey to 761 undergraduate students from 29 courses in 1999 and again to 725 undergraduate students in 27 courses in 2000.

In a subsequent study, Moely, McFarland, Miron, Mercer, and Ilustre (2002b) analyzed 541 students who completed both the 1999 and 2000 surveys, including 212 who had participated in CBL and 324 who had not. They found that Tulane students who took CBL courses, relative to those who did not, showed statistically significant increases in five of the six CASQ factors: Interpersonal Skills, Leadership Skills, Political Awareness, Social Justice Attitudes, and Civic Action. Only the Diversity Attitudes scale showed no statistically significant change from the pre-test to the post-test, for students with or without CBL training.

In order to assess a new CBL practicum, Nokes et al*.* (2005) administered several surveys to 14 undergraduate and graduate nursing students at the Hunter-Bellevue School of Nursing, City University of New York, including one on civic engagement. Their civic engagement scale had 12 questions and measured three domains: self-identity, professional identity, and civic attitudes. Like Moely et al, these researchers also used a pre-test/post-test study design, administering the survey to students before

and after they participated in the CBL program. Nokes et al. (2005) found a statistically significant increase in the students' civic engagement scores.

The Center for Service and Learning at IUPUI developed the CMG Scale to assess the impact of CBL on students' civic skills and attitudes (Hatcher, 2008). After initially developing a set of characteristics, the Center for Service and Learning conducted two focus groups of faculty and staff to identify learning outcomes across courses, curricula, and programs at IUPUI. Steinberg et al. (2011) and their colleagues then operationalized these learning outcomes into a 30-question survey, the CMG Scale, which comprises three clusters of ten domains: knowledge (of volunteer opportunities, academic/technical, of current social issues); skills (communication, diversity, consensus-building), and dispositions (valuing community engagement, self-efficacy, and social trusteeship). IPUPUI faculty and staff conducted several studies using the CMG scale, summarized in Pike, Bringle and Hatcher (2014). One study, conducted in 2007-2008, used a pre-test/post-test design and included a convenience sample of 86 IUPUI students who had participated in a youth tutoring program or received a service-based scholarship. A second study was conducted in 2009 and this time randomly sampled 606 undergraduates, about 13% of IUPUI students. In this second study, Pike et al. (2014) found that the number of CBL classes was positively correlated with scores on the CMG Scale. Students who took more CBL courses were more likely to report stronger civic Engagement skills and attitudes.

Most recently, Widener University's Institute for Physical Therapy Education created a CMP Scale. Building on IUPUI's CMG model of identity, educational experiences, and civic experiences, the CMP Scale is a 23-question survey designed to measure five domains: self-identity, work identity, professional skills, civic action, and diversity (Palombaro et al., 2017). However, unlike previous studies that collected surveys once or only before and after a course, Palombaro and her colleagues used a longitudinal study design. They administered the CMP to a cohort of 37 graduate students in physical therapy at the beginning of the program and at the end of each of 3 years of coursework. Despite the different design, Palombaro et al. (2017) found results consistent with previous studies. Civic mindedness increased throughout the course of the 3-year curriculum, which included several CBL activities. Table 1 shows a summary of the previous surveys.

This present study extends the analysis of the impact of CBL on students' civic engagement attitudes and skills by utilizing 12 civic engagement questions from the CBLIS to assess civic engagement attitudes and skills across 21 observation periods. This study also conducts a trend analysis across 8 years (21 quarters).

Table 1. Summary of CBL Surveys of CBL and Civic Engagement.

	Location	# Survey Questions	Study Design	Sample Size	Domains
Civic Attitudes and Skills Questionnaire (CASQ)	Tulane University (Moely et al., 2002a, 2002b)	45	Pre-test/ Post-test quasi-experimental	541 students: 212 completed CBL 324 no CBL	Interpersonal Skills Leadership Skills Political Awareness Civic Action Social Justice Attitude Diversity Attitudes
Civic Engagement	City University New York (Nokes et al., 2005)	12	Pre-test/ Post-Test	2002: 6 MA nursing students 2003: 9 MA nursing students	Self-Identity Professional Identity Civic Attitudes
Civic Minded Graduate (CMP) Scale	IUPUI (Steinberg et al., 2011)	30	Pre-test/ Post-test Cross-Sectional	86 CBL participants 606 randomly sampled undergraduates	Self-Efficacy Interpersonal Skills Academic/Technical Skills Diversity Attitudes
Civic Minded Professional (CMP) Scale	Widener University (Palombaro et al., 2017)	23	Longitudinal Cohort	2013-2016: 37 graduate physical therapy students	Self-Identity Professional Identity Civic Action Consensus Across Difference
Community Based Learning Impact Scale (CBLIS)	INSTITUTE (Carlisle et al., 2017)	12	Longitudinal Trend study	2011-2018: 1,163 undergraduate & graduate students	Self-Identity Professional Skills Civic Action Diversity Attitudes

Methods

Participants

Trend data was collected from 1,257 students (8.4% undergraduates and 18.6% graduates; 70.8% females and 29.2% males) registered in CBL courses through the Office of Community-Based Learning and Research (OCBLR) on one of three campuses of a major University. CBL experiences ranged from full immersion in a

community-based setting to 1-2 hours of CBL per week. Only students registered for a CBL course received the invitation to complete the survey. Examples of CBL courses that students could register for include capstones, research-based learning, project-based learning courses and community-based program evaluation (Carlisle & Kruzich 2013). This study analyzes student survey data collected over 21 academic quarters spanning 8 years, beginning with Autumn Quarter 2011 and ending with Fall Quarter 2018.

Design and Procedure

Data in this study was collected using the psychometrically tested CBLIS, a 40-question online survey that measures three constructs: 1) Civic Engagement, 2) Critical Thinking, and 3) Self-Awareness (Psychological Well Being). For specific details on the CBLIS study design, sample, and factor loadings (see Carlisle et al., 2017). To address the issue of cross-loadings found in Carlisle et al. (2017), the original 43-question survey was reduced to 40 questions. This study analyzes the responses to the 12 questions that make up the construct civic engagement. Consistent with Carlisle et al. 2017, civic engagement is defined as "the extent to which students felt part of a larger collective and collaborative activity aimed to contribute to the larger society" (Adler, 2005). Each question was proceeded by a retrospective prompt such as, "My community-based learning work…" or "Due to my community-based learning experience, in the future I am more likely to…." In relation to their CBL experiences, students responded to 6 questions (of the 12) as to whether they strongly agree, agree, disagree, or strongly disagree with statements such as "my community-based learning work had mutual benefit to the community organization and me," and "I have developed a better understanding of cultures other than my own." Four of the 12 questions were ordinal level measured on a 4-point scale from very likely, somewhat likely, not likely, and don't know. These questions measured the impact of student CBL experiences on the likelihood that they would volunteer or participate in more volunteer opportunities and or CBL courses. In addition, respondents were asked 2 questions on a 3-point scale (Yes Definitely, Somewhat, and Not at all) as to whether their CBL course experience expanded their career opportunities and helped them develop greater dependability.

Data were collected using Catalyst, an online survey tool provided by the authors' institution. A survey link containing the survey was sent to students enrolled in CBL courses 2 weeks before the end of the quarter by the OCBLR. Students were sent a reminder on the last day of the quarter, and the survey remained open for 1 month after the end of the quarter. Data were then downloaded from catalyst into a Microsoft Excel spreadsheet, cleaned, and screened for missing values and outliers, then uploaded into SPSS version 25.0 (SPSS, 2006).

Analysis Strategy

This analysis first examines students' self-reported impact of CBL on civic engagement attitudes and skills across 8 years and 21 quarters of data. We then examine differences by students' race, gender, class, commitments outside of class, hours worked on CBL project outside of class, and whether they had adequate time to complete their CBL work. Third, we construct a civic engagement score from the 12

relevant CBLIS questions and examine group differences in civic engagement attitudes and skills and the combined effects of race, gender, commitment to outside class, numbers of hours worked on CBL and number of hours was adequate. Finally, this study examines time series trends across the study timeframe.

The civic engagement score represents the extent to which students reported improvements in civic engagement attitude and skills after participating in a CBL course. To calculate the civic engagement score, student responses to each question were transformed into a z score and the civic engagement construct was calculated as the mean of normalized variables, where all variables were first rescaled so that they range between 0 and 1 and then the average was calculated for each measure resulting in an overall average that also ranges between 0 and 1. Though some scholars prefer summed scores (Hajkowicz, 2006), this study utilized summed mean civic engagement scores to reduce the impact of missing values to measure the magnitude of the impact the CBL course had on the extent to which students felt part of a larger collective and collaborative activity aimed at contributing to the larger society.

To examine differences between groups, T-tests were used to determine whether a significant difference exists between female and male students in their improvement of civic engagement attitudes and skills. Given the low responses on a third gender category we created a binary gender question for this analysis. ANOVA with Games-Howell post hoc test was used to determine whether significant differences exist between race, class level, number of hours per week of commitments outside of school, hours spent on their CBL project outside of the classroom, and whether students had adequate time to complete the work. Levene's statistical test for homogeneity of variance in SPSS indicated significant variance differences across groups; therefore, a Games-Howell post hoc test was selected for a more robust analysis.

Race/ethnicity was measured by asking respondents to self-identify with the following question, "which racial background do you identify with?" Given the small number of respondents who identified as Native American/Alaskan Native and Hawaiian/PI, Native American/Alaskan Native were grouped with the "Other" racial identity category and Hawaiian/PI were grouped with Asian American respondents, resulting in six racial categories: 1) White (Non-Hispanic), 2) Black/African American, 3) Asian American, 4) Hispanic/Latinx, 5) Biracial/Multiracial, and 6) Other racial identities.

A general linear model was constructed controlling for race, gender, and education level to examine the combined effects of commitment to outside class numbers of hours worked on CBL and whether number of hours was adequate time for completing the class on civic engagement score. These findings were also stratified by race.

Finally, given the longitudinal nature of the data, a curve estimation procedure controlling for quarter was used to determine whether a linear relationship exists in the data that would assist in predicting future levels of civic engagement based on the interrelated past results. The variables "year of assessment" and "quarter of assessment" were used to create a new variable "trend" where trend starts at 1 and increases by 1 for each quarter to a maximum of 21 quarters from 2011 – 2018. Any values that contained no record were dropped, and summer quarter data were not included in the time series analysis because of the low response numbers.

Results

Respondent Characteristics

Table 2 presents a summary of the respondent characteristics. The majority of students were in either third or fourth year (28.4% and 37.1% respectively). And the vast majority of respondents (81.6%) indicated that they spent between 1 and 10 hours per week working on their CBL project outside of the classroom. In addition, 63.1% of respondents reported that the time provided to complete their community-based work was adequate and most respondents (93.4%) reported some commitments outside of school.

Table 2: Sample Characteristics of Student Respondents.

	n	***Valid* %**
Total Sample N=1,1257		
Gender		
Female	867	70.8
Male	357	29.2
Race		
White (Non-Hispanic)	601	48.4
Black/African American	82	6.6
Asian American	285	23.0
Hispanic/Latinx American	90	7.2
Bi-racial or Multi-racial	72	5.8
Other racial identities	112	9.0
Educational Level		
First-year	85	6.8
Second-year	113	9.1
Third-year	354	28.4
Fourth-year	462	37.1
Graduate student	193	15.5
Other	39	3.1
Commitment outside class		
I don't have commitments	82	6.6
1-10 hours per week	225	18.0
11-20 hours per week	296	23.7
21-30 hours per week	221	17.7
31-40 hours per week	171	13.7
More than 40 hours per week	253	20.3
Numbers of hours worked on CBL		
0 hours per week	19	1.5
1-10 hours per week	1018	81.6

11-15 hours per week	118	9.5
16-20 hours per week	47	3.8
21 or more hours per week	45	3.6
Number of hours was adequate time		
I did not have enough time	114	9.2
It was hard to complete hours	344	27.7
I did not worry about time	784	63.1

Civic Engagement Questions

Table 3 contains the results of the CBL survey for the 12 questions that make up the civic engagement construct. Overall, most students either strongly agreed or agreed that their CBL experience was mutually beneficial to themselves and the community organization (94.5%, n = 1,141) and that there was adequate communication between the community organization and themselves (91.3%, n = 1,090). Following their CBL experience, large majorities of students strongly agreed or agreed that their CBL work resulted in an increased ability to identify social issues (91.8%, n = 1,075) and consider multiple interpretations (96.1%, n = 1,055). Among the students in this sample, 82.8% (n = 976) felt that their CBL work, to some extent, expanded their career opportunities, as well as led to the development of greater dependability (86.4%, n = 1,009), indicating that CBL promotes personal growth in career opportunities and valuable professional skills. The majority of students exposed to CBL courses self-reported that they would be very likely or likely to help and/or encourage others (94.1%, n = 1,158), volunteer (91.2%, n = 1,116), participate in organizations and/or public affairs (90.5%, n=1,092), as well as pursue more classes that have a CBL partnership (80.4%, n=951), signifying that CBL encourages future civic engagement beyond the requirements of the course. These 12 questions were then used to construct a civic engagement score across all respondents.

Table 3. Summary Results of Civic Engagement Individual Items from the CBLIS

		Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
		%	**%**	**%**	**%**
Had mutual benefit to the community organization and me		54.2	40.3	3.6	1.8
Had adequate communication between the community organization and me		48.4	42.9	6.0	2.7
Identifying social issues		43.8	48.0	6.5	1.6

I have realized there are different perspectives on (global) international issues		42.1	45.6	9.3	3.0
I have developed a better understanding of cultures other than my own		40.8	45.6	10.7	2.9
Consider multiple interpretations of ideas and events		40.9	50.7	5.6	2.7
		Very Likely	**Somewhat Likely**	**Not Likely**	
		%	**%**	**%**	
Help and/or encourage others		68.2	25.9	5.9	
Volunteer		58.5	32.7	8.7	
Participate in organizations and/or public affairs		54.2	36.3	9.5	
Pursue more classes that have a community-based partnership		45.8	34.6	19.6	
		Yes Definitely	**Somewhat**	**No Not at All**	
		%	**%**	**%**	
My career opportunities expanded		42.5	40.3	17.1	
I have developed greater dependability		46.8	39.6	13.6	

T-Test and ANOVA Results

T-tests were used to investigate gender differences in reports of civic engagement attitudes and skills. T-tests revealed a significant difference in civic engagement score between students who identified as female (M=.75, sd=.21) versus male (M=.71, sd=.22), (t=2.23, df=1,219, p=.019). ANOVA with a post hoc test for multiple comparisons was then used in this analysis. For the ANOVA models, Levene's test for

homogeneity of variance revealed that 4 of the 5 models had significant differences in variances; therefore the Games-Howell post hoc test was selected for its statistical power for unequal variances and sample sizes. ANOVA models revealed significant differences among racial groups in their reports of civic attitudes and skills (F [5, 1233]=6.57 p.001). An examination of the post hoc results revealed Black students (M=.83) reported higher civic engagement attitudes and skills compared to White students (M=.71), Asian American students (M=.76), and respondents reporting other racial identities not captured in the above categories (M=.72). Additionally, Asian American students were more likely than White students to report improved civic engagement attitudes and skills. ANOVA models examining differences in civic engagement by academic level revealed significant differences between academic level (F[5, 1237]= 3.54, p.004), where third year students (M=.76) had a significantly higher civic engagement score than did graduate students (M=.70) after participating in their CBL course.

ANOVA models were also used to examine whether there were significant differences in civic engagement skills and attitudes across students by number of hours per week of commitments outside of school, hours spent on their CBL project outside of the classroom, and whether students had adequate time to complete the work. In short, the longer students worked outside of class on CBL and the less worried they were about completing their CBL work, the more they reported that their civic skills and attitudes had improved. ANOVA results revealed significant differences in civic engagement score for number of hours per week worked on CBL outside of the classroom (F[4, 1239],=5.37, p=.001), where Games-Howell post hoc test revealed significant differences between respondents who reported 1-10 hours per week of additional work outside of the classroom (M=.73) and respondents who reported 16-20 hours outside of the classroom (M=.82), and those who reported 0 hours per week (.58) and 16-20 hours per week of work on their CBL course outside the classroom. There was also a statistically significant difference in civic engagement scores between students who reported that they found it hard to complete the required CBL hours (M=.70) and those who reported time was not something they worried about (M=.75), F[(2, 1236)]=6.41, p=.002). Interestingly, ANOVA revealed no statistically significant differences in civic engagement score across student number of hours per week of commitments outside of school even after testing a less than 10 hours more than 10 hours binary variable.

Regression Results

General linear regression models in SPSS were used to further explain the differences in civic engagement scores produced by the t-test and ANOVA models by including the combined effects of the predictor variables in explaining the dependent variable and the unique effects of each independent variable (Szafran, 2012). The civic engagement score represents the sum of the average z scores for a student's response to the 12 civic engagement questions. A regression model using SPSS's General Linear Model procedure was used to regress 6 ordinal predictors (race, gender, year of school, number of hours of commitments outside the school, adequate amount of time to complete work, and number of hours per week worked on community-based projects) and to examine residual effects. Reference categories for the 6 ordinal predictor

variables were recoded using the data transform procedure to ensure that the correct reference category was used to compare impact of each predictor on civic engagement score.

ANOVA findings were confirmed in a general linear model with civic engagement scale score as the dependent variable. The linear regression model found significant but small effects [R^2=.07, F(22, 1196)=4.086, p.<.001], where gender (p<.019), Race (p<.001), class(p<.048), hours outside of class (p<.001) and adequate time for tasks (p<.001) were significantly associated with a higher civic engagement score. Again, commitments outside of school were not found to be statistically significant predictors. When stratified by race, two significant factors emerged: hours and time. As hours worked on a CBL project outside of class increased, civic engagement score increased for White, Black, Asian and Bi-racial multiracial respondents (p<.001, p=.020 p=.001 and p=.043 respectively) though the overall model for Bi-racial/multiracial respondents was not significant. Additionally, significant differences in civic engagement scores were found between those who reported “it was hard to complete the required community-based learning hours” and those who said “time was not something I was worried about” among White-Non-Hispanic and Black/African American respondents (p=.017 and p=.001, respectively).

Time Series Results

Finally, a time series curve estimation procedure controlling for quarter was used to determine whether a linear relationship exists in the data that would assist in predicting future levels of civic engagement based on previous trends in the data. In other words, evaluating how the institution improved its civic engagement outcomes for students over the 8 years and what predictions can be made based on the existing trends? Of particular importance to our institution, we experienced an increase in diversity among students who responded to this survey. However, a trend analysis using ANOVA and time series regression revealed no significant differences in civic engagement score by year.

Table 4: Mean Community Engagement Attitudes and Skills Score by Year, Gender, Race, and Educational Level.

		2011	***2012***	***2013***	**2014**	**2015**	**2016**	**2017**	**2018**
	Total Sample								
Total Sample N=1,257	.733	.76	.68	.64	.74	.74	.74	.76	.71
Gender n=1,221									
Female	.75	.75	.68	.69	.75	.77	.76	.76	.72
Male	.71	.81	.68	.54	.72	.69	.71	.76	.70
Race n= 1,139									
White (Non-Hispanic)	.71	.77	.67	.61	.73	.71	.69	.73	.71
Black/African American	.83	.75	-	-	.86	.85	.82	.91	.78
Asian American	.76	.72	.81	.63	.76	.75	.79	.79	.72
Hispanic/Latinx American	.76	-	.76	.79	.76	.79	.80	.65	.77
Bi-racial or Multi-racial	.76	.73	.83	-	.76	.77	.82	.77	.64
Other Racial Identities	.72	.76	.50	-	.64	.77	.81	.77	.62
Educational Level n=1,243									
First-year	.72	-	.59	-	.94	.75	.72	.77	.65
Second-year	.75	.83	.83	.78	.76	.75	.77	.67	.75
Third-year	.76	.78	.69	.76	.78	.80	.75	.75	.74
Fourth-year	.73	.73	.61	.52	.69	.73	.76	.77	.73
Graduate student	.70	-	.69	.36	.85	.66	.68	.82	.67

Discussion

The purpose of this study was to utilize the CBLIS to examine the impact of CBL on student reports (n=1,257) of civic engagement at a major R1 branch campus across 8 years. Specifically, we were interested in who benefits from the impact of CBL in relation to civic engagement and how civic engagement varied over time. A number of surveys have been developed to measure the impact of CBL on civic engagement; however, the majority of these assessments are cross-sectional and contain small sample sizes. A larger sample across time periods, as used in this present study, allows for a trend study, reduces the probability of type 1 error, and allows for an analysis of the variations in civic engagement improvements by race and gender.

This study examined differences between civic engagement score by demographic variables such as race, gender, and year of school as well as differences in reports of civic engagement by number of hours engaged in their CBL work outside the course, differences in commitments outside the course, and differences in civic engagement by belief that the course provided adequate time to complete the course requirements. We also analyzed civic engagement scores over time by examining curve-fitting time series regression to determine whether patterns emerge over the 8-year period.

Key findings suggest that, overall, CBL courses significantly improved students' civic engagement attitudes and skills as measured by their civic engagement score and that most students felt that their experience with CBL was beneficial to their learning, even after controlling for year of school, number of hours of commitments outside the school, adequate amount of time to complete work, and number of hours per week worked on community-based projects.

Underrepresented students reported that their civic engagement skills and attitudes significantly increased after taking their CBL course as measured by point estimates and ANOVA. Regression results revealed Black/African American students experienced the greatest improvement in civic engagement attitudes and skills compared to all other ethnic/racial groups. These findings are consistent with the existing literature finding that students of color receive significant benefit from CBL. The AAC&U High Impact Educational Practices project found that five practices, including CBL, have a pronounced effect on the experiences of underserved students (Kuh, 2008; Brownell & Swaner, 2010). A subsequent AAC&U study focused on underserved students found that the more High Impact Practices underserved students participated in, the greater the reported gains in academics, professional competence, and social development (Finley & McNair, 2013). However, underrepresented students were less likely than their White peers to participate in High Impact practices. We are not surprised that students of color in our study population are found to have significantly higher community engagement scores, since much of the historical precedence for community engagement stems from a long-standing history of social exclusion, prompting communities of color to commit significant personal capital to providing social services not provided by mainstream institutions. As noted by Bocci (2015), this social history is often ignored among majority white institutions that are only now engaging in service-learning and primarily from the perspective of white normativity. Despite the increase in the campus racial diversity across the 8 years reported in this paper, enrollment in CBL courses is still lower among Black/African American, Native

American, and Hispanic students in comparison to White and Asian American students. It is possible that CBL may not be as attractive to students of color because of their pre-existing civic responsibilities. Further investigation is needed to determine whether the highly significant findings in civic engagement improvement is due to the combination of activities that students of color engage in both on and off campus.

Second, our findings that women reported greater improvements in civic engagement than did men is consistent with findings in other studies. This suggests that women are more likely than men to agree that service-learning benefits them professionally and personally (McCarthy & Tucker, 1999). We also found that across class rank third-year students reported a significantly higher civic engagement score than did graduate students even though graduate students spent significantly more time outside of class on their CBL course work.

Finally, given that trend analysis is an important factor in educational studies this study examined the patterns among CBL experiences. Though the time series regression model did not reveal a significant change in civic engagement score over the study period (2011-2018).

Interestingly, there was no significant difference in civic engagement score between students who did and those who did not have more than 10 hours of time commitment outside of class. Further, we would expect that the number of hours of commitments outside of class would have been associated with civic engagement score; however, commitments outside of class was not significant in the ANOVA models or stratified or unstratified regression models. However, since spending some hours outside of class on CBL resulted in a higher civic engagement score compared to spending no hours outside of class, apparently only 1-10 hours are required by students to see an improvement in civic engagement attitudes and skills. Likewise those students who reported having sufficient time to complete the CBL work reported a higher civic engagement score, again indicating that not a lot of time is required for CBL to have impact on civic engagement attitudes and skills. Therefore, our findings provide some evidence that students do not have to spend a large number of hours on CBL courses in order to receive benefit from this pedagogy.

One study found that 65% of undergraduate students worked off campus with a range of 5 to 60 hours per week (Furr & Elling, 2000). Hawkins and colleagues found that work can have both a positive and negative impact on academic performance, though without significant difference among students of color (Hawkins Smith, Hawkins, & Grant, 2005). Further, more campus employment results in less connection to the institution (Hawkins et al., 2005). Perhaps therefore, CBL is a pedagogy of inclusion that allows for students of color and low income students to still participate in the work force without sabotaging their educational goals. Additional studies are needed to further explore the association between hours worked and academic performance as it relates to CBL.

Limitations and Future Directions

Several limitations of this study should be considered when interpreting these results. It should be noted that a strength of this study is its large sample size (n=1,163). However, given that this is a trend study, data has been collected across multiple periods of time that could contain students who repeat a course or courses with

a CBL component. Also, the repeated cross-sectional nature of the data indicates earlier sample sizes in years 2011 and 2012 appear small, though they were still larger than the sample size required for statistical power at a 95% confidence level. Second, our statistical analysis relied on self-reported retrospective data that could result in selective memory or over or under exaggeration of the CBL outcomes. However, the survey was disseminated 2 weeks before the end of the quarter and remained open for 1 month after the quarter ended, which could reduce recall bias. Third, trend studies use the same instrument over multiple periods with different respondents, and therefore, our time series models do not examine improvements across the same group of individuals as would a pre-test/post-test design. However, this analysis allows us to look at the demographic change over time and the impact of previous years on current and future reporting of civic engagement. Further, it allows for the analysis of trends over time that could be influenced by institutional changes in demographics and policy without the impact of attrition found in panel studies.

Findings from this study highlight potential future lines of research, including examining the impact of CBL on students of color at an individual unit of analysis. Service to one's community is not new to students of color and future examination can identify the differences among an ethnically diverse sample. Also important is to complete similar examinations of the impact of CBL on critical thinking and self-awareness since community engagement is only one construct regularly associated with community-based learning.

In addition, to the focus of future studies based on the CBLIS in its current form, this examination of student engagement identifies ways that the CBLIS could be improved. Most notably, it appears clear that in addition to asking questions about improved attitudes and skills, questions about current attitudes and skills are necessary. How much experience with community engagement are students bringing to their CBL courses? While a strength of this study is the wide variety of CBL courses included in the analysis, in order to interpret findings with greater clarity, questions that provide information about specific experiences in CBL courses are necessary.

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