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ENRICHING COLLEGE STUDENTS' LEADERSHIP EFFICACY

Abstract

The purpose of this study was to examine whether undergraduates' participation in 12 different leadership trainings, workshops, conferences, or programs was associated with students' leadership efficacy. We used data from the Multi-Institutional Study of Leadership survey, which eight of the Big 10 institutions administered to students in spring 2018. The results suggest that students' participation in shorter-term or moderate-term experiences—a leadership conference, retreat, lecture/workshop series, course, or positional leadership training—was positively associated with students' leadership efficacy. We therefore encourage leadership educators and practitioners in higher education to consider the duration of their programs to maximize students' outcomes.

Introduction

Although there are various individual qualities that can serve as a foundation for success in leadership pursuits, scholars have documented the specific importance of leadership efficacy as a catalyst that can motivate leaders to confidently pursue complex challenges, mobilize individuals to undertake collective action, and influence social or organizational change, all with a high degree of agency (Avolio & Luthans, 2006; Chemers, Watson, & May, 2000; Hannah, Avolio, Luthans, & Harms, 2008). Leadership efficacy represents individuals' understanding of their leadership capabilities—their confidence in their capacity to lead (Dugan, Fath, Howes, Lavelle, & Polanin, 2013). Leadership efficacy is positively associated with the frequency with which individuals seek, initiate, or attempt to be group leaders (McCormick, Tanguma, & Lopez-Forment, 2002) and in individuals' leadership

capacity (Dugan & Komives, 2010). Additionally, leadership efficacy is also associated with not only leaders' performance (Anderson, Krajewski, Goffin, & Jackson, 2008; Paglis, 2010; Paglis & Green, 2002), but also the collective performance of groups (Hoyt, Halverson, Murphy, & Watson, 2003; Paglis, 2010; Watson, Chemers, & Preiser, 2001).

Amid the flourishing scholarship base on college students' leadership development, a considerable amount of attention has been dedicated to understanding the types of programs and practices that are associated with students' development of socially responsible leadership capacity (Buschlen & Johnson, 2014; Day, Harrison, & Halpin, 2009; Dugan, 2011; Dugan & Komives, 2007, 2010; Johnson, 2014; Johnson, Johnson, & Dugan, 2015; Johnson & Mincer, 2017; Soria, Nobbe, & Fink, 2013) in addition to students' leadership identity development (Komives,

Owen, Longerbeam, Mainella, & Osteen, 2005; Komives et al., 2009). There is also limited research on factors associated with college students' leadership efficacy (Dugan, 2006), with a particular emphasis on the effects of students' identities on their efficacy (Dugan et al., 2013; Dugan, Garland, Jacoby, & Gasiorski, 2008; Dugan, Kusel, & Simounet, 2012; Kodama & Dugan, 2013; Martinez, Ostick, Komives, & Dugan, 2007); however, very few researchers have explored whether leadership-focused collegiate experiences, including trainings, programs, courses, conferences, or workshops, are associated with college students' leadership efficacy. The purpose of this study is to therefore to examine whether college students' participation in leadership trainings, programs, courses, conferences, or workshops is associated with their leadership efficacy while controlling for students' pre-college leadership efficacy and leadership experiences, demographics, and other collegiate experiences.

Leadership Efficacy and Collegiate Experiences

Leadership self-efficacy has its roots in the construct of self-efficacy, which is drawn from Bandura's (1977) social cognitive theory. Self-efficacy, or the convictions that one can successfully engage in actions to produce outcomes, influences not only individuals' likelihood of initiating tasks, but also their stamina and tenacity in following through on those tasks (Bandura, 1977, 1986, 1997). Bandura (1997) suggested that self-efficacy is malleable— that it can be altered through environmental conditions. Gist and Mitchell (1992) theorized that changes in self-efficacy can be influenced through interventions, such as by providing individuals with a more thorough understanding of the complexity of tasks, training to improve individuals' abilities in performing tasks, and information that improves individuals' understanding of the types of strategies or effort required to successful perform tasks.

Within the context of college students' leadership development, it may then be possible to increase students' leadership efficacy through curricular and co-curricular trainings, programs, or workshops given that efficacy beliefs are often derived from personal experiences (McCormick et al., 2002).

There is some limited evidence on the effectiveness of collegiate experiences to elevate college students' leadership efficacy. Dugan et al. (2008) discovered that commuter students who participated in leadership positions had significantly higher self-efficacy than their peers. Furthermore, the authors discovered that only dependent commuter students (and not independent commuter students) who participated in short- or moderate-term duration leadership programs had higher leadership efficacy than their peers; however, their variable focused only on the duration of the leadership programs and not the type of programs in which students participated. Similarly, Kodama and Dugan (2013) found that participation in formal leadership programs was only positively associated with Latinx students' leadership efficacy; however, the authors provided no additional information that describes the nature or type of formal leadership programs in which students participated.

In addition to participating in specific leadership-oriented development programs, there is evidence for the importance of relationships and mentorship on college students' leadership efficacy (Rosch & Stephens, 2017). Early (2016) discovered that resident assistants who received mentorship had significantly higher leadership efficacy compared to their peers who did not receive mentorship. Commuter college students who have a mentoring relationship with their employers also reported significantly higher leadership efficacy compared to their peers. There appear to be differential effects of mentorship by race, however: Kodama and Dugan (2013) found that only Black students who received mentorship by Measures.

levels of leadership efficacy compared to their peers. The authors found no other effects for students from any racial or ethnic group based upon other types of mentors, including mentors who were faculty, employers, community members, parents, or other students.

Pre-college experiences also appear to be important in predicting college students' leadership efficacy; for instance, students who are involved in leadership experiences in high school are more likely to report higher levels of leadership efficacy (Dugan et al., 2008; O'Dell, Smith, & Born, 2016; Rosch & Nelson, 2018). In general, students' pre-college leadership efficacy has emerged as one of the strongest and most consistent predictors of their leadership efficacy in college (Dugan et al., 2008; Dugan et al., 2013; Kodama & Dugan, 2013; Nguyen, 2016). There are also differences in students' leadership efficacy based upon their demographics. Specifically, researchers have observed that Asian students tend to have lower leadership efficacy scores compared to their peers (Dugan et al., 2008; Dugan et al., 2013; Kodama & Dugan, 2013; Nguyen, 2016), Black student have higher leadership efficacy scores compared to other students (Kodama & Dugan, 2013; Nguyen, 2016), and women tend to have lower leadership efficacy scores compared to men (Dugan & Komives, 2007; Dugan et al., 2008; Dugan et al., 2013; McCormick et al., 2002; Nguyen, 2016).

Given the importance of leadership efficacy in shaping not only leaders' behaviors and actions but also group and organizational outcomes (Hoyt, 2005)—and the increasing pressure upon higher education institutions to educate efficacious leaders who can solve pressing social and global problems (Astin & Astin, 1996; The National Task Force on Civic Learning and Democratic Engagement, 2012)—it is important to examine whether specific leadership development programs can be leveraged to increase students' leadership efficacy. Yet, the existing scholarship provides little insights into the potential for specific leadership initiatives, such as workshops, conferences, courses, trainings, or programs, to build students' confidence in their leadership capacity.

Therefore, in this paper, we examine whether students' participation in 12 different leadership initiatives—workshops, conferences, courses, retreats, trainings, or programs—are associated with students' leadership efficacy. We specifically selected those 12 leadership experiences because they may be easier for higher education institutions to offer to students compared to larger curricular efforts that may be significantly more resource-intensive, such as leadership minors, certificates, or majors. Congruent with other studies, we also controlled for the effects of students' pre-college leadership efficacy, pre-college leadership involvement, demographics, and other collegiate factors when examining the unique effects of students' participation in leadership programs.

Methods

Instrument. We utilized data collected as part of the Multi-Institutional Study of Leadership (MSL), which was administered at eight of the 14 Big Ten Conference universities in spring 2018 (Dugan, 2015). The institutions belonging to the Big Ten Conference are large institutions located in the upper-Midwest and upper-Mideast regions of the United States. The institutions collectively enroll a large share of undergraduate students each year, over 400,000 students. The MSL is an international research program that examines the influence of higher education on undergraduates' leadership development. The MSL survey measures a variety of leadership-related outcomes including students' engagement in a variety of leadership experiences, pre-college experiences and perceptions, demographic characteristics, capacities for socially responsible leadership, and leadership efficacy. Researchers tested the psychometric properties of the MSL instrument and discovered that common concerns related to self-reported data—social desirability, halo effect, and item format—were not problematic in the MSL (Dugan, 2015; Tyree, 1998). Additionally, researchers who examined the MSL for content, criterion, and construct validity made several changes to improve those psychometric properties, including reducing the number of items

and removing two constructs (Dugan, 2015; Tyree, 1998).

Sample.   In spring 2018, eight of the 14 Big Ten institutions participated in the MSL and each invited 4,000 randomly-selected students to participate in the survey. The response rate was 22.81% (n = 7,298), although only 4,901 of those students responded to all of the items used in analysis. In Table 1, we report students' gender, race/ethnicity, citizenship, residence, transfer status, and first-generation status for the final sample.

Table 1.

Demographic Information for Respondents

Variables Used in Analysis	n	%
Gender		
Male	1853	37.81
Female	2998	61.17
Transgender/Gender Non-Conforming	50	1.02
Race/Ethnicity		
White/Caucasian	2854	62.13
Middle Eastern/Northern African	98	2.00
African American/Black	259	5.28
American Indian/Alaska Native	23	0.47
Asian American	899	18.34
Native Hawaiian/Pacific Islander	7	0.14
Latino/Hispanic	396	8.08
Multiracial	87	1.78
Race Not Listed	278	1.78
Citizenship		
Citizen or Permanent Resident	4572	93.29
International Student	329	6.71
Transfer Status		
Started Here	4041	82.45
Started Elsewhere	860	17.55
Residence		
Off-campus	2658	54.23
On-campus	2243	45.77
First Generation Status		
Non-First Generation	4336	88.47
First Generation	565	11.53

Independent measures. We first considered the role of students' demographics and pre-college leadership efficacy in the first block of our hierarchical regression analyses. We included students' race/ethnicity, gender, age (M = 20.49, SD = 2.46), international status (1 = international; 0 = citizen or permanent resident) and first-generation status (1 = first-generation; 0 = non-first-generation). We coded race/ethnicity with White students as the common referent and gender with male students as the common referent. We measured students' pre-college leadership efficacy through four items in which students indicated their level of confidence (1 = not at all confident to 5 = very confident) in leading others, organizing a group's tasks to accomplish a goal, taking initiative to improve something, and working with a team on a group project. The scale had high internal consistency (= .872). We also included whether students had taken leadership positions in student clubs or in community organizations while in high school (1 = yes, 0 = no).

In the second block of our analyses, we examined additional environmental conditions, including whether students lived on campus (1 = on campus; 0 = off campus), students' class level (1 = freshman, 2 = sophomore, 3 = junior, 4 = senior+), their transfer status (1 = transfer; 0 = non-transfer), and their academic majors, which we dummy-coded against undeclared majors as the common referent.

In the third block of our analyses, we included students' participation in 12 leadership training or educational experiences. Students reported the degree to which they had been involved in those experiences on a scale from 0 = never to 3 = often. Due to possible limitations in understanding how students interpret the frequency of their participation, we recorded the variables to reflect whether students had ever participated in those experiences or had not participated in those experiences. Students were most likely to have participated in a leadership lecture/workshop series, followed by participation in a leadership conference, leadership course, and leadership training. We reported the frequency of students' involvement in those activities in Table 2.

Table 2.

 Students' Participation in Leadership Training or Education Experiences

	Never (%)	At Least Once (%)
Leadership lecture/workshop series	81.23	18.77
Leadership conference	83.43	16.57
Leadership course	84.62	15.38
Positional leadership training	85.17	14.83
Leadership retreat	86.31	13.69
Short-term service immersion	91.65	8.35
Emerging or new leaders program	92.67	7.33
Peer leadership educator team	93	7.00
Women's leadership program	94.94	5.06
Living-learning leadership program	95.1	4.90
Multicultural leadership program	95.98	4.02
Outdoor adventure leadership program	97.04	2.96

Dependent measure. Our dependent measure included students' leadership efficacy, which we measured through four items in which students noted their confidence leading others, organizing a group's tasks to accomplish a goal, taking initiative to improve something, and working with a team on a group project. The items were all scaled from 1 = not at all confident to 4 = very confident. The scale had high internal consistency (α = .863).

Data Analyses. We utilized hierarchical ordinary least squares regression to examine associations between students' participation in leadership programs (i.e., trainings, workshops, courses, or programs) and their leadership efficacy. Predominant theoretical frameworks suggest that students' demographic characteristics and institutional contexts might co-vary with collegiate experiences, thereby potentially confounding the effects of those collegiate experiences (Astin, 1993; Pascarella & Terenzini, 2005). In accordance with those theoretical frameworks, we entered data into three blocks to assess the variance collegiate variables explain above and beyond the variance accounted for by control measures (Petrocelli, 2003): 1) pre-college leadership efficacy, pre-college leadership experiences, and demographic variables; 2) environmental variables (e.g., academic major, transfer status, residence); 3) participation in leadership training or education experiences.

We tested the assumptions of regression analysis and found that the multicollinearity assumptions were not violated (tolerance statistics and variance inflation factors were well within acceptable ranges). In testing homoscedasticity, we discovered random scatter and variability in scatterplots of standardized residuals against the standardized predicted values. We produced histograms of standardized residuals and normal probability plots comparing the distribution of standardized residuals to a normal distribution and found evidence for normality. We examined the matrix scatterplots and discovered the relationships between the predictor and outcome variables were relatively linear. We also found the residual errors were consistently independent across the model (the Durbin-Watson statistic was 1.97); therefore, the results of these analyses suggest the regression assumptions were not violated (Tabachnick & Fidell, 2007).

Although the data utilized in this study are from multiple institutions—and, thus, the students are "nested" within different contexts—we did not utilize hierarchical linear modeling techniques for analyses for several reasons. We computed the intraclass correlation coefficients, an estimate of the proportion of between-institution variance compared to within-institution variance. We discovered the coefficients were all less than .001, suggesting greater independence of observations in the different groups of institutions. Scholars utilizing the MSL survey in prior studies have similarly discovered nominal between-institution differences in their results (Dugan et al., 2013), suggesting ordinary least regressions are sufficient analyses for the present project.

Results

At step one, we entered the demographic and pre-college variables into the model and discovered that they explained a significant level of variance in students' leadership efficacy (R^2 = .328, p <.001). We entered in the collegiate experiences variables in step two and discovered that they also explained unique variance in students' leadership efficacy ($R^2\Delta$ = .024, R^2 = .352, p < .001). Finally, we entered the students' participation in leadership training and experiences in block three and found that the variables explained a significant amount of unique variance in students' leadership efficacy beyond the variance explained in the first two blocks ($R^2\Delta$ = .012, R^2 = .364, p < .001).

The results from the final model suggest several pre-college variables were significantly correlated with students' leadership efficacy; for instance, holding a leadership position in student clubs in high school (β = 0.105, p < .05) and in a community organization (β = 0.059, p < .05) was positively associated with students' leadership efficacy in college. Additionally, students' pre-college leadership efficacy was positively associated with students' leadership efficacy in college (β = 0.442, p < .05). Students' age is also positively associated with their leadership efficacy (β = 0.033, p < .05) while transgender students (β = - 0.037, p < .05), first-generation students (β = -0.028, p < .05), Asian students (β = -0.095, p < .05), international students (β = -0.049, p < .05), and students who did not list their race/ethnicity (β = -0.062, p < .05) had significantly lower leadership efficacy compared to

their peers.

The results also suggest that only a few collegiate variables were significantly correlated with students' leadership efficacy: students who majored in business (β = 0.065, p < .05), criminal justice (β = 0.027, p < .05), and pre-professional programs (β = 0.039, p < .05) reported significantly higher leadership efficacy compared to their peers. Additionally, students' class level was positively associated with their leadership efficacy (β = 0.111, p < .05).

Finally, the results suggest that participation in five types of leadership training/education experiences were positively associated with students' leadership efficacy. Students who participated in a leadership conference (β = 0.029, p < .05), leadership retreat (β = 0.030, p < .05), leadership lecture/workshop series (β = 0.035, p < .05), positional leadership training (β = 0.048, p < .05), or leadership course (β = 0.030, p < .05) had significantly higher leadership efficacy compared to their peers.

Discussion

The purpose of this study was to examine whether college students' participation in 12 different leadership initiatives was associated with their leadership efficacy. The results suggest that students' participation in leadership programs in college explains a significant amount of variance in their leadership efficacy above and beyond the variance explained by their pre-collegiate leadership experiences and beliefs, demographics, and other collegiate experiences. Specifically, the results suggest that college students who participated in leadership conferences, retreats, lecture/workshop series, positional leadership training, and courses had significantly higher leadership efficacy compared to their peers. The results provide some support for the potential for leadership programs to increase college students' confidence in their leadership capacity; however, the results also suggest that not all leadership programs provide ubiquitous effects on students' leadership efficacy. Thus, while providing

partial support for research in which leadership programs have yielded benefits on students' leadership efficacy (Dugan et al., 2008; Kodama & Dugan, 2013), this study also provides support for other scholarship in which researchers have found no effects of leadership programming on students' leadership efficacy (Rosch, 2018).

There could be a few explanations for the mixed results; for instance, some of the programs could require significantly longer time commitments from students. Although they grouped together leadership programs and omitted any opportunity to disaggregate results by specific programs, Dugan and colleagues (2008) discovered that students' involvement in programs of a shorter duration (e.g., a lecture, workshop) or more moderate duration (e.g., a course, workshop series) tended to be more beneficial than longer-term programs (e.g., major or minor, multi-semester programs) for students' leadership self-efficacy. Similarly, most of the positive effects observed in our study were also among programs that could be potentially shorter in length—leadership conferences, retreats, lecture/workshop series, positional leadership trainings, or courses—as compared to an outdoor adventure leadership program or a peer leadership educator team, which could require longer time commitments. It may be the case that shorter programs provide more intensive, impactful experiences for students to develop beliefs about their leadership capacity, whereas longer-term programs provide more extended opportunities for students to engage in reflective practices that may not be as noticeable in the short term (Rosch, 2018). Furthermore, leadership efficacy is a specific leadership outcome—a measure of confidence in the act of leading—rather than a broader leadership development outcome. The shorter-term leadership programs may feature more applied leadership experiences, giving students a chance to exercise leadership and increase their confidence. Lengthier programs may have more rigid curriculum, which may not be as responsive or flexible to the leadership experiences in which students are engaging. Furthermore, lengthier leadership programs may not

be feasible for many students because the associated time and financial commitment may conflict with other priorities, such as employment, academic work, and family responsibilities.

Additionally, we surmise that leadership educators at the universities in this study could be playing a stronger role in developing the shorter-term leadership programs (e.g., conferences, trainings, courses) compared to the longer-term programs, which may be more likely be student facilitated (e.g., a multicultural leadership program affiliated with a student organization). With their expertise, leadership educators may be more likely than student leaders to intentionally embed leadership efficacy as an intentional programmatic outcome and consequently provide specific opportunities for students to exercise their leadership capacities and receive feedback to enhance their efficacy. Leadership educators who serve in a mentorship capacity with students may also be more adept at identifying leadership values or mindsets among student leaders and intervene to give students opportunities to engage in leadership and therefore contribute to students' development of leadership efficacy (Rosch & Stephens, 2017). It is evident from our study and similar research that shorter-term or more intensive programs may be more effective in leadership development (Dugan et al., 2008; Soria, Werner, & Nath, 2019); therefore, we encourage leadership development educators and practitioners to consider program intensity or duration when developing their programs.

Many developmental outcomes associated with students' participation in formal leadership programs tend to be non-linear when examined longitudinally. Immediately following participation in formal leadership programs, students tend to exhibit inflated post-test scores that taper over time to match their pre-test scores within a few months; however, post-test scores gathered a year after participation suggest students' perception of their leadership efficacy rises to the inflated post-test scores captured immediately after their participation in leadership programs (Rosch & Collins, 2019). Thus, the results of our study could be dependent upon when students participated in the leadership programs, courses, or training and when they took the survey in relation to their participation. Perhaps it is the case that students who participate in programs of a longer duration experience effects on leadership efficacy or other outcomes on a different developmental timeline compared to students who participate in programs of shorter or moderate duration.

Finally, the results provide some confirmation regarding the role of demographics in students' perceptions of their leadership efficacy. While we did not find evidence for lower leadership efficacy among women, the results suggest that transgender students reported lower leadership efficacy compared to their peers. Dugan et al. (2012) similarly discovered that transgender students reported lower leadership efficacy compared to their peers, a result they conceived may be related to challenges navigating gender norms and power dynamics in leadership. Additionally, our results confirm prior studies in which researchers have found that Asian students report lower leadership efficacy compared to their peers (Dugan et al., 2008; Dugan et al., 2013; Kodama & Dugan, 2013; Nguyen, 2016). Our results also add insights into first-generation students' leadership efficacy and suggest that practitioners should examine whether their leadership programs are equitable for students based upon their social class, parental education, or other socioeconomic status indicators (Soria, Hussein, & Vue, 2014).

Overall, the variable in our model that is most strongly associated with college students' leadership efficacy is students' pre-college rating of leadership efficacy, confirming the weight and importance of students' pre-college leadership perceptions on their collegiate leadership perceptions (Dugan et al., 2008; Dugan et al., 2013; Kodama & Dugan, 2013; Nguyen, 2016). Students' pre-college leadership efficacy, in addition to their pre-college leadership experiences, appears to be powerfully connected to their leadership efficacy in higher education. It is worth exploring whether students with higher pre-college ratings of leadership efficacy might perceive that longer and more structured leadership education

opportunities, such as living learning communities or other high-commitment programs, are not necessary for their leadership development. Students with higher leadership efficacy may self-select into the shorter and more immediate opportunities instead, thus leading to results suggesting that students who participate in shorter-term leadership opportunities have higher leadership efficacy.

Limitations

There are a few important limitations to this study; for one, we do not have a detailed understanding of students' involvement in the wide variety of activities we explored and, as others have demonstrated, the nature or duration of students' experiences can influence outcomes (Dugan & Komives, 2010). The nuances of the leadership programs, including the content of the programs, locations, modes of facilitation, and other critical details, are missing, thus limiting potential reproducibility of the results on campuses. We also did not include a wide variety of institutions in our study (e.g., community colleges, liberal arts colleges), nor did our study have a highly diverse sample of students with regards to their demographics, thus limiting the generalizability of the findings to other institutions or other types of students.

Conclusion

In conclusion, the results of our study suggests that students' participation in some leadership programs may increase students' confidence in their leadership capacity. Namely, students who participated in leadership conferences, retreats, lecture/workshop series, positional leadership trainings, or courses had significantly higher leadership efficacy compared to their peers. Our study also confirmed the importance of pre-college leadership experiences and perceptions in college students' leadership development. We recommend that leadership educators, practitioners, and researchers work in tandem to unpack the results of this study and examine why some leadership

programmatic experiences are more impactful upon students' leadership efficacy, along with discovering why some students have persistently lower confidence in their abilities to lead others, organize a group's tasks to accomplish a goal, take initiative to improve something, and work with a team on a group project.

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