

COMPETITION AS LEADERSHIP PEDAGOGY: An Initial Analysis of the Collegiate Leadership Competition

Abstract

The Collegiate Leadership Competition (CLC) is a fast-growing tool for post-secondary student leadership development. There, teams practice with a coach for several months, then compete against teams from other institutions to win competitions based on achieving outcomes and demonstrating effective leadership practices (e.g., authentic collaboration, positive conflict management techniques). In this study, 135 students participated in at least one wave of data collection. Initial results suggested that leadership capacity among participants showed a steady increase from initial pre-test through their competition date to a post-test measured months later. Scores among participants who identified as a man or woman did not statistically differ. These findings, though initial, may indicate that placing students in competitive environments can serve as an important tool to support their leadership development.

Introduction

Over half of the approximately 4,000 accredited post-secondary institutions in the United States offer a formal educational or co-curricular program dedicated to the leadership development of their students (International Leadership Association, 2017). At the turn of the century less than two decades ago, fewer than 25% offered such opportunities (Riggio, Ciulla, & Sorensen, 2003). That such increased attention is afforded to the leadership development of emerging young professionals should not be a surprise. Amazon.com's 100 best-selling books of 2018 include those dedicated to the topic of leadership effectiveness such as Dale Carnegie's, "How to Win Friends and Influence People," Angela Duckworth's "Grit," and Stephen Covey's "The 7 Habits of Highly Effective People," all of which have spent multiple years on the list.

However, such attention on the development of leadership capacity has not necessarily led to a better understanding of effective processes in which such capacity is developed (Dugan, 2011), especially within colleges and universities. Indeed, Owen (2012) describes the state of postsecondary leadership programs as "entering an awkward adolescent stage" (p. 20). She goes on to state that what is enacted in such programming far outweighs what is known about the effectiveness of what is enacted. A critical need exists to increase our understanding of the processes of leadership development in postsecondary education students. Such understanding would lead to better and more predictable outcomes in students who participate, a more transparent decision for prospective students for deciding in which programs to participate, and more efficient expenditure choices for administrators who fund such programs.

This research study is focused on an arguably unique program dedicated to student leadership development in the context of postsecondary education: The Collegiate Leadership Competition (CLC). The CLC, formed in 2015 on the campus of John Carroll University in Cleveland, OH, has since expanded to include competitions across the United States that have included 88 institutions and over 1,000 participating students. The research team followed consenting student participants during their involvement within the CLC from their time of orientation through their competition date, ending our data collection four months afterward. Our central focus was to assess the degree to which students increased in their self-reported capacity to lead. In addition, given past research that shows potential gender differences in response to competition as a learning tool (e.g., Campbell, 1999), we also investigated whether gender-identity differences emerged as time participating increased.

The Diversity of Contemporary Leadership Program Structures. The International Leadership Association collects arguably the most comprehensive list of academic and co-curricular programs in postsecondary education. Its website allows users to search for programs that range from Ph.D.-granting to an undergraduate Certificate. Programs listed are delivered online, in person, or through a hybrid mix. Users can search for programs housed in disciplines as diverse as education, business, human development, humanities, law, and numerous others.

Given such diversity, surprisingly little has been written about it. Eich (2008) conducted a qualitative study of four co-curricular programs he defined as different from each other based on structure (e.g., length, learning outcomes, setting) and created a grounded theory of 16 attributes of all programs clustered into three areas: learning in community, experiential pedagogy, continuous improvement. A more recent quantitative study (Dugan et al., 2011) used self-report cross-sectional data from a national

sample of students to determine the effects of formal program participation and found minor and mixed results. The authors went on to explain their relative lack of effects as owing to the diversity of programs, along with the vast variation in the structure and curriculum found within them. A more recent study of academic minors at 52 institutions focused on leadership or leadership development yielded findings that more differences existed among them than commonalities (Diallo & Gerhardt, 2017).

Rather than focus on the programs themselves, Jenkins (2012) studied pedagogical tools employed by leadership educators within their programs. He included 24 separate pedagogical methods (e.g., case studies, reflective journaling) in his research and found that among a group of 303 educators, only "class discussion" and "interactive lecture" were employed by more than half of the group with consistent frequency. Interestingly, "games," whether competitive or not, were reported to be consistently used by only 13% of the educators included within the sample.

These findings indicate a clear need for more formal study regarding the types of curricular structures and classroom pedagogy that are associated with the development of leadership capacity in their participants. Somewhat surprisingly, given a generation of research that exists (e.g., Nohria, Grosyberg, & Lee, 2008) that examines the role of competition in spurring learning and motivation, placing students in team-based competitive environments has barely been mentioned as a potentially productive pedagogical tool in leadership education programs.

The Role of Competition in Learning. Scholars have posited that competition can serve as a spur for personal growth (Sampson, 1988) and has a positive effect on the individual's self-esteem and other characteristics (Ryckman, Hammer, Kaczor, & Gold, 1996). Indeed, motivation scholars have

that the drive for motivation is built into our brain (Nohria, Grosberg, & Lee, 2008) and manifests itself through the drive to acquire, the drive to bond, the drive to comprehend, and the drive to defend, all of which are rewarded through inter-group competition. Nohria and her team (2008) established that engaging all four bonds brings about an increase in motivation. Indeed, in a recent comprehensive study, its authors summarized their findings by stating that competition strengthens learning and motivation (Cagiltay, Ozcelik, & Ozcelik, 2015). Given these analyses, competitions and games, such as the CLC, should be examined for their influence on a student's overall motivation to engage and development in the leadership classroom.

Tournament-based competitions have also shown gains in academic performance (Van Nuland, Roach, Wilson, & Belliveau, 2015). In a study of players from learning games (N=173), the level of engagement in the game revealed a positive effect on the learning experiences of students (Hamari, Shernoff, Rowe, Coller, Asbell-Clarke, & Edwards, 2016). This same study demonstrated the positive results of incorporating a sense of challenge, defined as a concept or construct that exceeded the individual level of skill in a certain area, and suggested such challenge serves as a strong predictor for increased learning outcomes.

Much work has been done to examine the use of games and simulations, computer and non-digital, as a means of teaching and the effects on students in higher education, including investigating their levels of motivation and performance (Burgillo, 2010). The use of games as an educational tool has shown increased cognitive and motivation effects among students in a college classroom (Minovic, et al., 2012). The use of games as an educational tool has shown increased cognitive and motivation effects among students in a college classroom (Minovic, et al., 2012). Intrinsic motivation and the perceived self-efficacy of students had a strong correlation between learning and performance (Bergin & Reilly, 2005). Intermediate uses of games and competition as a methodology have proven to increase interest

and engagement of students (Belloti, et al., 2013). However, the complete gamification of courses has shown to have adverse effects on participation over time (De-Marcos, et al., 2014),

A games approach offers a simulation-based experience for learners and an opportunity for enhanced experiential learning (Gentry, 1990). Games have been referred to as an extension of experiential learning as it allows students to take on complex problems and seek solutions based on their knowledge and leading to critical application (Kolb, 2014). One study among undergraduate and graduate students showed that the use of Kahoot!, a popular e-learning tool that allows quiz competitions inside the classroom, was embraced by the students and allowed professors to adapt instruction resulting from student understanding (Plump & LaRosa, 2017). The use of games as a teaching method can be an effective tool to use for a review of material (Kaupins, 2005; Berry, 2008). Another study of Taiwanese higher education students showed that the use of online simulation games and learning performance led to increased satisfaction among the students in terms of adopting a broader use of the methodology (Tao, Cheng, & Sun, 2009).

Some gains among students and the inclusion of competition and games might be correlated with gender identity. Prior research suggests that competition motivates males to participate in physical competitions, and more notably, to engage in cooperative group challenges (Campbell, 1999; Geary, Byrd-Craven, Hoard, Vigil, Numlee, 2003). Other studies conducted have shown males reported higher levels of participation in online games associated with instruction and learning, while females showed increased levels of using strategy when learning from traditional printed texts (Bråten, I. & Strømsø, HI, 2006). Females report greater levels of social benefits through the use of games (Koivisto & Hamari, 2014). These findings, however, do not make clear whether gender differences might exist in competitive environments related to leadership development.

Competition in Leadership Education? The findings detailed above suggest that including competition as an intentional pedagogy in educational programs dedicated to student leadership development has the potential to serve as a value-added benefit to educators. Jenkins (2016), for example, reports that fewer than 2% of online leadership educators use any form of competition within their classrooms and learning structures. If prior findings can be extended to the leadership development arena, students' leadership learning and motivation to practice leadership behaviors could increase, as well as the speed at which those students grow as leaders. However, significant caveats exist that demand the need for leadership education-specific research. Perhaps most significantly, prior studies have considered "learning" as an individual attribute (i.e., has student X learned knowledge set Y, and are they more motivated to learn knowledge set Y?). While certain aspects of leadership education fit within this structure – such as the set of technical knowledge required for practicing effective leader behaviors – other aspects might not be well-suited to master in competitive environments. For example, most contemporary leadership education programs (Owen, 2012) espouse the values of post-industrial leadership (Rost, 1993), which emphasizes flatter organizational structures and values-based behaviors that are beneficial to society as a whole. Such attributes might not be well-suited for learning in a competitive environment, where clear winners and losers exist. Even the act of bestowing awards to teams and individuals who win might privilege the concept of "leader" development (i.e., where an individual's capacity growth is paramount) over "leadership" development (i.e., where collaboration in teams and organizations lead to accomplishing shared goals) (Day, 2001).

Despite the benefits shown in utilizing competition in other educational arenas, these uncertainties result in a distinct need to conduct research investigating the role of competition in leadership education programs. If results suggest that creating opportunities for inter-individual or inter-group competition raises

motivation and confidence and catalyzes skill growth as it does in other environments, leadership educators could more explicitly consider adding this tool in their pedagogical toolboxes to employ in the service of their students' leadership development.

Our Setting: The Collegiate Leadership Competition. In part as a response to these findings that show the productive potential of competition as a learning tool, leadership educators in 2015 founded the Collegiate Leadership Competition (CLC) (Allen, Jenkins, & Krizanovic, 2018). These educators created the CLC with the same structure as an inter-university athletic competition, where postsecondary institutions register to participate, where their students compete as a small team (approximately six students) against other institutions throughout a day in several events. These events require students to work together to achieve a goal within a timed environment. To emphasize the motivation to practice effective leadership skills and not simply focus on outcomes over processes to achieve those outcomes, institutional teams are scored not only on the degree to which they achieve the goal but also on their effective use of team dynamics and leadership skills. Throughout the day, each team member must serve as the "leader" (i.e., coordinator of team efforts) in at least one event. At the end of the competition, the team with the most points is awarded the winner of the event.

To provide support and information for teams on what they will be evaluated on, CLC administrators require each participating institution to register several months in advance and identify a "coach" who would work with the team throughout the intervening months to practice. The CLC provides the coach several weeks of curriculum, identifying specific knowledge and skills to hone, and suggesting activities in which students can practice those skills. During the day of the competition, CLC-registered judges evaluate teams on these skills.

The founders of the CLC have stated in the past that their focus was to create an environment in which students engage in "deliberate practice" of

their skills to hone them for application in their own particular contexts (Allen, Jenkins, & Krizanovic, 2018). Deliberate practice occurs when the learner works with a coach who places the learner outside of their comfort zone to constantly try new things just beyond their current abilities to achieve well-defined goals – and then receive timely feedback for performance improvement (Ericsson & Pool, 2016). In many leadership development programs, where skill development is often an explicit or implicit outcome, such opportunities for deliberate practice (where all the above requirements are met) may not occur as frequently as leadership educators may wish.

Since 2015, when one competition took place in the eastern U.S. and involved two teams and 12 participating students, in 2018, four different Competitions took place across the U.S. and involved 43 total teams and approximately 253 students. In 2019, additional growth is expected. Despite such growth, little formal research has been conducted to date on the effects of the CLC in student leadership skill development. Further, given the gap in our understanding of competition as a productive pedagogy for leadership skill development, a critical need exists for empirical study within this environment.

Research Questions. The research described here represents an initial national-scale assessment of the leadership-related developmental outcomes with the CLC environment. Our goal was to determine the degree to which students who participate in the CLC demonstrated sustainable gains in their leadership capacity and to determine if differences emerged in participants' capacities in regards to their gender identity. Specifically, we sought to answer the following research questions:

1. Do participants demonstrate gains in their leadership capacities, measured from an initial pre-test conducted prior to any CLC interactions, through the time of their CLC competition several months later, to a post-test conducted four months after their competition?

2. Do differences exist in gains between participants who identify as a man or a woman throughout the data collection period?

Methods

Population and Sample. All participants within this research study were drawn from the population of post-secondary students in the United States that registered to participate in a Collegiate Leadership Competition event during the 2017-2018 academic year. During that year, five regional competitions were held at various places within the U.S. and included 43 participating institutions. These institutions were relatively diverse in terms of size, control (public or private), and geography. That year, approximately 258 students participated as members of competitive teams hosted by the 43 institutions. Within this study, 135 students consented to participate, representing 52% of the overall population of CLC competitors. Of this group, 64% identified as a woman (n=86). In regards to racial identity, 72% identified as White/Caucasian; 3% as African-American/Black; 4% as Asian-American; and 3% as Latinx; while the remaining 18% identified outside of these groupings or did not identify their racial identity. Of those who identified a class year, approximately 22% identified as a freshman; 19% as a sophomore; 33% as a junior; 24% as a senior; and 1% as a graduate student. Approximately 5% of the sample identified as an international student studying abroad in the United States.

Because our research focused on longitudinal change over many months, we conducted some analyses where it was appropriate to include only participants who had responded within all phases of data collection. Within this subsample, we could include a total of 36 participants: 12 who identified as a man, and 24 who identified as a woman. It is important to note that one student identified as transgender. We could not make claims for this population as falsely reporting such information regarding an underrepresented population may do

more harm than good (Cole, 2009).

Instrumentation. Our research was primarily designed to measure changes in participating students' leadership skill. However, past research has suggested that other aspects of students' leadership capacity, such as their leader self-efficacy and their motivation to lead, co-vary with changes in their skill (Rosch, Ogolsky, & Stephens, 2017). For this reason, we did not limit our investigation simply to skill-based measures. We utilized a 28-item survey instrument similar in concept to Rosch and colleagues (2017) that includes a measure of leadership skill based on transformational leadership concepts (Podsakoff, Mackenzie, Moorman, & Fetter, 1990), a measure of leader self-efficacy first described by Murphy and Ensher (1999), and a measure of motivation to lead popular in organizational studies (Chan & Drasgow, 2001) and in research on university students (Rosch, Collier, & Thompson, 2015).

While the particular scale that we employed has not been utilized in previous research, it included only items that have already undergone psychometric analysis in prior studies. Additional study is underway examining the psychometric validity of the instrument we employed. In our current study, an investigation into intra-scale reliability resulted in relatively positive findings: alpha reliabilities of 0.79 for leadership skill, 0.66 for leader self-efficacy, and 0.68 for motivation to lead. While these scores are generally considered at least marginally acceptable, they do not indicate extremely strong reliability. However, they were calculated by including all participants across all data collection phases (n=352 total survey responses) to maximize the statistical power of the results, which therefore may have slightly weakened the reliability findings.

Data Collection. All data were collected across three separate temporal stages. Students participating in the CLC at all universities were invited to complete an electronic pre-test in early January 2018, approximately 1-2 weeks after registering for the CLC at their institution. Participating students were again invited to complete a post-test on the day of

their Competition, again by completing an electronic survey. Four months after their competition occurred, we then invited participants to complete a final follow-up survey. The leadership scale items were identical across all data collection phases, while the pre-test also included demographic items related to social identity and past campus involvement. While self-report data has often been criticized as lacking validity, several studies have demonstrated its usefulness in assessing the behavioral and attitudinal capacities of participants who self-report responses on survey items (Chan, 2009). At each stage of data collection, participants who we included in this study provided their consent to utilize their responses. In addition, our data collection processes would not have been possible without the support and contributions of staff employed by or volunteering at the Collegiate Leadership Competition, Inc.

Data Analysis. Our research questions were twofold – to examine the change in participants' scores over time to ascertain a sense of trajectory, and to investigate differences that may exist between men and women in their trajectories. To examine score changes over time, we performed two analyses. We limited our first analysis to participants who had completed all three aspects of data collection (n=36) and performed matched sample t-tests investigating statistical differences between their scores from pre-test to post-test, and from pre-test to lagged follow-up test. Given the relatively low numbers of such participants, we also calculated the scores and dispersion statistics of all participants who completed two surveys (n=135) and placed these scores in a series of line graphs by leadership capacity. To investigate if differences exist in scores of leadership capacity by gender identity, we performed independent sample t-tests that included all participants who completed a post-test and identified their gender (n=133).

Results

We display the overall leadership scale scores in Table 1. In general, participants registered higher scores related to their self-reported leadership skills

asserted than their leader self-efficacy and motivation to lead capacities. In addition, scores showed a trend of slight to moderate increases over time. We show this trend graphically in Figure 1.

Table 1. Leadership scale scores and dispersion statistics (n=135).

Leadership Capacity	Pre-test μ	Pre-test SD	Post-test μ	Post-test SD	Follow-up μ	Follow-up SD
Skill	6.08	0.58	6.10	0.54	6.26	0.55
Self-efficacy	5.40	0.76	5.56	0.54	5.82	0.58
Motivation to Lead	5.51	0.50	5.55	0.45	5.71	0.48



Figure 1. Graph of leadership scale scores over time

We also conducted matched sample t-tests to analyze these differences with inferential statistics. Comparing participants' leadership capacities when measured at the beginning of their experiences (i.e., pre-test) to those when measured at their Competitions, significant differences emerged related to growth in their leader self-efficacy ($t(35)=2.21$; $p=.03$). Given the size of our sample, this represents a large effect with respect to Cohen's d (Cohen, 1987). When comparing pre-test scores to those measured months after participants' Competition, we found significant differences related to growth in

participants' leader self-efficacy ($t(34)=3.94$; $p<.001$) and motivation to lead ($t(34)=2.66$; $p=.01$). Both represent very large effects with respect to Cohen's d .

We then examined leadership capacity scores measured at the time of participants' Competition, comparing students who identify as a man with those who identify as a woman. Table 2 shows the mean scores we included in our analysis and their respective dispersion statistics. No significant differences emerged related to leadership skill

defined as someone as student believes is invested in that student's leadership development, might

serve as a powerful force in keeping students "on track" in their consistent development. Our results

Table 2. Leadership self-capacity by gender identity, measured at post-test.

Gender identity	Skill μ	Skill SD	Self-efficacy μ	Self-efficacy SD	Motivation μ	Motivation SD
Man	6.00	.60	5.31	.90	5.74	.84
Woman	6.13	.56	5.44	.66	5.78	.79

Discussion

This study was designed to investigate the effects of students participating in an inter-group competition on changes in their self-reported leadership capacity over time. Our results suggested that students' leader self-efficacy and motivation to lead increased over time, with larger increases seen over longer periods. However, we saw no commensurate increase in self-reported leadership skill measured over time. Past research (Allen, Jenkins, & Krizanovic, 2018) has suggested that a competitive environment with opportunities for deliberate practice possesses the potential for optimizing students' leadership development, which has been supported in the broader field of learning through competitive environments (Campbell, 1999). These results, while initial, seem to indicate support for this claim. Somewhat ironically, however, the statistically significant increases were seen not in areas of students' skill development specifically, but in how students conceptualize the use of their skill: in their leader self-efficacy and motivation to lead.

Our findings, while initial, indicate that students who we tracked over eight months increased their self-reported leadership capacity scores at each stage. This result diverges from similarly-structured research on other leadership programs (Rosch, Ogolsky, & Stephens, 2017), which suggests increases through the end of the programmatic intervention with a steep taper in scores afterward. Additionally, while not being tracked longitudinally, much larger cross-sections of CLC participants report similar trajectories during the times in which their scores

were measured. However, these preliminary results indicate just as strongly that it is not students' self-reported skills that undergo an increase, but their leader self-efficacy and motivation to engage in leadership behaviors which show augmentation.

Implications and Recommendations. These findings potentially possess several implications, both for leadership educators and scholars who critically examine their work. Within the practical field of leadership education, prior research (Jenkins, 2012) indicates that less than one in eight educators use any types of games with consistency in their classroom, and where presumably an even smaller percentage incorporate competition within the context of these games. These initial results show steady but inexorable growth over time, and in the context of challenging settings may be an indicator that working in teams over time to overcome such challenges may be a productive avenue for leader development. Moreover, our results suggest that gender differences related to competitive game-playing outcomes might be exaggerated, at least in the context of how the competitions are administered with the CLC environment.

In addition, the size of our participant sample made it impossible to investigate other variables within the CLC that might create moderating or mediating effects. For example, the context of the coaching experience in CLC teams might serve as a potential mediator for our findings. Each team was required to conduct practices led by a coach throughout their months of preparation. Recent research (Rosch & Stephens, 2017) suggests that a "leadership mentor,"

suggest that leadership educators might be well-served in considering ways that mentors can play a formal role in how their curricula unfold over time.

This study consists of an initial effort to assess the impact of participation in the Collegiate Leadership Competition throughout one year of Competitions. We consider our results preliminary, as the number of students who fully participated in our research was small, and even the number who partially participated consisted of only slightly more than half of the overall population. Much future research on the role of competitive inter-team environments is necessary to more fully understand the role of such environments on students' leadership learning and development. A larger sample size would allow for more directed and powerful statistical analysis, while also providing more control over potentially confounding variables (such as other campus-related leadership development involvements, for example). Leadership scholars should consider investigating the gaps that exist in this particular study, and ascertain if similar results emerge in subsequent trials. Additionally, scholars should consider examining the role of competition in other non-CLC environments, in areas as diverse as athletics, academic competitions, and even competitive experiences within leadership courses or retreats. Given the need to understand more about how young adults develop their leadership capacity, such study would be well warranted.

Conclusion. Inter-group competition seems to serve, at best, as a peripheral tool in the arsenal of leadership educators in supporting student development despite the strong connections in research between competition and motivation in learning. One example of where competition is explicit in its leadership development curriculum, however, is the College Leadership Competition. We designed this study as a preliminary investigation into the CLC's initiatives and their connections to student leadership development over time, even months after student participation had ended. Our results, while initial, suggest relatively clear benefits in students participating, even across students'

gender identities. Still, future efforts are necessary to understand the broader effects of competition on leadership development better.

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