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RESEARCH

The Impact of Leadership Program Formatting on Perceived Development Within Pharmacy Cohorts

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Objective. To assess the impact of variable leadership development program formats on perceived participant growth.

Methods. In 2020, the Phi Lambda Sigma national office began offering national Leader Academies to members, while University of South Florida Health Taneja College of Pharmacy simultaneously offered a Leader Academy program to its Phi Lambda Sigma students. Both programs used virtual leadership development tools from GiANT Worldwide, but differed in meeting frequency, content focus, and participant diversity. A 17-question pre- and postsurvey was developed from the Emotional Intelligence Leadership Inventory. Descriptive and inferential statistics were used to compare the cohorts.

Results. Twenty-two respondents in the national cohort (66.7% response rate) and 15 in the single-institution cohort (100% response rate) were included. There was more diversity in age, ethnicity, and previous education in the national cohort. Significant improvements in perceived growth were noted in almost all areas. The only decrease noted was the national cohort response to "I strive to improve myself." The overall change in mean response values was generally higher for the single-institution cohort. Qualitative data supported these results and showed more notable references to emotional intelligence in the national cohorts (∼50%) as compared to the single-institution cohort (<25%).

Conclusion. Study results suggest that participation in a longitudinal leadership development program, regardless of cohort format, leads to perceived participant improvement in three categories. However, perceived benefit within each of these categories may vary depending on the cohort. Future studies are needed to further evaluate specific leadership arenas and validate the leadership assessment tool.

Keywords: leadership development, emotional intelligence, program formatting, perceptions, pharmacy

INTRODUCTION

As the pharmacy profession advances, so does the need for pharmacy leaders.[1] The majority of colleges of pharmacy within the United States report purposeful integration of leadership development within their curricula, yet the pipeline remains insufficient.[2,3] Developing leaders that can guide the profession and their teams forward is paramount to the future success of the profession.[4] Effective leadership is necessary to help organizations meet goals, streamline their vision, and provide motivation and support to team members.[5] In an effort to emphasize the importance of leadership development, accrediting pharmacy bodies purposefully included such components within pharmacy education standards. The Center for the Advancement of Pharmacy Education (CAPE) Outcomes 2013 and CAPE's designated Entrustable Professional

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Activities have included components of leadership in the domains Personal and Professional Development and Practice Manager, respectively, as core abilities of pharmacy graduates.[6,7] As a result, Doctor of Pharmacy (PharmD) programs have been encouraged to more purposefully integrate leadership development within their respective curriculua.[8] However, there is a lack of consistency in the definition, competencies, and training used to meet this goal.[9]

Other industries are facing similar crises and are eager to find creative solutions.[10] Many businesses, including institutions of higher learning, struggle to find appropriate development to address the leadership void.[11,12] Efforts have been made to share design and implementation recommendations for leadership development programs in an effort to further this cause.[13-17] However, many of the programs developed for medical professionals are streamlined for specific management positions or certain levels of experience.[13,15] Literature reviews suggest very few studies measure the impact that the format of the leadership development program has on perceived participant development, regardless of position or experience.[9]

Long-held beliefs that a leader's competence and expertise are the most important indicators of their success have since been augmented with the ability to build relationships with those they are leading. These relationships are built through self-awareness and emotional intelligence in interactions with others.[18,19] In order to motivate current and future pharmacy leaders to accept the obligation of leadership to the profession, they must have access to training programs that promote a leadership approach focusing on a combination of competence and social awareness.

In 2015, Phi Lambda Sigma, the Pharmacy Leadership Society, implemented the Leader Academy programs for executive committee members and alumni volunteers. The GiANT Worldwide leadership development tools (GiANT Worldwide, LLC) best fit the needs and goals for the organization due to its non–industry-specific tools with real-time application.[20] These tools were designed to address areas of self-awareness, team dynamics, and emotional intelligence. A national initiative was undertaken in 2020 when the Phi Lambda Sigma national office began to offer national Leader Academies for Phi Lambda Sigma student and alumni members. Coincidentally, faculty at the University of South Florida Health Taneja College of Pharmacy piloted an internal leadership development program at this same time that used the same GiANT content in a different format. This study aims to evaluate the effectiveness of this leader development program and determine whether the format of leadership development impacts perceived participant growth.

METHODS

In 2020, Phi Lambda Sigma offered its first internally run national Leader Academies to a total of four cohorts: two student cohorts, one cohort for the organization's Regional Liaisons, and one cohort for national officers and committee members. These cohorts used GiANT Worldwide leadership development tools and met virtually biweekly for one-hour periods over the course of 10 months to review one to two leadership tools per one-hour session. Each tool consisted of a leadership concept (ie, Go to the Source) with an accompanying visual depiction that was explained by the program facilitator, then opened for discussion and thoughts from the participant cohort for real-time application. Although a predetermined curriculum of tools was created, each facilitator did have the option to move tools around if all tools were covered and no more than two tools were reviewed in a session.

Separately, faculty members at University of South Florida Health Taneja College of Pharmacy who had previously participated in the GiANT Worldwide Leader Academy had begun to offer Phi Lambda Sigma students optional enrollment into the inaugural Leader Academy starting in 2019. The eight-month program was offered once monthly and reviewed three to four leadership tools per one-hour session. As the faculty were planning the 2020-2021 offering with the second cohort in a virtual format due to COVID-19, a national Phi Lambda Sigma officer at the college approached the coordinating faculty about the idea of comparing perceived leadership development between the national cohorts and a cohort from this single institution.

A 17-item pre- and postsurvey was adapted from the Emotionally Intelligent Leadership Inventory (EILI) used by Haight and colleagues.[21] Questions were grouped into three categories, namely leadership, self-awareness, and emotional intelligence, and then mapped to the CAPE 2013 Outcomes for pharmacy application (Table 1).[6] All items were also mapped to Entrustable Professional Activities Domain 2 (Interprofessional Team Member) and Domain 6 (Self-developer).[7] Participants were asked to use a five-point Likert scale from 1=strongly disagree to 5=strongly agree to respond to each statement. The presurvey was distributed prior to the first leadership meeting via Qualtrics (Qualtrics International Inc) and contained demographic information in addition to the EILI questions. Participants completed a postsurvey at the conclusion of the Leader Academy with the same questions as in the presurvey but with the addition of text boxes under each section where respondents could choose to provide additional comments. The postsurvey included a qualitative question to assess whether participants felt their initial

Table 1. Adapted Emotionally Intelligent Leadership Inventory With Mapping to GiANT Tools Used and CAPE 2013 Outcomes

		CAPE 2013 Outcomes[a]						
Statement	**GiANT tools**	**3.1**	**3.4**	**3.5**	**3.6**	**4.1**	**4.2**	**4.4**
Leadership category								
I am able to identify my leadership strengths.	5 Voices					X	X	X
I am able to capitalize on my leadership strengths.	5 Voices, Know Yourself to Lead Yourself	X	X	X	X	X	X	X
I am able to identify my leadership weaknesses.	5 Voices	X	X	X	X	X	X	X
I am able to overcome my leadership weaknesses.	5 Voices, Know Yourself to Lead Yourself	X	X	X	X	X	X	X
I strive to improve myself.	Know Yourself to Lead Yourself	X	X	X	X	X	X	X
I have the skills to enhance the abilities of my teammates.	Support Challenge Matrix, The Liberator's Intent, Building the Bridge, Communication Code	X	X	X	X	X	X	X
Self-awareness category								
I am able to effectively work with others towards a shared goal.	Support Challenge Matrix, Effective Delegation, Push/Pull Behaviors, The Core	X	X	X	X	X	X	X
I am able to establish a positive tone on the teams that I work with.	Communication Code, Go to the Source, Pit of Despair	X	X	X	X	X	X	X
I am able to monitor how my emotions affect my interaction with others.	The Responsive Leader, Leader Mirror, Self-Preservation, The Core	X	X	X	X	X	X	X
I am able to purposefully align my actions with my values.	X-Factor, Know Yourself to Lead Yourself, Who Says You Can't	X	X	X	X	X	X	X
I am able to effectively reflect on team experiences	Leader Mirror	X	X	X	X	X	X	X
Emotional intelligence category								
I am able to appropriately respond to a difficult situation effectively.	Communication Code, The Responsive Leader, The Core, Understand Stress	X	X	X	X	X	X	X
I am able to tailor my leadership style to a specific situation and/or team.	5 Voices, Liberator's Intent, 5 Circles of Influence, The Core	X	X	X	X	X	X	X
I am able to work effectively with others who possess different leadership strengths than I do.	5 Voices, Provisional Plan Promise	X	X	X	X	X	X	X
I am able to celebrate different perspectives on my team.	5 Voices		X	X	X	X	X	X
I am able to think about how my decisions are received by my team.	5 Voices, Build the Bridge, Pass the Baton, The Core	X	X	X	X	X	X	X
I am able to listen carefully to the verbal and nonverbal cues of the group.	Boomerang Effect	X	X	X	X	X	X	X

Abbreviations: CAPE=Center for the Advancement of Pharmacy Education.

[a] CAPE 2013 Outcomes: 3.1 Problem Solving; 3.4 Interprofessional Communication; 3.5 Cultural Sensitivity; 3.6 Communication; 4.1 Self-awareness; 4.2 Leadership; 4.4 Professionalism.

responses were accurate and whether they felt their responses had changed since the start of the program. Responses were based on recall, as participants did not have access to their presurvey responses in an effort to allow for more objective reflection. This study was approved as exempt by the University of Mississippi Institutional Review Board.

Data were analyzed for all participants who completed both the pre- and postsurvey to ensure that perceived changes could be tracked appropriately. In cases where participants submitted more than one response, only data from the initial submission were included. Participants were grouped by cohort participation (national or single institution).

Survey responses were analyzed through both descriptive and inferential statistics. Average mean and median scores for each cohort were used to assess overall comparisons for pre- and postsurvey reporting. A two-sided *t* test for paired sample means was used to determine whether changes were statistically significant ($p<.05$). All data were analyzed using Microsoft Excel 2017.

Quantitative analysis was supported by qualitative examination to inform context for participant responses. A thematic analysis was conducted on all open-response prompt commentaries, and participant responses were coded for allusions to leadership, self-awareness, and emotional intelligence, where applicable. Many participant statements encompassed expressions of more than one of these themes simultaneously; therefore, each theme identified in a statement was coded separately.

RESULTS

The primary analysis included 22 respondents in the national cohort (66.7%) and 15 respondents in the single-institution cohort (100%). Demographic data between the national and single-institution cohorts were comparable overall; however, more diversity in participants' age, ethnicity, and previous education and experience was noted in the national cohort (Table 2).

Table 2. Demographics of Leader Academy Participants

	National cohort, % (N=22)	University of South Florida cohort, % (N=15)
Age		
18-24 years	54.5	40
25-34 years	36.4	60
35-44 years	9.1	–
Gender		
Female	77	80
Male	23	20
Ethnicity		
Asian	13.6	20
Black/African American	4.5	6.7
Hispanic/Latino	4.5	20
Other: biracial	4.5	–
Other: Native Hawaiian	4.5	–
Other: North African/Arab	4.5	–
White/Caucasian	63.6	53.3
Highest degree		
Bachelor's degree	63.6	100
MS/MBA	4.5	–
Other: associate	4.5	–
Other: high school	4.5	–
Other: not specified	4.5	–
Other: some college	4.5	–
PharmD	13.6	–
Pharmacy experience		
Pharmacist (1-5 years)	4.5	–
Pharmacist (11-20 years)	4.5	–
Student, second year	–	6.7
Student, third year	54.5	40
Student, fourth year	36.4	53.3

Abbreviations: MS=Master of Science; MBA=Master of Business Administration; PharmD=Doctor of Pharmacy.

Responses analyzed showed significant improvement in almost all areas surveyed (Table 3). The overall change in the mean response rate was generally higher for the single-institution cohort, although the national cohort did have some areas with higher reported changes. The only decrease noted was the national cohort response to the statement, "I strive to improve myself." As a result, this statement had the largest variability in overall differences in changes when comparing the national and single-institution cohorts. Areas that did not reach significance appeared to be already highly rated at a mean presurvey response of four or more on the five-point Likert scale, and, therefore, there was not much room for improvement on the postsurvey. Exceptions to this observation were seen once in each cohort, as depicted in Table 3, in which case an increased postsurvey response was still noted.

The national cohort participants reported the largest perceived improvement in their response to, "I am able to tailor my leadership style to a specific situation and/or team" (emotional intelligence) followed by, "I am able to overcome my leadership weaknesses" (leadership). The single-institution cohort reported improved agreement with all statements, with the most improvement for the statements, "I am able to overcome my leadership weaknesses"

Table 3. Change in Adapted Emotionally Intelligent Leadership Inventory Responses[a]

Reflection statement	Presurvey response, mean (median)	Postsurvey response, mean (median)	*p* value
Leadership category			
I am able to identify my leadership strengths.	N: 3.9 (4)	N: 4.5 (5)	N: .02[b]
	S: 4 (4)	S: 4.9 (5)	S: <.01[b]
I am able to capitalize on my leadership strengths.	N: 3.5 (3.5)	N: 4.3 (4.5)	N: <.01[b]
	S: 3.7 (4)	S: 4.6 (5)	S: <.01[b]
I am able to identify my leadership weaknesses.	N: 3.5 (4)	N: 4.41 (5)	N: <.01[b]
	S: 3.6 (4)	S: 4.6 (5)	S: <.01[b]
I am able to overcome my leadership weaknesses.	N: 3.1 (3)	N: 4.1 (4)	N: <.01[b]
	S: 3 (3)	S: 4.1 (4)	S: <.01[b]
I strive to improve myself.	N: 4.8 (5)	N: 4.6 (5)	N: .38
	S: 4.7 (5)	S: 5 (5)	S: .08
I have the skills to enhance the abilities of my teammates.	N: 3.9 (4)	N: 4.6 (5)	N: .05[b]
	S: 4 (4)	S: 4.8 (5)	S: <.01[b]
Self-awareness category			
I am able to effectively work with others towards a shared goal.	N: 4.4 (4)	N: 4.5 (5)	N: .85
	S: 4.5 (5)	S: 4.9 (5)	S: .06
I am able to establish a positive tone on the teams that I work with.	N: 4.3 (4)	N: 4.3 (4)	N: .85
	S: 4.6 (5)	S: 4.9 (5)	S: .04[b]
I am able to monitor how my emotions affect my interactions with others.	N: 3.6 (4)	N: 4.3 (4)	N: .04[b]
	S: 3.9 (5)	S: 4.7 (5)	S: .01[b]
I am able to purposefully align my actions with my values.	N: 3.9 (4)	N: 4.4 (4.5)	N: .09
	S: 4.1 (4)	S: 4.9 (5)	S: <.01[b]
I am able to effectively reflect on team experiences.	N: 3.6 (4)	N: 4.5 (5)	N: <.01[b]
	S: 4.3 (4)	S: 4.9 (5)	S: <.01[b]
Emotional intelligence category			
I am able to appropriately respond to a difficult situation effectively.	N: 3.6 (4)	N: 4.3 (4)	N: <.01[b]
	S: 3.9 (4)	S: 4.3 (4)	S: .05
I am able to tailor my leadership style to a specific situation and/or team.	N: 3.6 (3.5)	N: 4.5 (5)	N: <.01[b]
	S: 3.7 (4)	S: 4.5 (5)	S: <.01[b]
I am able to work effectively with others who possess different leadership strengths than I do.	N: 3.9 (4)	N: 4.6 (5)	N: <.01[b]
	S: 4.2 (4)	S: 4.7 (5)	S: <.01[b]
I am able to celebrate different perspectives on my team.	N: 4.3 (4)	N: 4.7 (5)	N: .04[b]
	S: 4.3 (4)	S: 4.8 (5)	S: <.01[b]
I am able to think about how my decisions are received by my team.	N: 3.9 (4)	N: 4.6 (5)	N: <.01[b]
	S: 4.1 (4)	S: 4.7 (5)	S: <.01[b]
I am able to listen carefully to the verbal and nonverbal cues of the group.	N: 4.1 (4)	N: 4.6 (5)	N: .01[b]
	S: 4.3 (4)	S: 4.6 (5)	S: .11

Abbreviations: N=national cohort; S=single-institution cohort.

[a] If participants responded to the survey more than once, only their first response was included.

[b] Two-sided *t* test for paired sample means was used to determine significance, defined as $p<.05$.

(leadership) and "I am able to capitalize on my leadership strengths" (leadership). The first statement aligns with top responses from the national cohort.

Qualitative analysis generally supported the outcomes observed in quantitative analysis. Respondents from all cohorts consistently acknowledged achievement of leadership development, growth in self-awareness, and development of emotional intelligence, with many respondents describing multiple outcomes simultaneously. However, there was a marked variance noted in self-acknowledgement

of developed emotional intelligence between the national and single-institution cohorts, with respondents from the national cohort alluding to this specific theme in greater length and frequency in comparison with respondents from the single-institution cohort. Approximately half of the national cohort respondents alluded to growth in this category, while less than a quarter of respondents addressed this in the qualitative commentary from the single-institution cohort.

DISCUSSION

Participants reported perceived improvement in the three surveyed areas, namely, leadership, self-awareness, and emotional intelligence, regardless of cohort participation. This suggests that the format and participant makeup of a longitudinal leadership development program does not impact perceived participant benefit, as long as the same core tools and concepts are used. Both cohorts reported the largest perceived growth in the leadership category responses and the least in the self-awareness category. This is not surprising, as a self-aware individual would be expected to seek leadership development opportunities, and the focus of the program itself was leadership.

The leadership category reported significant improvements in all statements except one. Neither cohort reached significance in response to, "I strive to improve myself," which may seem counterintuitive to this leadership program. It is possible that both the more separate, purposeful progression from self to others and the time spent on individual development within the national cohort led to more reflective self-reflection and perhaps a more honest response from the national postsurvey responses. Alternatively, the single-institution cohort may have recognized the value of this development program through meaningful engagement with their peers and faculty and, as a result, reported an improvement in this area.

The most variability in significance was observed in the self-awareness category. Only two of the five statements reached significance in both cohorts, two reported significance in one cohort but not the other, and one had no significance. The variability in responses without clear trends for either cohort makes it difficult to decipher the impact of the program format on the outcomes reported. However, this category had generally high response rates to start with, so even when improvement was reported, it was not significant.

Finally, emotional intelligence responses reported overall improvement, with significance met for both cohorts in four of the six statements assessed. The other two statements reported improvement but no significance for the single-institution cohort only. This may be due to the small cohort size for the statement on difficult situations and a high starting point for the verbal and nonverbal cues statement. It is also possible that the more frequent biweekly meetings with more focused time on fewer tools in the national cohort may have resulted in more in-depth application and retention opportunities. Regardless, overall reported improvement in all categories indicates that participants perceived value from their leadership development within this category.

The overall change in mean response values were generally higher for the single-institution cohort. This may in part be due to lower means in the presurvey responses, leading to a larger opportunity for growth. The single-institution cohort included younger participants and less diversity in terms of experience than the national cohort. The national cohort included practicing pharmacists with varying levels of experience. It is likely that these participants, including the older students and those with national leadership positions, may have completed previous self-development opportunities, which led to higher presurvey responses. Since the single-institution cohort included second-year students, it may very well be that this was the first professional development programming they had undergone, and, therefore, they had the most improvement opportunity.

Formatting differences may have caused the single-institution cohort to focus more on leadership and procedural application as opposed to more reflective discussion and deeper conversations in the national cohort due to time constraints. As a result, the largest areas of perceived improvement for this single-institution cohort were reported in the leadership category rather than the self-awareness or emotional intelligence categories. The data suggest that the cohort still obtained perceived growth in all areas, so this may simply imply that the time provided for reflective discussion may impact the level of application the participants receive.

Additional targeted research would be necessary to fully elucidate the reasons why national cohort respondents felt more inclined to provide commentary on emotional intelligence, although potential contributing factors may be speculated. First, as noted above, the formatting differences likely impacted participant experiences. It is possible that the more regular interactions with other participants may have contributed to a greater awareness of others. Second, the national cohort members all met for the first time during the Leader Academy, whereas participants in the single-institution cohort were already familiar with one another prior to the program. This familiarity may have led to a decreased emphasis on other-awareness. Finally, national cohorts included students, faculty, and practitioners with a greater age range and variety of

personal experiences than was seen among participants in the single-institution cohorts. Exposure to a more demographically diverse group of participants may have enhanced emphasis on other-awareness within the national cohorts compared with that in the single-institution cohort.

Limitations of this study include small cohort sizes, variability in cohort demographics, use of an assessment tool that has not been validated, and reliance on perception-based data. While it can be challenging to generalize the outcomes from small sample sizes, the cohorts were purposefully small to encourage and ensure opportunity to build rapport with group members and facilitate discussions where every person is truly engaged. Although not validated, the assessment tool created for this study was founded on core concepts from the GiANT Worldwide leadership development tools used in both cohorts, CAPE 2013 Outcomes, most notably Domains 3 and 4, and Entrustable Professional Activities.[6,7] Therefore, it is felt that the data are based on appropriate leadership guidance and can still provide useful insights to areas that are difficult to quantify. This leads into the final limitation of perception-based data. It is challenging to assess the true development of an individual, and knowledge assessment may not provide insight to the skill set and reflective components leadership requires. Self-reflection and reported perceptions provide testament to not only individual growth but also the personal value of completing such a program if the respondent is honest in their reporting.

The results from this study support previous literature that suggest effectiveness of virtual leadership development programming opportunities.[17] The perceived growth reported by these participants in both cohorts also aligns with previous publications on the documented efficacy of leadership development programs.[14] However, this study adds additional insight to leadership development through its direct comparison of participant-reported growth in differing program formats and cohorts.

There are several recommendations for other institutions that may offer such leadership programming. The frequency and duration of meetings should align with the intent of the program. Those who desire more reflective application may benefit from more frequent or longer meeting times. Maintaining small cohorts (less than 15) encourages all members to engage and build connections for trust throughout the process. All participants must also be willing to attend the majority of sessions to truly benefit. Finally, an important consideration is the potential cost associated with the selected leadership development programming curriculum. The benefits of using a company such as GiANT Worldwide are the curriculum standardization, timely updates on concepts, and access to tools created for immediate application.

CONCLUSION

Overall, data from this study suggest that use of a standardized curriculum for a longitudinal leadership development program, regardless of cohort format, does provide perceived participant improvement in the categories of leadership, self-awareness, and emotional intelligence. Future studies are needed to further evaluate specific areas of leadership, qualitative data reporting, and validation of the perception-based leadership assessment tool.

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