THE LEADERSHIP ACADEMY: EVALUATION OF THE EFFECTIVENESS OF AN ADOLESCENT LEADERSHIP DEVELOPMENT PROGRAMME

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ABSTRACT

Past research indicates that high school coaches believe poor leadership skills is one of the greatest problems they face when working with their athletes. Conversely, former high school athletes have expressed interest in the opportunity to have their leadership skills developed through programming while in high school. To address this need, professionals who work with high school athletes have made a strong push to create and implement leadership development programmes in recent years. The current study adds to this growing body of literature surrounding leadership programmes with high school student-athletes through providing empirical, outcome data to support the effectiveness of a leadership development programme at high school level. Specifically, the current study collected data on self-reported general self-efficacy and peer sport leadership behaviour to evaluate a high school leadership programme – the Leadership Academy (*N* = 95). The Leadership Academy is in its third year of operation at a Midwest high school in the U.S. and consists of three tiers: (1) Beginning Leadership Academy, (2) Emerging Leadership Academy and (3) Advanced Leadership Academy. Within-group data analysis revealed a significant difference on both dependent variables (i.e., peer sport leadership, general self-efficacy) from pre-test to post-test for all three tiers of the Leadership Academy. Implications for professionals wanting to conduct their own leadership development programme with high school athletes and suggestions for future research are discussed.

Keywords: sport, high school, general self-efficacy, peer leadership, intervention

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INTRODUCTION

High school coaches have cited poor leadership skills as one of the biggest problems they face in working with their athletes (Gould et al., 2006). Interestingly, former high school sport captains have expressed that there was a lack of formal leadership training provided to them once they were thrust into leadership positions on their teams (Voelker et al., 2011). Over half of these same sport captains indicated that they believed formal leadership education programmes (e.g., clinics) for athletes would be a good idea

(Voelker et al., 2011). Providing leadership training to athletes in this age group may be beneficial as self-reported leadership behaviour has been positively associated with peer acceptance, friendship quality and perceived sport competence for adolescent athletes (Moran & Weiss, 2006). Given the interest in leadership development among coaches and athletes as well as the possible benefits of formal leadership training, professionals involved in sport have responded by implementing leadership development programmes at the high school level (e.g., Blanton et al., 2014; Gould & Voelker 2010; Monda et al., 2016). Past research with high school leadership skills and leadership development programmes has provided valuable contributions to leadership literature, but there have been some limitations as well.

High School Student-Athlete Leadership Development Programmes

One model used for leadership development programmes with high school athletes has been to use one-day leadership clinics (Gould & Voelker, 2010; Monda et al., 2016). Monda et al. (2016) wrote of the Student-Athlete Leadership Academy (SALA), a day-long leadership seminar for high school aged student-athletes that has taken place for a decade. As can be seen by the programme's longevity, it is respected within its area (Monda et al., 2016). Additionally, the programme appears to be valued by its participants as indicated by their feedback on their satisfaction with the SALA clinic (Monda et al., 2016). One area where this programme excels is in having its presenters engage attendees through diverse pedagogical strategies (e.g., worksheets, activities, small group discussions). While this programme has been beneficial to its attendees, one drawback is that experts are brought in to present on their area of expertise, which can cause programme content to vary from year to year (Monda et al., 2016).

Gould and Voelker (2010) described their experiences with the Captain Leadership Training Programme (CLTP). The CLTP consisted of one-day training clinics that were held 4-8 times throughout the academic year, which also provided a team captain's guide for athletes to complete on their own in order to cultivate their leadership abilities beyond the day-long clinics. One important lesson Gould and Voelker (2010) noted that they have learned from CLTP is the importance of transforming clinic presenters from lecturers to facilitators. In this role, presenters do not simply provide material, but also facilitate participants' collaboration with their peers through discussions and activities. Similar to SALA, one drawback to CLTP is that the one-day model does not provide continual development of high school student-athletes' leadership abilities.

The second model found in the literature for high school leadership development programmes is a lengthier (i.e., one academic year) programme housed within a high school, wherein all participating athletes are from the same high school (Blanton et al., 2014). Blanton et al. (2014) reflected on their experiences running a leadership development programme for two years at a local high school (LHS). The authors noted that benefits they saw in the year-long programme over the one-day model were that it, "allows for a consistent reinforcement of skills, a strong, trusting relationship to develop between facilitators and participants, and the organic experiential learning fosters more autonomy than a traditional lecture-based clinic," (Blanton et al., 2014, p. 11). The authors also noted lessons they learned in their first year at LHS, such as logistical obstacles (e.g., difficulties finding a time to meet), causing member retention to fall throughout the

course of the year. In their second year, the authors (Blanton et al., 2014) addressed these logistical concerns and were able to create a leadership development programme with greater attendance. The programme at LHS provided valuable insights into running a lengthier leadership development programme within a high school, but unfortunately, did not provide data to measure the impact the programme had on its participants. Adding empirical outcome data to high school leadership development programmes can help scholars identify what leadership programmes are effective and what programmes may need to be modified, so that effective programmes can be replicated in the future.

Peer Leadership in Sport

Athletes are integral leaders to sport teams just as coaches are (Price & Weiss, 2013). Not every athlete may feel that they possess the skills to be an effective leader, but evidence has demonstrated that leadership skills can be developed through formalized programmes (Abrell et al., 2011). Therefore, we sought to investigate the Leadership Academy's effectiveness in enhancing student-athletes' ability to be peer leaders, with the belief that leadership skills can be cultivated in any adolescent student-athlete.

Improving leadership skills in adolescent athletes may benefit their sport experience, their team and their life beyond sport. Leadership ability in high school athletes has been positively associated with behavioural conduct, intrinsic motivation, peer acceptance, friendship quality, instrumentality and expressiveness (Moran & Weiss, 2006; Price & Weiss, 2011). Additionally, past literature has indicated that leadership in high school age athletes is associated with social cohesion, task cohesion, effort and collective efficacy in athletic teams (Price & Weiss, 2013). Finally, the study and practice of leadership skills may benefit these young athletes outside of sport, as knowledge of leadership skills is important to career pursuits later in life (Riggio, 2015). Due to all the benefits that the peer leadership skill may have for an athlete and those around them, we included peer leadership as a variable to measure in the current study.

General Self-Efficacy

Confidence has been considered to be a variable that is necessary to leadership ability (Price & Weiss, 2011; Wisner, 2011). Therefore, the current study included an examination of self-efficacy, which can be conceptualized as the confidence one has that s/he can execute the actions necessary to achieve a desired outcome in a specific situation (Bandura, 1982). While self-efficacy has traditionally been measured as a task-specific construct, more general notions of self-efficacy (i.e., general self-efficacy) have become a focus in research in order to assess self-efficacy across a broad array of tasks (Chen et al., 2011). Lucke and Furtner (2015) found that after a 10-week self-leadership intervention, soldiers' general self-efficacy significantly increased. This finding provides hope that leadership training may impact students' general self-efficacy such that they may feel more confident across a variety of contexts, and thus, may become more confident in transferring the leadership skills they learn through leadership programmes to other areas of their lives outside of athletics (i.e., life skills; Ahlgren-Bedics & Monda, 2009). Additionally, Wisner (2011) found that role-breadth self-efficacy (a general measure of self-efficacy across a broad array of tasks similar to general self-efficacy) in college students was predictive of effective leadership. Wisner (2011) proposed that confident leaders inspire others to share in their vision, due to being perceived as capable

and trustworthy (Hollenbeck & Hall, 2004). Student leaders' high self-efficacy may lead to interactions with others that result in an increase of their followers' self-efficacy, which then leads to an overall elevation of the group's self-efficacy (Wisner, 2011). The prerequisite of confidence for leadership ability, general self-efficacy's potential to raise athletes' team (i.e., group) self-efficacy, and its generalizability to tasks outside of athletics led us to also include general self-efficacy as a variable to measure in the current study.

Current Study

There is a need for formal leadership training for high school student-athletes (Gould et al., 2006; Voelker et al., 2011) and, equally important, is the need for evaluative data to analyse their effectiveness. Evaluating the effectiveness of high school leadership development programmes could lead to identifying effective leadership development programmes for this age group. Once identified, professionals can then replicate effective programmes in the future so that student-athletes may reap the greatest benefits from these programmes. To the best of our knowledge, the current study seeks to be the first study to provide quantitative data measuring the effectiveness of a high school leadership development programme in promoting peer leadership ability and general self-efficacy for student-athletes through the use of pre-test and post-test data.

The aim of the current study was to assess how students' peer leadership in sport and general self-efficacy were impacted by involvement in a multi-tier leadership development programme: the Leadership Academy. The Leadership Academy is divided into three tiers, the Beginning, Emerging and Advanced Leadership Academies. Our first hypothesis was that there would be a significant difference between pre-test and post-test peer leadership in sport for members of the Beginning, Emerging and Advanced Leadership Academies. Our second hypothesis was that there would be a significant difference between pre-test and post-test general self-efficacy for members of the Beginning, Emerging and Advanced Leadership Academies.

METHOD

Participants

Participants for the current study were 95 high school student-athletes with ages ranging from 14–18 years old (M = 15.88; SD = 1.13) from a Midwest U.S. high school. There were 50 student-athletes who identified as female (52.63%) and 45 identified as male (47.37%). Additionally, the Leadership Academy student make-up was 82.10% White (n = 78), 6.32% Hispanic or Latino (n = 6), 5.26% Multiracial (n = 5), 3.16% Black (n = 3), 2.11% Asian (n = 2) and 1 student-athlete (1.05%) identified their race as Other. Sport competition level ranged across four levels: varsity (n = 67), junior varsity (n = 8), freshman (n = 4) and multiple (n = 16), for those athletes who indicated playing at different competition levels for different sports. For demographic data of each tier of the Leadership Academy, see Table 1.

The group distributions were 38 participants in the Beginning Leadership Academy, 48 participants in the Emerging Leadership Academy and 15 participants in the Advanced

Leadership Academy, with 6 of these 101 participants being removed from the data analysis process for reasons we will describe later. The number of participants needed for each group in order to achieve sufficient power (1- β = 0.80, d = 0.50, α = 0.05, two-tailed), was calculated using G*Power and the sample size needed for each group was determined to be 34. The Advanced Leadership Academy was intentionally left at 15 participants since there was only one group and significant interpersonal interaction is needed within the group in order for it to be successful.

Table 1: Demographic data for each tier of the Leadership Academy

		Academy		
		Beginning	Emerging	Advanced
Grade				
	Freshman	28	0	0
	Sophomore	8	24	0
	Junior	0	20	5
	Senior	0	0	10
Race				
	White	24	41	13
	Hispanic or Latino	5	0	1
	Black	2	0	1
	Asian	2	0	0
	Multiracial	2	3	0
	Other	1	0	0
Gender				
	Male	16	22	7
	Female	20	22	8
Sport				
	B. Basketball	3	2	0
	B. Golf	1	0	1
	B. Soccer	1	3	0
	B. Swimming and Diving	2	4	0
	B. Track and Field	0	1	1
	Baseball	0	2	2
	Cheer	0	3	0
	Dance	3	2	0
	Football	1	1	0
	G. Basketball	1	2	0
	G. Golf	1	1	0
	G. Soccer	1	1	0
	G. Swimming and Diving	2	2	0
	G. Tennis	0	1	3
	G. Track and Field	0	1	2
	Gymnastics	2	0	0
	Softball	0	0	2
	Volleyball	1	3	0

Multi-sport	17	15	4
Total	36	44	15

Note. The number frequency provided for each demographic category is representative of participants whose data could be analysed due to completing both pre-test and post-test measures

Procedure

At the time of this study, the Leadership Academy was in its third year of operation. Initially implemented as a pilot study with one 6-week curriculum for student-athletes of all ages, it has now evolved into the Beginning, Emerging and Advanced Leadership Academies. Each group meets once a week during students' study hall period, with each group lasting for 6 weeks. The Beginning Leadership Academy is intended for athletes who are young, but who coaches see as future key leaders to their team (e.g., freshmen and sophomores who could develop into team leaders). The Emerging Leadership Academy is intended for student-athletes who are neither the young, new players (e.g., freshmen) nor the experienced veterans (e.g., senior captains) of each team. This group is generally sophomore and junior athletes. Finally, the Advanced Leadership Academy is intended for team captains and key leaders of each team (usually juniors and seniors, occasionally very talented freshmen and sophomores).

The current study utilized purposive sampling in order to obtain participants. Coaches, athletic department staff and athletes were informed of the Leadership Academy, what the intention of each tier was and asked for their recommendations of individuals who would fit well within each tier. After hearing recommendations, potential participants were informed of the tier they had been recommended for, its purpose, and asked if they would like to participate in the programme as well as the research study. Overall, 102 student-athletes were asked if they would like to participate in the Leadership Academy and only one student explicitly chose not to participate in the programme.

The Beginning and Emerging Leadership Academies were psycho-educational in nature, with the Beginning Leadership Academy having slightly more psycho-education than the Emerging Leadership Academy, since its members were younger (e.g., freshmen and sophomores). In order to determine the content of these groups, we conducted an informal needs assessment through asking coaches what leadership skills they would like to see developed in their athletes. We then took the coaches' feedback and used it to create curricula that contained content commonly included in leadership development programmes (e.g., communication, team cohesion, motivation; Blanton et al., 2014; Gould & Voelker, 2010; Monda et al., 2016) that we felt could address their needs (see Tables 2 and 3 for curricula). Analogous with other researchers (i.e., Blanton et al., 2014; Gould & Voelker, 2010; Monda et al., 2016), we led groups by providing graduate students and school staff who could act as group facilitators rather than lecturers. Along with predetermined content delivered by group facilitators, sessions for these two tiers also consisted of discussions, activities and experiential-based components (e.g., role-plays, discussing vignettes of "problem" situations), so that groups remained flexible and interactive as literature has recommended (Monda et al., 2016). Both the Beginning and Emerging Leadership Academies were run only during the spring semester due to time constraints of group facilitators. There were four groups to each tier (8-12 members per group), two group facilitators per group and each group followed a 6-week curriculum.

Table 2: Curriculum for the Beginning Leadership Academy

Session	Topic	Icebreaker	Content
1	Orientation	Leadership Chairs	Norms. Introductions. Process activity. Hand out 12-Step "To Do" Leadership Sheet
2	Active Leadership Tasks	Sheet Game	Discuss active leadership. Identify obstacles to leadership.
3	Communication	Count to 50 Activity	Verbal/Non-verbal info sheet. Can choose to play verbal/non-verbal charades.
4	Motivation	Broken E-mail	Identify intrinsic and extrinsic motivators. Differentiate intrinsic vs. extrinsic motivators. Discuss building upon intrinsic motivation to engage in challenges.
5	Conflict Resolution	Frustration Toss	Provide conflict resolution and constructive criticism info sheets. Discuss how to approach scenarios where conflict resolution must be utilized.
6	Wrap-up/Appreciation	Appreciation Activity	Process appreciation. Discuss applying what they have learned to their sports.

Table 3: Curriculum for Emerging Leadership Academy

Session	Topic	Icebreaker	Content
1	Intros/Review Active Leadership	Leadership Chairs	Norms. Intros. Revisiting experience in beginning leadership academy.
2	Team Cohesion/Roles	Blind Polygon	Process roles required of icebreaker activity. Explore roles on their teams and how they will motivate teammates to fill unmet roles.
3	Communication/Conflict Resolution (players and coaches)	Frustration Toss	Role-plays. Resolve player-to-player and coach-to-player conflicts. Process activity.
4	Mental Toughness		Open discussion about the principles of mental toughness.
5	Setting team goals	Ladder of Goals Worksheet	Practice creating a ladder of short-term goals leading to the achievement of long-term goals. Share goals with another group member.
6	Wrap-up/Off Season Prep	Accountability Activity	Open discussion – particularly around their role as emerging juniors/seniors in getting their teammates motivated during the off-season. Additionally, group members share how they will hold each other accountable to their goals in the off-season.

Group facilitators were four doctoral-level graduate students, three master's-level graduate students and one high school guidance counsellor. Of the group facilitators, 5 out of 8 had facilitated groups in the Leadership Academy in past years. Group facilitators who had not co-led a group in the past were paired with a facilitator who had. Prior to sessions each week, group facilitators were emailed curricula, that week's lesson plan and activities that would be used that week. If materials were needed for lessons (e.g., for activities), group leaders were provided those materials.

The Advanced Leadership Academy was not prescribed a curriculum, but instead was run as a 6-week, process-oriented group. The group was facilitated by the first author (MP) and a high school guidance counsellor, where students were encouraged to freely discuss situations they were struggling with as leaders on their teams and then collaborate with group members for how to solve these situations using skills learned in previous tiers of the Leadership Academy. MP met with each group member prior to the Advanced Leadership Academy's first session and asked each student-athlete what s/he would be interested in learning about. Using this information, MP came up with possible discussion topics for each session (e.g., how to create team cohesion, how to motivate teammates). The Advanced Leadership Academy had the freedom to decide the topic to be processed at each meeting (rather than sticking to MP's predetermined topic), if something was urgent to them. Ultimately, the majority of the sessions revolved around topics the members decided they wanted to discuss on the day of the session. In the Advanced Leadership Academy, members also met with the school's Athletic Director during their first and last meeting so that they could provide him with feedback they had come up with for their athletic department over the course of the academy. Unlike the Beginning and Emerging Leadership Academies, there is one Advanced Leadership Academy group per each athletic season (i.e., autumn, winter, spring). The current study examined the outcomes of only the student-athletes involved in the spring season Advanced Leadership Academy.

The current study received approval from the Institutional Review Board (IRB) before research was conducted. Although most participants were under the age of 18, since the study posed minimal threat to participants, the IRB granted a waiver of parental consent, so long as each participant was informed of the study, its purpose, risks, benefits, and the voluntary nature of the study both verbally and in writing (i.e., in the form of an assent document). Additionally, every parent/guardian of a student partaking in the study was emailed a copy of the assent form that students were asked to sign, so that they would be informed of the study and could raise any concerns and/or ask the first author questions regarding the study. Participants signed the assent document prior to completing pre-test instruments. Participants completed surveys measuring self-perceptions of peer leadership behaviour and general self-efficacy at the start of each group's first session and at the conclusion of each group's final meeting for all three tiers. Over the course of the study, there were 4 student-athletes who dropped out of the Emerging Leadership Academy between pre-test and post-test. Additionally, 2 students' post-test data from the Beginning Leadership Academy could not be used to analyse changes over time due to not completing pre-test surveys. This left 95 student-athletes whose data could be analysed for change over time from pre-test to post-test.

Instruments

Peer Sport Leadership Behaviour Inventory (PSLBI). The PSLBI was originally developed by Glenn and Horn (1993) and was updated by Glenn (2003). For the present study, we used a modified, 49-item version of the PSLBI used by Price and Weiss (2011). The PSLBI assesses peer leadership and was selected for inclusion in this study in order to evaluate participants' evaluations of their peer leadership before and after participation in the Leadership Academy. We chose the PSLBI as our measure of self-perceived peer leadership because it has been validated on adolescent athletes (Glenn, 2003; Price & Weiss, 2011). Each item of the PSLBI was rated on a 7-point Likert scale ranging from 1 (never like me) to 7 (always like me), and responses were added together to attain 8 dimension-specific scores as well as a global score for self-evaluation of peer leadership.

Glenn and Horn (1993) established construct validity for the PSLBI through factor analysis of all the items and correlations found between psychological characteristics associated with leadership behaviour and the Sport Leadership Behaviour Inventory (Glenn, 2003). The 8 subscales within the PSLBI are Motivational Leadership (10 items), Compassionate Leadership (6 items), Physically/Technically Skilled Leadership (5 items), Responsible/Mature Leadership (6 items), Problem-Solving Leadership (6 items), Committed/Focused Leadership (6 items), Character and Leadership (5 items), and Creative and Intelligent Leadership (5 items). Sample items include, "I help my teammates deal positively with a loss," and "I am respected by my teammates."

In the current study, the majority of the subscales showed high internal consistency ($\alpha \geq 0.80$; see Table 4) at both pre-test and post-test. Of note are the alphas at pre-test in the Emerging Leadership Academy on Compassionate Leadership ($\alpha = 0.62$), Character and Leadership ($\alpha = 0.67$), Physically/Technically Skilled Leadership ($\alpha = 0.69$) and at post-test in the Emerging Leadership Academy on Compassionate Leadership ($\alpha = 0.69$). Due to the low number of items on these subscales, there is a greater chance for internal consistency to potentially be low (Thorndike & Thorndike-Christ, 2010). Additionally, the Emerging Leadership Academy was comprised of sophomores and juniors who were neither "starting from scratch" in defining their role on their team, such as members of the Beginning Leadership Academy, nor had their roles crystallized on their team, such as members of the Advanced Leadership Academy. This role ambiguity may have led to a lack of internal consistency in the responses of participants of the Emerging Leadership Academy. Given the context of the study, the length of the subscales, reliability found in past studies (e.g., Price & Weiss, 2011) and internal consistency observed amongst other tiers of the Leadership Academy, we felt comfortable to proceed with analyses.

New General Self-Efficacy Scale (NGSE). The New General Self-Efficacy (NGSE) scale was created by Chen et al. (2001) as a revision to the original General Self-Efficacy scale (SGSE; Sherer et al., 1982). The NGSE is a unidimensional 8-item scale that assesses participants' general self-efficacy. In the current study, participants' responses to the NGSE were high in internal consistency ($\alpha > 0.80$) at time 1 and time 2 for all three tiers of the Leadership Academy (see Table 4). Additionally, although the NGSE is shorter than the SGSE, past literature has indicated that it has higher content and predictive validity than the SGSE (Chen et al., 2001).

Table 4: Cronbach's Alpha for NGSE and PSLBI Subscales at Pre-Test and Post-Test

		Pre-Test			Post-Test		
		Beginning	Emerging	Advanced	Beginning	Emerging	Advanced
Scale	No. of Items	*α*	*α*	*α*	*α*	*α*	*α*
PSLBI							
COL	6	0.90	0.62	0.90	0.82	0.66	0.93
CHL	5	0.84	0.67	0.89	0.83	0.79	0.84
PSL	6	0.86	0.81	0.88	0.84	0.85	0.84
CIL	5	0.88	0.79	0.80	0.84	0.80	0.90
PTSL	5	0.83	0.69	0.80	0.84	0.76	0.86
MOT	10	0.93	0.88	0.94	0.95	0.87	0.92
CFL	6	0.87	0.81	0.91	0.87	0.81	0.89
RML	6	0.88	0.84	0.94	0.91	0.83	0.92
NGSE	8	0.82	0.84	0.89	0.90	0.87	0.94

Note. *J* = number of items. NGSE = New General Self-Efficacy Scale; PSLBI = Peer Sport Leadership Behaviour Inventory; COL = Compassionate Leadership; CHL = Character and Leadership; PSL = Problem-Solving Leadership; CIL = Creative and Intelligent Leadership; PTSL = Physically/Technically Skilled Leadership; MOT = Motivational Leadership; CFL = Committed/Focused Leadership; RML = Responsible/Mature Leadership.

Participants provided responses to items on the NGSE (e.g., "When facing difficult tasks, I am certain that I will accomplish them") on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Scoring the NGSE was achieved by summing responses to all of the items, with higher total scores indicating a greater degree of general self-efficacy and lower scores indicating less general self-efficacy.

RESULTS

Prior to analyses, data were examined through IBM SPSS for accuracy of data entry and to check if data were normally distributed. The differences observed from pre-test to post-test for all three groups on both the PSLBI and NGSE met the assumptions for univariate analysis. Initial analyses then explored the relationship between the study's main variables. PSLBI total score was significantly correlated with NGSE total score at both pre-test ($r = 0.58$, $p < 0.001$) and post-test ($r = 0.74$, $p < 0.001$), indicating that athletes who perceived themselves as demonstrating peer leadership behaviours were more likely to have high general self-efficacy.

The primary analyses for the current study were dependent samples *t*-tests, which were conducted for each tier of the Leadership Academy to assess changes from pre-test

scores to post-test scores (see Table 5). The mean score on both the PSLBI and NGSE significantly increased from pre-test (M_{PSLBI} = 278.83, SD_{PSLBI} = 32.99, M_{NGSE} = 33.33, SD_{NGSE} = 3.18) to post-test (M_{PSLBI} = 298.57, SD_{PSLBI} = 29.52, M_{NGSE} = 35.56, SD_{NGSE} = 3.53) for students in the Beginning Leadership Academy, $t_{PSLBI}(35) = -5.13$, $p_{PSLBI} < 0.001$, $t_{NGSE}(35) = -4.70$, $p_{NGSE} < 0.001$*. In the Emerging Leadership Academy, scores also significantly increased from pre-test (M_{PSLBI} = 282.20, SD_{PSLBI} = 22.40, M_{NGSE} = 33.70, SD_{NGSE} = 3.68), to post-test (M_{PSLBI} = 300.72, SD_{PSLBI} = 26.24, M_{NGSE} = 36.36, SD_{NGSE} = 3.60) for both variables, $t_{PSLBI}(43) = -5.27$, $p_{PSLBI} < 0.001$, $t_{NGSE}(43) = -4.52$, $p_{NGSE} < 0.001$. Finally, there were statistically significant increases in scores on both dependent variables for the Advanced Leadership Academy between pre-test (M_{PSLBI} = 302.20, SD_{PSLBI} = 28.10, M_{NGSE} = 35.90, SD_{NGSE} = 3.62) and post-test (M_{PSLBI} = 319.50, SD_{PSLBI} = 24.91, M_{NGSE} = 37.80, SD_{NGSE} = 3.53), $t_{PSLBI}(14) = -3.22$, $p_{PSLBI} < 0.01$, $t_{NGSE}(14) = -2.20$, $p_{NGSE} < 0.05$.

After observing significant increases for both dependent variables in all three tiers of the Leadership Academy, effect sizes were obtained using Cohen's *d*. Effect sizes of 0.20 were considered small, 0.50 were considered medium/moderate and 0.80 were considered large (Cohen, 1992). There was a large effect size in regards to changes on the PSLBI (*d* = 0.85) and the NGSE (*d* = 0.78) for the Beginning Leadership Academy. In the Emerging Leadership Academy, there was a moderately large effect size for the NGSE (*d* = 0.68) and a large effect size for the PSLBI (*d* = 0.79). Finally, in the Advanced Leadership Academy, there was a large effect size for changes observed on the PSLBI (*d* = 0.83) and a moderate effect size observed for changes on the NGSE (*d* = 0.57; see Table 5).

Table 5: Results of dependent samples *t*-tests, effect sizes and mean differences for dependent measures

			PSLBI			NGSE		
Academy	*n*	*df*	*Mean Difference* (pre-post)	*t*	*d*	*Mean Difference* (pre-post)	*t*	*d*
Beginning	36	35	-19.74	-5.13***	0.85	-2.22	-4.70***	0.78
Emerging	44	43	-18.51	-5.27***	0.79	-2.66	-4.52***	0.68
Advanced	15	14	-17.30	-3.22**	0.83	-1.90	-2.20*	0.57

*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.

Ancillary analyses were conducted in order to examine if any tier experienced greater improvements over any other tier. For this portion of the analysis, multiple analysis of variance (MANOVA) of mean difference scores on dependent variables was utilized. Although the Beginning Leadership Academy experienced the greatest gain in mean

* Mean difference scores were obtained by subtracting post-test scores from pre-test scores. Thus, a negative *t* value indicates that group means increased during the Leadership Academy.

PSLBI scores (M = -19.74) and the Emerging Leadership Academy had the greatest difference in mean NGSE scores (M = -2.66), no tier experienced significantly greater improvements than another tier in mean scores on either dependent variable from pre-test to post-test, $F(4, 182) = 0.24$, $p = 0.92$, Wilk's $\Lambda = 0.99$. Since Wilk's Λ was not significant, we did not proceed any further with analysis of group gains via analysing mean difference scores. For a summary of the mean difference scores, see Table 5.

DISCUSSION

The current study sought to be the first study (to the authors' knowledge) to evaluate the effectiveness of a high school leadership development programme through the use of pre-test and post-test quantitative data, aside from traditional satisfaction survey methods. Our original hypotheses were supported by the data examined in this study. All three tiers of the Leadership Academy experienced significant increases in self-reported peer sport leadership behaviour and general self-efficacy from pre-test to post-test. Additionally, each intervention demonstrated a moderate to large effect size on each dependent variable for all three tiers. Moreover, MANOVA results revealed that each tier of the Leadership Academy was comparably beneficial for student-athletes to participate in. These results provide credence to the belief that any young athlete has the potential to be a leader and that leadership skills can be developed in youth athletes through curricula just as other interpersonal skills have in past research (Martinek & Hellison, 2009; Weiss et al., 2012).

Changes observed in the dependent variables for the Beginning and Emerging Leadership Academies may partially be explained by their curricula, which touch on components necessary to effective leadership (e.g., communication skills, ability to facilitate conflict resolution, etc.; Jit et al., 2016). The benefits observed for the members of the Advanced Leadership Academy are particularly interesting due to the open-ended nature of this tier of the Leadership Academy. We intentionally chose the Advanced Leadership Academy to be an open-ended process group because group counselling literature indicates that process-based groups may allow higher levels of engagement among participants (e.g., Yalom, 2005), as well as the opportunity to more directly apply the concepts learned in previous tiers of the Leadership Academy. It may be beneficial in the future to explore the critical ingredients of such an open-ended group with its participants.

Limitations

There were some areas for improvement with regards to the internal and external validity of the current study. With regards to internal validity, the number of participants in the Advanced Leadership Academy (n = 15) may have been a limitation to our results. Once we obtained our data and analysed our results, we ran post hoc analyses in G*Power in order to find our achieved power for the dependent variables in the Advanced Leadership Academy. For the PSLBI, we were able to achieve sufficient power (1- β = 0.85, d = 0.83, α = 0.05, two-tailed), but for the NGSE, power was lower than we would hope for (1- β = 0.54, d = 0.57, α = 0.05, two-tailed). The low power achieved for NGSE in the Advanced Leadership Academy increases the chance that there could be a Type I error in our

observation of a significant difference from pre-test to post-test on this variable. Replicating the Advanced Leadership Academy with a greater number of participants is one way to build upon this research and mitigate this limitation.

There were also potential threats to the external validity of this study. First, the study hall period (i.e., 40 minutes) often did not seem like sufficient time for group sessions and 6 weeks felt like too short of a programme to some students (per their informal feedback). Second, the test administration and subsequent reactivity of the participants' self-evaluations may have limited the generalizability of our results. Changes observed may have been affected by the lack of time given between programme completion and post-test administration (i.e., participants took the post-test surveys at the end of the last session), when the topic of leadership was still salient for participants. Future research on leadership development programmes with high school student-athletes should include follow-up measures that assess lasting changes (e.g., 6-month follow-up evaluations). Finally, although it was promising that there were significant changes observed in all three tiers, these evaluations were based on self-report evaluations. The results could be strengthened by triangulating the observations across different sources (e.g., coaches, teammates), as is often done with 360-degree feedback instruments for leaders (e.g., Pfaff et al., 2016).

Implications for Research and Practice

Researchers and other professionals conducting high school student-athlete leadership development programmes should adhere to strict attendance policies in order to increase the likelihood that the programme will be effective in promoting leadership skills. Additionally, in implementing a leadership development programme, we would like to echo recommendations of past scholars (e.g., Blanton et al., 2014; Monda et al., 2016) by emphasizing the importance of allowing members time for critical thinking in applying material they learn either through real world problem-solving (as in the Advanced Leadership Academy) or solving hypothetical situations (as in the Beginning and Emerging Leadership Academies). Similar to recommendations made by Bean (2011), we believe one strategy for promoting critical thinking with high school student-athletes is to divide students up into small groups for exercises, wherein student-athletes are provided a problem/scenario to work through, ask the students to discuss with their group how they would solve the problem, and then justify why they chose the solution they came to. Lastly, this manuscript provides the curricula for the Leadership Academy, which allows replication of the programme. Implementing a similar programme and collecting data over long periods of time (e.g., 2-month follow-up, 6-month follow-up, etc.) after programme completion may be a valuable way to build on the research presented here.

CONCLUSION

The Leadership Academy supported past research which found that adolescents can provide leadership (Zacaharatos et al., 2000) and that leadership can be cultivated in individuals (Abrell et al., 2011). Members of all three tiers of the Leadership Academy experienced significant increases in both peer sport leadership and general self-efficacy over the course of the programme. The Leadership Academy provides a brief, multi-tier

approach that students can engage in continually throughout their high school career. It is recommended that professionals wanting to implement a similar programme create attendance policies/incentives, are flexible in-session and promote critical thinking.

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Matt Powless is a third year PhD student at Indiana University-Bloomington majoring in Counselling Psychology with a minor/focus area in Sport and Performance Psychology. Matt served as the sport and performance psychology intern at the high school where this research was conducted. As an intern, part of his responsibilities included overseeing the Leadership Academy, planning sessions, recruiting participants, facilitating sessions, contacting parents about the study and collecting data. This research was conducted in spring 2016 and data was collected approximately from February 2016–April 2016. The research study was carried out as part of Matt's Early Inquiry project, one of the milestones of IU's Counselling Psychology PhD programme.

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