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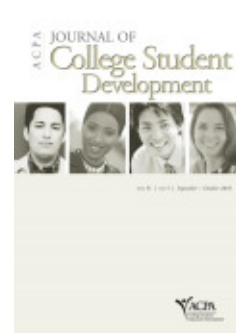
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# Leadership Development of Team Captains in Collegiate Varsity Athletics

Christian Grandzol   Susan Perlis   Lois Draina

*This study examined the leadership development of team captains and student-athletes engaged in NCAA Division III intercollegiate athletics at 6 private institutions of higher education. Student-athletes in the sports of men's and women's soccer, women's field hockey, men's and women's cross country, and women's tennis completed the 2nd edition of Kouzes and Posner's Student LPI, Self instrument (2005) at the beginning and end of one playing season. Results indicate that merely participating in athletics had little influence on leadership development during one playing season, while serving as a team captain provided a rich opportunity for students to learn and practice leadership skills.*

Understanding the influences student experiences have on learning outcomes is a chief concern of higher education (Association of American Colleges and Universities, 2007). The learning outcome of leadership development has long been espoused in institutions' mission statements (Astin & Astin, 2000), yet little attention has been given to whether courses and activities offered by institutions stimulate student leadership (Posner, 2004). This study partially addresses the scarcity by examining the impact of student varsity athletics and the role of team captain on leadership development.

Student organizations, including athletics, have been popular with research and practitioner communities because students have the chance to work with peers (Hall, Forrester, & Borsz, 2008), an opportunity which research has

shown can strengthen student learning in areas such as leadership (Astin, 1993). For example, students who interacted most frequently with peers in activities such as intramural sports showed the largest increase in leadership (Astin). Research indicates participation in these activities stimulates development (e.g. White, 1998), but due to differences based on the organization and its culture (Logue, Hutchens, & Hector, 2005), there is need for research on specific involvement areas (Gellin, 2003).

A leadership model must be chosen to assess the impact of student groups on leadership development. Over 60 leadership classifications have been developed over the last century (Northouse, 2003) making full review impossible here. Although the classic theories, including situational and trait, are suitable for industrial leadership, they may not adequately serve college students (Posner, 2004). Accordingly, an often used framework in collegiate contexts is Kouzes and Posner's *The Leadership Challenge* (2007).

Kouzes and Posner (2007) proposed that leaders exhibit universal leadership practices. The authors argued that the practices of (a) Model the Way, (b) Inspire a Shared Vision, (c) Challenge the Process, (d) Enable Others to Act, and (e) Encourage the Heart help leaders improve leadership abilities and help followers accomplish tasks. This leadership model provides broad, learnable practices that are transferrable to any context, making it ideal for college students.

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A short review of each leadership practice illuminates the model. Model the Way encourages leaders to discern guiding principles and role model desired behaviors. Inspire a Shared Vision directs leaders to create a vision for their organization and enlist the help of others. Challenge the Process requires leaders to be risk takers and challenge the status quo. Enable Others to Act stimulates leaders to collaborate, build trust, and empower followers. Encourage the Heart inspires leaders to lift followers' spirits by celebrating contributions (Kouzes & Posner, 2007).

Kouzes and Posner developed the Student Leadership Practices Inventory (Student LPI; 2nd ed., 2005) for use with college students. Empirical studies utilizing the Student LPI highlighted various leadership roles within student organizations. As an example, the most effective fraternity and sorority chapter presidents engaged in each of the five leadership practices more frequently than their less effective counterparts (Posner & Brodsky, 1992, 1994). Posner and Brodsky (1993) found resident assistants who engaged more frequently in the practices were viewed as most effective by superiors and student constituents.

Little evidence of demographic differences in the leadership practices were found. The leadership practices of college students measured by the Student LPI were generally not related to GPA, gender, ethnic background, age, academic background, full- or part-time status, or year in school (Posner, 2004). The instrument has also been applied to multiple student populations, including those in residence halls, fraternities, orientation programs, and various academic majors. The Student LPI has been deemed acceptable in each student population (Posner).

Relating to the investigative focus of this study, Ryan (1989) argued that athletics contributes to development of interpersonal

skills through various learning experiences such as cooperative group tasks and involvement with peers. Both Ryan and Pascarella and Smart (1991) found that athletics participation is positively associated with leadership skills. At least one study did not support these findings (Shulman & Bowen, 2001); instead, these researchers found little evidence of leadership differences between college athletes and the general student body.

There was little research on the leadership development of student leaders in sports, commonly referred to as team captains, in the collegiate athletics setting. The team captain experience may provide opportunities for students to develop leadership skills beyond what other student-athletes gain from their experiences. Team captains engage in responsibilities such as mentoring younger team members, structuring team activities, and role modeling behavior (Dupuis, Bloom, & Loughhead, 2006). These responsibilities along with greater access to resources such as coaches (Day, Sin, & Chen, 2004) seemingly provide ample practice for captains to learn leadership skills.

Previous researchers investigated the leadership behaviors of team captains, assessed athletes' satisfaction with their captain's leadership style (Loughhead & Hardy, 2005), and examined captains' individual performance contributions (Day et al., 2004). For example, Day and colleagues found that National Hockey League players had better individual performance statistics during seasons when they were team captains than when they were not. Dupuis and colleagues (2006) interviewed former Canadian university male ice hockey captains to identify their leadership behaviors. They reported captains helping with off-season planning, organizing meetings, and setting rules for the team. Hall and colleagues (2008) qualitatively examined the leadership development of student leaders

in campus recreational sports. They reported development in areas such as public speaking, working with others, giving effective feedback, and reflective thinking.

The previous studies either did not involve college students, or were qualitative in nature. No studies were found that quantitatively investigated team captains' leadership development during their tenure. Nor was there research on differences in leadership development between team captains and team members. Kuh (1995) argued that leadership roles are a powerful activity wherein students develop skills. Kezar and Moriarty (2000) found that some students gained leadership ability even through general participation in student organizations.

Finally, the literature on student-athletes was dated, indicating potential need for new research.

The purpose of the study was to determine if participation in National Collegiate Athletic Association (NCAA) Division III athletics as a team captain or student athlete was associated with leadership development. The study examined one playing season. The research question was: Are the leadership practices of (a) Model the Way, (b) Inspire a Shared Vision, (c) Challenge the Process, (d) Enable Others to Act, and (e) Encourage the Heart related to athletics participation and leadership position?

## METHODS

Twelve Athletics Directors from member institutions in one Commonwealth of Pennsylvania athletic conference offering NCAA Division III fall varsity sports were mailed a description of the study and an invitation to participate. These institutions were classified as small, private, not-for-profit, 4-year institutions with primarily or highly residential, majority undergraduate student populations (Carnegie

Foundation, 2007). Unresponsive directors were contacted by phone 2 weeks later. After approval was granted by 6 institutions, coaches of the sample sports were mailed a letter explaining the study and asking for their commitment. Follow-up e-mails for unresponsive coaches were sent 2 weeks later and 32 coaches committed their teams.

The selected NCAA-sponsored sports in this study were men's and women's soccer, women's field hockey, men's and women's cross country, and women's tennis. These sports were chosen because their playing seasons begin and end at approximately the same times and because they were common to the conference institutions. The Athletics Directors at the participating institutions unanimously reported that they did not offer formal leadership training for any of their student-athletes. All student-athletes of the 32 teams were invited to participate.

## Participants

Of the 469 student-athletes who were sent the Student LPI, Self instruments, 162 completed both the pretest and posttest for a response rate of 34.5%. No noticeable differences in response rates were observed among sports; differences between the response rates of team captains (48.4%) and team members (32.3%) were observed. The researchers were disappointed by the response rate, noting that of the 32 coaches who agreed to participate, only 15 actually distributed instruments to the student-athletes, effectively eliminating more than half of the targeted student-athletes as potential participants. The response rate of student-athletes who received the instruments (162 out of 220, 74.0%) was much higher than the overall response rate. Two participants were identified as outliers and were removed from the sample. Table 1 reports the demographic characteristics of the 160 participants in the sample.

TABLE 1.  
Participant Demographics ( $N = 160$ )

Characteristic	Team Members		Team Captains		Overall Sample	
	Count	Percent	Count	Percent	Count	Percent
<i>Gender</i>						
Male	44	34%	12	39%	56	35%
Female	85	66%	19	61%	104	65%
<i>Age</i>						
≤17	5	4%	0	0%	5	3%
18–24	124	96%	31	100%	155	97%
<i>Year in College</i>						
Freshman	73	57%	0	0%	73	46%
Sophomore	30	23%	2	6%	32	20%
Junior	17	13%	7	23%	24	15%
Senior	9	7%	22	71%	31	19%
<i>Ethnicity</i>						
Caucasian American	114	88%	29	93%	143	89%
African American	4	3%	0	0%	4	3%
Hispanic American	6	4%	2	7%	8	5%
Native American	1	1%	0	0%	1	1%
Asian American	2	2%	0	0%	2	1%
Other	2	2%	0	0%	2	1%

As noted in Table 1, females ( $n = 104$ ) outnumbered males ( $n = 56$ ) by a large margin. This was anticipated because participating women's sports teams outnumbered participating men's sports teams by 2. The possibility that gender influenced the study's results was examined and is reported in the post hoc analyses. The sample consisted of no students older than 24 years of age. Freshmen comprised almost half of the sample. Team captains were primarily juniors and seniors. This difference of underclassmen and upperclassmen again required post hoc analyses to investigate if year in school was a source of difference. No graduate students participated. Caucasian Americans dominated the sample, as expected given the enrollment demographics at participating institutions.

More participants who completed the surveys were team members (80.6%,  $n = 129$ ) compared to team captains (19.4%,  $n = 31$ ). Teams typically had one to three team captains, compared with many more team members. Women's soccer (26.3%,  $n = 42$ ) had the largest number of participants followed by men's soccer (21.9%,  $n = 35$ ), women's cross country (16.3%,  $n = 26$ ), men's cross country (12.5%,  $n = 20$ ), women's tennis (11.9%,  $n = 19$ ) and women's field hockey (11.3%,  $n = 18$ ). The sample was more representative of soccer teams than the other sports as a result of the teams participating and the size of those teams. Small sample sizes prohibited investigating the differences between sports.

## Procedures

Teams at the 6 cooperating institutions received one packet containing confidentiality statements, demographics questionnaires, and Student LPI, Self instruments shortly before preseason week in Fall 2007. A second packet of Student LPIs arrived near the end of the season. Coaches facilitated data collection to minimally disrupt the students' routines and because coaches could choose a practice day with high attendance. It was possible coaches influenced the participant responses to the survey. This effect would have been minimal because the coaches' only responsibility in the process was to distribute the surveys. The student-athletes who chose to participate filled out their surveys on their own time and returned their instruments to a centralized repository outside of their coach's purview. Both participants and coaches were instructed that no athletics decisions should be based upon study participation.

Participants completed the pretest during their preseason week and the posttest during the last week of the season. This time frame was 10 to 12 weeks depending upon the individual sport. Random assignment to groups was impossible because student-athletes were designated as team captains by their peers or by their coaches. No attempts were made to administer the pretest or posttest to student-athletes who failed to complete either instrument. Missing data were treated as missing completely at random.

## Instrumentation

Data were collected using the 2nd edition of Kouzes and Posner's Student LPI, Self instrument (2005). Permission to use the instrument was granted by the authors. The Student LPI is a derivation of Kouzes and Posner's Leadership Practices Inventory (LPI) that is targeted to college students.

The Student LPI, Self instrument consists of 30 statements, with 6 items loading on each practice. Responses are marked on a 5-point scale ranging from 1 (*rarely*) to 5 (*frequently*). The following are example questions from the Student LPI, Self instrument for each practice:

- Model the Way: "I find ways to get feedback about how my actions affect other people's performance."
- Inspire a Shared Vision: "I talk with others about how their own interests can be met by working toward a common goal."
- Challenge the Process: "I look around for ways to develop and challenge my skills and abilities."
- Enable Others to Act: "I provide opportunities for others to take on leadership responsibilities."
- Encourage the Heart: "I find ways for us to celebrate accomplishments."

The Student LPI was chosen because it was designed specifically for college students. The items are tailored to student issues and encourage learnable behaviors. The Student LPI has been robust across different collegiate student populations (Posner, 2004). The practices are considered universal, so one can assume they may be applicable to student-athletes. Other researchers using the Student LPI to investigate student leadership found that groups in which the student leader engaged in higher levels of leadership practices were more motivated and productive (Posner & Brodsky, 1993; Adams & Keim, 2000).

The Student LPI is a thoroughly tested instrument. Internal reliability scores for the five practices are generally between .70 and .85, though higher coefficients for some of the individual practices are desired (Posner, 2004). Multivariate analyses indicate items

within each practice are more highly correlated with one another than they are with other leadership practices (Kouzes & Posner, 2006a). Over periods as short as one day to as long as four weeks, scores show significant test-retest reliability at levels greater than a .91 correlation (Kouzes & Posner, 2006b).

In terms of validity, factor analyses on the Student LPI have consistently revealed the instrument contains five factors and that the items within each factor correspond more among themselves than they do with the other factors (Kouzes & Posner, 2006b). Experts agree the instrument has excellent content validity (Kouzes & Posner). Concurrent validity evaluations have shown the scores are correlated with other important variables. Relationships have been found between Student LPI scores and such variables as team cohesion, member commitment, member loyalty, satisfaction, and credibility. For example, fraternity and sorority chapter presidents' performance was positively correlated with the frequency with which those students engaged in the five practices (Kouzes & Posner).

The leadership practices of college students measured by the Student LPI were not significantly related to GPA, gender, ethnicity, age, academic background, full- or part-time status, or year in school (Posner,

2004). It appears that the leadership practices are independent of demographic variables in a variety of student populations. If this held true in this study, it increases the chances that observed differences can be attributed to the variables under investigation.

## Data Analysis

Each leadership practice was submitted to an ANOVA with repeated measures. Leadership status (team captain versus team member) served as the between-subjects variable, and athletics participation (pretest versus posttest) served as the within-subjects variable. The main effects for leadership status and athletics participation, and the interaction between athletics participation and leadership status were examined for mean equality. Post hoc analyses for two demographic characteristics were conducted.

The ANOVA with repeated measures was one way to respond to the research question. It was chosen due to its application with the Student LPI (e.g. Matsos, 1997) in a situation where both between-subjects and within-subjects changes are examined. The balanced sample sizes assumption of ANOVA was violated because there were more team members than team captains in the study. Unbalanced sample sizes magnify the effects

TABLE 2.  
Means and Standard Deviations of Leadership Practices<sup>a</sup>

Leadership Practice	Pretest		Posttest	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Encourage the Heart	23.83	3.53	24.29	3.40
Enable Others to Act	23.51	3.22	24.04	2.85
Model the Way	21.73	3.38	22.44	3.24
Inspire a Shared Vision	21.04	3.95	22.54	3.35
Challenge the Process	20.85	3.74	21.58	3.36

<sup>a</sup> *N* = 160 for each practice.

of other assumption violations such as equality of variances. In this study the variances were greater for the larger sample (team members) which potentially made the test more conservative (Mertler & Vannatta, 2004). The reader should be aware of the problem, but note that results using other tests, such as *t* tests, paired-difference *t* tests, and linear regressions, resulted in similar findings.

## RESULTS

Data screening assessed assumptions related to repeated-measures ANOVA. Thirty-five students completed the pretest, but not the posttest; 16 students completed the posttest, but not the pretest. Data from these participants were excluded from analysis. The sample size was reduced to 160 when 2 cases were removed after being identified as outliers. Normality was assumed for each practice after data screening. Levene’s test demonstrated the groups had approximately equal variances for all leadership practices with the exception of the Encourage the Heart pretests and posttests. The procedure is generally robust to this assumption, but it should be noted given

the unequal sample sizes. Sphericity was not a concern because there was only one pair of levels for the within-subjects variable. Table 2 presents the means (on a 30-point scale) and standard deviations for each leadership practice across the pretests and posttests.

The two highest pretest means were Encourage the Heart and Enable Others to Act, while the lowest was Challenge the Process. The posttest means followed the same pattern with respect to the two highest values and the lowest value. The pattern was consistent with Kouzes and Posner’s (2006a) report of the percentile scores for 2,200 students on the Student LPI, which indicated higher scores for Encourage the Heart and Enable Others to Act. Table 3 displays the pretest and posttest group cell means and standard deviations.

Means of team captains were greater than means of team members for both the pretests and posttests across all five leadership practices. It is apparent that means of team captains increased from pretest to posttest while the means of team members remained essentially the same from pretest to posttest. Inspire a Shared Vision was an exception to this pattern.

TABLE 3.  
Group Cell Means and Standard Deviations

Leadership Practice	Pretest				Posttest			
	Team Captain <sup>a</sup>		Team Member <sup>b</sup>		Team Captain <sup>a</sup>		Team Member <sup>b</sup>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Model the Way	23.68	2.51	21.26	3.38	25.29	2.77	21.75	2.97
Inspire a Shared Vision	23.39	3.17	20.47	3.92	25.26	2.61	21.89	3.18
Challenge the Process	22.94	3.36	20.35	3.66	24.61	2.51	20.87	3.12
Enable Others to Act	24.39	2.64	23.29	3.32	26.13	2.16	23.54	2.77
Encourage the Heart	25.29	2.82	23.47	3.60	26.81	2.37	23.67	3.33

<sup>a</sup> *n* = 31.

<sup>b</sup> *n* = 129.



TABLE 4.  
Summary of Repeated Measures ANOVA for the Leadership Practices

Source	SS	df	MS	F
<i>Model the Way</i>				
Between-Subjects				
Leadership Status	443.91	1	443.91	28.26***
Error	2481.98	158	15.71	
Within-Subjects				
Athletics Participation	55.59	1	55.59	15.07***
Athletics Participation × Leadership Status	15.59	1	15.59	4.48*
Error	549.80	158	3.48	
<i>Inspire a Shared Vision</i>				
Between-Subjects				
Leadership Status	492.99	1	492.99	25.79***
Error	3020.49	158	19.12	
Within-Subjects				
Athletics Participation	135.23	1	135.23	28.74***
Athletics Participation × Leadership Status	2.56	1	2.56	0.54
Error	743.44	158	4.71	
<i>Challenge the Process</i>				
Between-Subjects				
Leadership Status	503.40	1	503.40	28.32***
Error	2808.22	158	17.77	
Within-Subjects				
Athletics Participation	59.46	1	59.46	13.57***
Athletics Participation × Leadership Status	17.21	1	17.21	3.93*
Error	692.51	158	4.38	
<i>Enable Others to Act</i>				
Between-Subjects				
Leadership Status	169.14	1	169.14	12.73***
Error	2098.66	158	13.28	
Within-Subjects				
Athletics Participation	49.49	1	49.49	12.28**
Athletics Participation × Leadership Status	27.89	1	27.89	6.92**
Error	636.99	158	4.03	
<i>Encourage the Heart</i>				
Between-Subjects				
Leadership Status	307.10	1	307.10	17.28***
Error	2808.09	158	17.77	
Within-Subjects				
Athletics Participation	36.54	1	36.54	8.47**
Athletics Participation × Leadership Status	21.85	1	21.85	5.06*
Error	681.95	158	4.32	

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

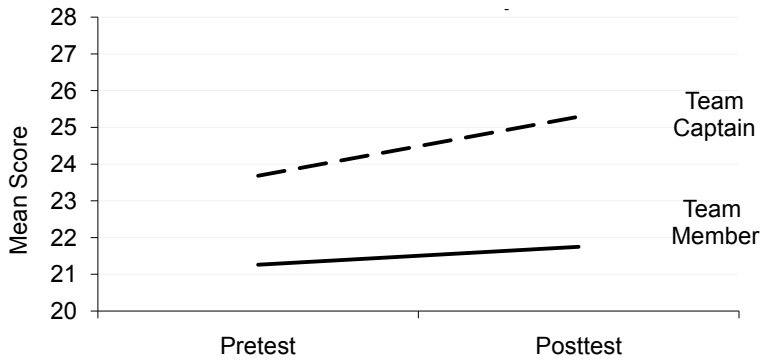


FIGURE 1. Line Profile Plot of Model the Way Mean Scores by Group

### Data Analysis

Each leadership practice was treated as a dependent variable; combining the leadership practices to create an overall leadership score is not acceptable. The ANOVA summaries for each leadership practice are presented in Table 4. Graphs (Figures 1-5) depict the group cell means of each practice. A summary of the findings follows.

The means of Model the Way were significantly different for the main effects of leadership status,  $F(1, 158) = 28.26, p < .001$ , and athletics participation,  $F(1, 158) = 15.97, p < .001$ . The two-way interaction between athletics participation and leadership status was significant,  $F(1, 158) = 4.48, p < .05$ .

The significant leadership status main effect indicated that team captains' scores were higher than team members' scores on average. This is visually evident by the gap between the two lines in Figure 1. The significant athletics participation main effect revealed that student-athletes scored Model the Way higher after the season concluded than at the beginning. However, the significant interaction between athletics participation and leadership status indicated that development of Model the Way was different for the groups and in this case was primarily due to the change in team captains' scores. Note the sharper increase in the team captains' scores compared to the team member's scores in Figure 1. This finding

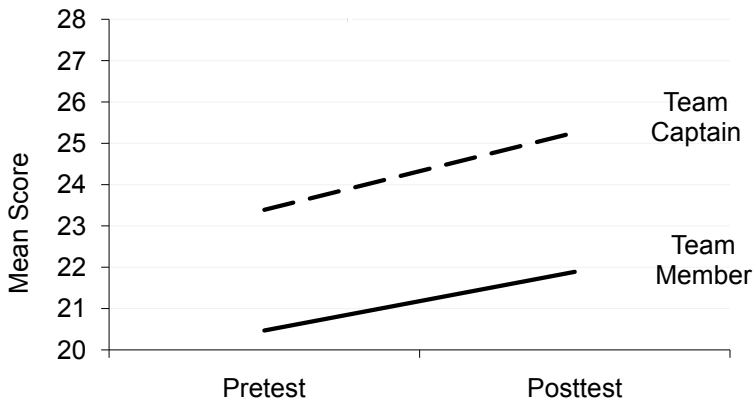


FIGURE 2. Line Profile Plot of Inspire a Shared Vision Mean Scores by Group

indicates it was not participation in athletics alone that encouraged development of Model the Way; rather, it was participation in athletics as a team captain.

The mean scores of Inspire a Shared Vision were significantly different for the main effects of leadership status,  $F(1, 158) = 25.79$ ,  $p < .001$ , and athletics participation,  $F(1, 158) = 28.74$ ,  $p < .001$ . The interaction between athletics participation and leadership status was not significant.

The significant leadership status main effect indicated that team captains' scores were higher on average than team members' scores. The gap between lines in Figure 2 represents this difference. The significant athletics participation main effect revealed that student-athletes' scores increased from the beginning to the end of the season. Unlike Model the Way, there was no interaction effect, suggesting that both team captains and team members significantly developed Inspire a Shared Vision behaviors. This effect is visualized by noting in Figure 2 that the graph lines for both groups have approximately similar positive slopes.

The means of Challenge the Process were significantly different for the main effects of leadership status,  $F(1, 158) = 28.32$ ,  $p < .001$ ,

and athletics participation,  $F(1, 158) = 13.57$ ,  $p < .001$ . The interaction between athletics participation and leadership status was significant,  $F(1, 158) = 3.93$ ,  $p < .05$ .

The significant leadership status main effect indicated that team captains' scores were higher than team members' scores. The significant athletics participation main effect revealed that student-athletes scored Challenge the Process behaviors higher after the season than at the beginning. The interaction indicated the significant increase occurred only for the team captains. Note the larger positive slope for team captains than team members in Figure 3.

The means of Enable Others to Act were significantly different for the main effects of leadership status,  $F(1, 158) = 12.73$ ,  $p < .001$ , and athletics participation,  $F(1, 158) = 12.28$ ,  $p < .01$ . The interaction effect between athletics participation and leadership status was significant,  $F(1, 158) = 6.92$ ,  $p < .01$ .

The significant leadership status main effect indicated that team captains' scores were higher than team members' scores. The significant athletics participation main effect revealed that student-athletes scored Enable Others to Act higher after the season than at

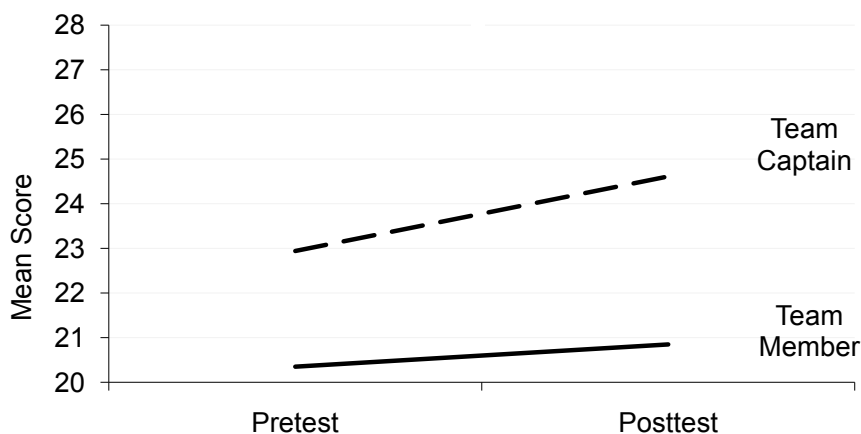


FIGURE 3. Line Profile Plot of Challenge the Process Mean Scores by Group

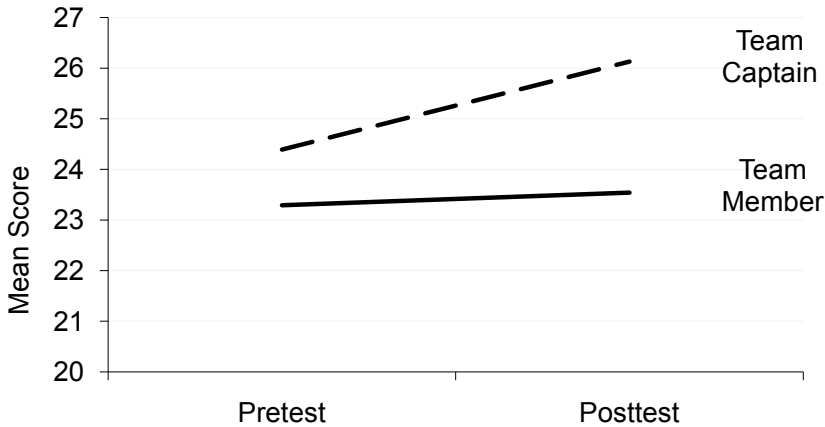


FIGURE 4. Line Profile Plot of Enable Others to Act Mean Scores by Group

the beginning. The interaction indicated that the significant increase occurred only for the team captains. Notice the relatively flat line for team members and the increasing line for team captains in Figure 4.

The means of Encourage the Heart were significantly different for the main effects of leadership status,  $F(1, 158) = 17.28, p < .001$ , and athletics participation,  $F(1, 158) = 8.47, p < .01$ . The interaction effect between athletics participation and leadership status was significant,  $F(1, 158) = 5.06, p < .05$ .

The significant leadership status main effect indicated that team captains' scores were higher on average than team members' scores. The significant athletics participation main effect revealed that student-athletes scored Encourage the Heart higher at the end of the season than at the beginning. The interaction indicated that it was participation in athletics as a team captain that encouraged development. Notice the relatively flat line for team members and the increasing line for team captains in Figure 5.

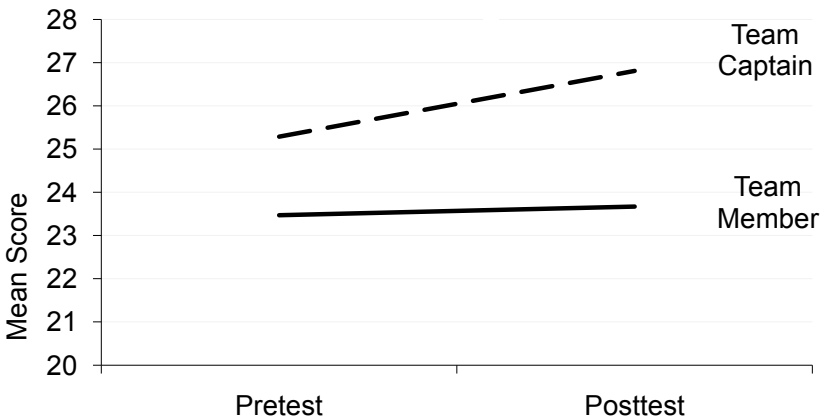


FIGURE 5. Line Profile Plot of Encourage the Heart Mean Scores by Group

## Post Hoc Analyses for Demographic Characteristics

Gender and year in school were investigated because of the noticeable differences in sample sizes shown previously in Table 1. Females outnumbered males by almost two to one. Approximately half of the student-athletes were freshman, yet more than two-thirds of team captains were seniors.

For each leadership practice *t* tests were performed on the pretests and posttests to analyze for gender differences. Levene's test demonstrated approximately equal variances for the groups. Analyses found significant results on the Enable Others to Act pretest ( $df = 158, t = 2.05, p < .05$ ) and the Encourage the Heart posttest ( $df = 158, t = 2.14, p < .05$ ), indicating that females scored significantly higher than males on those two measurements. All other pretests and posttests were not significant, which largely indicates that gender was not a factor affecting leadership practices for the sample.

Year in school was investigated by a one-way ANOVA for only the team members' pretest and posttest means on each leadership practice. Levene's test demonstrated approximately equal variances for all leadership practices with the exception of Challenge the Process pretest ( $p < .05$ ). No significant models were found on any of the pretest or posttest means, indicating that no differences existed between team members of different years in school. For example, senior team members did not significantly differ from freshman team members on any leadership practice. This finding provides increased evidence that it was the team captain experience, not class status, which was the source of difference on the leadership practices.

## DISCUSSION

This study continued a tradition of examining the effects of activities on leadership develop-

ment (e.g. Astin, 1993). Co- or extra-curricular activities should provide experiences for students to learn and employ leadership skills (Astin & Astin, 2000). The findings are positive for the leadership role of team captain, but few positive effects were found for athletics participation.

Results are consistent with Posner's (2004) report that the leadership practices of college students measured by the Student LPI are generally not related to demographic characteristics. This study found that gender had a minor influence on leadership practices scores, and that year in school was not significant. Eliminating these two confounding factors increases the chances of correctly attributing changes to the variables under study.

Team captains demonstrated higher levels of all five leadership practices than team members. This finding is consistent with expectations that team captains should provide greater leadership. It seems that choice of team captain may be based on the captains' perceived leadership abilities and not their year in school, athletics success, popularity, etc., as could be argued. The methodology of this study did not allow investigation of the question, Which came first, the leadership or the position? It is possible that some team captains were selected and then, perhaps due to greater self-conception or rising to the challenge, scored their instruments higher than they might have before being selected as captain.

Evidence was found that the team captain experience provides students with opportunities to improve their leadership abilities. Team captains significantly increased scores for all five leadership practices between the pretests and the posttests. The captains were presented with challenges and opportunities that encouraged, or perhaps required, them to develop leadership skills. Even though team

captains in the study were not formally trained in the leadership practices, the experience itself likely fostered the change in scores.

These findings support the conclusions of Komives, Owen, Longersbeam, Mainella, and Osteen (2005) that as students spend time in leadership positions they develop a stronger sense of their leadership abilities. They are consistent with Astin's (1993) finding that the strongest positive effects for leadership development during college are associated with student-to-student interaction. The results support Romano's finding that leadership roles can be a developmental experience (1996), and support the leadership gains of recreational sport leaders found by Hall et al. (2008).

Limited evidence was found that athletics participation itself, at least over the course of one playing season, encouraged leadership development for student-athletes in the sample. Team members significantly increased their scores only for Inspire a Shared Vision. The inference is that athletics participation alone is not sufficient to spur substantive leadership growth during one playing season for the average student-athlete.

Comparing this finding to similar research finds it is not consistent with results reported by Astin (1993), Ryan (1989), and Pascarella and Smart (1991) who found that athletics involvement was positively associated with leadership abilities. The methodology of this study differed substantially from the others by examining the differences of student-athletes from the beginning to the end of one playing season; the other studies examined student-athletes versus nonathlete students after college graduation. Perhaps the time frame of this study, 10 to 12 weeks, was too short to enable differences to emerge, especially when techniques that analyze average changes were used. The inclusion of nonathlete students could have an impact on the findings as well. In support of this study, Shulman and Bowen

(2001) similarly found little evidence of increased leadership in collegiate athletes.

## IMPLICATIONS FOR PRACTICE

Though limited in scope, this study addressed inconsistencies in the literature regarding the role of collegiate athletics in leadership development. The results should encourage institutions to initiate leadership development in the context of athletics, extend it to other areas of student participation, and provide experiences that promote development. The results may interest the NCAA, due to their mission of "integrating intercollegiate athletics into higher education so that the educational experience of the student-athlete is paramount" (National Collegiate Athletics Association, 2004, ¶2). The NCAA could utilize the results to document opportunities for student leadership development in athletics.

Evidence of the developmental potential for student team captains is the key finding of the study. Institutions should seek ways to optimize this potential. Coaches could be trained to mentor team captains more effectively to provide greater developmental opportunity. Institutions could offer leadership courses for team captains as these might be effective, given the captains' opportunity to practice the techniques they would learn about in a classroom setting.

Practitioners should consider providing additional resources to help student leaders balance the challenging aspects of leadership. One-on-one and team captain group meetings could foster discussions on how to balance personal, academic, and career preparation needs with the demands of leadership responsibilities. Identifying areas where student leaders perceive they struggle can encourage development for the students and help practitioners anticipate potential problems. Similar to other student leaders (Kouzes & Posner, 2006a), the team

captains rated Challenge the Process the lowest of the five practices. Perhaps the leadership behaviors of this practice are the most difficult for students, so additional support may be needed to help student leaders challenge the status quo, encourage others to take risks, and set clear goals.

Reflection has been identified as a critical component of student leadership development (Hall et al., 2008). Practitioners should design strategies that promote team captain reflection to strengthen the developmental outcomes of their experience. Reflection seems to play a particularly important role in Challenge the Process. Behaviors identified in the practice include learning from mistakes and finding ways to experiment for improvement. A strategy that encourages reflection could strengthen these kinds of behaviors and help team captains contemplate how the position is preparing them for the future.

Practitioners should examine ways to enhance leadership prospects of the student-athlete experience. Athletics can provide varied opportunities to learn leadership skills. Practical suggestions are to (a) assign responsibilities to each team member, (b) include student-athletes in the planning process, (c) identify student-athletes to serve as skill demonstrators, (d) rotate responsibilities such as leading pregame stretching, (e) encourage student-athletes to form team goals via consensus, (f) set an environment that encourages risk taking and constructive communication, (g) seek input from student-athletes regarding the training environment, and (h) ensure student-athletes recognize their teammates' contributions. These suggestions may help all student-athletes increase leadership skills.

## LIMITATIONS

The study examined development during one playing season. Measurements only a few

months apart complicate the study of how leadership processes unfold (Yukl, 2002). Many leadership phenomena are likely to follow nonlinear growth trajectories, which are impossible to assess with a pre-post design (Ployhart, Holtz, & Bliese, 2002). It was impractical to measure participants three or more times given that team playing seasons are limited to a few months, and constant measurement would be overly intrusive. The findings should not be extrapolated beyond one playing season.

Three other limitations were also present. As in any study where time is a factor, there was a chance that some other life circumstance confounded the effect on the dependent variables. For example, perhaps certain students were simultaneously enrolled in a course on leadership, or were leaders of other student groups. Second, this research used a self-reporting survey instrument, which is susceptible to perceptual biases (Lord & Maher, 1991). Third, there was a large number of potential participants who contributed partially or not at all. No attempts were made to investigate if these student-athletes would have contributed different insights than those who responded.

## FUTURE RESEARCH

Several opportunities for future research emerged. The study was conducted at private institutions participating in one NCAA Division III athletics conference. The study could be replicated at other types of institutions, other levels of the NCAA, and other sports to see if the results could be generalized.

The study could be extended to a larger number of participants, specifically for the team captains. Future researchers should find ways to increase participants and response rates. Relying on coaches to facilitate instrument distribution is not recommended, while including a larger pool of institutions or sports is.

This study did not correlate team success—as measured by performance, win percentage, team cohesiveness, etc.—with team captains' use of leadership practices. These kinds of studies have been completed previously with coaches (Shields & Gardner, 1997; Armstrong, 1992), but no such research was found with team captains. Perhaps teams that had captains engaging in the highest levels of the leadership practices would demonstrate the greatest team success.

The smaller sample size limited the ability to investigate potential associations that researchers may find significant: for example, Do student-athletes who are the sole captain of their team develop leadership skills to a greater extent than those who share the leadership with one or more cocaptains? This

kind of investigation requires a larger number of team captains and sufficient variability in the number of captains on a team.

This study utilized the Student LPI to measure the influence of a collegiate leadership opportunity on leadership development. Research on other leadership opportunities, such as those in student government and collegiate volunteer services, could explore how they contribute to leadership development. Following this path could enable standardized conclusions instead of disparate findings resulting from multiple methodologies and instruments.

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