

An Exploratory Study of the Role of Task Dependence on Team Captains' Leadership Development

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Abstract

While there is evidence that team captainship in intercollegiate sports can lead to leadership development, there is little evidence about the role that task dependence may play on that effect. The individual or team nature of sports may offer different leadership experiences for team captains, leading to differential outcomes. In this exploratory study, 31 NCAA Division III team captains reported their leadership practice using Kouzes and Posner's Student Leadership Practices Inventory (2nd ed., 2005) at the beginning and end of one playing season. Results indicate that team captains developed their use of their leadership practices during the playing season regardless of whether they led an interdependent or independent team. The implications for leadership educators interested in the potentially unique contributions of various leadership experiences are discussed.

Introduction

Examining how to help students develop their leadership potential is a chief concern of leadership educators. Realizing that developing leaders is the result of determined doing, not just learning about leadership theories and concepts (Posner, 2009), educators must consider the impact of an array of sources outside the classroom where students may learn to be better leaders. For college students these include various groups such as student organizations, teams, work experiences, and the subject of this study, team captainship in varsity athletics. These experiences may offer differing potential for students to learn and practice leadership skills.

Investigations of intercollegiate athletics and campus recreational sports found peer leaders in these activities develop leadership skills (Grandzol, Perlis, & Draina, 2010; Hall, Forrester, & Borsz, 2008; Dupuis, Martin, & Loughhead,

2006). These leaders, often referred to as team captains, benefited from the opportunities provided by leading athletic teams. Yet, due to differences between organizations and their contexts (Logue, Hutchens, & Hector, 2005), there is need for research on specific involvement areas (Gellin, 2003). This exploratory study examines the leadership development of students who take on leadership positions in intercollegiate varsity sports and whether there were differences based on the type of teams the students led.

Captainship as a Developmental Experience

Dupuis, Martin, and Loughead (2006) reported that team captains engage in various behaviors designed to improve team climate, norms, and functioning. In their qualitative study of collegiate ice hockey captains, they found captains mentored younger team members, structured team activities, served as a communication bridge between coaches and their players, modeled standards, and engaged in other critical leadership behaviors. Further, Loughead and Hardy (2005) found that peer leaders exhibited leadership behaviors that were distinct from their coaches. For example, peer leaders exhibited more democratic behaviors, positive feedback, and social support than their coaches did. As indicated in these studies, team captainship offers opportunities where student-athletes can practice leadership skills.

Two studies assessed whether students holding leadership roles in collegiate sports developed leadership skills. Administering Kouzes and Posner's Student Leadership Practices Inventory (Student LPI, 2005, 2nd ed.), Grandzol and colleagues (2010) compared the leadership gains of team captains to team members in National Collegiate Athletics Association (NCAA) Division III varsity sports during the course of one playing season. They found that team captains utilized the five 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 more frequently than team members. The team captains also increased their usage of all five practices. Team members only developed skills on one leadership practice – inspire a shared vision.

Hall, Forrester, and Borsz (2008) qualitatively studied students serving in volunteer leadership capacities in campus recreational sports. These students developed in areas such as organizing and delegating, giving effective feedback, motivating others, role modeling behaviors, decision making, and reflective thinking. Combined, the findings of these previous studies indicate that positional leadership opportunities in sports can enhance students' leadership skills.

Influence of Task Dependence

None of the previous studies reported if task dependence was a factor in their findings, but it is a clear contextual difference. Chelladurai (1979) described task dependence as the degree of interaction a student-athlete has with others during execution of the task. Independent sports do not require teammates to interact for successful task completion; student-athletes compete directly against other student-athletes, and the outcomes of those matches contribute to a team score (Beam, Serwatka, & Wilson, 2004). Tennis and cross country are examples of independent sports. In interdependent sports, teammates interact for successful task completion. Football and basketball are examples of interdependent sports.

Task dependence is an important distinction with potential implications on communication, practice environment, coaching relationships, and teamwork. It is reasonable to expect it may impact the experience of a team captain. Considering the wealth of research on leadership differences based on situation (e.g., House, 1996; Blanchard, Zigarmi, & Zigarmi, 1985), task dependence in sports may influence leadership development.

The researchers cited below addressed the issue of task dependence, but did not examine its impact on leadership development. Using a sample of NCAA Divisions I and II student-athletes, Beam, Serwatka, and Wilson (2004) found that independent sports student-athletes preferred coaches who utilized democratic behaviors, situational consideration, and social support to a greater extent than their interdependent sports counterparts did. These findings were similar to Terry's (1984) and Terry and Howe's (1984) findings at the elite, club, and university levels.

It appears team sports athletes believe a rigid training environment is necessary for team success while independent athletes seem to prefer greater control over their training environment (Terry, 1984). These preferences have implications on the extent that athletes cede decision making to their coach or peer leader and the acceptance of task-oriented behaviors and positive feedback by those leaders (Beam et al., 2004). They point out that interdependent sports athletes are generally more comfortable yielding decision making to their leaders and prefer task-oriented leadership behaviors than their independent counterparts. The findings are conflicted over which athletes perceive the need for more positive feedback (Terry & Howe, 1984; Beam et al., 2004).

The previous studies examined the preferences of team members for leadership behaviors exhibited by their coaches, but did not address the potential differences among team captains. The studies were also dated or examined non-United States

based programs. The findings do explain leadership differences in team captains that may arise from task dependence. Due to interdependent sports athletes ceding more decision making and responsibilities and the requirement for successful interaction in these sports, it was believed interdependent sports captains would have more opportunities to interact, direct, organize, role-model, motivate, and improve their organization than independent sports captains. These might influence the extent of leadership skills the students would gain from their experience.

This study's purpose was to explore differences on use and development of leadership practices between interdependent and independent sports team captains in NCAA Division III athletics. It was hypothesized that interdependent sports team captains would report higher use of the leadership practices than independent sports team captains. It was also hypothesized that interdependent sports team captains would develop leadership skills at a greater rate than their independent sports peers.

Methods

Participants

Sixty-four team captains were invited to participate from six NCAA Division III universities in one Commonwealth of Pennsylvania athletic conference. These captains represented the interdependent varsity sports of soccer and field hockey, and the independent varsity sports of cross country and tennis. Thirty-one captains completed both the pretest and posttest for a completion rate of 48.5%. Of these, 16 were captains of independent teams (12 cross country; 4 tennis), and 15 were captains of interdependent teams (12 soccer; 3 field hockey). The response rate was affected by the number of teams (e.g., men's and women's soccer compared to women's field hockey) and the number of captains on each team. The sample was small, but allowed for correct identification of medium to large effect sizes. The participating institutions unanimously reported they did not offer formal leadership training for their team captains. Demographic characteristics are provided in Table 1.

Table 1
Demographic Characteristics

	Team Captains	
	Count	Percent
Gender		
Male	12	38.7%
Female	19	61.3%
Age		
18-24	31	100%
Year in College		
Sophomore	2	6.5%
Junior	7	22.6%
Senior	22	71.0%
Ethnicity		
Caucasian American	29	93.5%
Hispanic American	2	6.5%

Instrument

Permission was granted to use the self-version of Kouzes and Posner's Student LPI (2005, 2nd ed.) to measure team captains' frequency of leadership practices. The Student LPI was designed specifically for college students and measures broad leadership practices that are transferable to any context, not just sports. The model asserts that leadership consists of an observable set of skills that can be developed given motivation, desire, the opportunity to practice, and coaching (Kouzes & Posner, 2007).

The Student LPI consists of 30 behavior-based items, with six items loading on each practice: (a) model the way, (b) inspire a shared vision, (c) challenge the process, (d) enable others to act, and (e) encourage the heart. Respondents indicate their frequency of a specific behavior on a 5-point scale ranging from "rarely" to "frequently." The inventory's directions are self-explanatory.

Internal reliability scores for the five practices are generally between .70 and .85 (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). Scores show significant test-retest reliability at levels greater than .91 over varying periods (Kouzes & Posner, 2006b). Factor analyses revealed the instrument contains five factors (Kouzes & Posner, 2006b). Scores on the Student LPI were positively correlated with variables such as team cohesion, member commitment, member loyalty, satisfaction, and credibility

(Kouzes & Posner, 2006b). The leadership practices were not significantly related to GPA, gender, ethnicity, age, academic background, full or part time status, or year in school across a variety of collegiate student populations (Posner, 2004).

Design and Procedures

Team captains voluntarily participated by completing the Student LPI. Team coaches collected the data by distributing the instruments, confidentiality statements, and demographic questionnaires. Coaches may have influenced the captain responses to the survey, but the effect would have been minimal. Coaches only handed out the surveys. Participating captains completed the surveys on their own time and returned their instruments to a repository outside of their coach's purview.

Data were collected over an 11-week period. Team captains completed a pretest during their preseason week and a posttest during the last week of their season. Random assignment of participants to groups was not possible because team captains were already members of their specific teams. No attempt was made to re-administer the pretest or posttest to captains who failed to complete either instrument. Missing data were treated as missing completely at random.

Scores were derived for the leadership practices by summing the scores for the six items within the particular dimension, yielding a score from 6 to 30. Higher scores represent more frequent use of the specific leadership practice. To determine whether there were mean differences among groups, repeated measures were computed with analysis of variance (ANOVA) for the five leadership practices. Post-hoc analyses for gender was executed because of the larger numbers of females in the study (see Table 1).

Results

Descriptive statistics were calculated for independent and interdependent team captains for the five leadership practices measured by the Student LPI. Table 2 presents the group means and standard deviations (on a 30-point scale) for each leadership practice across the pre- and posttests. Table 3 summarizes the results of the statistical analyses using the ANOVA.

Table 2
Group Means and Standard Deviations

Leadership Practice	Pretest				Posttest			
	Independent ^a		Interdependent ^b		Independent ^a		Interdependent ^b	
	<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	22.88	2.42	24.53	2.39	24.50	2.85	26.13	2.50
Inspire a Shared Vision	22.56	3.37	24.27	2.79	24.06	2.56	26.53	1.99
Challenge the Process	21.75	3.55	24.20	2.70	23.56	2.55	25.73	1.98
Enable Others to Act	24.06	2.65	24.73	2.69	25.19	1.76	27.13	2.13
Encourage the Heart	24.75	2.91	25.87	2.70	26.25	2.49	27.40	2.16

^an = 16; ^bn = 15

Table 3
 Summary of Repeated Measures ANOVA for the Leadership Practices

Source	SS	df	MS	F
Model the Way				
Between-Subjects				
Task Dependence	41.94	1	41.94	3.89
Error	312.54	29	10.78	
Within-Subjects				
Captain Experience	40.26	1	40.26	18.05***
Captain Experience x Task Dependence	.00	1	.00	.00
Error	64.680	29	2.23	
Inspire a Shared Vision				
Between-Subjects				
Task Dependence	67.47	1	67.47	5.57*
Error	351.08	29	12.11	
Within-Subjects				
Captain Experience	54.92	1	54.92	18.86***
Captain Experience x Task Dependence	2.28	1	2.28	.78
Error	84.47	29	2.91	
Challenge the Process				
Between-Subjects				
Task Dependence	82.65	1	82.65	6.83*
Error	351.19	29	12.11	
Within-Subjects				
Captain Experience	43.33	1	43.33	13.50**
Captain Experience x Task Dependence	.30	1	.30	.09
Error	93.09	29	3.21	
Enable Others to Act				
Between-Subjects				
Task Dependence	26.50	1	26.50	2.93
Error	262.37	29	9.05	
Within-Subjects				
Captain Experience	48.09	1	48.09	25.99***
Captain Experience x Task Dependence	6.29	1	6.29	3.40
Error	53.68	29	1.85	
Encourage the Heart				
Between-Subjects				
Task Dependence	19.89	1	19.89	1.85
Error	312.47	29	10.78	
Within-Subjects				
Captain Experience	35.62	1	35.62	13.79**
Captain Experience x Task Dependence	.00	1	.00	.00
Error	74.87	29	2.58	

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

Hypothesis 1

Hypothesis 1 posed that interdependent sports team captains would report higher use of the leadership practices. The ANOVA demonstrated interdependent team captains reported significantly higher use of two of the five leadership practices: inspire a shared vision $F(1, 29) = 5.57, p < .05$ and challenge the process $F(1, 29) = 6.83, p < .05$.

Hypothesis 2

Hypothesis 2 posed that interdependent sports team captains would develop leadership skills at a greater rate than independent sport team captains. The ANOVA demonstrated captains in both contexts reported higher usage of all five leadership practices at the end of their season than at the beginning: model the way $F(1, 29) = 18.05, p < .001$, inspire a shared vision $F(1, 29) = 18.86, p < .001$, challenge the process $F(1, 29) = 13.50, p < .01$, enable others to act $F(1, 29) = 25.99, p < .001$, and encourage the heart $F(1, 29) = 13.79, p < .01$. No significant interactions with task dependence were found; team captains in both contexts developed leadership skills at a similar rate.

Gender

Independent *t*-tests revealed no significant differences between male and female team captains on any leadership practice.

Discussion

Interdependent team captains reported significantly higher use of the practices of *inspires a shared vision* and *challenge the process*. These results are consistent with past investigations that found interdependent teams pose a different context than independent teams, and interdependent team members cede more decision making and responsibilities to their leaders (Terry, 1984; Terry & Howe, 1984; Beam et al., 2004). Inspire a shared vision requires leaders to create a vision for their organization and enlist the help of others. This practice may be more applicable to a team sport environment where team success is dependent upon effective interaction among members. Challenge the process encourages leaders to take risks and challenge the status quo. Again, due to the necessity of interaction, perhaps interdependent team leaders seek innovative ways to improve the team more often to enable the team's success.

Independent teams feature individuals involved in their own training, development, and competition. It seems leaders of these teams do not challenge

their teammates as much and goal setting is more personally oriented. The nature of independent sports is the likely reason for the difference.

No differences were found among team captains on *model the way*, *enable others to act*, or *encourage the heart*. Regardless of task dependence, captains reported similar frequency of actions such as role-modeling desired behaviors, building trust, empowering followers, and celebrating contributions (Kouzes & Posner, 2007). It seems these leadership behaviors are employed equally on both types of teams. These findings are partially in contrast to previous studies such as Beam et al. (2004) which found higher preferences for behaviors such as positive feedback by independent sport student-athletes. However, their study utilized a different instrument and measured preferences for coaching behaviors. This study measured team captain leadership behaviors; it did not gauge whether team members equally desired the behaviors.

The key findings of this study are that both independent and interdependent team captains developed usage of all five leadership practices during the playing season. These support past investigations that found peer leaders in sports develop leadership skills (Grandzol, Perlis, & Draina, 2010; Hall, Forrester, & Borsz, 2008; Dupuis, Martin, & Loughhead, 2006). This study reaffirms the potential for the captain position to enhance student-athletes' leadership skills.

Contrary to expectations, the team captain experience, whether on an interdependent or an independent team, fostered equivalent and positive leadership practice development. This indicates that the experience, regardless of task dependence, provides a fertile learning opportunity for students. These findings have no direct comparison, but are different than expectations because of the research reported by Terry (1984), Terry and Howe (1984), and Beam et al. (2004). Their studies indicated different preferences for leadership behaviors by team members and different leadership challenges between the two contexts. In this study it was speculated that interdependent team captains would have a greater leadership challenge, and while that may be the case, there was no impact on leadership skill development of the team captains.

As expected, no statistical differences between male and female team captains was found. The results are consistent with others (e.g., Posner, 2004) that found that demographic variables such as gender were not a source of difference. This finding increases the chances that task dependence and captain experience were the sources of observed differences in this study.

This study has implications for leadership educators. It demonstrated that students can learn to become better leaders through “doing” leadership (Posner, 2009).

Students involved in sports peer leadership increased the use of the various leadership practices and did so regardless of the type of team, despite the fact that these students were not enrolled in a formal leadership course and did not partake in a formal reflection process. Perhaps augmenting the leadership experience of being a team captain, with a formal course or reflection process would lead to even greater gains in leadership skills. It is also valuable for leadership educators to consider if the practical leadership experiences students engage in vary by context, require different emphases, or are actually beneficial to students.

This study also has implications for other constituencies. Coaches may consider why independent team captains reported lower use of *inspire a shared vision* and *challenge the process*. To the extent these practices are desired and necessary on an independent sports team the coaches may want to mentor their team captains and help them navigate these challenges in a largely individual team structure. The results may also interest the NCAA given its mission of “integrating intercollegiate athletics into higher education so that the educational experience of the student-athlete is paramount” (2004, ¶ 2). The NCAA can use the results to document opportunities for student leadership development in athletics. Student affairs professionals interested in preparing students with leadership skills should realize that different student experiences may offer unique contributions.

The results of this study must be viewed in light of its limitations. The study was exploratory; based on a small sample, and only one conference at the Division III level. Future researchers should consider larger sample sizes and include other competition levels to see if the results can be generalized. This study offered an examination of the development of student leaders during one playing season and is based on only two measurements. Two measurements taken only a few months apart complicate the study of how leadership processes unfold because many leadership phenomena are likely to follow nonlinear growth trajectories (Ployhart, Holtz, & Bliese, 2002). Finally, as in any study where time is a factor, some other life circumstance may have confounded the effect on the leadership practices.

Sports leadership and the potential benefits of “doing” leadership are important considerations for leadership educators, but little research has addressed the leadership of team captains. Studies that did so neglected the issue of task dependence. Findings from this study indicate that student-athletes serving as team captains develop leadership skills regardless of whether they lead an independent or interdependent team. Interdependent sports team captains reported higher use of two leadership practices (see above), which may indicate a greater leadership challenge in team sports. Further investigations are needed for fuller understanding of team captain leadership and the unique contributions that practical leadership experiences offer students.

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