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**Formal and Informal Athlete Leaders: The Relationship  
between Athlete Leadership Behaviors and Cohesion**

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**Abstract**

Aside from coaches, athletes hold leadership roles amongst their teams (Loughead et al., 2006), and leadership behaviors often relate to cohesion (e.g., Shields, Gardner, Bredemeier, & Bostro, 1997; Vincer & Loughead, 2010). There are two main types of athlete leaders that have been identified: formal and informal athlete leaders. Vincer and Loughead (2010) discuss that in order to gain a conceptual picture of athlete leadership, these two types of athlete leaders must be examined independently unlike past literature, which has focused on athlete leaders as a general group. The present research examined the differences between formal and informal athlete leadership behaviors, the gender differences, and the relationship that leadership behaviors have with cohesion. Seventy-four varsity male and female college basketball players completed the Group Environment Questionnaire (GEQ; Carron, Widmeyer, & Brawley, 1985), the Leadership Scale for Sport (LSS; Challadurai & Saleh, 1980) modified for formal athlete leaders, and the LSS modified for informal athlete leaders. A paired-samples t-test revealed significant differences between formal and informal athlete leaders on leadership behaviors, and a Pearson-product moment correlation revealed significant correlations between athlete leadership behaviors and cohesion. These results could benefit coaches by increasing their understanding of athlete leaders, allowing them to more effectively select or appoint athlete leadership.

Leadership is a key factor in any group setting, and leadership behaviors can have both positive and negative effects on the group cohesion (Shields, Gardner, Bredemeier, & Bostro, 1997; Vincer & Loughhead, 2010). This is important to note because cohesion is positively correlated with performance among athletes (Carron, Colman, Wheeler, & Stevens, 2002), and leadership behaviors have been found to be significantly related to cohesion (Gardner, Shields, Bredemeier, & Bostrom, 1996; Murray, 2006; Shields et al., 1997; Turman, 2003), meaning that leadership behaviors may be indirectly related to performance through their relationship with cohesion. Athletes hold leadership positions within their team, and therefore it is necessary to explore the relationships that their behaviors may have on different factors influencing the team.

Before athlete leadership can be understood it is necessary to consider the fundamental nature of athlete leaders by conceptualizing the need, development, and selection of them. Some research has delved into the concept of how athlete leaders develop (e.g. Voekler, Gould, & Crawford, 2011; Wright & Côté, 2003). It was explained that athlete leaders have developed high skill, strong work ethic, tactical sport knowledge, and good rapport with teammates through exposure to a nonthreatening sport environment, having supportive parents who also act as play partners, and early participation with older peers (Wright & Côté, 2003). It was also reported that athlete leaders learned leadership skills from past experiences (Voekler et al., 2011; Wright & Côté, 2003), but Wright and Côté (2003) further explained that if athletes were not given the chance to lead then they may never develop the necessary skills of a leader. In their research, Wright and Côté discussed the fundamentals of athlete leadership through concepts such as interpersonal expectancy effects and social exchange theory.

Interpersonal expectancy effects are considered when “one person (A), acting in accordance with a set of expectations, treats another person (B) in such a manner as to elicit behavior that tends to confirm the original expectations” (Harris & Rosenthal, 1988, p. 2). For example, coaches form a certain expectation about athletes

and thus treat the athletes in alignment with those expectations, and then the athletes likely perform in accordance to the coaches' expectations (Wilson & Stephens, 2007). The fundamental idea of interpersonal effects is very similar to that of the self-fulfilling prophecy. This phenomenon can be seen in athletes beginning to show leadership due to the way they are treated by or the expectations of their coaches.

Another theoretical explanation of athlete leaders is that of social exchange theory. Social exchange theory involves social exchanges which are defined as "a two-sided mutually contingent, and mutually rewarding process involving transactions or simply exchange" (Emerson, 1976, p. 336). In other words, something is given and something is received between two people or parties working to benefit themselves through the specific trade or exchange. Exchanges could be in the form of monetary gifts, work, reward, or in this case, leadership. In the instance of leadership as the form of exchange, originally a person will provide their characteristics to the group members for the benefit of the group in exchange for the title of leader, which is the benefit to that specific person. This idea can also be a valuable way of looking into athlete leadership and athlete leadership behaviors (Moran & Weiss, 2006) because athletes can use their ability or other attributes in exchange for leadership. Athletes attain different abilities or attributes that can be important for a leadership position amongst their team, and due to such variability there are many different types of athlete leaders.

In recent research, athlete leadership has been split into two groups: team leaders and peer leaders (Loughead, Hardy, & Eys, 2006). Team leaders have been identified as athletes who occupy a formal role such as captain (Loughead et al., 2006). These team or formal leaders have been operationally defined as being leaders who were identified by at least 50% of their teammates as holding a leadership position and have been found to often be starters, which frequently indicates the most skilled or gifted athletes or those who were high in task/sport related experience or skill (Loughead et al., 2006). Moran and Weiss (2006) support that idea as they found

athletic ability to be a predictor of athlete leadership. It was also found that team or formal leaders were often in their third year with their college team (Loughead et al., 2006) meaning they had likely developed rapport with their teammates, and earned their teammates' respect. It is suggested that team captains would lead the team on the field of play, but not necessarily off the field (Holmes, McNeil, & Adorna, 2010; Moran & Weiss, 2006). Furthermore, as discussed by Loughead and colleagues (2006), formal leaders are members of not only the team, but an extension of the coaching staff as well. Because of this dynamic formal leaders often serve as the liaison between the players and the coaches.

Aside from team or formal leaders, there are also peer or informal athlete leaders. Peer or informal leaders have been operationally defined as athletes who were reported as having provided leadership to at least two of their fellow athletes (Loughead et al., 2006). Also, peer leaders were likely to be viewed by their teammates as those without a formal leadership title. While team or formal leaders have their respective roles, peer or informal leaders often play different roles on the team. For example, these types of leaders may provide clarification to teammates with regards to coaching instruction (Loughead et al., 2006) or demonstrate their abilities during situations that call for interpersonal communication and social support (Holmes et al., 2010). While formal leaders lead mostly on the field, it is likely that informal leaders fulfill their roles off the field in activities such as community service or team gatherings. Informal leaders or peer leaders have been shown to have a significant impact on group activities, create an aspect of group culture, and influence group processes and structure (Loughead et al., 2006).

While it is apparent that both formal and informal leaders have their specific roles, the extant literature is not clear about the influence or impact of these roles. Eys, Loughead, and Hardy (2007) discovered when leadership positions were distributed equally among a team, the athletes were more satisfied. This suggests that even though formal leaders are important, it is just as important to have informal or peer leaders to balance the relationship and

optimize overall satisfaction among team members. Therefore, since informal and formal leaders both play an integral role in the team dynamic, it is critical to examine the leadership behaviors of both types of athlete leaders.

Fundamentally, males and females are different, and in order to fully understand athlete leadership behaviors we must understand the gender differences among athlete leaders. Jambor and Zhang (1997) argue differences in leadership do not exist between genders, but in a more recent study, Sherman, Fuller, and Speed (2000) suggested that it is important to look back at gender differences and leadership to understand what changes may have occurred, if any, due to shifts in society and gender roles in general.

Of the few studies regarding gender and leadership, most of the researchers have focused on coaches and their behaviors (e.g., Beam, Serwatka, & Wilson, 2004; Jambor & Zhang, 1997; Sherman et al., 2000). Although coaches and athlete leaders are different, this information is useful because with such a lack of research on athlete leadership and gender differences, it would prove beneficial to gain further insight from a similar population. Beam et al. (2004) as well as Sherman and colleagues (2000) provide research on athletes from 18-35 years who were participants in football, netball, basketball, baseball, soccer, volleyball, tennis, golf, and track and field/cross country. The researchers examined differences in preferred coaching behaviors among male and female coaches and found that both genders preferred behaviors such as positive feedback, training and instruction, and democratic behavior (Sherman et al., 2000). Additionally, Sherman et al. suggested that neither gender preferred social support nor autocratic behaviors in their coaches. While overall preferences have been found to be the same, there have been differences identified in how much each gender prefers a behavior. For example, female athletes have been shown to prefer democratic behaviors and positive feedback (Sherman et al., 2000) as well as training and instruction (Beam et al., 2004) significantly more than male athletes. It was also suggested that male athletes preferred social support and autocratic behaviors significantly more than female athletes. These findings supply some data regarding athlete

preferences of coaching behaviors, but are not conclusive regarding athlete leader behaviors

No research to date has explored gender differences in athlete leaders' actual behaviors, but Holmes et al. (2010) began to explore gender differences among what athletes see as characteristics of good and bad athlete leaders. Through a qualitative design that included baseball, football, golf, soccer, track and field/cross country, lacrosse, softball, and tennis athletes, Holmes et al. found that both genders defined a good leader as vocal and trustworthy, a role model who serves example, and possesses strong interpersonal skills. Of those leader behaviors, being vocal, having good interpersonal skills, and being sensitive were more important to women. On the other hand, trustworthiness and experience were more important leader behaviors to men. Both genders reported that a bad leader had negative attitudes and abused power.

Drawing upon the aforementioned gaps in the literature, the focus of this study was three-fold: 1) to explore leadership behaviors of formal and informal athlete leaders and examine if these behaviors differ between the types of leaders; and 2) to investigate the possible relationships between formal and informal athlete leader behaviors and cohesion; and 3) to examine the leadership behaviors of male and female athlete leaders and determine if these behaviors differ between genders.

Accordingly, it was hypothesized that: 1) formal athlete leaders would be perceived as showing more training and instruction behaviors, informal athlete leaders would be perceived as showing more social support behaviors, and that there would be no difference between formal and informal athlete leaders on perceived democratic behaviors, autocratic behaviors, or positive feedback; 2) training and instruction behaviors would be positively related to both individual attractions to the group – task (ATGT) and group integration – task (GIT), social support behaviors would be positively related to both individual attractions to the group – social (ATGS) and group integration – social (GIS), positive feedback behaviors would be positively related to ATGT, ATGS, GIT, and GIS, democratic behaviors would be positively related to ATGT, ATGS, GIT, and

GIS, and autocratic behaviors would be negatively related to ATGT, ATGS, GIT, and GIS; and 3) male athlete leaders would be perceived as showing more training and instruction behaviors than female athlete leaders, female athlete leaders would be perceived as showing more social support behaviors than male athlete leaders, male athlete leaders would be perceived as showing more autocratic behaviors than female athlete leaders, female athlete leaders would be perceived as showing more democratic behaviors than male athlete leaders, and there would be no difference between male and female athlete leaders on positive feedback.

## **Methods**

### **Participants**

Participants included 74 athletes from NCAA Division III college basketball teams including 32 men and 42 women (see Table 1); teams were sampled from all regions in the United States. Due to incomplete surveys, there were an additional 68 responses that were excluded from data analysis. Of the athletes participating, 55 reported they were an athlete leader, and of those 55 athlete leaders, 39 reported they were an informal leader (i.e., an athlete who has provided leadership to at least two of their teammates) and 16 reported serving as a formal leader (i.e., an athlete who holds a formal title such as captain).

Table 1  
*Frequencies for Sample*

	Number of Participants
Age	
18	4
19	24
20	20
21	14
22	11
23	1
Race	
White/Caucasian	60
Black/African American	7
Asian	2
Other	5

### Measures

Three instruments were used in this study: a) a demographic questionnaire to gather sample characteristics, b) the Group Environment Questionnaire (GEQ; Carron, Widmeyer, & Brawley, 1985) to measure group cohesion, and c) the Leadership Scale for Sport (LSS; Chelladurai & Saleh, 1980) to measure athlete leadership behaviors.

**Demographic Questionnaire.** A demographic questionnaire was used to examine characteristics of the sample group including age, class year, race, sex, years on team, athlete leader status, and how many years they have been an athlete leader.

**Group Environment Questionnaire.** Group Environment Questionnaire (GEQ; Carron et al., 1985) was used to gauge group cohesion. The GEQ is an 18-item instrument measuring four aspects of team cohesiveness: Individual Attractions to the Group-Task, Individual Attractions to the Group-Social, Group Integration-Task, and Group Integration-Social. Individual Attractions to the Group-Task consists of feelings of team members about their personal impact or involvement in team tasks and is measured through four items. Individual Attractions to the Group-Social consists of feelings



of the team members with regards to their social acceptance and interactions and is measured with five items. Group Integration-Task consists of the feelings of individual members with regards to the similarity and relatedness of the team toward their task and is measured through five items. Group Integration-Social consists of the feelings of team members with regards to the similarity and relatedness of the team towards social happenings and is measured through four items. Responses are measured on a 9-point Likert scale ranging from *strongly disagree* to *strongly agree*. Each subscale is scored independently by summing the scores of each subscale then dividing by the number of items within the subscale to find the mean of each individual participant, and then the process is completed for the team as a whole.

In past research the internal consistency of the GEQ has been found to fall within the acceptable to good levels (e.g., Gardner et al., 1996; Murray, 2006; Shields et al., 1997; Vincer & Loughead, 2010). All of the following data was obtained through samples of high school athletes, college-age athletes, or both who participated in baseball, basketball, hockey, indoor soccer, softball, or volleyball. For the Group Integration-Task dimension alphas of: a) .71 (Vincer & Loughead, 2010); b) .82 (Murray, 2006); and c) .68 (Gardner et al., 1996; Shields et al., 1997) were found. For the Group Integration-Social dimension, alphas of: a) .72 (Vincer & Loughead, 2010); b) .78 (Murray, 2006); and c) .60 (Gardner et al., 1996; Shields et al., 1997) have been reported. For Individual Attractions to the Group-Task, alphas of: a) .65 (Vincer & Loughead, 2010); b) .71 (Murray, 2006); and c) .60 (Gardner et al., 1996; Shields et al., 1997) have been found. For the Individual Attractions to the Group-Social dimension, alphas of: a) .60 (Vincer & Loughead, 2010); b) .78 (Murray, 2006); and c) .61 (Gardner et al., 1996; Shields et al., 1997) were reported.

#### **Athlete Leader Version of the Leadership Scale for Sport.**

The Leadership Scale for Sport (LSS; Chelladurai & Saleh, 1980) was used to measure leadership behaviors. A revised version to measure athlete leadership behaviors was developed by Vincer and

Loughead (2010). This Athlete Leader Version of the LSS only included a change to the stem of each item; for example, “The athlete leader(s) on my team” instead of “My coach” as is found in the original LSS (Vincer & Loughead, 2010). Items are scored on a 5-point Likert scale ranging from *always* to *never*, which represents the frequency that an athlete leader engages in the specific leadership behavior. The modified version of the LSS contains the same dimensions (i.e., Training and Instruction, Democratic Behavior, Autocratic Behavior, Social Support, and Positive Feedback) and number of total items (i.e., 40) as the original LSS. Training and Instruction measures a leader’s behaviors intended to improve athletes’ performance by promoting full effort, Democratic Behavior measures the extent to which an athlete leader involves his/her teammates in decision making, Autocratic Behavior measures the extent to which an athlete leader is independent in decision making, Social Support measures how much an athlete leader has concern for his/her teammates, and Positive Feedback measures the extent to which an athlete leader intends to reinforce a team member’s behavior. In an athlete leadership study completed by Vincer and Loughead (2010), each of the five dimensions reached internal consistency: a) Training and Instruction, .88; b) Democratic Behavior, .79; c) Autocratic Behavior, .74; d) Social Support, .86; and e) Positive Feedback, .84.

### **Procedure**

Institutional Review Board approval was obtained before any participants were contacted to participate in this study. A nationwide convenience sample of one hundred thirty-eight NCAA Division III college basketball coaches (out of a possible population of 650) were contacted. Coaches were asked to provide an email Qualtrics link to their athletes so that participants could complete questionnaires via an online format. Due to a limited response rate following coach emails, a nationwide convenience sample of 118 athletes, not associated with the aforementioned coaches, were emailed directly with the introductory information and the link to the survey. Athletes were identified on their school’s online roster, and

their emails were accessed through their school's online directory. Participants were directed to an overview of the study and then instructed to continue to the data collection portion if they decided to participate. Participants completed the Demographic Questionnaire, GEQ, and modified version of the LSS twice (once focusing on formal athlete leaders and once focusing on informal athlete leaders).

### **Data Analysis**

Data were analyzed using PASW Statistics 18. Descriptive statistics were run and Cronbach's alpha was calculated for each subscale. A Paired Samples t-Test was used to measure the differences between the two leader types for each of the five leadership behaviors. Pearson's bivariate correlations were run between each leadership behavior subscale and cohesion subscales. Finally, a MANOVA was used to measure the differences between male and female athletes on each of the five leadership behaviors.

### **Results**

Descriptive statistics were run for each of the subscales by leadership type (see Table 2). Cronbach's alpha was assessed for each version of the measure and each subscale. For the Athlete Leader Version of the LSS for the formal athlete leaders, all five subscales reached internal reliability with coefficients for the Instruction and Training, Democratic Behaviors, Autocratic Behaviors, Social Support, and Positive Feedback subscales, .94, .89, .85, .93, and .93, respectively. For the Athlete Leader Version of the LSS for informal athlete leaders, all five subscales reached internal reliability with alpha coefficients for Instruction and Training, Democratic Behaviors, Autocratic Behaviors, Social Support, and Positive Feedback, .94, .91, .82, .93, and .94, respectively.

Table 2  
*Means for Formal and Informal Athlete Leader Behaviors*

	Mean	SD
Formal Training and Instruction	3.34	.82
Informal Training and Instruction	3.24	.78
Formal Democratic Behaviors	3.17	1.46
Informal Democratic Behaviors	3.50	.91
Formal Autocratic Behaviors	2.47	.86
Informal Autocratic Behaviors	2.37	.85
Formal Social Support	3.84	.88
Informal Social Support	4.05	.76
Formal Positive Feedback	4.01	.87
Informal Positive Feedback	4.20	.84

Range of Mean = 1 - 5

### **Differences between Formal and Informal Athlete Leader Behaviors**

For the research question regarding perceived differences between the leadership behaviors (i.e., training and instruction, social support, positive feedback, democratic, and autocratic) of informal and formal athlete leaders, it was hypothesized that formal athlete leaders would be perceived as showing more training and instruction behaviors, informal athlete leaders would be perceived as showing more social support behaviors, and that there would be no difference between formal and informal athlete leaders on perceived democratic behaviors, autocratic behaviors, or positive feedback. A paired-samples t-test measured the difference between the leader behaviors among the five subscales, and only one subscale was significantly different between groups, formal social support ( $M = 3.85$ ,  $SD = .89$ ) and informal social support ( $M = 4.06$ ,  $SD = .76$ ),  $t(73) = -2.04$ ,  $p < .05$ , which supported the hypotheses. There was not a significant difference in the scores of formal training and instruction and informal training and instruction  $t(73) = 1.10$ ,  $p =$

.27, refuting the hypothesis. However, as expected, there were no differences between leader groups for democratic behaviors,  $t(73) = -1.75, p = .08$ , autocratic behaviors,  $t(73) = 1.07, p = .29$ , or positive feedback behaviors,  $t(73) = -1.79, p = .078$ , which supported the hypotheses.

### **Relationship between Athlete Leader Behaviors and Cohesion**

For the research question regarding relationships between athlete leadership behaviors and types of cohesion (i.e., group integration –social (GIS), individual attraction to the group – social (ATGS), group integration – task (GIT), and individual attraction to the group – task (ATGT). Due to the task related nature of training and instruction behaviors, it was hypothesized that they would be positively related to both ATGT and GIT. Similarly, because of the nature of social support behaviors it was hypothesized that they would be positively related to both ATGS and GIS. Positive feedback, democratic, and autocratic behaviors are not specifically task or social oriented such as training and instruction and social support are, and therefore, it was hypothesized that positive feedback behaviors would be positively related to ATGT, ATGS, GIT, and GIS, democratic behaviors would be positively related to ATGT, ATGS, GIT, and GIS, and autocratic behaviors would be negatively related to ATGT, ATGS, GIT, and GIS. Pearson-Product Moment Correlations were used to measure these relationships.

There were several significant relationships between the formal athlete leader behaviors and cohesion (see Table 3). A statistically significant positive correlation was observed between formal training and instruction and ATGT,  $r(72) = .45, p < .01$  and GIT,  $r(72) = .42, p < .01$ , which supports the hypothesis that as the perceived amount of training and instruction behaviors of formal leaders increased, so did the perception of task cohesion. A statistically significant positive correlation was observed between formal social support and all four GEQ subscales: ATGS,  $r(72) = .37, p < .01$ , ATGT,  $r(72) = .33, p < .01$ , GIS,  $r(72) = .24, p < .05$ , GIT,  $r(72) = .40, p < .01$ , which supports and expands upon the hypothesis that as the perceived amount of socially supportive

behaviors increased, so did the perception of both task and social cohesion. A statistically significant positive correlation was observed between formal positive feedback and ATGS,  $r(72) = .33, p < .01$ , ATGT,  $r(72) = .43, p < .01$ , and GIT,  $r(72) = .45, p < .01$ , which partially supports the hypothesis that as the perceived amount of positive feedback increased, so did the perception of ATGS, ATGT, and GIT. GIS, however, was not found to be related to formal positive feedback as predicted, thus, the hypothesis was partially supported. A statistically significant negative relationship was found between formal autocratic behaviors and ATGS,  $r(72) = -.30, p < .05$ , ATGT,  $r(72) = -.26, p < .05$  and GIT,  $r(72) = -.26, p < .05$ , which partially supports the hypothesis that as the perceived amount of autocratic behaviors increased, the perception of ATGS, ATGT, and GIT decreased. The remainder of the hypothesis regarding the GIS was not supported by the findings. There were no statistically significant correlations between formal democratic behaviors and any of the GEQ subscales, which refutes the hypothesis that democratic behaviors would be positively related to both task and social cohesion.

There were several significant relationships between the Informal Athlete Leader RLSS and the GEQ. A statistically significant positive correlation was observed between informal training and instruction and ATGT,  $r(72) = .49, p < .01$  and GIT,  $r(72) = .42, p < .01$ , which supports the hypothesis that as the amount of perceived training and instruction behaviors of the informal leader increased, so did the perception of task cohesion. A statistically significant positive correlation was observed between informal democratic behaviors and ATGS,  $r(72) = .28, p < .05$  and GIT,  $r(72) = .41, p < .01$ , which partially supports the hypothesis that as the amount of perceived democratic behaviors increased, so did the perception of ATGS and GIT, but not ATGT and GIS as hypothesized. A statistically significant positive correlation was observed between informal social support and ATGS,  $r(72) = .47, p < .01$ , GIS,  $r(72) = .23, p < .05$ , and GIT,  $r(72) = .40, p < .01$ , which supports and expands upon the hypothesis that as the perceived amount of social support increased, so did the perception of social

cohesion. It was found that informal social support also positively correlated with task cohesion, which expanded on the hypothesis. A statistically significant positive correlation was observed between informal positive feedback and ATGS,  $r(72) = .32, p < .01$ , ATGT,  $r(72) = .23, p < .05$ , and GIT,  $r(72) = .35, p < .01$ , which partially supports the hypothesis that as the perceived amount of positive feedback increased, so would the perception of ATGS, ATGT, and GIT. GIS was not correlated with positive feedback as it was hypothesized. There were no statistically significant correlations between informal autocratic behaviors and any of the GEQ subscales which refutes the hypothesis that as the perception of autocratic behaviors increased, so would both task and social cohesion.

Table 3  
*Correlations between formal and informal athlete leadership behaviors and cohesion*

	ATGS	ATGT	GIS	GIT
Formal Training and Instruction	.18	.50**	.11	.42**
Formal Democratic Behavior	.07	.07	.10	.04
Formal Autocratic Behavior	-.30*	-.26*	-.22	-.26*
Formal Social Support	.37**	.33**	.42*	.40**
Formal Positive Feedback	.33**	.43**	.18	.45**
Informal Training and Instruction	.12	.49**	.04	.42**
Informal Democratic Behaviors	.28*	.22	.19	.41**
Informal Autocratic Behaviors	-.18	-.04	-.18	-.05
Informal Social Support	.47**	.22	.23*	.40**
Informal Positive Feedback	.32**	.28**	.11	.35**

\*\*  $p < .01$  level.

\*  $p < .05$  level.

### **Gender Differences between Athlete Leader Behaviors**

For the research question regarding differences between male and female athlete leadership behaviors, it was hypothesized that male athlete leaders would be perceived as showing more training and instruction behaviors than female athlete leaders, female athlete leaders would be perceived as showing more social support behaviors than male athlete leaders, male athlete leaders would be perceived as showing more autocratic behaviors than female athlete leaders, female athlete leaders would be perceived as showing more democratic behaviors than male athlete leaders, and there would be no difference between male and female athlete leaders on positive feedback. A Multivariate Analysis of Variance (MANOVA) was used to measure the difference between the genders on each leadership subscale. There was not a significant difference between athlete leader behaviors based on gender,  $F(5, 68) = 1.36, p = .25$ ; Wilk's  $\Lambda = .91$ , partial  $\eta^2 = .09$ . Due to the overall difference between genders on athlete leadership behaviors failing to reach significance no post-hoc observations or analyses were included, meaning that the hypotheses could not be supported based on the data collected.

### **Discussion**

An athlete leader is considered both a member and often an extension of the coaching staff (Loughead et al., 2006), and their behaviors are very similar to those shown by coaches (i.e., training and instruction, democratic behaviors, autocratic behaviors, social support, and positive feedback) (Chelladurai & Saleh, 1980). Furthermore, research has shown that there is no longer one single type of athlete leader amongst teams (Loughead et al., 2006). Often, teams will have multiple athlete leaders, which include team or formal athlete leaders and peer or informal athlete leaders. Loughead and colleagues (2006) have suggested that the roles that these two types of athlete leaders hold are different. Team or formal leaders often fulfill leadership duties on the field of play whereas peer or informal athlete leaders often fulfill leadership duties off the field or more so behind the scenes.



A recent study conducted by Vincer and Loughhead (2010) revealed that athlete leadership behaviors are correlated with cohesion. Given the similarities in roles between athlete leaders and coaches as well as their comparable leadership behaviors this makes sense. According to Carron et al. (1985), cohesion consists of four aspects: individual attraction to the group – social (ATGS), individual attraction to the group – task (ATGT), group integration – social (GIS), and group integration – task (GIT). These four aspects make up the Group Environment Questionnaire (GEQ). Vincer and Loughhead (2010) found positive relationships between training and instruction, democratic behaviors, social support, and positive feedback and all four subscales of cohesion as well as negative relationships between autocratic behaviors and all four subscales of cohesion, but went on to suggest that differences may exist between formal and informal athlete leadership behaviors. Because of the previously mentioned gaps, the main purpose of this study was to explore leadership behaviors of formal and informal athlete leaders and examine if these behaviors differ between the types of leaders. Again, it was hypothesized that formal athlete leaders would be perceived as showing more training and instruction behaviors, informal athlete leaders would be perceived as showing more social support behaviors, and that there would be no difference between formal and informal athlete leaders on perceived democratic behaviors, autocratic behaviors, or positive feedback.

In the exploration of differences between the leadership behaviors of informal and formal athlete leaders, only one difference was observed, which was between the social support behaviors of each type of athlete leader. More specifically, informal athlete leaders were found to be perceived as showing more social support than formal athlete leaders. This finding supports the idea that informal leaders fulfill their role off the field of competition through social activities and focus on social behaviors, such as spending time in community service and activities and team-related gatherings (Loughhead et al., 2006). Furthermore, informal athlete leaders have been shown to often perform duties demonstrating support such as providing clarification to other teammates on instructions given by

the coaches or formal leaders (Loughead et al., 2006), or more generally, demonstrating their abilities during situations calling for interpersonal communications (Holmes et al., 2010). It is reasonable to assume that situations requiring interpersonal communications or instruction clarification happen both off the field and on, and informal athlete leaders likely fulfill their role in both settings due to their less structured roles as an athlete leader. This may help to explain the difference between formal and informal leaders. Formal athlete leaders' opportunities for social support likely only occur on the field rather than in both domains such as what occurs with informal leaders. These contextual qualifications would explain the difference observed between the two types of athlete leaders.

Failing to support the hypothesis, it was found that there was no difference between formal and informal athlete leaders on training and instruction behaviors. According to Loughead et al. (2006), formal leaders are often high in task/sport related experience and skill and frequently lead on the field of competition (Holmes et al., 2010; Moran & Weiss, 2006). The results from past research suggest that formal leaders would score higher on training and instruction based on them being the more skilled athletes who lead on the field. The results of this study do not support this conclusion. Lack of role clarity could be impacting these results meaning that informal leaders may fulfill these duties alongside the formal leaders. Voekler and colleagues (2011) found that 12 out of 13 high school athlete leaders studied received little or no training as an athlete leader. This means that athletes may simply be fulfilling duties that they feel are best or those that are natural to them, and not necessarily those that are characteristic of their leadership position because of a lack of training or guidance from their coach regarding their roles. Also, it should be noted that informal leaders are perceived as showing social support for their teammates, including their formal athlete leaders. Through their social support behaviors, informal athlete leaders provide clarification on instructions given by coaches or formal athlete leaders in which case their behaviors could be mistaken for training and instruction behaviors by teammates,

which could explain the similar perceived amount of training and instruction behavior among each type of leader.

As hypothesized, there were no differences found between formal and informal athlete leaders' democratic behaviors, autocratic behaviors, and positive feedback behaviors. However, these leadership behaviors are fundamental to athlete leaders, and more exploration is needed to better understand the nuances of formal and informal athlete leaders, as well as athlete leaders as a whole. Again, the lack of training of athletes in leadership positions could result in a lack of role clarity, meaning that both formal and informal athlete leaders may complete similar tasks. This lack of clarity may also have affected the responses in this study. Student-athletes could have been unclear as to behavioral distinctions between formal and informal leader behaviors which could have led to the overall lack of difference in leader behaviors. In general, it has been suggested that athlete leaders demonstrate the following characteristics: lead by example, being positive, effective communications, respectful to team (Dupuis, Bloom, & Loughead, 2006), strong work ethic (Holmes et al., 2010), provide social support (Vincer & Loughead, 2010), and superior skill (Wright & Côté, 2003). Past literature does not distinguish these behaviors as being exhibited by formal or informal athlete leaders, further supporting a lack of differences between groups on democratic behaviors, autocratic behaviors, and positive feedback. If an athlete holds a leadership position (e.g., Dupuis et al., 2006; Holmes et al., 2010; Vincer & Loughead, 2010; Wright and Côté, 2003), these are the behaviors that will be represented in athlete leadership with no mention of differences of formal and informal athlete leaders. With a lack of differences between the two types of athlete leaders, an athlete leader-training program may help to clarify roles and begin to develop more salient differences between the behaviors of formal and informal athlete leaders.

The relationships found included positive relationships between training and instruction, democratic behaviors, social support, and positive feedback and both task and social cohesion as well as negative relationships between autocratic behaviors and both

task and social cohesion were found in the current study. As the perceived amount of training and instruction increased, so did the perception of task and social cohesion. This is supported by the findings of Vincer and Loughhead (2010) who found that training and instruction can positively influence a team's task cohesion. Training and instruction consists of behaviors such as teaching a sport related skill or providing information regarding a game plan, and task cohesion involves a team's cohesiveness on the field or in the sport itself, thus explaining a positive relationship between the two. A coach would be wise to take into consideration how much an athlete uses training and instruction behaviors in their leadership before appointing or electing them to a leadership position. Seeing how training and instruction positively relates to both, task and social cohesion, athletes' training and instruction behaviors would likely have a positive relationship with the team cohesion, and thus, improve the team's performance based on the cohesion-performance relationship discussed by Carron, et al. (2002). Similarly, due to the findings that as the perception of both social support and positive feedback increases, so does the perceived amount of cohesion, it is necessary for coaches to take these behaviors into consideration during selection of athlete leaders because of the indirect relationship they have with performance. Each of these two aspects of athlete leadership can increase interpersonal relationships among teammates through interactions with each other, and this is beneficial to a team's cohesion. Additionally, it was found that as the perceived amount of democratic behaviors increased, so did the perceived task and social cohesion. Loughhead et al. (2006) explain that multiple athlete leaders within a team trying to democratically make a decision can be difficult and counterproductive. It has also been reported that higher levels of democratic behaviors can sometimes be ineffective (Vincer & Loughhead, 2010). Therefore, although the results show the perceived amount of democratic behaviors increases cohesion, coaches should avoid too many democratic athlete leaders because it may as well have the opposite effect on the team.

Moreover in the present study, as the perceived amount of formal autocratic behaviors increased, the perception of both task

and social subscales decreased. This finding supports results from Vincer and Loughhead (2010) who found that autocratic behaviors in athlete leaders are negatively associated with all cohesion subscales. Informal autocratic behaviors not correlating with any subscales of cohesion could be due to the fact that informal leaders lead off the field and are more social leaders, and there are not many opportunities for decision-making, which is what defines autocratic behaviors. These findings suggest that coaches may want to consider an athlete's ability to use autocratic behaviors before placing them into a formal leadership position. This may be more crucial for formal than informal positions as only the formal athlete leader's autocratic behaviors were negatively correlated with cohesion.

Athletes looking to fill a leadership position on their team should consider what behaviors have positive relationships with cohesion because those are likely the valued behaviors that coaches or teammates are looking for when considering an athlete leader. According to the Social Exchange Theory (Emerson, 1976), behaviors or traits can be exchanged for a leadership position. For example, if an athlete has certain traits that the coaches or their fellow athletes desire, then that athlete would be selected into a leadership position so that the team can benefit from those traits. Therefore, the athlete becomes an athlete leader as he desires and the rest of the team gets a leader with traits that they desire. If an athlete desires a leadership position on their team it would make sense for he/she to work on developing behaviors such as training and instruction, democratic behaviors, social support, and positive feedback, while limiting autocratic behaviors as much as possible. Doing so will make the athlete a desirable leader for the team and the team may be more willing to select him/her as an athlete leader because the team would benefit from the athlete's traits or behaviors.

These results can also be used by sport psychology professionals to educate athletes on the relationships that their behaviors may have on cohesion and, indirectly, on performance. They will be better suited to provide sound advice for athletes regarding athlete leadership because of a more in depth

understanding developed by the results of the current study. Sport psychology professionals should instruct athletes and help them foster training and instruction behaviors, democratic behaviors, social support behaviors, and positive feedback behaviors, but also help them to limit or eliminate autocratic behaviors. Through such instruction, an athlete with a largely autocratic leadership style should learn that those behaviors might not be appropriate or beneficial for the team because they can hurt team cohesion. Additionally, that same leader should be able to learn to develop more effective behaviors such as training and instruction, democratic, social support, and positive feedback. Sport psychology professionals will have the knowledge to educate athletes how to effectively lead, what exactly being an athlete leader entails, and what type of athlete leader they should strive to be (i.e., formal or informal).

For the third research question, no differences in leadership behaviors between the genders were found. This supported the hypothesis stating that no differences were expected for positive feedback, but failed to support all other hypotheses. Researchers have argued whether gender differences exist between men and women in leadership roles. Jambor and Zhang (1997) provide support for the results found in this current study. Their research on coaches suggested that differences in gender on leadership behaviors should not be anticipated. Sherman et al. (2000) share similar comments that they believe the idea that men and women require different types of leadership is no longer true. However, Beam et al. (2004) found gender differences in preference for coach behaviors, which led to the hypotheses in this study. They reported that men preferred autocratic behaviors and social support more than women, and that women preferred democratic behaviors, training and instruction, and situational consideration behavior. The golden rule may provide insight into the matter. If athlete leaders treat others the way they would like to be treated then the males would show autocratic behaviors and social support while females would show democratic behaviors, consideration and training and instruction.

The results of the current study indicated that there were no differences between genders. However, the lack of difference is likely caused by the continual path to equality among genders. The closer society gets to equality the closer the genders get in terms of roles they play or positions they hold. Sherman et al. (2000) suggests that it is necessary to look into gender every few years to understand the changes that take place, but the current results refute that necessity within athlete leadership. The latter is because, at least in the present study, it appeared as if gender differences in athlete leadership do not exist, at least as they relate to type of leader and leadership behaviors.

### **Limitations**

There were a few limitations for this particular study. First, the study was conducted during the peak of basketball season through the end of the school year. Whether athletes participated at the end of their season or toward the end of their school year, the response rate was 23% from the initial email contact with coaches and 30% from emailing student-athletes directly. These rates are not that low for survey research, but likely would have been higher in a less busy time of year for the student-athletes. Second, the sample was limited to NCAA Division III college basketball players. It is unknown whether these results could be generalizable to other college sports or other levels of basketball. Third, lack of difference between genders could be attributed to the small sample size of each gender group. Fourth, due to the structure of the online survey format, the order in which the participants completed the questionnaires could not be counterbalanced. This could have affected the responses on the second and third questionnaires, which were the GEQ and informal leader version of the LSS. Fatigue and focus are not only issues, but taking the formal leader version of the LSS prior to the informal version could have also influenced the results on the informal version. Fifth, the LSS is a widely used measure for leadership behaviors in coaches, but such high Cronbach's alphas for athletes seem to suggest that the number of items per subscale may need to be reduced. The subscales vary

widely in terms of the number of items per each subscale. For example, Training and Instruction has 13 items whereas Autocratic Behaviors has five; however, it appears that five items for Autocratic Behaviors may be more effective than 13 for Training and Instruction. The Cronbach's alphas for Training and Instruction is very high at .94 for both types of athlete leaders whereas Autocratic Behaviors is .85 (formal athlete leaders) and .82 (informal athlete leaders), which suggests that Training and Instruction may become repetitive in its items. Shorter, more to-the-point subscales could make this measure a more effective tool for measuring leadership behaviors. Sixth, it is important to note that student-athletes in this study were asked to report about their perceptions of the behaviors of their athlete leaders. This was not a self-report; however, 55 of the 74 student-athletes participating reported that they were an athlete leader, which means they could have unintentionally been self-reporting their own behaviors instead of the behavior of other athlete leaders on their team. This could have had an effect on the results by athletes either over-reporting or under-reporting their own behaviors, potentially leading to skewed results. Without controlling for this, there is no way to know if an effect exists, but it is something for future researchers to keep in mind. It is recommended that future studies control for this potential effect either within the methodology or in their data analysis. Lastly, the results were descriptive meaning that no causation can be drawn from them; the differences and relationships can solely be observed.

### **Future Directions**

The significant results from this study complements the literature surrounding athlete leadership. In order to fully develop an understanding of athlete leadership, researchers must continue to explore different types of athlete leaders, including formal and informal, peer and team, elected and appointed, and other developing types. This study also provides a beneficial methodological basis for similar studies looking to compare two types of athlete leaders on their behaviors or their teammates' perceptions of their leadership as



it relates to cohesion, performance, or any other number of team characteristics.

Future directions for this line of research would first be to expand the concept to other sports or levels of competition to develop a more generalizable set of findings. Additionally, future researchers would be encouraged to examine other types of athlete leaders, like peer and task athlete leaders or appointed and elected athlete leaders. Lastly, it is suggested that research explores the concept of leadership training for athlete leaders or potential athlete leaders so that the leadership will be more efficient and effective.

Following the results of Vincer and Loughhead (2010) and the current study, it is clear that this line of research is only beginning to develop, and these studies lay the foundation for important future research regarding athlete leadership. Both Vincer and Loughhead (2010) and the current study stress the importance of understanding athlete leadership because it can have both positive and negative impacts on cohesion and performance. With the importance of athlete leadership and athlete leadership behaviors starting to come into focus it brings up a future line of research that has been neglected: how athlete leaders are selected for their leadership positions? Through the review of literature for this particular study it became apparent that athlete leaders were selected for a variety of reasons, and their selection or election into the positions seem to be done rather haphazardly. Through every day conversations with athlete and coaches, it seems that some coaches appoint their athlete leaders on their own, others have team members elect their leaders, and others simply allow upperclassmen or seniors to be designated leaders. Now that we have begun to understand the impact that athlete leadership can have on team cohesion and performance it is critical to assess the effectiveness of the athlete leader selection process in order to uncover a *best practice*.

### **Conclusion**

Vincer and Loughhead (2010) examined the relationships between the types of athlete leadership behaviors and types of cohesion. The current study attempted to expand their work by

examining differences between formal and informal athlete leaders. The results of this study indicated that formal and informal athlete leaders were perceived to have similar behaviors other than social support in which informal athlete leaders were perceived as showing more social support behaviors. Furthermore, it was found that training and instruction, democratic behaviors, social support, and positive feedback all positively correlated with at least one subscale of cohesion. Autocratic behaviors were shown to negatively correlate with multiple subscales of cohesion. It is suggested that coaches keep the negative relationship between autocratic behaviors and cohesion in mind when they select or elect athlete leaders for their team. Athletes who demonstrate autocratic behaviors may negatively affect cohesion, and considering the positive relationship between cohesion and team performance (Carron et al., 2002), these athlete leaders could indirectly decrease team performance. The results also indicated there were no significant differences in leadership behaviors among male and female athlete leaders. Therefore, since the findings show that male and female athlete leaders display similar behaviors, it is necessary for both coaches of men's and women's teams to focus on the appointment or election of athlete leaders who are not going to lead autocratically. Each of these results provides important information that can be put into immediate use by coaches, athletes, sport psychology consultants, and other researchers.

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