THE UNIVERSITY OF CENTRAL OKLAHOMA
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Jackson College of Graduate Studies

Exploring Leadership Behaviors as a Deterrent or Promotional Means of Perceived Team

Cohesion Among Fastpitch Softball Players

A THESIS

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In partial fulfillment of the requirements

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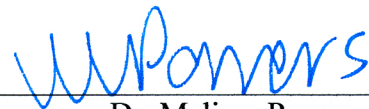Teri Eleanor Lake

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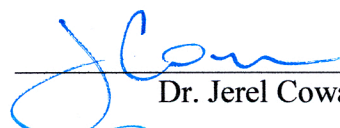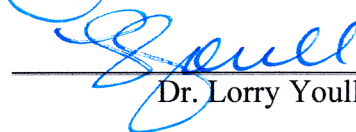
KINESIOLOGY AND HEALTH STUDIES

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Table of Contents

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Abstract

Research suggests that a leader's effectiveness in sport is contingent upon varying characteristics of athletes and the present situation. The purpose of this study was to assess the relationship between leadership behaviors and team cohesion, through qualitative and quantitative research methods, among collegiate fastpitch softball teams. Participants ($n = 13$) completed the Group Environment Questionnaire (GEQ); the Perception and Preferred Versions of the Leadership Scale for Sports (LSS); while coaches only completed the Perception Version of the LSS. Further data collection consisted of interviewing randomly selected team members to examine the congruency between qualitative and quantitative responses. Pearson's product moment correlations coefficients revealed a non-significant relationship ($p > .05$) between perceived autocratic behavior (AB) and task cohesion. The relationship between preferred AB and task cohesion was significant. Both associations support previous findings ($r = .467$, $p = .11$; $r = .529$, $p = .04$, respectively). This information may foster team unity upon educating players and coaches about the importance of establishing coach-athlete dyads prior to coach-team relationships. Similar research designs should be employed to study gender differences between coaches, with a larger sample size in the sport of softball.

Keywords: task cohesion, social cohesion, leadership behaviors

Exploring Leadership Behaviors as a Deterrent or Promotional Means of Perceived

Team Cohesion among Fastpitch Softball Players

Over time, leaders have emerged in the form of sports figures, political figures, educators, business moguls, and religious figures, among others. More than likely, the purpose of this emergence was to give direction and guidance regarding a shared vision, as this is the common definition of leadership shared by many, according to Murray and Mann (2006). More specifically, the authors define leadership as "the art and science of influencing others through credibility, capability, and commitment" (p. 110). In the sports arena, spectators and athletes alike have been influenced by a plethora of influential people who have far exceeded this definition, including but not limited to: Vince Lombardi formerly of the Green Bay Packers, Pat Summit currently of the University of Tennessee's women's basketball team, Mike Candrea of the United States Olympic softball team, Tommy Lasorda of the Los Angeles Dodgers, or John Wooden formerly of the University of California Los Angeles' men's basketball team. While this list is certainly not all inclusive, it offers a look at the diverse range of leaders in sport.

Generally as a leader, these coaches and coaches of other coactive or interactive sports teams, in a professional or collegiate standing, would mostly agree that obtaining success is one of their main objectives. However, manners in which that success is perceived and reached have been heavily debated (Martens, 2004). Winning is a very hard task to complete especially when several variables influence the positive and negative outcomes in the process. Such variables also influence team dynamics and

include: team cohesion, group size and performance, collective efficacy, peer leadership, and coaching leadership, among others.

While theoretical underpinnings of team dynamics have been generated over quite some time, leadership has often been overlooked, especially in areas of research (Chelladurai & Riemer, 1998). Although advances have been made, there is still room for further understanding of how leadership influences sport performance outcomes, specifically in relation to team cohesion.

First, it is important to understand one of the foundations of coaching behaviors produced, as an interactional model, by Packianathan Chelladurai (1978). Similar to the Cognitive-Mediational Model of Leadership later developed in 1989 by Smoll and Smith, the Multidimensional Model of Sport Leadership, was made specifically for sport and physical activity (Weinburg & Gould, 2004). The model suggests that a leader's effectiveness in sport will be contingent upon varying characteristics of athletes and the present situation (Figure 1). The characteristics of members, leaders, and the situation serve as antecedents, followed by a leader's behavior (Chelladurai & Riemer, 1998; Chelladurai & Turner, 2006; Weinburg & Gould). The authors hypothesized that if the three aspects of leader behavior coincide with one another, it is more likely that positive outcomes will occur. In other words, if a leader's behavior (required and actual) matches the situation, then matches the preferences (preferred behavior) of group members, satisfaction and achievement of best performance will result (Chelladurai & Selah, 1980). Because it has been suggested that this might lead to very successful outcomes, it can be inferred that this is the most ideal scenario for coaches and players alike. However, this

situation is sometimes unrealistic, especially when other variables have been thrown into the dynamics of a sports team.

To understand the extent of which variables influence sport leadership, an assessment tool called the Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1980) was developed so that preferred and perceived leadership behaviors of players and coaches can be measured. The preferred version refers to the behaviors that team members prefer of a coach, while the perceived version of the LSS refers to the players' current perceptions of the behaviors elicited by a coach. All versions of the LSS consist of five distinct dimensions. Those dimensions consist of training and instruction, democratic behavior, autocratic behavior, social support, and positive feedback. Research has been conducted to concentrate on the antecedents of leadership using this instrument. For instance, in an investigation to determine the relationship between team cohesion and leadership, Shields, Gardner, Bredemeier, and Bostrom (1997) administered both the Group Environment Questionnaire (GEQ; Carron, Widmeyer, & Brawley, 1985) and the LSS (Chelladurai & Saleh) to high school and community college baseball and softball players. Results showed that leadership behaviors and team cohesion were related, with the strongest relationships occurring between task cohesion and perceived leader behaviors: training and instruction ($r = .57$, $p < .01$); democratic behavior ($r = .60$, $p < .01$); autocratic behavior ($r = -.58$, $p < .01$); social support ($r = .64$, $p < .01$); and, positive feedback ($r = .55$, $p < .01$). Furthermore, social cohesion was positively associated with social support ($r = .61$, $p < .01$). With the preferred version of the LSS, task cohesion and democratic behavior ($r = .55$, $p < .01$), along with social support ($r =$

.50, $p < .05$) were found to have positive relationships. In addition, social cohesion and

preferred social support ($r = .44$, $p < .05$) were found to be positively related. Based on

these findings, the researchers inferred that high task cohesion is fostered by four of the

five dimensions of the LSS (Chelladurai & Saleh). The autocratic decision making style

was avoided as a preferred means of leadership. This result elicits the need for further

research in coaching styles in relation to team cohesion, among a variety of sports teams

in several competing levels. However, it has been suggested that this should be studied

not only through quantitative research but qualitative research as well.

     According to Paul Turman (2003), researchers would be remiss if qualitative

research was not a part of understanding leadership behaviors put into practice,

specifically with interviewing. Upon indicating on an open-ended survey the specific

coaching behaviors that players thought promoted or deterred team cohesion with several

teams, the researcher implemented an in-depth interview design to fully understand the

deterrent or promotion of team cohesion with a NCAA Division I football team. Twelve

college-aged male participants were randomly selected from both the defensive and

offensive teams, then interviewed prior to and following a number of summer practice

sessions. Results indicated that deterring behaviors included inequity, embarrassment

and ridicule, while the promoting behaviors included bragging, sarcasm, teasing,

motivational speeches, quality of opponent, team prayer, and dedication. While Turman

did not use a research hypothesis in this study, the results do support similar findings

observed previously with the LSS. Based on these results, the author recommends using

a research hypothesis when replicating this research to further specify how coaching techniques affect team cohesion.

Since the overall aim of the current proposed research is to examine how leadership styles are related to team cohesion and resulting performance through qualitative and quantitative measures, then understanding the relationship between team cohesion and performance is also relevant.

Past research has indicated that this relationship is positive, in that, as the ability to adhere to one another as a team (cohesion) increases, performance will usually follow suit. Carron, Colman, Wheeler, and Stevens (2002), through a meta-analysis of 46 studies including 164 effect sizes, aimed to gain more insight into the direction of the team cohesion and performance relationship. In the analysis, a significant moderate to large effect size ($d = .655$, $p < .03$) between cohesion and performance was found, indicating that the greater the team cohesion, the better the team's performance.

In summary, if fostering high task cohesion involves a democratic style of leadership, social support, high training and instruction, and positive feedback, then it can be inferred that performance success will result, especially if required and actual behaviors (of coaches) meet preferred behaviors (of team members). Therefore, the purpose of this proposed research was to explore the relationship between leadership behaviors and team cohesion among fastpitch softball teams. Secondary aims of this project included exploring coaching techniques through a qualitative design method, as well as understanding the prediction of team cohesion from said coaching behaviors/techniques. This project was significant, in that, female collegiate fastpitch

softball players at higher competing levels had rarely been included in this type of

research. Softball, in particular, should be examined closely because of its failure-

orientation. Unlike other sports, players in softball have to deal with failure more than

success. For example, successful batting averages of .300 indicate that the player is only

making bat to ball contact 3 out of 10 times (Cox, 2007), which in regards to other

situations (i.e. free throw shooting in basketball) this is below average. Since softball is

considered to be an interactive and coactive sport due to situational differences

throughout the game (Martens, 2004), social cohesion may be required more so than task

cohesion, or vice versa. Little interaction is required for a team to be successful

(coactive; one hitter versus nine fielders).   Therefore, task cohesion may not be required

to accomplish certain objectives. However, more than one person may be involved in a

defensive play (interactive; double-play requiring more than two fielders) which may

require more task cohesion and interdependence (Murray, 2006). Furthermore, it is

difficult to find related research incorporating both qualitative and quantitative styles of

measurement, due to practicality and feasibility.

   The author hypothesized that the relationship between leadership behaviors and

team cohesion would be positive, in that, as the perceived and preferred leadership

behaviors of players met perceived behaviors of their coaches, team cohesion would

improve. The qualitative research design should further support the aforementioned

relationship. Finally, leadership behaviors should successfully predict team cohesion.

The independent variables in this study consisted of the perceived coaching behaviors by

players and coaches, as well as the preferred leadership behaviors of the players. The

dependent variable present in this study was team cohesion (task and social).

Definition of Terms

Team cohesion. The process that teams undergo when attempting to unify through the

pursuit shared visions and/or for the satisfaction of the wants and needs of team

members. It is comprised of several subscales to describe orientation to task and social

bonds (Carron, Brawley, & Widmeyer, 1998).

Social cohesion. One of two subscales of team cohesion. The development of

relationship-trust between teammates and coaches through social environments (Cox,

2007).

Task cohesion. Ability of a team to adhere together when accomplishing tasks to achieve

common goals (Carron et al.,1985)

Leadership behaviors . A range of positive and negative actions displayed by those in an

authoritative position or rank (Chelladurai & Selah, 1980).

Democratic behavior (DB). A coaching style that allows more athlete participation in

making decisions towards group goals (Mondello, & Janelle, 2001).

Autocratic behavior (AB). A coaching style whereby players have limited to no

participation in making decisions. The coach emphasizes personal authority (Chelladurai

& Saleh, 1978).

Social support (SS). Leadership behavior depicted by a concern for the welfare of others

(Cox, 2007).

Training and instruction (TI). Behaviors expressed to improve performance by encouraging hard work and skill instruction (Mondello & Janelle, 2001).

Positive feedback (PF). Recognition and rewarding good performance by the leader (Loughead & Hardy, 2005).

Peer leaders . A team member of no rank of importance that portrays leadership behaviors, such as a team captain (Loughead & Carron, 2004).

Limitations

The limitations present in this study included:

1. The honesty of the participants in completing the questionnaires and interview sessions.

2. All student-athletes were females.

3. Only one interactive team sport was included (i.e. fastpitch softball).

4. The time of year selected to commence the research design.

5. The amount of time planned for completion of the study.

6. The use of individual and group scores in the analyses of the data.

7. Differences in experience among younger and older athletes.

8. The study was cross-sectional in nature.

Review of Literature

The purpose of this study was three-fold. The primary aim of which was to explore the relationship between leadership behaviors and team cohesion among fastpitch softball players. The secondary aims of this project included exploring coaching techniques through a qualitative design method, as well as understanding the prediction

of team cohesion from coaching techniques and behaviors. Based on the aforementioned findings, this review of literature will be comprised of understanding how other variables, in addition to leadership, might promote or deter team cohesion. This will further support the proposed research and the need for leaders to understand their impact on team cohesion. The variables that have been previously observed in relation to perceived team cohesion include, but are not limited to: group size and performance, collective efficacy, team-building, leadership and peer leadership behaviors. As listed, the variables were presented in the following review of literature.

Group Size and Performance

Group size is important in the development of team cohesion, performance, and the enjoyment of the activity in which people are involved. It is believed that smaller groups can render an overload of anxiety because of role confusion (overwhelming number of roles) or less diversity. Having too large of a group is often a disadvantage towards team cohesion because a coach or leader might not have enough roles to give out on a team. There might also be too much diversity, which then interferes with building overall relationships (Widmeyer, Brawley, & Carron, 1990). In this regard, performance can be altered, further justifying the need for understanding the importance of group size in a team sport setting. Theoretical constructs have been developed to further understand group size and cohesion.

In 1972, Ivan Steiner developed the Theory of Actual Group Productivity which examines the group size and group cohesion relationship (Widmeyer et al., 1990). The main focus is that with increasing group size group cohesion will decrease. However,

Steiner's theory also involves different variables, such as faulty group processes and potential productivity measurement (Carron, 1990), which further alludes to the need for an appropriate group size. Weinburg and Gould (2004) stated that the purpose of the theory is, "to show the relation between individual abilities or resources on a team and how team members interact" (p. 171). The authors further describe the theory using this equation: "actual productivity = potential productivity - losses due to faulty group processes" (p. 171).

As a group increases in quantity, so does the potential for that group to be more productive. However, there comes a point when potential productivity eventually plateaus, and this is where we see potential production come to a status quo. Eventually, team cohesion will decrease in response to potential productivity slowing down and group size continuing to increase. As further stated by Carron (1990), the communication and the interaction among each individual will dwindle as a result of an increase in size. This leads to a loss of concern with tasks or social activities. More specifically, team members will find it difficult to include everyone in the coordination and planning of group activities. Therefore, group processes will begin to decline.

When group processes decrease, they become faulty, especially when negative consequences arise from the actions of players. Those processes include motivation losses and coordination losses. According to Weinburg and Gould (2004), declines in motivation and coordination occur when members do not deliver 100% effort and when timing between teammates is off. A type of motivation loss is often referred to as social loafing. Latane, Williams, and Harkins (1979) termed social loafing as a social disease.

"Social in that it results from the presence and/or actions of others. It is a disease in that

it has negative consequences for individuals and collectives" (Hardy, 1990, p. 305).

Social loafing is caused by many factors. For instance, when the contributions of lone

team members aren't identified, that specific person might not contribute as much and

"hide in the crowd" to avoid the negative consequences of slacking off (Hardy). Coaches

can avoid such phenomena by dividing their team into smaller groups and emphasizing

unity, or increase the identifiability of individual performances by making players aware

of how important their roles are (Carron, 1990; Weinberg & Gould). This can be done

through increased social support and positive feedback, as measured by the Leadership

Scale for Sports (LSS, Chelladurai & Selah, 1980). The relationship between group size,

performance, and cohesion has been examined to further question the aforementioned

theoretical construct.

      In an investigation of group size, enjoyment and team cohesion, Widmeyer et al.

(1990) explored various angles in their study by splitting it into two parts. Study One, to

be discussed later, questions the appropriate size for a sports team to maintain high levels

of team cohesion. In Study Two, the authors questioned if group size and individual

enjoyment affected perceived team cohesion. The researchers placed individuals on

volleyball teams of three, six, and twelve, interchangeably throughout a ten-week

tournament. This allowed for an insufficient amount of time to acclimate to their new

group size. Using an 18-item questionnaire that was developed for understanding

enjoyment and cohesion, the researchers observed the ways in which athletes felt about

their team's cohesion and their own perceived level of enjoyment. Using a within-

subjects ANOVA data analysis, the authors concluded that enjoyment and cohesion was

high on the three person teams and six person teams ($F = 22.22$, $p < .001$). However, the

twelve person teams showed low levels of enjoyment and team cohesion ($F = 13.13$, $p <$

.001). These findings indicate that teams should be moderately sized for positive

outcomes, such as high enjoyment, high cohesion, and performance success.

Similar to the format of the second study, in the first study conducted by

Widmeyer et al. (1990), the authors explored the relationship between the size of teams,

team cohesion, and performance in competitive play. Individuals with the same abilities

were placed into teams of three, six, and nine in a ten-week, 3-on-3 basketball

tournament. The individuals remained with the same team throughout the entire

tournament. Data was collected using a pre/post method of testing with the Group

Environment Questionnaire (GEQ; Carron et al., 1985). In the pre-season assessment,

the only cohesion variable showing a difference in the three groups was Individual

Attractions to the Group-Task ($\bullet = .67$; $\bullet^2 = 56.81$, $p < .001$), with task cohesion higher

in the three person teams ($M = 30.9$) than the nine person teams ($M = 23.0$). When

analyzing the relationships between size and post-season cohesion measures, the

researchers observed that team size was predicted by three of the cohesion subscales ($\bullet =$

$.79$; $\bullet^2 = 31.5$, $p < .001$). The six person team reported the highest Individual Attractions

to the Group-Social score ($M = 14.4$) and Group Integration-Social score ($M = 18.7$), and

the three person team reported the highest Individual Attractions to Group-Task score (M

$= 28.6$). Further data analyses show that team size was predicted by performance ($\bullet =$

.52; $\cdot^2 = 91.6$, $p < .001$), the six-person team maintained the best performance through the tournament, while the nine person team recorded the lowest performance score.

Based on the results of both studies, it can be inferred that a large amount of team members is not the ideal size for basketball and volleyball teams. As observed previously, increasing group size affects group processes because motivation and coordination losses do occur, causing team cohesion to decrease. To prevent this from happening, leaders should consider group size and the aforementioned variables involved when forming their teams. The authors recommend replicating this research with different types of sport teams, and increasing the range in group size. To further contribute to an increase in the productivity of teams, and to minimize motivation and coordination losses, it has been suggested that players and coaches should consider improving their overall collective efficacy (Spink, 1990).

Collective Efficacy

Another variable that can be impacted by certain leadership behaviors, which can also hinder a team's cohesion, is collective efficacy. According to Bandura (1997), much like self-efficacy, collective efficacy is defined as, a group's shared belief in its ability to accomplish courses of action required to produce certain results. From this definition, it seems that team cohesion and collective efficacy go hand in hand in reference to a team's perceived abilities. It has been suggested that the relationship between team cohesion and collective efficacy is positive when a team maintains high collective efficacy (Spink, 1990).

Spink (1990) investigated the relationship of group cohesion and collective

efficacy in recreational and elite volleyball teams. Members of the volleyball teams were

asked to complete the GEQ (Carron et al., 1985), which also included two questions

relating to collective efficacy, before their first games of the tournament. It was

hypothesized that teams with higher collective efficacy about the tournament would be

more cohesive. On the contrary, teams with lower collective efficacy would be less

cohesive. The researchers divided the players into groups with high collective efficacy

and with low collective efficacy per elite and recreational teams. It was found that

significant differences in team cohesion $\bullet^2 = 18.06$, $p < .001$ were present in the elite

teams, specifically with Individual Attractions to the Group-Task ($F = 14.53$, $p < .001$)

and Group Integration-Social ($F = 7.80$, $p < .01$) contributing to the differences between

groups of high and low collective efficacy. Those players with higher perceived cohesion

maintained greater collective efficacy. No significant differences were discovered for the

recreational teams. Furthermore, a post hoc analysis ($t = 7.93$, $p < .001$) of final placing

in the tournament revealed a significant difference in teams with the higher collective

efficacy ($M = 3.26$) finishing higher than those teams with lower collective efficacy ($M =$

7.43). With these results, the researchers suggest that the different levels of competition

should be considered when assessing team cohesion and collective efficacy. Types of

goals pursued by individuals on teams should also be considered, as they may be directly

related to the need for social or task cohesiveness.

Similar results were observed in male and female volleyball players by Paskevich,

Dorsch, Brawley, and Widmeyer (1999). The researchers assessed volleyball teams two

days prior to or following any competitive play. Paskevich et al. administered the GEQ

(Carron et al., 1985) and a collective efficacy questionnaire that observed several

variables of collective efficacy such as offense, defense, transition, communication,

motivation, team confidence in the face of obstacles, obstacles in association with

teammates, and general items. To predict task cohesion from collective efficacy

measures, the researchers examined the upper third and lower third of scores for the

Group Integration-Task subscale. A significant difference was found between groups ($t =$

13.42, $p < .0001$). Post hoc analyses were conducted to find where the significance

occurred. Results indicated that those participants with high task orientation also

perceived their team's efficacy to be high in communication, motivation, obstacles in

association with teammates, and general efficacy.

A second analysis was performed, where the researchers divided participants into

groups of high and low collective efficacy. A significant t-test ($t = 11.45$, $p < .001$)

revealed that the mean scores of efficacy were different. Significant differences occurred

in three of the four cohesion subscales, including Individual Attractions to the Group-

Task and Social, as well as Group Integration-Task. The results indicated that task

cohesion was strongly related with the team members' shared beliefs about collective

efficacy. Specifically, the two subscales of task cohesion group integration-task and

individual attractions to the group-task were found higher among those individuals who

perceived their team's collective efficacy to be high in the team's task-related abilities.

From the results of both studies, it can be inferred that not until team members

(coaches and players) unify and understand (as a whole) their skill level and abilities can

they anticipate a successful season or year. In the event that such outcomes are not as

successful as a coach or player would have wanted, then the implementation of team

building strategies should be considered.

Team Building

Implementing team-building techniques can enhance a team member's perceived

team cohesion because it brings about a sense of unity. Carron and Spink (1993)

conducted an investigation with exercise classes to see if a team-building program would

promote greater cohesiveness among its participants. The authors implemented a

program to females in 17 aerobics and aqua fitness classes, aged 18-25 years. There were

94 subjects in the experimental group and 101 subjects in the control group. The

experimental group, which involved nine instructors, initiated a team-building program

for 13 weeks. The control group, which included eight instructors, maintained its original

program for the same 13 weeks. A workshop was held for the instructors who

participated. The purpose of this was to make them aware of how to implement the

program and to give them a better understanding of the effects of team building. The

workshop was given in four stages. The Introductory Stage involved giving the

instructors a basis for introducing a team-building program, as well as the general

benefits that will be experienced by the participants. Those include, increased adherence

to exercise regimens, and reduced absenteeism and lateness. The Conceptual Stage

offered the instructors a conceptual framework of theory and practical applications.

Carron and Spink explained the framework in the form of a linear model involving input,

throughput, and output. The input and throughput involve team aspects like,

distinctiveness, group norms, group positions, interaction and communication, and

sacrifices. The output contained the results of what each participant got out of the

exercise classes, and it was studied using the GEQ (Carron et al., 1985). During the third

stage, The Practical Stage, instructors were asked to use the factors listed in the

conceptual model to implement togetherness. They had the opportunity to emphasize

whichever one they felt was most effective. Finally, in the fourth stage, The Intervention

Stage, the team-building program was implemented and the 13-week period of

observation began.

The GEQ (Carron et al., 1985) was administered during the 8th week of the 13-

week period. The mean results showed that participants in the experimental group

expressed more individual attractions to the group-task than participants in the classes of

the control group. Also, the experimental group accumulated an average of 7.65 on the

9-point scale of individual attractions to group-task cohesion, while the control condition

had a score of 6.92. The researchers concluded that the exercise members of the

experimental condition expressed an overall greater perceived cohesiveness than did the

control condition (Carron & Spink, 1993).

Even though this experiment was only administered in exercise class settings, it

relates to teams as well. Teams with higher perceived team cohesion have usually

implemented some form of team building. Whether it is through pre-game or post-game

rituals, or if it is performed during practice through specific drills and games that involve

unifying strategy (Brawley & Paskevich, 1997).

While the prior study showed that team building does enhance team cohesion, Prapavessis, Carron, and Spink (1996) observed that this is not always the case. The participants in this study were male soccer players, aged 18 to 43 years. The research design consisted of a randomized control trial where groups were classified as team building (3 teams/50 athletes), placebo-control (2 teams/49 athletes), and control (2 teams/28 athletes) conditions. The team-building condition includes the same one that was used by Carron and Spink (1993) in the exercise class study. Components involved in this team-building program were role clarity and acceptance, leadership, conformity of standards, togetherness, distinctiveness, sacrifices, goals and objectives, and cooperation (Prapavessis et al.).

After the 8-week investigation, the results showed that the team-building intervention did not enhance team cohesion. The soccer players of the experimental group showed no increase in perceived team cohesion. These results cannot be explained by the satisfaction expressed with either personal performance or team performance because there was no differences in general satisfaction among the three groups. Also, they cannot be explained by the coaching behaviors of each team because the behaviors of coaches in the intervention condition were similar to the other two groups. Prapavessis et al. (1996) utilized a post-intervention manipulation check to explain this finding. The authors found that the athletes from the two control groups described their experience similar to that of the intervention condition. Is this because of a deficiency of emphasis on the team-building components by the coaches in the intervention condition? Or is it because of a stronger emphasis on team building components by coaches in the

two control conditions?   The researchers conclude that there is no way to answer these

questions with any certainty. They explained this theory based on the athlete's

perspective stemming from an all-or-none principle. In other words, the individual's role

on a team, as well as the team's goals and objectives are either understood or not

(Prapavessis et al.).

These studies illustrate the need for team building interventions to be further

understood, in relation to leadership behaviors. If a team renders results where overall

team cohesion scores are low, certainly an intervention is justifiable. Therefore, leaders

have the responsibility to become more educated on how to foster greater team cohesion

through team building techniques, in addition to their own behaviors and techniques.

Leadership and Peer Leadership Behaviors

Past research has indicated that perceived leadership behaviors reported by

coaches include autocratic decision making styles, while team members prefer a

democratic decision making style. Furthermore, it has been shown that social support is

exuded more from peer leaders than coaches (Shields et al., 1997). To further support

such findings, Loughead and Hardy (2005) investigated, concurrently, the leadership

behaviors of coaches and peer leaders on a team, and then examined the nature of the

corresponding peer's leadership.   The researchers wanted to focus primarily on the peer

leadership qualities on a team. Participants in this study ($n = 238$) consisted of male and

female college aged athletes ($M = 20.4, \pm 1.87$) from 15 different interactive and coactive

sports teams, along with coaches of those teams. The researchers administered the

Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1980) to the coaches, while the

players were administered a modified version of the questionnaire to further understand

their perceived and preferred peer leadership behaviors. Upon completion of the

assessments, results indicated a number of significant associations between the leadership

behaviors of coaches and their peer leader counterparts, using a Pearson's product

moment correlation coefficient. To examine if coach and peer leaders exhibit the

behaviors of leadership to the same extent, a repeated measures MANOVA was used.

The researchers observed a significant multivariate effect for leadership type ($F = 47.90$,

$p = .001$, $\bullet^2 = 0.51$). Post-hoc ANOVAs showed significant differences between coaches

and peer leaders in the use of the five dimensions of the LSS (Chelladurai & Saleh).

Coaches were perceived by players, to exhibit training and instruction ($F = 73.93$, p =

.001, $\bullet^2 = 0.24$) and autocratic decision making behaviors ($F = 39.70$, p = .001, $\bullet^2 = 0.14$),

while peer leaders were judged by their teammates as exuding social support ($F = 72.48$,

p = .001, $\bullet^2 = 0.23$), positive feedback ($F = 18.82$, p = .001, $\bullet^2 = 0.07$), and democratic

decision making behaviors ($F = 54.89$, p = .001, $\bullet^2 = 0.19$).

     Murray (2006) sought out to perform similar research, but as opposed to Shields

et al. (1997), this researcher questioned the relationship between leadership behaviors and

performance. The author hypothesized that soccer teams will require greater cohesion

for success than baseball teams, and that higher scores on training and instruction,

democratic behavior, positive feedback, and social support will be positively related to

higher task and social cohesion. Participants ($n = 320$) consisted of high school soccer

and baseball players with a mean age of 16.8 years. Similar to the previous study,

Murray utilized the GEQ (Carron et al., 1985) and the LSS (Chelladurai & Saleh, 1980)

to assess team cohesion and perceived leadership behaviors. Results showed a significant

relationship between leader behavior and team cohesion. The author used a canonical

correlation to discover which subscales had the significant contributions. Results showed

that positive feedback ($t = .88$), training and instruction ($t = .87$), and social support ($t =$

.49) were significant contributors, along with each cohesion subscale - Individual

Attractions to the Group-Task ($t = .62$) and Social ($t = .78$) and Group Integration-Task (t

$= .88$) and Social ($t = .69$). This shows that those coaches who rated higher in the

aforementioned leadership dimensions produced teams high in cohesion. This finding

seems to be congruent with the former study with Loughead and Hardy (2005), as well as

the research performed by Shields et al.

Performance was measured as win/loss percentage, and analyzed by a logistic

regression. Murray (2006) observed that better performance indicated more task

cohesion among the soccer teams, while the baseball teams that performed better were

less task cohesive. The author's first supported, as leadership and social cohesion were

excluded from the logistic regression due to non-significant scores. Murray attributed

this to the dynamics of high school, in that many players maintain the same teammates

throughout the year in several sports. The second hypothesis was partially supported as

three out of the five leadership dimensions were significant contributors to cohesion.

The former articles provided a diverse range of sports under investigation

regarding leadership behaviors and team cohesion; however, the sport of fastpitch softball

was not included. While at the high school or junior college level fastpitch softball has

been examined, it is difficult to find any previous research performed with higher

competition levels. This is especially true for research containing both quantitative and

qualitative design methods, as recommended by Turman (2003).

Blanchard, Amiot, Perreault, Vallerand, and Provencher (2009) researched what

role a coach's interpersonal style plays in the athlete's perception of his/her own

autonomy, competence, and relatedness. Whether these social factors could be predicted

by intra group dynamic (cohesiveness) is questioned. The question is valid due to the

need for autonomy in the self-determination theory of motivation (Deci & Ryan, 2002),

which further contributes to team cohesion.

Participants ($n = 197$) were male and female athletes, belonging to a basketball

league, with a mean age of 18 ($\pm$ 1.17) years. Task cohesion (group integration), the

coach's interpersonal style, need satisfaction, subjective well-being, and sport motivation

were assessed with survey instruments. Associations were assessed with Pearson's (r)

correlation tests. To assess the prediction of social factors from cohesiveness, followed

by consequences (positive emotions and satisfaction), a Satorra-Bentler chi-square test

was utilized. Results indicated that cohesiveness predicted perceptions of autonomy,

competence, and relatedness. The coaches' controlling behaviors negatively predicted

perceptions of autonomy, while perceptions of competence and relatedness did not

contribute anything to this model. Self-determined sport motivation was predicted by

autonomy, competence, and relatedness. In addition, self-determined motivation

predicted positive emotions and satisfaction. To further examine the mediating roles of

needs and self-determination, indirect effects were analyzed. The three needs mediated

the impact of social factors on self-determination with the largest effect occurring with

cohesiveness ($\bullet = .38$, $p < .05$). Self-determination mediated the effect of each of the

three needs on positive emotions, namely with autonomy ($\bullet = .36$, $p < .05$). These

findings support the role of needs and self-determination in mediating associations

between social factors and consequences (i.e. positive emotions and satisfaction). The

variations in relationships suggest that autonomy and competence may be more important

for individual sports, while team sports may require more competence and relatedness

because of the social atmosphere one may be exposed to. In addition, the context in

which such needs and self-determined motivation are required should be under

speculation in future research.

Similar to the previous study, Jowett and Chaundy (2004) investigated the impact

of leadership and the coach-athlete relationship on team cohesion. The purpose of this

study was to examine the constructs of the coach-athlete relationship, since it has been

reported that this relationship reflects both parties' affective, cognitive, and behavioral

interdependence. This will be measured by the coach's and athlete's direct and meta-

perceptions of closeness, commitment, and complementarity (3 Cs). The current study's

authors questioned the prediction of cohesion from the direct and meta-perceptions, as

well as congruency of the 3 Cs. One hundred eleven student athletes (25 women, 86

men) with a mean age of 21.08 ($\pm$ 2.40) years completed the Group Environment

Questionnaire (GEQ), Leadership Scale for Sports (LSS), and the Coach-Athlete

Relationship Questionnaire (CART-Q).

Results were analyzed using a hierarchical multiple regression analysis, in order

to determine the contribution of all variables to team cohesion. Task and social cohesion

were measured separately with two regression analyses. Direct perspectives of athletes'

relationship with coach and coach leadership significantly predicted task cohesion. Coach

leadership and the interaction between the direct and meta-perspectives of athletes'

relationship predicted social cohesion. Coaching behaviors accounted for 26% of task

cohesion. The relationship variables uniquely accounted for 8% of team cohesion, once

added to the model. Thus, 34% of task cohesion may be attributed to the social factors

often found in the perceptions of coaching behaviors and of the coach-athlete

relationship. Social cohesion was also predicted by leadership behaviors (R^2 = .12, p =

.002). Although not significant, when added to the leadership variables (R^2 = .15, p =

.090) as an interaction, the direct and meta-perceptions accounted for an extra 3%

variance in social cohesion.

Interestingly, task cohesion was found to be the highest variance accounted for by

the perceptions of the athlete. This can be attributed to the coach wanting to foster an

environment in which the team works together to achieve common goals, with the

ultimate goal of performance success. The perception of coach's training and instruction

and athletes' commitment to coach related more to task cohesion than any other variable.

These findings indicate that it may be more important to build task cohesion than social

cohesion. Future research should employ a similar design with various sport teams and

age groups.

The previous research articles address finite issues in team cohesion and

leadership research. Each one is worthy of taking note and truly utilizing as a reference

for future research, or in the context of team development. However, the power of each

study may be weak, specifically because of the amount of variables studied and analyzed.

Team cohesion research typically entails a much larger sample population (i.e. n = >

300), which yields higher variability among different populations of athletes. Exploring

new issues in coaching leadership research, however, is a great move by sports and

exercise scientists and/or psychologists because it is fairly new to the field (Chelladurai

& Riemer, 1998). Basketball was the only sport included in the third study, which could

further impact the generalization of results. While basketball teams may require a certain

amount of relatedness, this may not be the same amount required for a different sport.

Furthermore, neither one of the study's authors alluded to the investigation of gender

differences in the prediction of mediating variables from intra group dynamic, even

though male and female participants were involved.

Applicability across the sport continuum should be addressed, as the implications

may be reliant upon the interpretation of each study, by the reader. In the fourth study,

authors mention the need for research of this nature to remain relative, rather than

absolute. Each study did provide a new realm of considerations when studying team

dynamics. In the third article, subjective well-being is understood to result from

satisfaction needs and self-determined motivation. This is a new area of interest which

should be pursued, but as a precaution, this "umbrella-like" term should be carefully

considered. The understanding of subjective well-being does bridge a potential gap in the

need for athletes to remain healthy overall (mentally and physically). Furthermore, the

authors take potential mediating variables a step further than relying solely on leadership

behaviors to predict team cohesion. The coach-athlete relationship is vital to

understanding and communicating group norms and roles. From each study, the next

step includes examining gender differences with each research question in a similar

research design. In addition, longitudinal analyses are needed, as sports psychologists

and coaches should continue to explore changes in group dynamics during a typical sport

season. In regards to the last statement, the lack of longitudinal analysis in the current

study, is a limitation.

Summary

It is difficult to express just how important team cohesion truly is in regards to the

previously mentioned sections. However, in understanding the many variables through

which team cohesion has been researched, leaders can identify ways to promote team

cohesion, while eliminating the deterring variables, such as inequity, embarrassment, or

ridicule. The results of the aforementioned studies beg to question that, if successful

coaching is necessary in the building of teams and winning (Martens, 2004), and since

team cohesion is positively affiliated with performance success, then leadership

behaviors among the other variables previously mentioned are each very important when

attempting to unify a team (Loughead & Hardy, 2005; Murray, 2006). This

interconnectedness has reared itself through the process of tying such perspectives

together. With the combination of the articles discussed in the leadership behaviors

section, it is the primary author's intention that similar findings will be observed, through

quantitative research. Then, the continuation of developing a more in-depth

understanding of the quantified data will be performed through qualitatively assessing the

findings of the first research question. As previously mentioned, the purpose of this

proposed research is to explore the relationship between leadership/coaching behaviors and team cohesion among fastpitch softball players. Secondary aims of this project include exploring coaching techniques through a qualitative design method, as well as understanding the prediction of team cohesion (task and social) from coaching behaviors, and differences between perceived and preferred leadership behaviors.

Methodology

The methodology of the current study is presented in the following order (1) research design, (2) pilot study, (3) selection of participants, (4) instrumentation, (5) delimitations, and (6) research analysis, followed by the research questions of the study and a subsequent hypothesis for each.

Research Design

The purpose of this cross-sectional study was to examine the relationship between leadership behaviors and team cohesion. In order to assess the power required for significance, the results from the pilot study were utilized. Calculations were based on observing the relationships found between leadership and perceived cohesion. Based on Cohen's (1988) suggestion for relationships, it was determined that the primary investigator would need approximately 13 participants for sufficient power if relationships exist in the study. Based on these findings, an r value of .70 or higher should be significant in the current study.

After completing and submitting the University of Central Oklahoma's Institutional Review Board application for human subjects research, the primary researcher received approval to begin recruitment of participants (See Appendix A for

letter). The Athletic Director of the institution was contacted immediately following.

Since the head coach of each team was to be recruited, permission was first sought by the

AD to eliminate ethical misconduct or conflict of interest (See Appendix B). The primary

investigator contacted IRB Directors from six different schools in the surrounding

Oklahoma City area. Three applications were approved through reciprocity. The head

coach of each team was contacted, but only one coach responded with interest in the

study (See Appendix C for IRB approval letter). Initial recruitment commenced by

contacting the head coach by phone or e-mail. Once permission was granted, an

appointment time was set for the primary investigator to attend a practice and recruit

participants. The study was explained thoroughly to the coach, then the players. Each

team member was made aware of the potential risks and benefits of their participation.

But most importantly, each player was told that their participation was strictly voluntary.

An Informed Consent Form (See Appendix D), with two statements of consent (one for

survey completion and one for interview completion), was obtained from those willing to

participate, followed by the completion of the Photo Release Form (See Appendix E) and

Data Collection Instrument (See Appendix F). Upon completion of this assessment, the

PI made another appointment to administer the Group Environment Questionnaire

(Carron et al., 1985), in addition to both versions of the Leadership Scale for Sports

(LSS; Chelladurai & Selah, 1980; See Appendix G).   The option of where to take the

assessment (field or locker-room) was left to the coach's discretion. The PI

recommended that the LSS be completed prior to a competition, during a practice time.

Interviews were then scheduled upon completion of the survey instruments.

The purpose of the interview process is to further explore leadership behaviors from the player's perspective. As concluded by Monroe-Chandler (2005), the in-depth information obtained from interviews will provide the researcher with valuable information that may not be apparent through objective assessments.

The "one-on-one" interviews were conducted in a private setting with just the participant and the principal investigator. An explanation of the interview process was provided to each participant prior to the start. Also, a code number and pseudonym was given to each player to ensure anonymity and protections. Furthermore, the elimination of the use of any identifiable information when speaking about teammates and/or coaches was emphasized prior to and throughout the interview. The type of interview used in this study was phenomenological which is similar to a continuous dialogue between two people. While questions directed the progression of the interview, the participant was considered the expert. With such focus, the primary investigator was able to learn more about their experience with the team and coach, rather than strictly focus on the confirmation or rejection of hypotheses. This will also contribute to eliminating bias or preconceived notions about responses.

Throughout the interview, questions were centered primarily on the participant's experience with team cohesion and the coach's leadership behaviors (Table H1). To obtain this objective, this qualitative assessment addressed team oriented issues through the use of a general interview guide approach (Patton, 1990). In particular, the topics and sample questions were developed and organized in advance, however, due to control and qualitative framework, exact order and language used was contingent upon the responses

EXPLORING LEADERSHIP BEHAVIORS

of the participants.   Although this makes the generalizability and reliability difficult for interpretive purposes, it has been argued that this method is an acceptable form of assessment due to the nature of qualitative design. After all, the purpose is to fully understand the social phenomena that occur with coach/athlete dyads or in team environments (Dionigi, 2007). The primary investigator utilized the same questions during the interview sessions for each participant. Under the participant's discretion, and if time allowed, the primary investigator continued the dialogue by selecting questions that are appropriate for the direction of the interview. The methodology was the same for the coach of the team. However, questions were centered towards his/her experience.

Due to the nature of collegiate athletic programs and the amount of work each team went through during the course of the off-season, it was difficult to recruit 13 participants. The pilot study conducted by the primary investigator prior to the current proposed research was useful in further anticipating complications in recruitment (i.e. weather, cancellations in schedules, and traveling for data collection).

Pilot Study

Internal consistencies of the pilot study surveys revealed strong Cronbach's alpha correlation coefficients with all variables, but perceived autocratic behavior (.08; Table 1), indicating that perceived autocratic behavior may be inconsistently reported within the group. Due to the nature of pilot testing, this variable was included in data analysis. During the spring 2009 season, a local junior college team in the Oklahoma City area ($n = 7$, $M = 19.86 \pm 1.2$ years; Table 2) agreed to participate by providing informed consent. Four players were subsequently randomly selected to partake in an interview. Three

players confirmed participation in the interview. The coach was not asked to participate in an interview for the pilot study. Each participant completed the data collection instrument, LSS, and GEQ. Interviews were scheduled with each player upon completion of the survey instruments. Only three players volunteered to be interviewed.

Pearson's product moment correlations coefficients were used to determine the relationship between leadership behaviors and team cohesion. Perceived leadership behaviors were significantly correlated with team cohesion, as indicated in Table 3. Specifically, strong negative relationships were observed between democratic behavior and group integration-task and -social ($r = .907$, $p = .00$; $r = .886$, $p = .00$, respectively), group-integration-task and social support ($r = -.798$, $p = .03$), and attractions to the group-social and positive feedback ($r = .772$, $p = .03$). Preferred leadership behaviors showed non-significant relationships to team cohesion (Table 4). The most meaningful relationships were observed between training and instruction, attractions to the group-task and -social ($r = -.470$, $p = .29$; $r = -.370$, $p = .41$). In addition, preferred social support was associated with group integration-task ($r = .411$, $p = .36$). As shown in Table 5, significant differences between perceived and preferred leadership variables were observed in training and instruction ($t = -4.932$, $p = .00$) and positive feedback ($t = -2.601$, $p = .04$). Effect sizes were calculated to further determine the magnitude of difference between the two leadership versions. Although not significant, democratic behavior ($d = -.38$), autocratic behavior ($d = .61$), and social support ($d = -.29$) revealed small to moderate effect sizes. Training and instruction, in addition to positive feedback registered large effect sizes ($d = -2.67$ and -1.37, respectively).

Standard multiple regression analyses were utilized to examine the prediction of cohesion from perceived and preferred leadership behaviors (Table 6, 7, 8 and 9). Near significant predictions were found for group integration-social (GI-S) in the perceived behaviors [R^2 = .998, F(100.053), p = .08]. Each perceived leadership behavior was nearly significant, with the closest probability found in democratic behavior uniquely contributing 61.6% of the variance in GI-S. Preferred leadership behaviors (Table 10, 11, 12, and 13) did not significantly predict any of the four team cohesion subscales in this sample, however, the most meaningful prediction found was in group integration-social [R^2 = .899, F(1.775), p = .51; Table 13].

In the pilot sample, the relationships indicate that, when more democratic behavior was perceived, the more the group was integrated through task and social orientation. This was the same for social support, positive feedback in relation to attractions to the group-social. Significant differences between training and instruction and positive feedback may be indicative of inconsistency between perceived and preferred behaviors, especially when observing the mean differences. In other words, since perceived training and instruction (M = 2.77 ± .41) was higher than preferred training and instruction (M = 1.63 ± 1.63), what is preferred by players was not met by the perceived behaviors. The same is true for the remaining leadership behaviors with the exception of autocratic behavior. Perceived positive feedback (M = 2.63 ± .67) was significantly different from preferred positive feedback (M = 1.71 ± .64). Although not significant but close, perceived autocratic behavior (M = 3.17 ± .44) among the participants was lower than what was preferred (M = 3.54 ± .59) by them.

From these findings, speculations arise in regards to the players maybe wanting less authoritative leadership, and more involvement in the decision-making for the team. However, since fewer players were involved, evident in the purpose of the pilot study, generalizations should be heeded with caution. Future directions should include an increase in sample size to ameliorate this limitation. In addition, researchers should account for the timing of the data collection, especially since team cohesion is established within the first month of participation.

Based on the protocol of the pilot study, the following changes were made (1) estimation of playing time percentage was added to determine congruency between coach's perception and player's perception (versus questions asking the player to indicate starter/non-starter), (2) timing of the study was adjusted from an in-season assessment to an off-season assessment, due to the nature of in-season collegiate athletics and the GEQ, (3) interview protocol questions were expanded once clarification of survey answers was needed for a quality interview, and (4) the recruiting and assessment periods were conducted inside because of the lack of control for weather.

Selection of Participants

Participants ($n = 13$) were female college-aged student-athletes ($M = 19.92 \pm 1.12$ years), belonging to one fastpitch softball team in the Central Oklahoma area. Evaluation of how many players belonged to the team at the time of testing allowed for a more appropriate estimation of how many members were randomly selected for an interview. In other words, it was determined that if a team was composed of 13-15 players, 8 would be randomly selected to be interviewed. If there were 15-18 players, the primary

investigator would have randomly selected 10 players to be interviewed. Once informed

consent was provided, eight players were randomized, as recommended by Marshall and

Rossman (2007), using the randomize function in Microsoft Excel 2007. Each player was

subsequently asked for an interview. Three players were receptive to interview

participation, even after ten players consented to be interviewed. Two players completed

the interview. The third player retired from playing softball before the interview was

scheduled. The interviews were performed in the lobby of the players' dormitory, while

the coach of the team was interviewed in an office setting.

Instrumentation

The quantitative assessments used in this research project consisted of a data

collection instrument, the Group Environment Questionnaire (GEQ; Carron et al., 1985),

and the Preferred and Perceived Versions of the Leadership Scale for Sports (LSS;

Chelladurai & Selah, 1980). The qualitative instrumentation used was comprised of an

interview protocol for the coach and the randomly selected players.

A short data collection instrument was given to participants to determine their

age, student classification (freshman, sophomore, junior or senior), estimated playing

time percentage, and total length of participation in the sport.

The GEQ (Carron et al., 1985) is an 18-item assessment tool measuring overall

team cohesion with a Likert rating scale 1 (Strongly Disagree) to 9 (Strongly Agree).

Some statements on this assessment include, "Some of my best friends are on this team,"

and "I am not happy with the amount of playing time I get." The Group Environment

Questionnaire divides the two subscales of team cohesion (task and social cohesion) into

four smaller subscales, including: Individual Attractions to the Group-Social (ATG-S), Individual Attractions to the Group-Task (ATG-T), Group Integration-Task (GI-T), and Group Integration-Social (GI-S). An individual's attraction to the group is assessed according to how the individual feels about the group through social bonds and tasks to be accomplished, while group integration is assessed according to how an individual feels about the group's social bond and ability to complete tasks as a whole. Total amount of points to be scored per subscale are summed, and then divided by the total number of items in the respective category to produce a mean score from 1 to 9. Carron et al. advised that scores should not be combined to form two subscales. The subscales will remain separate, however, this may reduce the ability to find significance in this study.

The Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1980) measures five dimensions of behaviors that leaders exhibit, including training and instruction, democratic behavior, autocratic behavior, social support, and positive feedback. Training and instruction refers to how the coach works to improve an athlete's performance. Democratic behavior is exhibited by including athletes in the decision making process, while autocratic behavior is the exact opposite and demonstrates complete authority. Social support refers to concern for players health and well-being. Positive feedback refers to reinforcement through recognition and rewarding performance. The questionnaire consists of 40 questions per perceived and preferred leadership behaviors among players and coaches. The Preferred Version asks participants to rate on a Likert type scale of 1 (Always) to 5 (Never), the leadership behaviors of their coach. Preference statements include, "I prefer my coach to help athletes with their personal problems,"

and/or "I prefer my coach to not explain his/her actions." Perceived statements and the Coach's Perception of his/her own behavior are the same; however, they begin with the statement "My coach:" and "In coaching I:" respectively. Per version of the LSS (LSS; Chelladurai & Saleh), in each category or dimension, the scores are totaled and then divided by the total number of items in the category. The ranges of scores vary between dimensions. For example, the range for training and instruction is 13 to 65, the range of scores for democratic behavior and social support are 9 to 45 and 8 to 40, respectively, while the range for positive feedback and autocratic behavior is 5 to 25. Once they are reversed (i.e. Never = 1, Seldom = 2, Occasionally = 3, Often = 4, and Always = 5), the final scores will be reported as the mean for each dimension in a range from 1 to 5. In other words, the total points recorded per subscale will be divided by the total number of items pertaining to each subscale.

Previous literature supports the predictive validity of leadership behaviors to group cohesion (Westre & Weiss, 1991; Widmeyer & Williams, 1991). Since leadership behaviors have been termed moderating variables of team cohesion (Carron, 1982), Westre & Weiss investigated the prediction of cohesion from leadership by sampling 163 high school football players with the GEQ and the LSS. Similar to Shields, et al. (1997), results showed that task cohesion was predicted from training and instruction, positive feedback, social support, and democratic behavior. Social support was found to predict social cohesion. Based on these findings and several studies, the validity of both instruments has been reported consistently (Chelladurai, & Riemer, 1998; Jowett, & Chaundy, 2004; Shields et al., 1997).

In conclusion, interview sessions consisted of probing questions regarding the techniques coaches use to improve team cohesion, prevent negative reinforcement, and produce successful teams. Players were asked similar questions regarding the perceived and preferred behaviors indicated on their assessments. In other words, once surveys were completed, the primary investigator subjectively analyzed responses in search of inconsistent answers that needed clarification.

Delimitations

The following delimitations were present in this study:

1. All quantitative data were collected using the demographic survey, the Group Environment Questionnaire (GEQ; Carron et al., 1985), and the Leadership Scale for Sports (LSS, Chelladurai & Saleh, 1980).

2. All qualitative data were collected using an interview protocol.

3. Participants involved in this study were located in Central Oklahoma.

4. All student-athletes were female college athletes.

5. Coaches were male and female.

6. This study was conducted while the team was in the off-season, specifically during the months of September, October, and November.

7. Off-season assessments were administered during practices in the team's locker-room.

Research Analysis

Upon completion of data collection, Pearson's product moment correlation coefficients were used to assess relationships between variables. Subsequently a linear

regression analysis of variance was utilized to predict team cohesion (task and social) from the dimensions of the LSS (Chelladurai & Saleh, 1980). Differences between perceived and preferred leadership behaviors were analyzed using paired samples t-tests and effect sizes. For the analyses, the independent variables included perceived coaching behaviors by players and coaches, as well as the preferred leadership behaviors of the players. The dependent variable present in this study was team cohesion (task and social). In order to ensure that the results did not occur by chance, the level of confidence was set at • = .05. Since this study was exploratory in nature, the alpha level was set at .05 for all analyses, acknowledging that there will be an inflated type I error rate due to the aggregate number of analyses conducted. Internal consistency reliability of the GEQ and LSS was assessed at baseline using Cronbach's alpha. Finally, interviews were transcribed, and then assessed using inductive reasoning and the constant comparative method. This method consists of analyzing the transcribed interviews for common themes, and then comparing and contrasting them to the quantitative findings of this study, and the previously found themes and ideas of other studies. Categories will be created with each new theme to keep the developing analysis organized, as recommended by Turman (2003). A computer software program, HyperRESEARCH Version 2.8 was also used to further investigate the interview responses for themes and categories. The analyses were conducted to answer the questions below and to determine if the subsequent hypotheses were accepted or rejected.

Research questions.

Q1. Does a relationship exist between leadership behaviors and team cohesion?

Q2. Is there a significant difference between the perceived and preferred leadership behaviors of the Leadership Scale for Sports?

Q3. Will the researchers be able to successfully predict cohesion from leadership behaviors?

Q4. Will the relationship between leadership behaviors and team cohesion be supported by the qualitative responses?

Research hypotheses.

H1. The relationship between certain leadership behaviors and measures of team cohesion will be positive, in that, as perceived and preferred leadership behaviors are congruent, team cohesion will improve. More specifically, task cohesion will reveal a closer relationship to autocratic behavior and training and instruction, while social cohesion will relate more to social support, democratic behavior, and positive feedback.

H2. There will not be a difference between each of the perceived and preferred leadership behaviors.

H3. Both perceived and preferred leadership behaviors will significantly predict team cohesion.

H4. Qualitative responses will support the congruency between leadership behaviors and team cohesion through the development of themes and categories.

Results

The purpose of this project was to understand the relationship of team cohesion to perceived and preferred leadership behaviors, in addition to the prediction of team cohesion from leadership behaviors among softball players at the collegiate level. Four

hypotheses were therefore tested with Pearson's product moment correlation coefficients, paired samples t-tests, followed by a standard multiple regression analysis of variance. In addition, the constant comparative method was utilized to assess the interviews.

Internal consistency reliabilities were determined using Cronbach's alpha coefficients for each subscale of both survey instruments (Table 14). Results revealed that perceived training and instruction (TI), democratic behavior (DB), autocratic behavior (AB), social support (SS), and positive feedback (PF) maintained an alpha coefficient of .87, .85, .62, .83, and .88, respectively. Preferred leadership behaviors reported the following alpha coefficients: TI = .76, DB = .85, AB = .72, SS = .87, PF = .87. Cronbach's alpha values of the GEQ ranged from AG-S = .57 and GI-S = .62, to AG-T = .70 and GI-T = -.36. Perceived autocratic behavior has reported inconsistent internal reliabilities over time, with previous research, ranging from .11 to .79 (Chelladurai, 2007, p. 121). This variable was not withdrawn from the analysis since the estimate was rather high for the range presented. Even though group integration-task showed an unacceptable reliability coefficient (-.34), the authors determined that it should remain in subsequent analyses, due to the exploratory nature of this research. Carron et al. (2002) further confirmed the inclusion of this variable, stating that "low internal consistency values on some scales should not be complete suprising" (p. 26). The authors proposed that because of the dynamic multidimensional construct of cohesion, Cronbach's alpha coefficients may not be the best determinant of internal consistency, especially since perception is a very complex variable to assess from one individual to another. This is also due to the timing of the assessment. Values depend on

when the group is evaluated, as players may not have had enough experience to classify

cohesion on a scale.

Central Tendency

Descriptive findings for each variable of the current study can be found in Table

15. Thirteen participants, with a mean age of 19.92 ($\pm$ 1.12 years) completed the survey

instruments, while only two players and the coach of the team, completed the interview

section of this study. All team members represented freshmen ($n = 2$), sophomores ($n =

4$), juniors ($n = 4$), and seniors ($n = 3$), in the university from which the players were

recruited. Although the sample size of the current study is rather small, the primary

investigator calculated skewness and kurtosis to examine the distribution of data from the

mean of each variable, as suggested by Vincent, 2005. Retaining the abnormal data may

increase the chances of making a Type II error, subsequently reducing the

generalizability of the findings in the current study. In regards to the demographic

variables of each player, variation in data was expected, especially since college athletes

have predominantly played their respective sport for a long period of time. Seven years

was recorded as the smallest amount of time in total years played, while 17 years was the

maximum time reported ($M = 14 \pm 2.76$; Skewness = -2.68, $p < .05$; Kurtosis = 2.46, $p <$

.05). Due to the large variability in possible total years played, the scores are negatively

skewed and leptokurtic. Percentage of playing time was indicated in increments of 15.

Each player was asked to provide a percentage of playing time, while the coach was

asked to provide one for each player. The lowest amount of playing time was reported as

15%, and the highest percentage of playing time was 100% ($M = 78.08 \pm 30.25$;

Skewness = -2.02, $p < .05$; Kurtosis = .300, $p > .05$). These results were negatively

skewed as well. Outlying variables were not determined with this particular data because

of its descriptive purpose in the study.

The higher score for each perceived and preferred leadership behavior indicates

agreement with the subscale (5 = Always performs behavior), while the lower score

indicates disagreement (1 = Never performs behavior). The highest mean score observed

in both versions of the LSS (Chelladurai, & Saleh, 1980) was 4.32 (± .42) for preferred

training and instruction, indicating agreement that the coach performs this behavior

occasionally. The lowest mean score of the LSS subscales found was 2.62 (± .88) for

preferred autocratic behavior, showing that the players seldom preferred this behavior.

The highest mean score in the team cohesion subscales was 37.62 (± 6.86; Skewness = -

2.40, $p < .05$; Kurtosis = 1.43, $p > .05$; Minimum = 21, Maximum = 45) for individual

attractions to the group-social, while the lowest mean score found was 28.62 (± 5.33;

Minimum = 17, Maximum = 36) for group integration-social. The curve of AG-S is

negatively skewed as indicated by the score. Boxplots were analyzed when significance

was found in skewness or kurtosis to examine the potential for outlying data. The

primary investigator, due to the exploratory nature of the study and complexity of team

cohesion, determined that outlying variables would remain in the analysis. Results

revealed that one participant indicated a lower response than the others for this subscale.

Intercorrelations and Differences

Since Berg and Latin (2008) recognize the cut-point for determining a moderate

relationship is .26, relationships greater than or equal to .3 were determined to be

meaningful for this study, regardless of the probability of error (p). Intercorrelations were first observed with the demographic variables, team cohesion subscales, and perceived/preferred leadership behaviors. Pearson's product moment correlation coefficients revealed that the association between student classification and attractions to the group-social was significant and moderate ($r = .571$, $p = .04$), indicating that as student class went from freshman to senior, AG-S scores increased. This was expected to occur based on theoretical underpinnings of group composition, in that, the more time teammates have with each other on the same team, the more each one understands the roles and norms established versus an underclassman who is new on the team (Widmeyer, 1990). Interesting to note is the relationship between percentage of playing time assessed by both the coach and the players ($r = .691$, $p = .01$). This significant moderate to strong-positive relationship indicates that as players reported higher playing time percentage for themselves, so did the coach.

No significant relationships were found between each perceived leadership behaviors and team cohesion, however, a trend in meaningfulness emerged between perceived training and instruction, autocratic behavior, social support and individual attractions to the group-task ($r = .457$, $p = .11$; $r = .467$, $p = .11$; $r = -.340$, $p = .26$, respectively; Table 16). Although both positive relationships are moderate, they indicate that as players perceived the coach to occasionally-always perform the behaviors, AG-T improved. Conversely, the inverse relationship of social support and AG-T indicates that as social support is perceived to be often performed by the coach, AG-T decreases. This association is weak to moderate, however, indicating that meaningfulness may vary

because of the sample size.   Negative relationships were also discovered between attractions to the group-social, training and instruction, and positive feedback (r = -.337, p = .26; r = -.361, p = .23, respectively). This shows that when each behavior was perceived by the players as often performed, AG-S decreased. The last relationship was found between perceived autocratic behavior and group integration-social (r = -.315, p = .29). The negative relationship denotes that as autocratic behavior was performed often by the coach, GI-S decreased.

With the exception of preferred autocratic behavior and attractions to the group-task (r = .569, p = .04), further significant relationships between preferred leadership behavior and team cohesion were not found (Table 17). The former significant positive relationship between AB and AG-T shows that as autocratic behavior was more preferred of the coach, attractions to the group-task increased. This finding in conjunction with the relationship found between AG-T and perceived AB indicates that autocratic behavior may be necessary for a team to experience improved task cohesion. Training and instruction and AG-T, however, revealed a negative relationship (r = -.333, p = .27), demonstrating that as training and instruction was preferred occasionally of the coach, AG-T decreased. Attractions to the group-Social was also observed to be negatively related to training and instruction (r = -.435, p = .14). The less training and instruction was preferred by the players, the better AG-S was perceived. Positive meaningful relationships were found between group integration-task and preferred autocratic behavior (r = .345, p = .25), and positive feedback (r = .415, p = .16). The more AB and PF were preferred of the coach, the more GI-T was perceived. The association between

group integration-social and preferred democratic behavior ($r = -.422$, $p = .15$), indicating

that as GI-S increased, DB was preferred less.

Paired samples t-tests were conducted to observe differences between perceived

and preferred leadership behaviors (Table 18). Significant differences were discovered in

training and instruction ($t = -3.819$, $p = .02$; $d = -1.27$), democratic behavior ($t = -2.489$, p

$= .03$; $d = -.59$), and social support ($t = 2.286$, $p = .04$; $d = -.35$). Since the means (for

each type of behavior) were close together, Cohen (1988) recommends calculating the

magnitude of each difference, as measured by subtracting the mean of the preferred

leadership behavior (M_2) from the mean of the perceived leadership behavior (M_1) then

dividing by the standard deviation of the perceived mean (SD_{M1}). The standard deviation

of the perceived leadership behavior was selected as the denominator because it was a

real-time assessment of current behaviors, thus producing minimal variability amongst

the players in comparison to the lack of control for variation in the preferred behaviors.

Although not significant when calculating the difference, the magnitude of difference

between perceived and preferred autocratic behavior was found to produce a small effect

size (.32), while positive feedback revealed an effect size of -.35. The differences may be

indicative of incongruence between behaviors that are preferred and perceived. In other

words, behaviors that are preferred may not be met by behaviors that are perceived by the

players.

Prediction

To predict team cohesion from perceived and preferred leadership behaviors, a

standard multiple regression analyses of variance were utilized. Leadership behaviors

were incorporated as the independent variables. Although non-significant, 48.8% of

variance in individual attractions to the group-task can be attributed to the perceived

subscales of leadership behavior [$R^2 = .488$, $F(1.333)$, $p = .35$; Table 19]. However,

when predicting group integration-task, trends towards significance were apparent.

Perceived behaviors contributed to 48.8% of the variance in group integration-task [$R^2 =$

.488, $F(1.332)$, $p = .35$; Table 20). Specifically, perceived positive feedback significantly

contributed to 45.4% of the variance (• $= -1.361$, $t = -2.417$, $p = .04$). Perceived

autocratic behavior uniquely contributed 34% to the model but was non-significant (• $= -$

.970, $t = -1.914$, $p = .10$). Similar to AG-T, individual attractions to the group-social was

not significantly predicted by the perceived behaviors [$R^2 = .196$, $F(.342)$, $p = .89$; Table

21]. This prediction turned out to be the lowest amount attributed to the independent

variables when predicting AG-S (19.5%). Contrary to group integration-task, group

integration-social was not significantly predicted by perceived behaviors ($R^2 = .278$,

$F(.540)$, $p = .74$; Table 22). This may be attributed to the standard error of the estimate

observed for each independent variable.

      Significant unique variance was more prevalent amongst the preferred leadership

behaviors. Individual attractions to the group-task nearly approached significance when

predicted by preferred leadership behaviors [$R^2 = .698$, $F(3.240)$, $p = .08$; Table 21],

contributing a 69.8% variance to the model. Preferred training and instruction (• $= -.617$,

$t = 2.582$, $p = .08$) nearly approached significance uniquely contributing 38%, while

autocratic behavior (• $= .850$, $t = 2.388$, $p = .02$) was the only significant predictor.

Preferred AB uniquely contributed 72% to the model. Indicated in Table 23, preferred

behaviors did not significantly predict group integration-task as a whole, even though

they accounted for 30.7% of variance [R^2 = .307, F(.620), p = .69]. The only behavior

that nearly contributed significantly to the model was preferred democratic behavior (• =

.528, t = 1.258, p = .24) with a 27.8% unique contribution to group integration-task.

Conversely, preferred behaviors nearly predicted individual attractions to the group-

social [R^2 = .466, F(1.221), p = .39; Table 24], with democratic behavior contributing

29.7% of variance, although not significant (• = -.625, t = -1.721, p = .13). Finally,

group integration-social was not significantly predicted by the preferred leadership

behaviors together [R^2 = .295, F(.587), p = .71; Table 25]. But, preferred democratic

behavior nearly reached significance in the model (• = 1.221, t = 2.837, p = .25) uniquely

contributing 6.4%. Interestingly, social support did not emerge as a significant predictor

of group integration-social (• = -1.448, t = -2.116, p = .07; Table 26), which can be

explained by the non-significant correlation coefficient found between the two variables

(r = .114). But, this is the only cohesion subscale whereby social support contributed

more variance to the model than the other preferred leadership variables.

Qualitative Analysis of Interviews

        Upon completion of the interview transcriptions, all personal identifiers were

removed and replaced with letters (i.e. Head coach is Coach A, and the Assistant Coaches

are Coach B and C). Players' names were removed altogether, with reference to them as

player 1, 2, 3, and so on. The participants were disciplined in leaving out the names of

their teammates, but used the coach's names frequently. The interviews were analyzed

mainly with the constant comparative method (Marshall & Rossman, 2007; Turman,

2003), and with the help of HyperRESEARCH Version 2.8. Based on the relationships observed, categories were found with themes to support them. In addition, the categories were partially formed based on previous work (Latham, 2008). The two most meaningful categories for this study included the following: 1) leadership mediators of cohesion and, 2) player autonomy to promote cohesion and motivation. The fourth hypothesis was supported, in that, subthemes regarding the categories met the description of the need for specific leadership behaviors to increase cohesion (i.e. autocratic behavior, social support, and positive feedback). Keywords such as gelling, family, blending, and togetherness were used to describe the team's environment. Autonomy exaggerated through group decision-making and positive feedback was implemented by the coach through democratic behavior and social support. Keywords or phrases pertaining to this perspective included open communication, team player, seeking questions, accountability, and re-evaluation of goals. Congruency between the survey responses and interview responses was observed.

Discussion

The purpose of this study was to determine the relationship of leadership behaviors as perceived and preferred by fastpitch softball players, to team cohesion. Further purposes included the examination of the prediction of cohesion from leadership behaviors, in addition to analyzing the congruency of survey responses to interview responses. Finally, differences between preferred and perceived behaviors were evaluated. These findings may provide information pertaining to what is effective as a coach. This may foster team unity in an elite sport that is not often recognized or studied

in the literature. Posits arise as to the reason for this lack of inclusion of softball, which

have stemmed from the type of sport fastpitch softball has been considered. As

mentioned previously, the sport is both coactive and interactive, and at different times

throughout a game, social cohesion may be required more so than task, or vice versa

(Murray, 2006).   This yields complex interpretation when analyzing relationships and

prediction. However, the first tested hypothesis may provide information that will help

understand such dynamic, in addition to increasing coaching effectiveness. In other

words, coaches and players alike may better understand that task cohesion may require

more autocratic behavior and training and instruction, while social cohesion may be

linked to social support, democratic behavior and positive feedback. This hypothesis was

formulated based on the theoretical background of each variable, in addition to previous

findings (Westre & Weiss, 1991). To start, the positive relationship observed between

playing time percentage assessed by the coach and players, may illustrate that

communication of expectations has been performed. This may further lead to preferred

behaviors being met by what is perceived by the players. Prior to divulging such

information through examining each relationship, discussion of the theoretical

background for each psychometric property should be revisited.

Through the development of team cohesion, it was determined that the conceptual

model should be fashioned linearly to entail inputs, throughputs, and outputs. In other

words, the direction should include: antecedents of group cohesion, the consequences,

and the types of cohesion in sport teams (Carron, 1982). While mediating variables of

cohesion were discussed previously, this discussion will primarily focus on leadership as

a mediator of cohesion. If the Multidimensional Model of Leadership (Figure 1) suggests that outcomes are contingent upon the situation, leadership behaviors perceived and preferred by players and actual behaviors of the leader during the situation, then it seems that the importance of leadership should be placed before the conceptual model of cohesion. However, since the aim of this study was to examine the relationship between the detailed variables included in the two conceptual frameworks, this discussion will account for the both leadership and cohesion, in various directions. In particular, cohesion will be divided into all four subscales of the GEQ, while leadership will be split into the five subscales of the LSS. This presents a more detailed observation of what is working in regards to coaching effectiveness.

Intercorrelations of Leadership Behaviors and Team Cohesion

        The positive relationships found between perceived leadership and AG-T indicate that as the coach performs TI and AB often-always, the players attractions to the group through task orientation also increased. The relationship between preferred AB, AG-T and GI-T revealed a moderate to strong positive relationships. It may be posited that when preferred and perceived, autocratic behaviors contribute to task cohesion through individual attractions, especially since both facilitate direction in accomplishing team goals. Since AG-T stems from the individual attractions one may possess towards their team, specifically when the player feels that they belong to the contribution of accomplishing goals and objectives, autocratic behavior may be needed. Although the direction of the relationship between TI and attractions to the group-task was positive, when assessing the preferred TI variable, results revealed a negative relationship.

Although the finding was weak to moderate, it may be indicative of preferences not being met by the coach, hence the decrease in AG-T. Because training and instruction encompasses competence and character in improving the athlete's performance through stressing hard work, in addition to clarifying and structuring practice and game expectations, it may also be required to facilitate increases in attractions to the group-task. Due to the inconsistency between preferred TI and AG-T, it can be inferred that either the players are not in agreement that "the whole team" prefers TI to accomplish goals and meet objectives. It can also be determined that perhaps this leadership behavior has already been met, especially since the association between perceived TI and AG-T was found positive.

According to the negative correlation found between perceived social support and AG-T, it may be inferred that perhaps social support is not needed to aid attractions to the group-task. Social support is comprised of caring for the well-being of athletes by the coach, and interpersonal relationships between everyone on the team. Interestingly, SS was found previously to be related in a positive direction more so to the task cohesion subscale versus the social subscale ($r = .64$ vs. .61; Shields et al., 1997). This indicates that while players perceive and prefer autocratic behavior to enhance AG-T, social support may not be as important. This finding may shed light on to whether or not the coach is relationship motivated or task motivated, according to Fiedler's contingency theory (Cox, 2007). The relationship between preferred SS and AG-T is non-existent in the current study.

Further negative relationships were found between AG-S, perceived training and instruction, in addition to positive feedback. Although not significant and only moderate, this reveals that as the coach performed TI and PF, AG-S decreased. This finding is rather interesting particularly because PF entails giving recognition of good performance. Even though it was perceived that the coach demonstrated this behavior, attractions to the group-social decreased. This may demonstrate the need for more praise that is positive versus recognition that stems from negative statements. These relationships are inconsistent with previous findings (Gardner, Shields, Bredemeier, & Bostrom, 1996), in addition to the first hypothesis of the current study. Although autocratic behavior contributed to task cohesion, it was found to be negatively related to group integration-social. Similarly, preferred training and instruction was negatively linked to GI-S. Unlike perceived PF, preferred positive feedback was positively related to GI-T. Finally, preferred democratic behavior and group-integration-social maintained a negative relationship. This may be indicative of more autocratic behavior implementation made by the coach versus democratic.   To summarize, it seems that task cohesion was fostered by: perceived training and instruction and autocratic behavior; preferred autocratic behavior and positive feedback. The negative mediating role of leadership was determined by the lack of support between: task cohesion and perceived social support; social cohesion, training and instruction, positive feedback, and autocratic behavior. These findings partially support the first hypothesis.

Differences between Perceived and Preferred Leadership Behaviors

The second hypothesis of the current study was tested to determine if differences between the leadership behavior types existed. Significant differences found between perceived (PE) and preferred (PR) leadership behaviors included training and instruction (PE $M = 3.59 \pm 0.58$, PR $M = 4.32 \pm 0.42$), democratic behavior (PE $M = 3.09 \pm 0.71$, PR $M = 3.51 \pm 0.72$), and social support (PE $M = 3.93 \pm 0.67$, PR $M = 3.42 \pm 0.86$). In examining the means of each variable, it is apparent that the perceived behaviors were reported to be performed less frequently than what more often was preferred, with exception to positive feedback. These findings may be indicative of preferences not being met by what is perceived. Even though previous researchers have not included this question in their studies, it is a question of merit. For instance, questions emerge, including: 1) why were the perceived means of TI and DB lower than the preferred, while the perceived social support mean was higher than preferred? 2) with regard to SS, this could boil down to intrinsic vs. extrinsic motivation elevated by the coach, 3) were the perceived behaviors of the coach in TI and DB not met by what is preferred? The in-congruency between perceived/preferred TI and DB suggests that it may be more important for the athletes to agree with the coach on what 'is' than what 'ought to be' (Shields et al., 1997). This further contributes to the relationships observed between what is perceived and team cohesion, in that, preferred behaviors were less related to cohesion. Social support by the coach, according to what is perceived has been agreed upon amongst the players. It can be speculated that the players' intrinsic motivation is at a good level, which may have been contributed to by the coach providing reinforcement

and praise for performance or actions. This could also be attributed to the low score of

the preferred social support, and the coach displaying positive feedback and support of

the player's well-being. The second hypothesis of the study was not supported by these

findings.

Prediction of Cohesion from Leadership Behaviors

The third hypothesis was partially supported when analyzing prediction of team

cohesion. Task cohesion emerged as the only variable to be significantly predicted by at

least two leadership behaviors. Out of the perceived behaviors, positive feedback

contributed 45.4% of the variance in group integration-task. For AG-T, preferred

autocratic behavior was the only significant predictor contributing 72% of the variance.

Contrary to previous findings, it can be inferred that task cohesion was fostered by

positive feedback and autocratic behavior. Shields et al., (1997) and Westre & Weiss,

(1991) found that positive feedback predicted social cohesion, while autocratic behavior

predicted task cohesion. Consistent with the literature is the contribution of preferred

democratic behavior to social cohesion (Gardner et al., 1996). In that, to foster social

cohesion, democratic behavior, social support, and positive feedback may be required.

To summarize, task cohesion was fostered by autocratic behavior and positive feedback,

while social cohesion was fostered by democratic behavior.

Qualitative Analysis of Interviews

Two main limitations were present in analyzing the interview responses. First,

both players interviewed perceived themselves as leaders on the team. Second, although

the coach did volunteer to be interviewed, the author can only speculate findings as two

more players were needed to fulfill requirements of majority perspectives. The

interviews were analyzed for categories and common themes. The two categories that

emerged consisted of leadership mediators of cohesion, and player autonomy to promote

cohesion.

Leadership mediators of cohesion. Mediating cohesion through leadership has

been referred to as both an art and a science, in that, coaches should be careful in

performing the extremes (too much or too little) of each behavior (Martens, 2004).

During the interview with the coach, responses indicated that relationships between the

coaching staff were interdependent but each practiced their own philosophy.

Specifically, Coach A cited that each one assures the other that they are on the same

page, and if not, discussions eliminate miscommunication. The players cited this as a

positive relationship to the team's cohesion. When asked about the coaching staff's

relationship, each one stated that the individuals work well together, and it appears that

each one has great relationship-trust with the other. The players also emphasized the

support of the coaches in accepting new ideas and suggestions. Regarding the

relationships between training and instruction, positive feedback, and cohesion, the

hypothesis was further supported. During the interviews for both players and the coach,

it was specified that the coach does allow decisions to be shared, but decisions that affect

the team as a whole are made by the coach. This is contrary to what was found in the

pilot study because the relationship between perceived democratic behavior and cohesion

was high in three of the four cohesion subscales. Also, indicated in the three interviews

was receptiveness to suggestions (by both coach and team) and asking for feedback.

Both players cited that the head coach is always willing to listen to ideas or suggestions. Specifically, when asked if the coach welcomes players to talk to her with personal problems or questions about practice and games, Player 2 stated:

> I mean if she feels one way and we feel another, she'll obviously discuss it with you, but in the end it's what everyone wants. Coach will call you in there (office) if you're having issues or if coach can tell your attitude's are wrong, especially if you're dwelling on stuff, she'll talk to you. So I think, for the most part, we talk to our coach about everything that is brought to her office, whether it's as a team or an individual, she covers pretty much everything. (personal communication, October 24, 2009)

Cleary the coach and Player 2 have an understanding of open communication. Keywords mentioned previously like family and togetherness suggests the closeness that each one may share. However, it may already be understood because player 2 perceived herself as a leader of the team at the time of the interview. Further investigation with other members of the team is recommended to develop a consensus of the family-like environment that was reported.

Player autonomy to promote cohesion. Interesting to note is the lack of strong relationships between cohesion and democratic behavior, although it was emphasized in the interviews that the players do share in group decision-making. When asked about the coach seeking approval of decisions made, Player 1 responded:

> If it is about plays or something on the field, Coach A will let us run the ones we feel comfortable with. In game situations, it's more of a team decision. I think Coach A lets us choose more what we want to do, rather than what she wants us to do on the field, and that's just because we know how to gel together and how we play on the field. But, if decisions are made because we did something wrong or consequential to the team? Whatever Coach A says, goes. (personal communication, October 24, 2009)

In observing the coach's own responses to perceived behavior, Coach A reported a

3.44 for democratic behavior indicating that it is often performed. This mean was higher

than that of autocratic behavior, which does specify inconsistency in what the players

want. But, recall that the relationship between preferred autocratic behavior and

individual attractions to the group-task was significant. In relation to individual

attractions to the task orientation of the group, the players wanted the coach to perform

authoritative direction versus democratic direction. But, Player 1's statement is

reminiscent of what the coach reported when rating DB. Since AG-T was the only

cohesion subscale related to AB, it can be speculated that the previous findings are

consistent with the statement of both the coach and Player 1. This category is further

supported by common themes that emerged, such as fair treatment, and collective

efficacy. Such themes may contribute to successful performance and increased cohesion,

based on previous findings (Spink, 1990).

The coach indicated perceived social support to be performed more than any other

behavior. Recalling that the meaning of social support is comprised of caring for the

well-being of others, this behavior may be required to promote autonomy in players.

This in combination with democratic behavior may foster greater social cohesion and

motivation within the team, according to the interview responses. But, it could also be

posited that the team wants more autocratic behavior to accomplish tasks, due to the

relationship found between GI-T and AB. This assumption, however, was not indicated

in the interview responses of the players, which may be indicative of lack of experience

or bias of the primary author. Further qualitative research and review of the interviews is

needed to bring conclusion to this idea.

Pilot Study Results Comparison

In the pilot study, the significant relationships observed between perceived and

preferred leadership behaviors were stronger that what was found in the current study;

specifically, between perceived democratic behavior and both task and social cohesion, in

addition to social support and group integration-task, followed by perceived positive

feedback and attractions to the group-social. This is of particular importance because

relationships between preferred behaviors and team cohesion were predominantly weak.

These results indicate that preferred leadership behaviors may have been met at the time

of testing. It can only be speculated, however, since each team completed the

assessments at different times of the year. When analyzing the differences between

perceived and preferred behaviors in each study both TI subscales were significantly

different. In the pilot sample, PF was also significant, with the preference version

reporting the higher mean. It can be posited that players' expectations of preferred

positive feedback were not met by the coach. While the pilot sample recorded stronger

relationships, the current study reported more significant predictors of team cohesion

from leadership behaviors. Group integration-social, however, was the only cohesion

subscale with the most consistent prediction. The predictor variables approached

significance for this subscale, ranging from $p = .07$ to .10. For the pilot team, it can be

determined that task and social cohesion were both fostered by democratic behavior. The

coach of this team may have been more relationship motivated (Cox, 2007, p. 57).

Conversely, the coach of the current study's team may have been more task motivated since autocratic behavior fostered only task cohesion. Such differences may be attributed to the level of competition between each team. The former was a junior college team, while the current study included scores of an NAIA Division II four-year institution. Experience of the players may have been a main contributor. More seniors were included in the current study, which provides insight into the preferred behaviors being met by what is perceived. Also, sample size could have had a large impact on the strong relationships especially when the number of variables included in the study outweighed the number of participants.

Recommendations for Future Study

The purpose of the current study was to determine the relationship between team cohesion and leadership behaviors; to examine the differences between leadership behaviors (perceived and preferred); and, to test the prediction of cohesion from leadership. A fourth purpose was to determine the congruency of survey responses to those of player and coach interviews. This study was original, in that, softball is a sport that is overlooked in regards to leadership research, not to mention the general need for qualitative design in leadership and cohesion research.

Throughout the study, limitations were mentioned that should be further addressed, such as: 1) difficulty in quantifying interpersonal knowledge and relationships, 2) lack of an third-party interview analysis, 3) use of subjective analysis of interviews by primary author, 4) use of social and task cohesion as the main subscales versus the four

subscales that comprise the cohesion concept, 5) and, not using a canonical correlation

analysis with the many variables involved.

In the sport of softball, especially at the collegiate level, social cohesion and task

cohesion are required at different times during games and/or practices (Murray, 2006).

Previous cohesion research has included various teams from several areas, but rarely has

softball been included from 4-year institutions at higher competing levels. This

demonstrates a need for the sport to be studied especially because of the dynamics

involved. In an effort to understand the issue further, interviews were conducted. The

primary author, however, was only able to recruit two players and the coach to

participate. Marshall and Rossman (2007) suggest that a researcher is not required to

interview an entire group or team. However, the amount of participants should be

proportionate to how many belong to the group in order to obtain results that can be

applied to the majority (G. Bower, personal communication, March 30, 2009). Based on

this recommendation, eight participants were randomly selected while only two players

conceded to participate. Two participants representing a sample size of thirteen does not

provide enough insight to support generalizations, but the findings can be used further to

develop speculations. Future research should entail a larger sample for interviewing in

order to determine consistency in responses, and to maintain support for the entire sample

size. Also, research personnel should have experience with the interview process in

developing relationship-trust with the participant, in addition to analyzing the interviews.

A possible limitation in this study could have been author bias, in that, the primary author

had experience with the sport and was the only person to analyze the interviews. A third-

party reviewer would have ameliorated this issue. This is usually a person who is blind to the study, but has experience in subject matter. Finally, the constant comparative method allows for consistency in withdrawing themes and categories, however, the author is the one reviewing the material. This lends a hand to the lack of control for subjective assessment of verbal responses.

Previous authors have used a canonical correlation analysis to assess the relationships between leadership behaviors and team cohesion. This type of analysis provides relationship values between two sets of variables versus individual variables (Stevens, 1986). The purpose for using the analysis is to decrease the potential of making a Type 1 error. This was a limitation with the current study because of the sample size, since the previous research performed with this analysis has included sample sizes of 150 participants or more. When assessing team cohesion, authors have compiled the scores of the four subscales into two subscales to increase power. Carron et al. (2002) advised that it should only be performed when assessing task and social cohesion in general, but due to the exploratory nature of this study, the primary author determined that results would be more efficient when analyzed with the four subscales. However, similar research designs should employ the two task and social cohesion scales with composite scores. Researchers should understand that this is specific to the characteristics of the data, and it depends on the research question.

Interesting to note is the difference in gender between the head coaches of both teams. The coach of the pilot team was male, while the coach of the current study was female. A current emergence in the research literature is the need to study gender

differences. Latham (2008) found that gender differences (in team cohesion) did not

exist when conducting quantitative research specifically with the GEQ. The author did

find differences when examining the qualitative research performed, specifically citing

that the factors of cohesion were agreed upon between genders, but were described

differently. From this, it may be speculated that perhaps female and male coaches

perceive their own behaviors differently. As indicated in Table 27, it appears that the

female coach (current study) perceives occasional performance of training and

instruction, social support, and positive feedback, with DB performed often and AB

performed seldom. Conversely, the pilot coach indicated occasional performance of TI

and PF, but often performance of AB, DB, and SS. For the former coach, these findings

are partially supported by the means of the players, while the latter coach is supported by

his respective players. Important to mention again is the timing of the surveys, but

perhaps, the current study and Latham's work can be expanded in future research to

examine gender differences in coaches and their staff, in addition to the way players

perceive the interactions of coaches.

Future research should also entail examining changes over time, especially since

cohesion has been cited as a dynamic multidimensional construct. Questions regarding

whether or not leadership may impact this change are warranted, based on the current

study's findings. Changes over time will also contribute further to the debate of the

performance cohesion relationship, in that, at the time of testing performance success

should be measured. Does performance yield better cohesion, or vice versa is a continued

topic under speculation. Integrating such questions will continue to provide coaches

insight into cohesion's complex construct, in addition to the type of leadership that will

foster better team cohesion.

Conclusions

In response to the title of this project, leadership behaviors as a deterrent or

promotional means of team cohesion, the study indicates that certain behaviors do in-fact

support cohesion as long as they are agreed upon by the whole group. But, it seems that

such findings depend on the team and its environment. For instance, the pilot study

team's coach employed more democratic behavior than autocratic, thus facilitating an

identity of group versus hierarchy of roles and responsibilities. Contrarily, the coach of

the current study employed mostly autocratic behavior, but it was shown that the players

prefer this behavior which yields an authoritative environment. Since both the coach and

players did indicate that the players do share in some decision making, perhaps it can be

inferred that the coach understands the balance needed between the two variables. Future

study should also include understanding the length of time the coach has been in the

profession, which may present clear justification of the balance (between autocratic and

democratic leadership) in the latter coach versus the former. John Wooden, former head

coach of the UCLA men's basketball team always referred to himself as a teacher

(Wooden, 2004). A teacher who instills life lessons through the practice of basketball

coaching. From this description, a fine balance of all behaviors may be present, although

it has been noted that Wooden did not provide much praise. But, that could have been

due to the belief that expected behaviors should not be praised (Wooden). This was

noted by one of the players of the current study:

What I don't believe in, is rewarding behavior that is expected. We are in college and that kind of thing is pretty basic stuff. Now I believe in the middle part of it. In a game situation if runners are at first and second and you bobble a ball; but you know what to do next instead of panic. Knowing when and where to look for the next play, that's the kind of stuff that I think needs to be given more gratitude. Encouragement too, because I think that (that situation) is more about the heart and that's not just natural, and it's not that easy. So, I guess I don't believe in getting praise every time you do something right. (Player 2, Personal communication, November 9, 2009)

Such a belief skims the surface of what players may want as a whole; therefore, it is imperative for coaches to understand them on an individual level because each athlete is so unique. When asked about offering praise, the head coach of current study said, "I don't want to over praise because then it does not mean as much" (Personal communication, November 3, 2009). Clearly from the qualitative standpoint, this coach and player are on the "same page" so to speak. Therefore, in considering the number of moderating variables related to team cohesion and the coach-athlete dyad, especially performance, it seems that if the field may be closer to confirming the need for certain leadership behaviors to be implemented when specific types of cohesion are required (during the situation). This may produce better coach-athlete dyads and coach-team relationships.

Table 1

Internal Consistencies of the LSS and GEQ (Pilot Study)

Variable	Cronbach's alpha coefficient
TI-PE	.75
TI-PR	.63
DB-PE	.83
DB-PR	.77
AB-PE	.08
AB-PR	.57
SS-PE	.69
SS-PR	.76
PF-PE	.80
PF-PR	.78
AG-T	.51
AG-S	.84
GI-T	.72
GI-S	.63

Note. TI-PE = Perceived training and instruction; TI-PR = Preferred training and instruction; DB-PE = Perceived democratic behavior; DB-PR = Preferred democratic behavior; AB-PE = Perceived autocratic behavior; AB-PR = Preferred autocratic behavior; SS-PE = Perceived social support; SS-PR = Preferred social support; PF-PE = Perceived positive feedback; PF-PR = Preferred positive feedback; AG-T = Individual attractions to the group-Task (sum score); AG-S = Individual attractions to the group-Social (sum score); GI-T = Group integration-Task (sum score); GI-S = Group integration-Social (sum score)

Table 2

Descriptive Findings of Age, Estimation of Playing Time, Total Years Played, Leadership Behaviors, and Team Cohesion (Pilot Study)

Variable	M	SD	Min	Max	Skewness	Kurtosis
Age	19.86	1.22	18	22	-0.461	1.121
Class	1.71	.49	1	2	-1.549	-0.529
PT	82.14	18.90	50	100	-0.749	-0.221
YP	13.71	2.56	9	17	-1.013	0.944
TI-PE	3.21	.45	2.31	3.62	-2.059	1.808
TI-PR	4.40	.30	3.92	4.69	-0.870	-0.739
DB-PE	2.94	.54	2.22	3.70	-0.160	-0.669
DB-PR	3.14	.56	2.11	3.78	-1.383	0.784
AB-PE	2.86	.47	2.40	3.60	0.742	-0.867
AB-PR	2.57	.60	1.80	3.60	0.686	0.417
SS-PE	2.57	.63	1.63	3.25	-0.751	-0.764
SS-PR	2.75	.65	1.63	3.50	-0.801	0.135
PF-PE	3.71	.67	2.00	4.00	-2.15*	2.16*
PF-PR	4.29	.64	3.40	5.00	-0.311	-1.016
AG-T	21.71	6.26	13	28	-0.407	-1.158
AG-S	30.86	9.79	14	39	-1.373	-0.198
GI-T	19.57	5.97	12	28	-0.096	-0.929
GI-S	19.29	4.92	15	27	1.087	-0.686

Note. Min = Minimum; Max = Maximum; PT = Estimated playing time percentage; YP = Total years played; TI-PE = Perceived training and instruction; TI-PR = Preferred training and instruction; DB-PE = Perceived democratic behavior; DB-PR = Preferred democratic behavior; AB-PE = Perceived autocratic behavior; AB-PR = Preferred autocratic behavior; SS-PE = Perceived social support; SS-PR = Preferred social support; PF-PE = Perceived positive feedback; PF-PR = Preferred positive feedback; AG-T = Individual attractions to the group-Task (sum score); AG-S = Individual attractions to the group-Social (sum score); GI-T = Group integration-Task (sum score); GI-S = Group integration-Social (sum score).
*$p < .05$, $z = 1.96$

Table 3

Intercorrelations of Team Cohesion and Perceived Leadership Behavior Scores (Pilot Study)

Variable	1	2	3	4	5	6	7	8	9
1. AG-T	-								
2. AG-S	.877*	-							
3. GI-T	.741	.829	-						
4. GI-S	.695	.630	.816*	-					
5. TI	.703	.666	.423	.376	-				
6. DB	.692	.758*	.886*	.907*	.940*	-			
7. AB	-.568	.272	-.428	-.367	.799*	.808*	-		
8. SS	.288	.549	.772*	.538	.901*	.954*	.772*	-	
9. PF	.651	.790*	.708	.693	.974*	.972*	.809*	.951*	-

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback; AG-T = Individual attractions to the group-Task (sum score); AG-S = Individual attractions to the group-Social (sum score); GI-T = Group integration-Task (sum score); GI-S = Group integration-Social (sum score).
*$p < .05$

Table 4

Intercorrelations of Team Cohesion and Preferred Leadership Behavior Scores (Pilot Study)

Variable	1	2	3	4	5	6	7	8	9
1. AG-T	-								
2. AG-S	.877*	-							
3. GI-T	.741	.829*	-						
4. GI-S	.695	.630	.816*	-					
5. TI	-.470	-.370	-.007	.208	-				
6. DB	-.335	-.198	.162	-.139	.904*	-			
7. AB	-.284	.168	.098	-.299	.764*	.777*	-		
8. SS	-.269	-.037	.411	.216	.838*	.924*	.798*	-	
9. PF	-.341	-.152	-.067	.149	.959*	.854*	.730*	.797*	-

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback; AG-T = Individual attractions to the group-Task (sum score); AG-S = Individual attractions to the group-Social (sum score); GI-T = Group integration-Task (sum score); GI-S = Group integration-Social (sum score).
*$p < .05$

Table 5

Differences between Perceived and Preferred Leadership (Pilot Study)

Variable	*t*	*df*	*p*	*d*
TI	-4.932	6	.00*	-2.67
DB	-.733	6	.491	-0.38
AB	1.287	6	.245	0.61
SS	-1.118	6	.306	-0.29
PF	-2.601	6	.04*	-1.37

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
*p < .05

Table 6

Perceived Predictors of Individual Attractions to the Group-Task (Pilot Study)

Variable	*b*	*SE b*	•	*t*	*p*
TI	-70.589	33.471	-3.324	-.125	.28
DB	-5.401	7.051	-.479	.489	.58
AB	-14.968	7.333	-1.445	-.559	.29
SS	20.719	10.984	2.134	-.849	.31
PF	20.016	11.546	2.050	.501	.33

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
R^2 = .859
• = .05

Table 7

Perceived Predictors of Group Integration-Task (Pilot Study)

Variable	*b*	*SE b*	•	*t*	*p*
TI	-6.414	13.503	-.478	-.475	.72
DB	6.089	8.794	.547	.692	.61
AB	-4.356	8.379	-.345	-.520	.70
SS	1.392	6.557	.146	.212	.87
PF	4.012	12.103	.449	.332	.80

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
$R^2 = .860$
• = .05

Table 8

Perceived Predictors of Individual Attractions to Group-Social (Pilot Study)

Variable	*b*	*SE b*	•	*t*	*p*
TI	6.860	32.376	.312	.212	.84
DB	9.798	21.085	.537	.465	.78
AB	3.056	20.092	.147	.152	.95
SS	-1.867	15.722	-.120	-.119	.99
PF	3.571	29.019	.244	.123	.95

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
$R^2 = .702$
• = .05

Table 9

Perceived Predictors of Group Integration-Social (Pilot Study)

Variable	b	SE b	•	t	p
TI	-11.002	1.332	-.995	-8.260	.08
DB	7.204	.867	.785	8.305	.08
AB	-5.173	.827	-.496	-6.259	.10
SS	-5.030	.647	-.640	-7.777	.08
PF	8.758	1.194	1.188	7.336	.09

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
R^2 = .998
• = .05

Table 10

Preferred Predictors of Individual Attractions to the Group-Task (Pilot Study)

Variable	b	SE b	•	t	p
TI	-70.589	33.471	-3.324	-2.109	.28
DB	-5.401	7.051	-.479	-.766	.58
AB	-14.968	7.333	1.445	-2.041	.29
SS	20.719	10.984	2.134	1.866	.31
PF	20.016	11.546	2.050	-1.734	.33

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
R^2 = .859
• = .05

Table 11

Preferred Predictors of Group Integration-Task (Pilot Study)

Variable	*b*	*SE b*	•	*t*	*p*
TI	-54.520	44.721	-2.695	-1.219	.44
DB	-6.007	9.421	-.559	-.638	.64
AB	-11.381	9.797	-1.153	-1.162	.45
SS	22.963	14.676	2.482	1.565	.36
PF	15.542	15.426	1.670	1.007	.50

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
R^2 = .723
p < .05

Table 12

Preferred Predictors of Individual Attractions to the Group-Social (Pilot Study)

Variable	*b*	*SE b*	•	*t*	*p*
TI	-110.649	68.951	-3.335	-1.605	.36
DB	-9.401	14.526	-.533	-.647	.63
AB	-16.057	15.105	-.992	-1.063	.48
SS	32.445	22.628	2.139	1.434	.39
PF	34.001	23.784	2.228	1.430	.39

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
$R^2 = .755$
• = .05

Table 13

Preferred Predictors of Group Integration-Social (Pilot Study)

Variable	b	$SE\ b$	$\bullet$	t	p
TI	-38.845	22.287	-2.328	-1.743	.33
DB	-9.231	4.695	-1.041	-1.966	.30
AB	-11.649	4.882	-1.431	-2.386	.25
SS	19.614	7.314	2.570	2.682	.23
PF	13.087	7.688	1.705	1.702	.34

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
R^2 = .899
$\bullet$ = .05

Table 14

Internal Consistencies of the LSS and GEQ

Variable	Cronbach's alpha coefficient
TI-PE	.87
TI-PR	.76
DB-PE	.85
DB-PR	.85
AB-PE	.62
AB-PR	.72
SS-PE	.83
SS-PR	.87
PF-PE	.88
PF-PR	.87
AG-T	.70
AG-S	.57
GI-T	-.36
GI-S	.62

Note. TI-PE = Perceived training and instruction; TI-PR = Preferred training and instruction; DB-PE = Perceived democratic behavior; DB-PR = Preferred democratic behavior; AB-PE = Perceived autocratic behavior; AB-PR = Preferred autocratic behavior; SS-PE = Perceived social support; SS-PR = Preferred social support; PF-PE = Perceived positive feedback; PF-PR = Preferred positive feedback; AG-T = Individual attractions to the group-Task (sum score); AG-S = Individual attractions to the group-Social (sum score); GI-T = Group integration-Task (sum score); GI-S = Group integration-Social (sum score).

Table 15

Descriptive Findings of Age, Estimation of Playing Time, Total Years Played, Leadership Behaviors, and Team Cohesion

Variable	M	SD	Min	Max	Skewness	Kurtosis
Age	19.92	1.12	18	22	-.409	.398
Class	2.62	1.04	1	4	-.164	-.830
PT-P	78.08	30.25	15	100	-2.02*	.300
PT-C	85.00	25.82	25	100	-2.93*	1.810
YP	14	2.76	7	17	-2.68*	2.46*
TI-PE	3.59	.58	2.69	4.69	.666	-.370
TI-PR	4.32	.42	3.69	4.92	-.156	-1.191
DB-PE	3.09	.71	1.88	4.56	.326	.744
DB-PR	3.51	.72	2.22	4.33	-1.060	-.568
AB-PE	2.88	.65	1.80	4.20	.474	.315
AB-PR	2.62	.88	1.60	4.00	.575	-1.149
SS-PE	3.93	.67	2.63	5.00	-.565	-.317
SS-PR	3.42	.86	2.00	4.63	-.045	-.960
PF-PE	3.94	.70	2.80	5.00	-.631	-.922
PF-PR	4.18	.70	2.80	5.00	-1.195	-.415
AG-T	29.85	6.12	18	36	-1.870	.341
AG-S	37.62	6.86	21	45	-2.40*	1.429
GI-T	34.85	3.41	27	40	-1.269	.873
GI-S	28.62	5.33	17	36	-.805	.378

Note. Min = Minimum; Max = Maximum; PT-P = Estimated playing time percentage by player; PT-C = Estimated playing time percentage of each player by coach; YP = Total years played; TI-PE = Perceived training and instruction; TI-PR = Preferred training and instruction; DB-PE = Perceived democratic behavior; DB-PR = Preferred democratic behavior; AB-PE = Perceived autocratic behavior; AB-PR = Preferred autocratic behavior; SS-PE = Perceived social support; SS-PR = Preferred social support; PF-PE = Perceived positive feedback; PF-PR = Preferred positive feedback; AG-T = Individual attractions to the group-Task (sum score); AG-S = Individual attractions to the group-Social (sum score); GI-T = Group integration-Task (sum score); GI-S = Group integration-Social (sum score).
*$p < .05$, $z = 1.96$

Table 16

Intercorrelations of Team Cohesion and Perceived Leadership Behavior Scores

Variable	1	2	3	4	5	6	7	8	9
1. AG-T	-								
2. AG-S	.282	-							
3. GI-T	.458	.474	-						
4. GI-S	.100	.520	.100	-					
5. TI	.457	-.337	.115	.083	-				
6. DB	.099	-.262	.018	-.189	.579*	-			
7. AB	.467	.007	-.040	-.315	.431	.368	-		
8. SS	-.340	-.290	.212	.296	.119	.150	-.231	-	
9. PF	-.281	-.361	-.157	.242	.377	.316	-.465	.574*	-

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback; AG-T = Individual attractions to the group-Task (sum score); AG-S = Individual attractions to the group-Social (sum score); GI-T = Group integration-Task (sum score); GI-S = Group integration-Social (sum score).
*$p < .05$

Table 17

Intercorrelations of Team Cohesion and Preferred Leadership Behavior Scores

Variable	1	2	3	4	5	6	7	8	9
1. AG-T	-								
2. AG-S	.282	-							
3. GI-T	.458	.474	-						
4. GI-S	.100	.520	.528	-					
5. TI	-.333	-.435	.029	.082	-				
6. DB	.104	-.380	.047	-.422	.254	-			
7. AB	.569*	.109	.345	-.240	.212	.562*	-		
8. SS	-.010	-.309	.092	.114	.698*	.431	.408	-	
9. PF	-.059	-.043	.415	-.166	.257	.547	.505	.517	-

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback; AG-T = Individual attractions to the group-Task (sum score); AG-S = Individual attractions to the group-Social (sum score); GI-T = Group integration-Task (sum score); GI-S = Group integration-Social (sum score).
*$p < .05$

Table 18

Differences between Perceived and Preferred Leadership

Variable	t	df	p	d
TI	-3.819	12	.02*	-1.27
DB	-2.489	12	.03*	-0.59
AB	1.036	12	.321	0.41
SS	2.286	12	.04*	0.75
PF	-.881	12	.396	-0.35

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
*$p < .05$

Table 19

Perceived Predictors of Individual Attractions to the Group-Task

Variable	b	$SE\ b$	•	t	p
TI	7.985	4.783	.752	1.669	.14
DB	-1.359	3.156	-.157	-.430	.68
AB	-.395	4.804	-.042	-.082	.94
SS	-1.483	3.136	-.162	-.473	.65
PF	-3.835	4.895	-.441	-.783	.46

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
$R^2 = .488$
• = .05

Table 20

Perceived Predictors of Group Integration-Task

Variable	*b*	*SE b*	•	*t*	*p*
TI	4.980	2.666	.841	1.868	.10
DB	1.073	1.759	.222	.610	.56
AB	-5.125	2.678	-.970	-1.914	.10
SS	3.251	1.748	.636	1.860	.11
PF	-6.594	2.729	-1.361	-2.417	.05*

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
$R^2 = .488$
p < .05

Table 21

Perceived Predictors of Individual Attractions to the Group-Social

Variable	*b*	*SE b*	•	*t*	*p*
TI	-2.850	6.716	-.239	-.424	.68
DB	-.636	4.431	-.066	-.143	.89
AB	.328	6.745	.031	.049	.96
SS	-1.674	4.403	-.163	-.380	.72
PF	-1.381	6.873	-.142	-.201	.85

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
R^2 = .196
• = .05

Table 22

Perceived Predictors of Group Integration-Social

Variable	*b*	*SE b*	•	*t*	*p*
TI	4.887	4.944	.528	.988	.36
DB	-1.965	3.262	-.261	-.602	.57
AB	-4.218	4.966	-.511	-.849	.42
SS	2.611	3.242	.327	.805	.45
PF	-2.275	5.060	-.300	-.450	.67

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
R^2 = .278
• = .05

Table 23

Preferred Predictors of Individual Attractions to the Group-Task

Variable	*b*	*SE b*	•	*t*	*p*
TI	-8.959	4.279	-.617	-2.093	.08
DB	-1.083	2.323	-.127	-.466	.66
AB	5.904	1.838	.850	3.212	.02*
SS	2.560	2.427	.358	1.055	.33
PF	-3.865	2.404	-.445	-1.607	.15

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
$R^2 = .698$
*p < .05

Table 24

Preferred Predictors of Group Integration-Task

Variable	*b*	*SE b*	•	*t*	*p*
TI	.446	3.615	.055	.123	.91
DB	-1.740	1.962	-.367	-.887	.41
AB	1.380	1.553	.356	.889	.40
SS	-.822	2.050	-.206	-.401	.70
PF	2.555	2.031	.528	1.258	.25

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
R^2 = .307
• = .05

Table 25

Preferred Predictors of Individual Attractions to the Group-Social

Variable	*b*	*SE b*	•	*t*	*p*
TI	-6.169	6.383	-.379	-.966	.37
DB	-5.962	3.464	-.625	-1.721	.13
AB	3.655	2.742	.469	1.333	.22
SS	-.538	3.619	-.067	-.149	.89
PF	1.884	3.586	.193	.525	.62

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
R^2 = .466
• = .05

Table 26

Preferred Predictors of Group Integration-Social

Variable	*b*	*SE b*	•	*t*	*p*
TI	-.838	5.696	-.066	-.147	.89
DB	-3.854	3.091	-.520	-1.247	.25
AB	-.553	2.446	-.091	-.226	.83
SS	2.789	3.229	.447	.864	.42
PF	-.376	3.200	-.050	-.117	.91

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
$R^2 = .295$
• = .05

Table 27

Coach's Perception of own Behavior

Variable	Mean
Pilot	
TI	4.23
DB	2.56
AB	2.80
SS	3.00
PF	4.80
Current Study	
TI	4.15
DB	3.44
AB	2.40
SS	4.25
PF	4.20

Note. TI = Training and instruction; DB = Democratic behavior; AB = Autocratic behavior; SS = Social support; PF = Positive feedback.
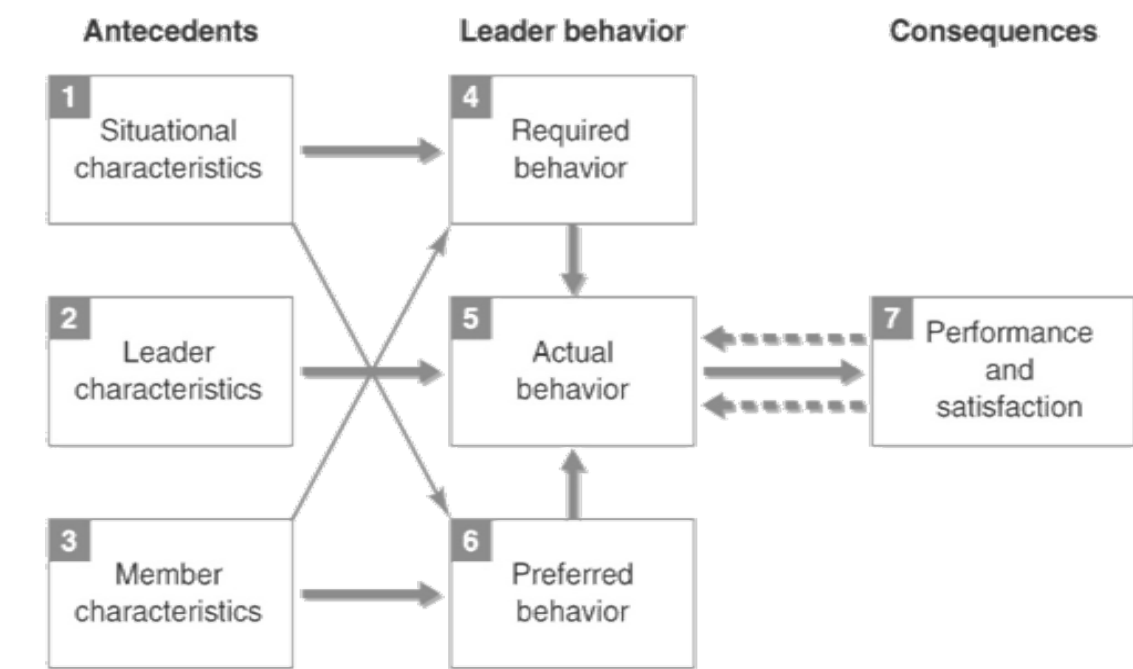
Figure 1. The multidimensional model of leadership. From *Chapter five: Leadership in sports* (p. 117), by P. Chelladurai, 2007. In G. Tenenbaum, & Eklund, R. (Eds.). Handbook of Sport Psychology. Hoboken, NJ: John Wiley & Sons, Inc. Copyright © (2007) by John Wiley & Sons, Inc. Reprinted with permission.

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APPENDIX A: INSTITUTIONAL REVIEW BOARD (IRB) LETTER OF APPROVAL

UNIVERSITY OF
CENTRAL
OKLAHOMA

Office of Research & Grants
Academic Affairs

April 1, 2009

Ms. Teri Lake
Dr. Melissa Powers
Department of Kinesiology and Health Studies
College of Education and Professional Studies
Campus Box 189
University of Central Oklahoma
Edmond, OK 73034

Dear Ms. Lake and Dr. Powers:

   Re: Application for IRB Review of Research Involving Human Subjects

We have received your revised application (UCO IRB# 09049) entitled, Exploring leadership
behaviors as a deterrent or promotional means of perceived team cohesion among fastpitch
softball player, and find all documentation in order. The UCO IRB is pleased to inform you of
the approval of your application, including the amendment. The approved ICF will be sent to
you through campus mail.

This project is approved for a one year period but please note that any modification to the
procedures and/or consent form must be approved prior to its incorporation into the study. A
written request is needed to initiate the amendment process. You will be notified in writing prior
to the expiration of this approval to determine if a continuing review is needed.

On behalf of the Office of Research & Grants and UCO IRB, I wish you the best of luck with
your research project. If our office can be of any further assistance in your pursuit of research,
creative & scholarly activities, please do not hesitate to contact us.

Sincerely,

Jill A. Devenport, Ph.D.
Chair, Institutional Review Board
Office of Research & Grants, Academic Affairs
University of Central Oklahoma
Edmond, OK 73034
405-974-5479
405-974-2526
JAD/la

APPENDIX B: LETTER OF APPROVAL FROM ATHLETIC DIRECTOR OF

RECRUITED INSTITUTION

Date: **Fri, 27 Feb 2009 14:26:00 -0600**
From:
To: "Teri Eleanor Lake" <tlake@uco.edu>

Subject: **Re: Permission Request**
Teri,

Thanks for the note. I will leave this up to my Coaches discretion. If
███ feels ██ has time to take part in this then it is fine with me.

Good Luck,
████████

On Feb 27, 2009, at 12:35 PM, Teri Eleanor Lake wrote:

Dear ████████,

I hope this e-mail finds you well. First, I want to briefly introduce myself. I am a graduate student at the University of Central Oklahoma currently conducting sport psychology research (thesis project) with fastpitch softball teams in Oklahoma. My main interest is team cohesion and the factors that may influence it, specifically a coach's leadership behaviors. I will study this more in depth with survey instruments. It is my intention to use these findings as a way to educate coaches and players about the importance of communication and certain behaviors that may promote or deter a team's ability to work together, in order to reach common goals. I am writing to obtain your approval to recruit the head softball coach and team of your school. Due to human subjects research guidelines, I must have your permission prior to recruitment. Once I receive IRB (Institutional Review Board) approval, I will be able to contact your head softball coach with more information. I welcome any comments, questions, or suggestions you may have regarding this project. Please do not hesitate to contact me at any time. I greatly appreciate your consideration, and look forward to hearing from you.

Sincerely,
Teri Lake
Kinesiology and Health Studies
University of Central Oklahoma

APPENDIX C: RECRUITED INSTITUTION IRB LETTER OF APPROVAL

September 11, 2009

Teri Lake
UCO Box 189
100 N. University Dr.
Edmond, OK 73034

RE: Research Submission #09-08-03 for Project at UCO

Dear Ms. Lake:

The Institutional Review Board (IRB) has reviewed your research request submitted
August 31, 2009. The IRB at ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮ **has approved** your project
as presented. Any changes made to this project must again be presented to the IRB for
approval prior to performing research.

Please note that the IRB must be notified in writing once the research is complete. You
may contact the IRB at (405) ▮▮▮▮▮▮ with any questions or visit our web site at
▮▮▮▮▮▮▮▮ Best wishes for success with your research project.

Sincerely,

▮▮▮▮▮▮▮▮▮▮
IRB Member

APPENDIX D: INFORMED CONSENT FORMS (COACH AND PLAYER)

INFORMED CONSENT (Coach)

Title: Exploring Leadership Behaviors as a Deterrent or Promotional Means of Perceived Team Cohesion among Fastpitch Softball Players

Investigator(s): Teri Lake, Graduate Fellow   Melissa Powers, Ph.D., Associate Professor
Kinesiology & Health Studies   Kinesiology & Health Studies
University of Central Oklahoma   University of Central Oklahoma
100 N. University Drive #189   100 N. University Drive #189
Edmond, OK 73034   Edmond, OK 73034
(405) 974-5230, tlake@uco.edu   (405) 974-5309 mpowers3@uco.edu

Description: The purpose of this project is to explore the impact of leadership behaviors on team cohesion through understanding its relationship, in addition to the possible prediction of team cohesion from leadership behaviors. After you have signed this form, you will be asked to complete the first phase of data collection. This phase consists of the completion of the Perception Version of the 40-item Leadership Scale for Sports (LSS). This version measures perceived coaching behaviors such as, "In Coaching I: See to it that athletes work to capacity." Each statement is measured by a likert scale of 1 (Always) to 5 (Never).

Phase Two consists of an interview session, which will be scheduled at your convenience. This will be done with a random selection process at the conclusion of the previously mentioned data collection. The interviews will take approximately 30 minutes, and will consist of questions such as, "Do you perceive your coaching style to be democratic or authoritative?"

If you complete the survey and the interview, your participation should take no longer than one hour and fifteen minutes, non-consecutive. The survey will be completed during a scheduled time, while the interviews will be performed on separate occasions. In addition, a data collection sheet will be used to obtain demographic information including: Length of coaching experience, age, and gender.

Risks and Benefits: Participation in this study will enable you to better understand your players' perspectives on your coaching style and behaviors, and the way in which they may affect your team's level of cohesion. Your team's results will be shared with you during the following school year (Fall 2009). The primary investigator asks your permission to share the conclusions with you even though your team's data will no longer be anonymous. Subsequently, to your discretion, strategies can be implemented to improve or maintain your team's level of cohesiveness. There is no risk involved with the assessment of team cohesion and leadership behaviors.

Voluntary Participation/Right to Withdraw: Your participation in the research is completely voluntary. There are no payments for participating. You are free to refuse to participate in the research and to withdraw from this study at any time. Your decision to withdraw will bring no negative consequences or penalty to you. Your withdrawal from this study will not affect your relationship with your school or players.

Protections: You will be assigned a code number that will be used throughout data collection and analysis. Your name will never be associated with your results. Your results will not be reported individually, only as part of a group (averages). All data will be kept in a locked file cabinet in a secure room. In addition to the use of codes, pseudonyms will be utilized when transcribing the interviews. No identifiable information will be associated with the responses of you and your teammates. Furthermore, the group findings of this project will not be revealed until the season is over. This is to prevent negative bias towards players, or potential conflicts between you and your players.

If you have any questions or concerns about your rights as a participant or the way the study is conducted, please contact the UCO Institutional Review Board at the Office of Research & Grants, Academic Affairs University of Central Oklahoma Box #159 Edmond, OK 73034, 405-974-5479 or 405-974-2526

Survey Statement of Consent: I hereby voluntarily agree to participate in Phase One of data collection and further understand the above listed explanations and descriptions of the research project. I also understand that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this project at any time without penalty. I have read and fully understand this Informed Consent Form. I sign it freely and voluntarily. I acknowledge that a copy of this Informed Consent Form as been given to me to keep.

Research Participant's Printed Name _____

Signature_____   Date_____

Interview Statement of Consent: I hereby voluntarily agree to participate in Phase Two of data collection, should I be selected at random, and further understand the above listed explanations and descriptions of the research project. I understand that there is no penalty for refusal to participate, and that I am not obligated to partake in the interview in order to be involved in Phase 1 of data collection. I am free to withdraw my consent and participation in this project at any time without penalty. I also understand that I will be interviewed in a "one-on-one" setting with audiotape and that I have read and fully understand this Informed Consent Form. I sign it freely and voluntarily. I acknowledge that a copy of this Informed Consent Form as been given to me to keep.

Signature_____   Date_____

APPROVED

MAR 28 2009

UCO IRB

APPROVAL

MAR 28 2010

EXPIRES

INFORMED CONSENT (Player)

Title: Exploring Leadership Behaviors as a Deterrent or Promotional Means of Perceived Team Cohesion among Fastpitch Softball Players

Investigator(s):   Teri Lake, Graduate Fellow   Melissa Powers, Ph.D., Associate Professor
Kinesiology & Health Studies   Kinesiology & Health Studies
University of Central Oklahoma   University of Central Oklahoma
100 N. University Drive #189   100 N. University Drive #189
Edmond, OK 73034   Edmond, OK 73034
(405) 974-5230, tlake@uco.edu   (405) 974-5309 mpowers3@uco.edu

Description: The purpose of this project is to explore the impact of leadership behaviors on team cohesion through understanding its relationship, in addition to the possible prediction of team cohesion from leadership behaviors. After you have signed this form, you will be asked to complete the 18-item Group Environment Questionnaire (GEQ), where you will rate statements such as, "Some of my best friends are on this team" from 1(Strongly Agree) to 9 (Strongly Disagree). Next, you will be asked to complete the 40-item Leadership Scale for Sports (LSS). There are two versions of the LSS that you will be asked to complete. The Preference Version of the LSS measures your preferred coaching behaviors with statements like, "I prefer my coach to: See to it that athletes work to capacity." The Perception Version of the LSS measures perceived coaching behaviors such as, "My Coach: Sees to it that athletes work to capacity." Each statement is measure by a similar likert scale of 1 (Always) to 5 (Never).

You may be asked to partake in interview sessions, scheduled at your convenience. This will be done with a random selection process at the conclusion of the previously mentioned data collection. The interviews will take approximately 30 minutes, and will consist of questions such as, "Please explain why you consider the type of reinforcement that your coach gives to be negative, positive, or both?"

If you complete all surveys and the interview, your participation should take no longer than one hour and fifteen minutes combined. All surveys will be completed during a scheduled time, while the interviews will be performed on separate occasions. In addition, a data collection sheet will be used to obtain demographic information including: age, student classification (freshman, sophomore, junior, senior), percentage of playing time, and total length of participation in the sport.

Risks and Benefits: Participation in this study will enable you to better understand the level at which you and your teammates adhere to one another through tasks shared and the social bonds maintained because of the information the investigators will accumulate. As well as, how much (or how little) the leadership behaviors of your coach affect overall perceived cohesion (among the team). Your team's results will be shared with your coach during the following school year (Fall 2009). The primary investigator asks your permission to share the conclusions with your coach even though your team's data will no longer be anonymous. Subsequently, to the discretion of your coach, strategies can be implemented to improve or maintain your team's level of cohesiveness. There is no risk involved with the assessment of team cohesion and leadership behaviors.

Voluntary Participation/Right to Withdraw: Your participation in the research is completely voluntary. There are no payments for participating. You are free to refuse to participate in the research and to withdraw from this study at any time. Your decision to withdraw will bring no negative consequences or penalty to you. Your withdrawal from this study will not affect your relationship with UCO, or your coach and teammates.

Protections: You will be assigned a code number that will be used throughout data collection and analysis. Your name will never be associated with your results. Your results will not be reported individually, only as part of a group (averages). All data will be kept in a locked file cabinet in a secure room. In addition to the use of codes, pseudonyms will be utilized when transcribing the interviews. No identifiable information will be associated with the responses of you and your teammates. Furthermore, the group findings of this project will not be revealed until the season is over. This is to prevent negative bias towards players, or potential conflicts between you and your players.
If you have any questions or concerns about your rights as a participant or the way the study is conducted, please contact the UCO Institutional Review Board at the Office of Research & Grants, Academic Affairs University of Central Oklahoma Box #159 Edmond, OK 73034, 405-974-5479 or 405-974-2526

Statement of Consent: I hereby voluntarily agree to participate in the above listed research project and further understand the above listed explanations and descriptions of the research project. I also understand that there is no penalty for refusal to participate, and that I am free to withdraw my consent and participation in this project at any time without penalty. I have read and fully understand this Informed Consent Form. I sign it freely and voluntarily. I acknowledge that a copy of this Informed Consent Form as been given to me to keep.

Research Participant's Printed Name _____

Signature_____   Date_____

Interview Statement of Consent: I hereby voluntarily agree to participate in Phase Two of data collection, should I be selected at random, and further understand the above listed explanations and descriptions of the research project. I understand that there is no penalty for refusal to participate, and that I am not obligated to partake in the interview in order to be involved in Phase 1 of data collection. I am free to withdraw my consent and participation in this project at any time without penalty. I also understand that I will be interviewed in a "one-on-one" setting with audiotape and that I have read and fully understand this Informed Consent Form. I sign it freely and voluntarily. I acknowledge that a copy of this Informed Consent Form as been given to me to keep.

Signature_____   Date_____

APPROVED

MAR 28 2009

UCO IRB

APPROVAL

MAR 28 2010

EXPIRES

APPENDIX E: PHOTO RELEASE FORM

University of Central Oklahoma
Leadership and Team Cohesion Thesis Project

PHOTO RELEASE FORM

The Principal Investigator (Teri Lake) requests permission to take and use your photograph during this research study. Photos may be taken at any time during the study period. The photos may be used for promotional purposes to showcase this project, the Department of Kinesiology and Health Studies, the College of Education and Professional Studies, and/or the university. Photos may be used in a variety of media, including newsletters, brochures, slide shows, multimedia presentations, display boards or web-sites. No compensation is paid to individuals or organizations for this use. If you have any questions or concerns, please contact Teri Lake, Research Assistant, 974-5230.

By signing below, I give permission for photographs to be taken of me during my participation in this Thesis Project. I understand that these photos may be used for promotional purposes.

Name (Print): _____

Phone/Email: _____

Signature: _____   Date: _____

APPENDIX F: DATA COLLECTION INSTRUMENT

Code Number _____

Do not place your name or any other identifiable information on this sheet. Your answers will remain completely anonymous

Data Collection Sheet

Please complete the following information.

Age_____

UCO Student classification (circle one):

     Freshman   Sophomore   Junior   Senior

Percentage of Playing Time:

    15%   25%   50%   75%   100%

Total number of years of participation in sport _____

APPENDIX G: LEADERSHIP SCALE FOR SPORTS

(PERCEIVED AND PREFERRED)

Please do not place your name or other identifiable information on this survey.

Leadership Scale For Sports   *Code Number:*_____
(Athlete's Preference of Coach's Behaviour)

Each of the following statements describe a specific behaviour that a coach may exhibit. For each statement there are five alternatives:
1. ALWAYS; 2. OFTEN (about 75% of the time); 3. **OCCASIONALLY** (50% of the time);
4. **SELDOM** (about 25% of the time); 5. **NEVER**
Please indicate your preference by placing an "X" in the appropriate space. Answer all items even if you are unsure of any. Please note that this is <u>not an evaluation</u> of your present coach or any other coach. It is your own personal preference that is required. There are no right or wrong answers. Your spontaneous and honest responses important for the success of the study.

                                                                  1 2 3 4 5

I prefer my coach to:

1. See to it that athletes work to capacity.   __ __ __ __ __   1

2. Ask for the opinion of the athletes on strategies for specific competitions.   __ __ __ __ __   2

3. Help athletes with their personal problems.   __ __ __ __ __   3

4. Compliment an athlete for good performance in front of others.   __ __ __ __ __   4

5. Explain to each athlete the techniques and tactics of the sport.   __ __ __ __ __   5

6. Plan relatively independent of the athletes.   __ __ __ __ __   6

7. Help members of the group settle their conflicts.   __ __ __ __ __   7

8. Pay special attention to correcting athletes' mistakes.   __ __ __ __ __   8

9. Get group approval on important matters before going ahead.   __ __ __ __ __   9

10. Tell an athlete when the athlete does a particularly good job.   __ __ __ __ __   10

11. Make sure that the coach's function in the team is understood by all athletes.   __ __ __ __ __   11

12. Not explain his/her actions.   __ __ __ __ __   12

13. Look out for the personal welfare of the athletes.   __ __ __ __ __   13

14. Instruct every athlete individually in the skills of the sport.   __ __ __ __ __   14

15. Let the athletes share in decision making.   __ __ __ __ __   15

16. See that an athlete is rewarded for a good performance.   __ __ __ __ __   16

17. Figure ahead on what should be done.   __ __ __ __ __   17

Chelladurai, P., & Saleh, S. D. (1980). Dimensions of leader behavior in sports: Development of a leadership scale. *Journal of Sport Psychology, 2*, 34-45.

1   2   3   4   5

I prefer my coach to:

18. Encourage athletes to make suggestions for ways to conduct practices. __ __ __ __ __ 18

19. Do personal favours for the athletes. __ __ __ __ __ 19

20. Explain to every athlete what should be done and what should not be done. __ __ __ __ __ 20

21. Let the athletes set their own goals. __ __ __ __ __ 21

22. Express any affection felt for the athletes. __ __ __ __ __ 22

23. Expect every athlete to carry out one's assignment to the last detail. __ __ __ __ __ 23

24. Let the athletes try their own way even if they make mistakes. __ __ __ __ __ 24

25. Encourage the athlete to confide in the coach. __ __ __ __ __ 25

26. Point out each athlete's strengths and weaknesses. __ __ __ __ __ 26

27. Refuse to compromise on a point. __ __ __ __ __ 27

28. Express appreciation when an athlete performs well. __ __ __ __ __ 28

29. Give specific instructions to each athlete on what should be done in every situation. __ __ __ __ __ 29

30. Ask for the opinion of the athletes on important coaching matters. __ __ __ __ __ 30

31. Encourage close and informal relations with athletes. __ __ __ __ __ 31

32. See to it that the athletes' efforts are coordinated. __ __ __ __ __ 32

33. Let the athletes work at their own speed. __ __ __ __ __ 33

34. Keep aloof from the athletes. __ __ __ __ __ 34

35. Explain how each athlete's contribution fits into the total picture. __ __ __ __ __ 35

36. Invite the athletes home. __ __ __ __ __ 36

37. Give credit when it is due. __ __ __ __ __ 37

38. Specify in detail what is expected of athletes. __ __ __ __ __ 38

39. Let the athletes decide on plays to be used in a game. __ __ __ __ __ 39

40. Speak in a manner which discourages questions. __ __ __ __ __ 40

Chelladurai, P., & Saleh, S. D. (1980). Dimensions of leader behavior in sports: Development of a leadership scale. *Journal of Sport Psychology, 2,* 34-45.

Please do not place your name or other identifiable information on this survey.

Leadership Scale For Sports   *Code Number:* _____
(Coach's Perception of Own Behaviour)

Each of the following statements describe a specific behaviour that a coach may exhibit. For each statemer
there are five alternatives:
1. ALWAYS; 2. OFTEN (about 75% of the time); 3. **OCCASIONALLY** (50% of the time);
4. **SELDOM** (about 25% of the time); 5. **NEVER**
You are requested to indicate your characteristic behavior by marking an "X" in the appropriate space. Ther
are no right or wrong answers. Your spontaneous and honest response is important for the success of the study.

		1 2 3 4 5	
In coaching I:			
1.	See to it that athletes work to capacity.	__ __ __ __ __	1
2.	Ask for the opinion of the athletes on strategies for specific competitions.	__ __ __ __ __	2
3.	Help athletes with their personal problems.	__ __ __ __ __	3
4.	Compliment an athlete for good performance in front of others.	__ __ __ __ __	4
5.	Explain to each athlete the techniques and tactics of the sport.	__ __ __ __ __	5
6.	Plan relatively independent of the athletes.	__ __ __ __ __	6
7.	Help members of the group settle their conflicts.	__ __ __ __ __	7
8.	Pay special attention to correcting athletes' mistakes.	__ __ __ __ __	8
9.	Get group approval on important matters before going ahead.	__ __ __ __ __	9
10.	Tell an athlete when the athlete does a particularly good job.	__ __ __ __ __	10
11.	Make sure that the coach's function in the team is understood by all athletes.	__ __ __ __ __	11
12.	Do not explain my actions.	__ __ __ __ __	12
13.	Look out for the personal welfare of the athletes.	__ __ __ __ __	13
14.	Instruct every athlete individually in the skills of the sport.	__ __ __ __ __	14
15.	Let the athletes share in decision making.	__ __ __ __ __	15
16.	See that an athlete is rewarded for a good performance.	__ __ __ __ __	16
17.	Figure ahead on what should be done.	__ __ __ __ __	17

Chelladurai, P., & Saleh, S. D. (1980). Dimensions of leader behavior in sports: Development of a leadership scale. *Journal of Sport Psychology, 2,* 34-45.

                                                              1   2   3   4   5

In coaching I:

18. Encourage athletes to make suggestions for ways to conduct practices.   __ __ __ __ __   18

19. Do personal favours for the athletes.   __ __ __ __ __   19

20. Explain to every athlete what should be done and what should not
    be done.   __ __ __ __ __   20

21. Let the athletes set their own goals.   __ __ __ __ __   21

22. Express any affection felt for the athletes.   __ __ __ __ __   22

23. Expect every athlete to carry out one's assignment to the last detail.   __ __ __ __ __   23

24. Let the athletes try their own way even if they make mistakes.   __ __ __ __ __   24

25. Encourage the athlete to confide in the coach.   __ __ __ __ __   25

26. Point out each athlete's strengths and weaknesses.   __ __ __ __ __   26

27. Refuse to compromise on a point.   __ __ __ __ __   27

28. Express appreciation when an athlete performs well.   __ __ __ __ __   28

29. Give specific instructions to each athlete on what should be done in
    every situation.   __ __ __ __ __   29

30. Ask for the opinion of the athletes on important coaching matters.   __ __ __ __ __   30

31. Encourage close and informal relations with athletes.   __ __ __ __ __   31

32. See to it that the athletes' efforts are coordinated.   __ __ __ __ __   32

33. Let the athletes work at their own speed.   __ __ __ __ __   33

34. Keep aloof from the athletes.   __ __ __ __ __   34

35. Explain how each athlete's contribution fits into the total picture.   __ __ __ __ __   35

36. Invite the athletes home.   __ __ __ __ __   36

37. Give credit when it is due.   __ __ __ __ __   37

38. Specify in detail what is expected of athletes.   __ __ __ __ __   38

39. Let the athletes decide on plays to be used in a game.   __ __ __ __ __   39

40. Speak in a manner which discourages questions.   __ __ __ __ __   40

Chelladurai, P., & Saleh, S. D. (1980). Dimensions of leader behavior in sports: Development of a leadership scale. *Journal of Sport Psychology, 2*, 34-45.

Please do not place your name or other identifiable information on this survey.

<u>**Leadership Scale For Sports**</u>   *Code Number:*_____
(Athlete's Perception of Coach's Behaviour)

Each of the following statements describe a specific behaviour that a coach may exhibit. For each statem
there are five alternatives:
1. ALWAYS; 2. OFTEN (about 75% of the time); 3. **OCCASIONALLY** (50% of the time);
4. SELDOM (about 25% of the time); 5. **NEVER**
Please indicate your coach's actual behavior by placing an "X" in the appropriate space. Answer all items e
if you are unsure of any. Please note that you are rating your <u>present</u> coach.

		1	2	3	4	5	
My coach:							
1.	Sees to it that athletes work to capacity.	__	__	__	__	__	1
2.	Asks for the opinion of the athletes on strategies for specific competitions.	__	__	__	__	__	2
3.	Helps athletes with their personal problems.	__	__	__	__	__	3
4.	Compliments an athlete for good performance in front of others.	__	__	__	__	__	4
5.	Explains to each athlete the techniques and tactics of the sport.	__	__	__	__	__	5
6.	Plans relatively independent of the athletes.	__	__	__	__	__	6
7.	Helps members of the group settle their conflicts.	__	__	__	__	__	7
8.	Pays special attention to correcting athletes' mistakes.	__	__	__	__	__	8
9.	Gets group approval on important matters before going ahead.	__	__	__	__	__	9
10.	Tells an athlete when the athlete does a particularly good job.	__	__	__	__	__	10
11.	Makes sure that the coach's function in the team is understood by all athletes.	__	__	__	__	__	11
12.	Does not explain his/her actions.	__	__	__	__	__	12
13.	Looks out for the personal welfare of the athletes.	__	__	__	__	__	13
14.	Instructs every athlete individually in the skills of the sport.	__	__	__	__	__	14
15.	Lets the athletes share in decision making.	__	__	__	__	__	15
16.	Sees that an athlete is rewarded for a good performance.	__	__	__	__	__	16
17.	Figures ahead on what should be done.	__	__	__	__	__	17

Chelladurai, P., & Saleh, S. D. (1980). Dimensions of leader behavior in sports: Development of a leadership scale. *Journal of Sport Psychology, 2,* 34-45.

1　2　3　4　5

My coach:

18. Encourages athletes to make suggestions for ways to conduct practices.　___ ___ ___ ___ ___　18

19. Does personal favours for the athletes.　___ ___ ___ ___ ___　19

20. Explains to every athlete what should be done and what should not
be done.　___ ___ ___ ___ ___　20

21. Lets the athletes set their own goals.　___ ___ ___ ___ ___　21

22. Expresses any affection felt for the athletes.　___ ___ ___ ___ ___　22

23. Expects every athlete to carry out one's assignment to the last detail.　___ ___ ___ ___ ___　23

24. Lets the athletes try their own way even if they make mistakes.　___ ___ ___ ___ ___　24

25. Encourages the athlete to confide in the coach.　___ ___ ___ ___ ___　25

26. Points out each athlete's strengths and weaknesses.　___ ___ ___ ___ ___　26

27. Refuses to compromise on a point.　___ ___ ___ ___ ___　27

28. Expresses appreciation when an athlete performs well.　___ ___ ___ ___ ___　28

29. Gives specific instructions to each athlete on what should be done in
every situation.　___ ___ ___ ___ ___　29

30. Asks for the opinion of the athletes on important coaching matters.　___ ___ ___ ___ ___　30

31. Encourages close and informal relations with athletes.　___ ___ ___ ___ ___　31

32. Sees to it that the athletes' efforts are coordinated.　___ ___ ___ ___ ___　32

33. Lets the athletes work at their own speed.　___ ___ ___ ___ ___　33

34. Keeps aloof from the athletes.　___ ___ ___ ___ ___　34

35. Explains how each athlete's contribution fits into the total picture.　___ ___ ___ ___ ___　35

36. Invites the athletes home.　___ ___ ___ ___ ___　36

37. Gives credit when it is due.　___ ___ ___ ___ ___　37

38. Specifies in detail what is expected of athletes.　___ ___ ___ ___ ___　38

39. Lets the athletes decide on plays to be used in a game.　___ ___ ___ ___ ___　39

40. Speaks in a manner which discourages questions.　___ ___ ___ ___ ___　40

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APPENDIX H: INTERVIEW PROTOCOL QUESTIONS

Table H1

Interview Question Guide

Topic	Sample Question
TC	Do you think that your team is currently one cohesive unit, in that; you are all performing as a unit during games and practice? Are you gelling?
TC	Do you feel welcome to openly and freely discuss with your teammates any issues or questions you may have regarding sport performance or goal attainment?
TSB	Based on your understanding of team cohesion, how do you benefit from the task and social bonds that your team is currently experiencing? Task-Setting goals, Social-Togetherness outside of sport
SCP	Over the course of the school year, what practices have you and your teammates used to enhance cohesion? Attend social events together, set goals for practices or games, or enjoy meals together. Using a percentage estimation (25%:2 days/wk, 50%:3-4 days/wk, 75%: 4-5 days/wk, 100%: 7 days or all the time), how often do you partake in such gatherings during the season? Out of season?
LB	Research has found that coaches use motivating and de-motivating acts as a part of their coaching style. Some may include positive reinforcement, education and instruction, or praise, while others may include ridicule, embarrassment, or sarcasm. Can you identify behaviors that you feel promote or hurt your team's cohesion?
LB	How does it make you feel when your coach praises your performance? When your teammates praise you?
LB	Do you feel welcome to discuss concerns or complaints with your coach? Does he/she allow your team to give input in decisions made? Does he/she encourage you to confide in him/her?
LB	How does it make you feel when your coach ridicules your performance? Does this hurt or help your confidence to perform well?
LB	Does your coach explain his/her actions, methods, and/or instructions so that you are able to understand? If not, do you think this can be attributed to a lack of preparation or an inability to treat each player as an individual rather than as a team where everyone is perceived the same?
CBR	Do you think that these behaviors (from players and coaches) improve your team's overall sense of cohesion or do they hurt that perception?
CBR	Do think that your coach favors certain players over others? Does this hinder your team's cohesiveness.
CBR	Do you think that coaching behaviors influence cohesion, or that cohesion influences coaching behaviors?
AB	You identified some behaviors earlier, how are they practiced? In other words, does your coach's tone of voice change when giving positive or negative reinforcement, is profane language used, or are you punished with conditioning?
PLB	In what ways do the leaders on your team motivate or demotivate you to perform well?
PLB	What practices do you utilize in order to keep your teammates motivated?

Note. TC = Team Cohesion; TSB = Task/Social Bonds; SCP = Social Cohesion Perception; LB = Leadership Behaviors; CBR = Cohesion/Behavior Relationship; AB = Application of Behavior; PLB = Peer Leader Behaviors