COACHING BEHAVIOR PREFERENCES OF INTERSCHOLASTIC ATHLETES

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The purpose of this study was to determine whether coaching behavior preferences of interscholastic athletes differ as a function of gender and type of sport. The Coaching Behavior Questionnaire (CBQ; Martin & Barnes, 1999) was administered to 372 interscholastic athletes. The mean scores of the participants' responses to each subscale on the CBQ were the dependent variables and gender and type of sport were the independent variables. Descriptive statistics revealed that female and male interscholastic athletes who perform on coactive, mixed, and interactive sport teams preferred coaches who engage in supportive and instructional behaviors, as opposed to non-responses or negative responses. A 2 (Gender) X 3 (Type of Sport) MANOVA and discriminant function analyses indicated that gender and the degree of interdependency between group members affects preferred coaching behavior. Thus, coaches should consider situational factors and personal characteristics when working with interscholastic athletes.

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INTRODUCTION

Sport scientists generally accept the idea that the personalities and leadership styles of coaches influence their teams and individual athletes (Terry, 1984). Research in the sport leadership area has been conducted under the general assumption that the type of leadership behavior exhibited by coaches will have a significant impact on individual athletes and teams (Amorose & Horn, 2001; Martin, Dale, & Jackson, 2001; Vealey, Armstrong, Comar, & Greenleaf, 1998). Leadership has been defined as the attempt to influence the behavior of an individual or group (Hersey & Blanchard, 1982). Virtually all of the research that has been conducted in the sport leadership area within the last three decades has been motivated by a desire to identify the particular behaviors or leadership styles which are most effective (Chelladurai & Saleh, 1978; Martin, Jackson, Richardson, & Weiller, 1999; Mondello & Janelle, 2001; Riemer & Chelladurai, 1998; Smith, Smoll, & Hunt, 1977).

Factors such as situational characteristics (type of sport, program structure, organizational goals, sociocultural environment, etc.), leader characteristics (e.g., age, gender, years experience, ability, personalities, and behaviors), and member characteristics (age, gender, skill level, psychological characteristics, etc.) have been found to influence performance success and satisfaction of athletes (see Horn, 2002). Several researchers have developed models and instruments to measure the influence of coaching behaviors and leadership styles on athletes (Chelladurai & Saleh, 1978, 1980; Martin & Barnes, 1999; Smith, Smoll, & Hunt, 1977). The following sections highlight various models and evaluation procedures used.

Behavioral Observation Approach:

Coaching Behavior Assessment System

Smith, Smoll, and Hunt (1977) developed the Coaching Behavior Assessment System (CBAS) that permits the direct observation and coding of coaching behaviors that occur during practices or games. The CBAS is comprised of twelve behavioral categories: (a) Reinforcement (a positive, rewarding reaction, verbal or nonverbal, to a good play or good effort); (b) Non-reinforcement (failure to respond to a good performance); (c) Mistake Contingent Encouragement (encouragement given to an athlete following a mistake); (d) Mistake Contingent Technical Instruction (instruction or demonstration to an athlete on how to correct a mistake he or she has made); (e) Punishment (a negative reaction, verbal or nonverbal, following a mistake); (f) Punitive Technical Instruction (technical instruction following a mistake given in a punitive or hostile manner); (g) Ignoring Mistakes (failure to respond to an athlete mistake); (h) Keeping Control (reactions intended to restore or maintain order among team members); (i) General Technical Instruction (spontaneous instruction in the techniques and strategies of the sport – not following a mistake); (j) General Encouragement (spontaneous encouragement that does not follow a mistake), (k) Organization (administrative behavior that sets the stage for play by assigning duties or responsibilities); and (l) General Communication (interactions with players unrelated to the game).

The twelve coaching behaviors are classified as both reactive or spontaneous coaching behaviors that involve basic interactions between the situation and the coach's behavior (Smith et al., 1977). Reactive (elicited) behaviors are responses to immediately preceding athlete or team behaviors (see Smoll & Smith, 2001). These responses are in

accordance with either a desirable performance made by athletes, mistakes made by athletes, or misbehaviors on the part of athletes. The coaching behaviors listed under reactive behaviors are reinforcement, non-reinforcement, mistake-contingent encouragement, mistake-contingent technical instruction, punishment, punitive technical instruction, ignoring mistakes, and keeping control (Smith et al., 1977). The second type of coaching behaviors is spontaneous behaviors. Spontaneous (emitted) behaviors are initiated by coaches and are not responses to discernible preceding events (see Smoll & Smith, 2001). These responses are either game-related or game-irrelevant. The coaching behavior subscales listed under spontaneous behaviors are general technical instruction, general encouragement, organization, and general communication (Smith et al., 1977). The CBAS can be shown to athletes or coaches for comparison between what types of behaviors were actually engaged and what type of behaviors were perceived to be engaged.

Results from Smith, Smoll, and Hunt (1977) indicated that athletes respond most favorably to coaches who engage in higher percentages of supportive and instructional behaviors. Likewise, research has revealed that youth athletes preferred coaches who respond to mistakes with encouragement and technical instruction (Curtis, Smith, & Smoll, 1979; Smith & Smoll, 1990; Smith, Smoll, & Curtis, 1978; Smoll, Smith, Curtis, & Hunt, 1978; Smith, Zane, Smoll, & Coppel, 1983). Generally, coaches were unaware of how they behaved (Smith, Smoll, & Curtis, 1978). This suggests that coaches more than likely need to increase their self-awareness.

Multidimensional Modal of Leadership: Leadership Scale for Sport (LSS)

Chelladurai and Saleh (1978, 1980) formulated a sport specific questionnaire titled the Leadership Scale for Sports (LSS). The LSS is based on a multidimensional approach to leadership (see Figure 1). The multidimensional approach contends that three factors affect athlete performance and satisfaction (i.e., antecedent characteristics, leader behaviors, and consequences). The three antecedent characteristics (i.e., situational, leader, and member) and the three kinds of leader behavior (i.e., required, actual, and preferred) lead to the resultant consequences (i.e., athlete/team performance and satisfaction). Thus, Chelladurai and Saleh (1980) purported that the leadership behaviors that produce the desired performance outcomes of athletes are a function of three interacting aspects of leader behavior: (a) the actual behavior exhibited by the coach/leader; (b) the type of leader behavior preferred by the athletes; and (c) the type of leader behavior appropriate to, or required in, that situational context. The LSS contains five scales of coaching behaviors, including one instructional behavior (training and instruction), two decision-making (autocratic and democratic behavior), and two motivational (social support and positive feedback) scales (Gardner, Light Shields, Light Bredemeier, & Bostrom, 1996). The LSS can be administered in three different methods: (a) a coaches' version in which the coach self-describes his or her behavior, (b) a perceived version in which athletes describe the behaviors of their coach, and (c) a preferred version in which athletes describe the types of coaching behaviors they desire. Test-retest reliability, content validity, and internal consistency were found to be adequate, and factor structure was found to be stable over the samples used (Chelladurai & Saleh, 1980). Chelladurai and Saleh (1980) concluded that the LSS could be used to examine preferences and perceptions of athletes.

Chelladurai and Saleh (1978, 1980) reported that team sport athletes (e.g., basketball, volleyball) preferred training and instruction more than did individual sport athletes (e.g., golf, wrestling). Likewise, as a sports interdependent tasks (i.e., team sports vs. independent sports) increase, the need for training and instruction increases (Chelladurai, 1993). That is to say, team sport athletes (e.g., basketball) prefer coaches who provide training and instruction more than do athletes participating in individual sport (e.g., golf). Also, males preferred more autocratic behavior than females, whereas females preferred more democratic behavior than males (Chelladurai & Saleh, 1980). According to Chelladurai (1990), coaches who behave democratically allow athletes to participate in decisions pertaining to goals, methods, and strategies. Conversely, an autocratic coaching style occurs when a coach uses independent decision-making with little or no input from the athletes (Chelladurai & Arnott, 1985). Coaching does not have to be solely democratic or autocratic in style; rather, a coach can effectively integrate and blend autocratic and democratic coaching styles (Chelladurai, 1993).

Multidimensional Model of Leadership: Coaching Behavior Questionnaire (CBQ)

Evolving from the sport leadership research on the coding of observed coaching behaviors and the multidimensional approach to leadership, Martin and Barnes (1999) developed the Coaching Behavior Questionnaire (CBQ). Along the same lines as with the LSS, the CBQ was developed to measure three states of leader behavior: (a) *required*, (b) *actual*, and (c) *preferred*. The CBQ is comprised of two parts: (a) a 12-item demographic section, and (b) a 48-item coaching behavior section. The 12-item demographic section includes questions about the athlete's age, gender, race, education level, sport most played, and number of years participating in the sport most played. In addition, items

were included that related to preference of coach gender and age. Therefore the 12-item demographic section contains items related to the athlete and athlete preferences of coach characteristics. The 48-item coaching behavior section includes twelve subscales of coaching behaviors. The same 48 items are used for all three versions of the CBQ, only the stem to the items change. The *required version* starts with "A coach (at this level) …", *actual version* begins with "My coach …", and the *preference version* starts with "I prefer a coach who …". The twelve subscales are based upon the twelve coaching behavior categories represented in the CBAS (see above; Smith, Smoll, & Hunt, 1977). Therefore, the CBQ integrates the multidimensionality of the LSS and the coaching behavior categories utilized in the CBAS to measure self-reported states of leadership behaviors.

Kravig, Ludtke and Martin (2002) administered the preference version of the CBQ to high school and college female athletes. They used the classification system developed by Cox (1990) to separate athletes based on the type of sport in which they participated. The classification system places sports on various points of a continuum based on interdependence among team members. Sport teams with low interdependence are considered *coactive*, which denotes that the tasks performed by members of the team require little interaction among them for success (Goldman, Stockbauer, & McAuliffe, 1977). Coactive sports include bowling, golf, and wrestling. Bowling provides a perfect example of this, since the performance of team members is unrelated to how well they interact (Cox, 1990). On the other end of the spectrum, sport teams with high interdependence are considered *interactive*, which signifies that the tasks performed by members of the team require considerable interaction among them for success (Cox,

1990). Interactive sports are those such as basketball, soccer, and volleyball. Volleyball provides a good illustration of this, since success depends on both team and individual perormance (Cox, 1990). For example, successful spiking is related to the quality of the set delivered by the setter and the setter's performance is related to the quality of the "bump" made by the athlete receiving the serve (Cox, 1990). There are, of course, degrees of coactive and interactive sports. *Mixed* sports such as track and field, and swimming contain both interactional demands in the relays and independent functions in various field events, diving, and individual races (Cratty, 1989). Teams may also vary as to the degree to which roles are similar or differentiated (Cratty, 1989). For example, pairs rowing contains highly similar role requirements, whereas American football or baseball contain highly differentiated roles (Cratty, 1989).

Kravig et al. (2002) found a significant difference between coactive, mixed, and interactive sport participants preferred coaching behaviors. Specifically, they found those mixed and interactive sport participants' favored punitive technical instruction and punishment more than did coactive sport participants. Conversely, coactive sport participants preferred spontaneous behaviors more than did mixed and interactive sport participants (Kravig et al., 2002). Additional research is needed to determine the preferred coaching behaviors of athletes in different sport context.

Purpose of the Current Study

Coaches' that understand their own athletes' preferences for coaching behaviors may be more effective at maintaining and/or improving athlete satisfaction (Reimer & Chelladurai, 1998). As mentioned earlier, several factors determine the coaching behavior preferences of athletes. This study investigated preferred coaching behaviors to

determine the influence of gender and type of sport (i.e., coactve, mixed, and interactive). Thus, the purpose of this study was to determine coaching behavior preferences of athletes at the interscholastic level and compare how coaching behavior preferences of interscholastic athletes differ as a function of gender and type of sport. It was postulated that interscholastic athletes would prefer reinforcement, mistake contingent encouragement, general technical instruction, and mistake contingent technical instruction more than non-reinforcement, punishment, punitive technical instruction, and ignoring mistakes (Smoll & Smith, 1989). In addition, it was hypothesized that female interscholastic athletes would prefer positive responses to desirable performances (reinforcement) and positive responses to mistakes (mistake contingent encouragement) more than male interscholastic athletes. Past research has indicated that democractic and participatory coaching styles tend to be viewed positively by all athletes, especially female athletes (Chelladurai, 1990, 1993; Martin et al., 2001; Martin et al., 1999). Finally, it was believed that interscholastic athletes participating in interactive sports would prefer training and technical instruction and positive feedback more than interscholastic athletes participating in coactive or mixed sports. Research indicates that athletes on interactive sport teams prefer coaches who provides instruction more than athletes on coactive sport teams (Chelladurai, 1990, 1993).

METHODOLOGY

Participants

The participants were 372 interscholastic athletes (170 females and 202 males) from Michigan and Texas. The participants reflected the following racial/ethnic groups: Caucasian (*n* = 224), Hispanic (*n* = 84), African-American (*n* = 42), Asian (*n* = 11), and other (*n* = 10). Participants ranged from 14 to 18 years of age (*M* = 15.58, *SD* = 1.08) and had an average of 4.89 years of sport participation. Each participant was a member of an interscholastic athletic sport. The interscholastic athletes were categorized into coactive sports (n = 131), mixed sports (*n* = 134), or interactive sports (*n* = 79). The coactive sport used for this study was cross-country (n = 131). Mixed sports consisted of baseball (n = 5), football (*n* = 53), softball (*n* = 4), swimming (*n* = 46), and track and field (*n* = 26). Interactive sports consisted of basketball (*n* = 18), ice hockey (*n* = 2), soccer (*n* = 46), and volleyball (*n* = 13).

Instrument

The questionnaire used in this study was the Coaching Behavior Questionnaire (CBQ) designed by Martin and Barnes (1999). The preferred version of the CBQ is comprised of two parts: (a) a 12-item demographic section; and (b) a 48-item coaching behavior section (see Appendix A). The 12-item demographic section included questions about the athlete's age, gender, race, education level, sport most played, number of years participating in the sport most played, and preference of coach gender and age. Therefore the 12-item demographic section contained items related to the athlete and athlete preferences of coach characteristics. For this study, the 48-item coaching behavior preferred version was used to determine the interscholastic athletes preferences for

coaching behaviors. This version requests athletes to provide their preferences for coaching behaviors (i.e., “I prefer a coach who…”) on twelve subscales. The twelve coaching behavior subscales are (a) Reinforcement, (b) Non-reinforcement, (c) Mistake Contingent Encouragement, (d) Mistake Contingent Technical Instruction, (e) Punishment, (f) Punitive Technical Instruction, (g) Ignoring Mistakes, (h) Keeping Control, (i) General Technical Instruction, (j) General Encouragement, (k) Organization, and (l) General Communication. The twelve subscales are each represented by 4 items that follow a sequential order (one item from the first subscale, Reinforcement, is item 1, one item from the second subscale, Non-Reinforcement, is item 2, etc.). The participants indicated the degree of preference for each coaching behavior by using a 5-point Likert scale. The five response choices on the Likert scale ranged from strongly disagree (1) to strongly agree (5). The lower the score for each item, the lower the degree of preference for that coaching behavior.

Procedures

The University of North Texas Institutional Review Board (IRB) for the Protection of Human Rights approved this study. Following IRB approval, an initial telephone call was made to high school athletic directors and coaches to provide a brief description of the study and to ascertain their interest in participating in the study. Following the telephone call, a letter explaining the research was sent to athletic directors and coaches (see Appendix B). One district athletic director, one high school athletic director and six coaches gave consent for administering the questionnaire (see Appendix C). Administration occurred during the last month of the 2001-02 academic year, at a summer 2002 sport camp, and during the first month of the 2002-03 academic year. Prior

to administration of the questionnaire, an information sheet describing the research was provided to the parents (see Appendix D). The questionnaires were completed in a noncompetitive situation such as during a team meeting or before or after a regularly scheduled team practice period. The participants and coaches were separated during the completion of the questionnaires. All participants completed an informed consent form (see Appendix E) before answering any of the items on the questionnaire. The instructions for the CBQ were thoroughly explained by the individual(s) administering the questionnaire (Appendix F). To ensure confidentiality, participants were informed that the information gathered from the study would be anonymous and were assured that other participants in the study would not see their responses. Each participant was informed that participation in the study was voluntary and could be discontinued at any time without repercussions. A group of 24 interscholastic athletes completed the CBQ twice, one month apart, to determine the stability (test-retest reliability) of the instrument for interscholastic athletes.

Data Analysis

The internal consistency and stability of the CBQ was examined. Internal consistency was determined by the degree to which all items in a subscale measured the same underlying construct. Also, the CBQ was administered to 24 athletes on two occasions, one month apart, to determine the stability of the CBQ.

The mean scores of the participants' responses to each coaching behavior subscale were the dependent variables and gender and type of sport were the independent variables. Thus, a 2 X 3 (Gender X Sport Type) multivariate analysis of variance (MANOVA) was used to determine if differences exist as a function of gender and sport

type. To determine significance a .01 alpha level was used for this study. Follow-up discriminant function analyses and univariate ANOVAs were then conducted to identify which factors maximized differences among the groups.

RESULTS

Reliability of the Instrument

Although this research project did not involve development of an instrument, determining the reliability of the instrument used (CBQ) can provide meaningful information about the overall results (Nunnally & Berstein, 1994). Internal consistency reliabilities based on the responses from 372 interscholastic athletes were evaluated. The coefficient alpha, internal-consistency reliabilities of the scales, associated with the responses from the interscholastic athletes ranged from .61 to .80 with a median of .67 (see Table 1). The coefficient alphas compared favorably with recommended internal consistency estimates for scales used in research (Nunnally & Berstein, 1994). That is, the addition of a single item of the same average intercorrelation for the subscale with the lowest coefficient alpha, Keeping Control, would put the alpha value over the often-cited value of .70 (see Pedhazur & Smelkin, 1991). There is a trade-off between brevity and reliability.

Applying more than one reliability-estimation procedure enriches the understanding of the instrument's measurement qualities (Morrow & Jackson, 1993). Therefore, a subgroup of athletes from the original sample were re-administered the CBQ to determine stability over time. The test-retest reliabilities for a 1-month interval range from .68 to .91 with a median of .84 (see Table 1). It appears that the CBQ preferred form had acceptable stability over time for young athletes.

Descriptive Statistics

The means and standard deviations for male and female interscholastic athletes participating in coactive, mixed, and interactive sports are shown in Table 2. These

descriptive statistics reveal that Mistake Contingent Technical Instruction, Reinforcement, General Technical Instruction, and Keeping Control were the most preferred coaching responses whereas Ignoring Mistakes and Non-reinforcement were the least preferred coaching behaviors. These findings tend to support the first hypothesis, which postulated that interscholastic athletes would prefer reinforcement, mistake contingent encouragement, general technical instruction, and mistake contingent technical instruction more than non-reinforcement, punishment, punitive technical instruction, and ignoring mistakes (Smoll & Smith, 1989).

Gender X Sport Type Preferences MANOVA

In order to examine coaching behavior preference differences among male and female interscholastic athletes participating in coactive, mixed, and interactive sports; mean scores on all twelve subscales for each participant were calculated and used as dependent variables. A 2 (Gender) X 3 (Type of Sport) multivariate analysis of variance (MANOVA) was conducted.

The MANOVA produced a significant multivariate main effect for gender, Wilks' Lambda = .82, $F(12, 260) = 4.62$, $p = .0001$, $Eta^2 = .18$. Follow-up discriminant function and univariate analyses were then conducted to identify subscales that maximized differences for gender (see Table 3). General Encouragement was the only coaching behavior that was not significant between female and male interscholastic athletes. Female athletes, as compared with male athletes, preferred Reinforcement, Mistake Contingent Encouragement, Mistake Contingent Technical Instruction, Keeping Control, General Technical Instruction, General Encouragement, Organization, and General Communication (see Table 4). Conversely, male athletes preferred Non-reinforcement,

Punishment, Punitive Technical Instruction, and Ignoring Mistakes more than did female athletes. These findings tend to support the second hypothesis, which stated that female interscholastic athletes would prefer positive responses to desirable performances (reinforcement) and positive responses to mistakes (mistake contingent encouragement) more than male interscholastic athletes (Chelladurai, 1990, 1993; Martin et al., 2001; Martin et al., 1999).

Finally, the MANOVA revealed a significant multivariate main effect for type of sport, Wilks' Lambda = .62, $F(24, 520) = 5.78$, $p = .0001$, $Eta^2 = .21$. Follow-up discriminant function and univariate analyses were then conducted to identify subscales that maximized differences among the type of sport (see Table 3). The analyses indicated that athletes performing on interactive sport teams preferred Reinforcement, Mistake Contingent Technical Instruction, Keeping Control, and General Technical Instruction less than coactive and mixed sport participants. Conversely, interactive sport participants preferred Non-reinforcement, Punishment, Punitive Technical Instruction, and Ignoring Mistakes more than did coactive and mixed sport participants. Furthermore, coactive sport participants preferred Mistake Contingent Encouragement less than did mixed and interactive sport participants (see Table 5). These findings tend to support the third hypothesis, which theorized that interscholastic athletes participating in interactive sports would prefer training and technical instruction and positive feedback more than interscholastic athletes participating in coactive or mixed sports (Chelladurai, 1990, 1993).

DISCUSSION

The purpose of this study was to examine coaching behavior preferences of interscholastic athletes and determine whether differences existed as a function of gender and type of sport. By investigating coaching behavior preferences of interscholastic athletes, it was anticipated that a greater understanding would be gained about the preferred coaching behavior of interscholastic athletes participating on a coactive, mixed, or interactive team.

Overall, the results of this study indicated that female and male interscholastic athletes who perform on coactive, mixed, and interactive sport teams preferred coaches who engage in supportive and instructional behaviors, as opposed to non-responses or negative responses. As indicated by previous research, a positive, rewarding reaction to a good effort or specific instruction on how to correct a mistake maximizes the potential positive experiences of competitive sport participants, especially youngsters with low self-esteem (Barnett, Smoll, & Smith, 1992).

Coaching Preferences Related to Gender

In the present study, female athletes, as compared with male athletes, preferred Reinforcement, Mistake Contingent Encouragement, Mistake Contingent Technical Instruction, Keeping Control, General Technical Instruction, General Encouragement, Organization, and General Communication. Conversely, male athletes preferred Non-reinforcement, Punishment, Punitive Technical Instruction, and Ignoring Mistakes more than did female athletes. Although the results of this study suggest that there are some gender differences in regard to preferred coaching behaviors, there are considerably more similarities between male and female athletes than differences. These findings compare

favorably with previous research on preferred coaching behaviors related to gender (Chelladurai, Haggerty, & Baxter 1989; Chelladurai & Saleh, 1980; Kravig et al, 2002; Mondello & Janelle, 2001; Terry 1984).

The study of gender preferences in personal interactions has drawn the attention of numerous researchers from the disciplines of psychology, sociology, anthropology, linguistics, communication, women's studies, and organizational behavior (see Martin et al., 2001). Across a wide variety of participant populations, interaction settings, and research methodologies, researchers typically report that males are more likely than females to be directive and hierarchical and to be oriented toward solving problems (Aries, 1998). In comparison, females have been found to be more expressive, supportive, facilitative, egalitarian, and cooperative than males, and to focus more on relationships and share more personally with others (Aries, 1998). The differences found between males and females coaching behavior preferences in the present study and in other research are most likely due to the manner in which males and females are socialized (see Martin et al., 2001). Yambor and Connelly (1991) suggest that male participation in sport is characterized by an emphasis on competition, success, and maintaining a "macho" image while that of females usually emphasizes aesthetic qualities of the activity along with participation and affiliation factors. Males and females, at least in the United States, may be predisposed to think and behave in a certain way and coaches should be ready to address these differences.

Coaching Preferences Related to Sport Type

In the current study, interscholastic athletes' preference for coaching behaviors according to type of sport was investigated. The analyses indicated that athletes

performing on interactive sport teams preferred Reinforcement, Mistake Contingent Technical Instruction, Keeping Control, and General Technical Instruction less than coactive and mixed sport participants. Conversely, interactive sport participants preferred Non-reinforcement, Punishment, Punitive Technical Instruction, and Ignoring Mistakes more than did coactive and mixed sport participants. Furthermore, coactive sport participants preferred Mistake Contingent Encouragement less than did mixed and interactive sport participants. These findings did support past research indicating that the degree of interdependency between group members affects preferred coaching behavior (Chelladurai, 1980; Terry, 1984; Terry & Howe, 1984). Specifically, athletes participating in sports that require interaction between group members (i.e., interactive sports) showed greater preference for an autocratic style and less preference for a democratic style than did their peers who participated in coactive sports (Terry & Howe, 1984). For example, since coactive sport athletes' performance success and failure depends solely on themselves, they may feel a need to be more involved in the training process than mixed and/or interactive sport athletes (Lindauer, 2000). The results of this research provide clear support for the affect situational characteristics have on preferred coaching behaviors.

CONCLUSIONS

The present study attempted to determine whether coaching behavior preferences exist among female and male interscholastic athletes participating in coactive, mixed, or interactive sport teams. The results revealed that the preferred version of the CBQ demonstrated acceptable to marginal internal consistency and stability for interscholastic athletes. Findings indicated that athletes' coaching behavior preferences vary according to gender and type of sport. The results from the current study revealed several practical implications for interscholastic sport coaches. In particular, it does appear that situational factors and personal characteristics influence the particular coaching behaviors that are preferred in specific sport environments (Chelladurai & Saleh, 1978). Thus, coaches need to: (a) ascertain the interactional requirements of their sport (Cratty, 1989) and (b) be cognizant of the different coaching behaviors preferred by athletes. For example, cross-country is highly independent with regard to means (acquiring scores) but interdependent as to outcomes (i.e., the total team effort is dependent on individual scores; Cratty, 1989). Therefore, coaches of these type of sports may want to incorporate strategies such as getting frequent input from the athletes and using their suggestions in making decisions concerning the individual athlete and the team (Lindauer, 2000). Certain leadership behaviors are more optimal in different situations, as indicated by the Multidimensional Modal of Sport Leadership, Leadership Scale for Sports and Coaching Behavior Questionnaire (Chelladurai, 1990, 1993; Kravig et al., 2002). The challenge is determining what styles best suit the circumstances and whether a coach is flexible enough to adapt to a particular leadership situation.

Further testing using the CBQ should be conducted across a range of participants to determine whether the twelve dimensions of the CBQ capture the essential elements of coaching behaviors. The CBQ has primarily been used on intercollegiate and interscholastic athletes. Further testing is necessary to establish whether the CBQ is a valid and reliable instrument for athletes from other sports and other competitive levels not represented in this study and previous studies. That is to say, the cross-country athletes representing the coactive group in this study may not be representative of other coactive sport participants (golfers, bowlers, etc.) at the interscholastic and other competitive levels.

As with previous research using the LSS, future investigations involving the CBQ should also attempt to measure all three states of leader behavior (i.e., required, actual, and preferred). For example, determine the self-awareness of coaches who have received formal training as compared with those who have not. In addition, it is probable that youth athletes' preferences for coaching behaviors change over time along with the coaching behaviors that are required of coaches at various levels (Chelladurai, 1993; Chelladurai & Carron, 1983; Martin et al., 1999). Thus, future work should also include longitudinal research to examine when and how coaching preferences change and whether those changes are congruent with coaching requirements at each competitive level (recreational, high school, college, etc.). Although participants were asked to respond to all items in an honest manner, situational variables (e.g., team meetings) surrounding data collection may influence the way in which the participants respond to the various items (Orensten & Phillips, 1978). Furthermore, the social desirability effect may influence the athletes' perceptions of "correct responses" based on societal or sub-

cultural norms, or may elicit responses the participants believe the coach or researcher was seeking (Phillips, 1971). Thus, participants may distort their responses to the items on the CBQ.

APPENDIX A

COACHING BEHAVIOR QUESTIONNAIRE

Team #___ Coaching Behavior Questionnaire – Athlete Preference Version

Completion of the questionnaire indicates consent.

PART 1: Please provide the appropriate background information on the **answer sheet** below.

- Use pencil only
- Circle the correct response and give explanation if necessary
- Erase cleanly any answer you wish to change
- Make no stray marks on the answer sheet

Background Information					
❑ Age: _____ Birth Date: _ _ /_ _ / _ _ _ _					
2. Gender:	Female 1	Male 2			
3. Race:	African-American 1	Caucasian 2	Hispanic 3	Asian 4	Other _____ 5
4. Education level	High School 1_	Freshman 1	Sophomore 2	Junior 3	Senior 4
	College 2	Freshman 1	Sophomore 2	Junior 3	Senior 4
	Other: 30	_____			
5. Years of sport participation	0 1 2 3 4 5 6 7 8 9 ≥10				
6. The sport that I currently spend most of my time participating in is	Baseball 1	Field Hockey 5	Ice Hockey 9	Soccer 13	Track and Field 17
	Basketball 2	Football 6	Lacrosse 10	Softball 14	Volleyball 18
	Cross-Country 3	Golf 7	Rowing 11	Swimming 15	Wrestling 19
	Diving 4	Gymnastics 8	Rugby 12	Tennis 16	Other 20 _____
7. I consider my past sport season as being	Unsuccessful	Somewhat Successful	Successful		
8. Over the past season my athletic skills in my sport	Declined Greatly 1	Declined Slightly 2	Remained the same 3	Improved Slightly 4	Improved Greatly 5
9. My win-loss record for the past season was:	Wins _____	Loses _____			
10. When participating in sport I mostly had a	Female Coach	Male Coach			
11. I would most prefer my coach to be a	Female 1	Male 2	It does not Matter 3		
12. I would prefer my coach to be	20-30 years of age 1	31-40 years of age 2	41-50 years of age 3	≥ 51 years of age 4	It does not matter 5

Part Two: Please provide the appropriate answers on the answer sheet below.

- ❑ Use pencil only.
- ❑ Answer as honestly as possible.
- ❑ Mark the appropriate box using the following scale.

1	2	3	4	5
SD	**D**	**N**	**A**	**SA**
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

	SD	**D**	**N**	**A**	**SA**	
I prefer a coach who	1	2	3	4	5	
1. makes statements such as "way to go" when athletes perform well.	SD	D	N	A	SA	1.
2. does not yell statements of encouragement during the game/meet.	SD	D	N	A	SA	2.
3. makes comments such as "shake it off" or "that's all right" after a mistake is made.	SD	D	N	A	SA	3.
4. instructs athletes on how to correct mistakes or flaws in their technique or performance.	SD	D	N	A	SA	4.
5. voices disappointment regarding athletes' performance following a mistake.	SD	D	N	A	SA	5.
6. screams instructions at athletes following a mistake to motivate them to perform up to their potential.	SD	D	N	A	SA	6.
7. ignores technical errors that athletes make during a competition.	SD	D	N	A	SA	7.
8. has practices organized and running smoothly.	SD	D	N	A	SA	8.
9. instructs athletes on needed strategies for an upcoming competition.	SD	D	N	A	SA	9.
10. yells things such as "keep hustling" when the team is doing well.	SD	D	N	A	SA	10.
11. assigns athletes individual responsibilities during practices and competitions.	SD	D	N	A	SA	11.
12. talks with athletes about academic problems.	SD	D	N	A	SA	12.
13. greets athletes when they finish a performance with encouragement and support.	SD	D	N	A	SA	13.
14. does not vocally praise athletes after they execute a good play/strategy.	SD	D	N	A	SA	14.
15. provides athletes with positive feedback even if a mistake was made.	SD	D	N	A	SA	15.
16. takes the time to help athletes with competitive plans.	SD	D	N	A	SA	16.
17. makes athletes "run laps" or "do push-ups" following a mistake.	SD	D	N	A	SA	17.
18. belittles athletes who perform skills incorrectly.	SD	D	N	A	SA	18.

	SD	**D**	**N**	**A**	**SA**	
I prefer a coach who	1	2	3	4	5	
19. pays no attention to athletes' mistakes.	SD	D	N	A	SA	19.
20. breaks up any arguments that may occur at practice or during competition.	SD	D	N	A	SA	20.
21. stops practice to emphasize techniques or strategies needed for upcoming competitions.	SD	D	N	A	SA	21.
22. singles athletes out as role models because they have been trying hard at practice.	SD	D	N	A	SA	22.
23. discusses strategies for specific athletes prior to a game.	SD	D	N	A	SA	23.
24. has a sense of humor during practices and competitions.	SD	D	N	A	SA	24.
25. expresses pride in the efforts of athletes as well as in their successes.	SD	D	N	A	SA	25.
26. only helps athletes when a mistake is made.	SD	D	N	A	SA	26.
27. praises athletes for trying hard after a mistake is made.	SD	D	N	A	SA	27.
28. demonstrates techniques that athletes need to learn for improved performance.	SD	D	N	A	SA	28.
29. punishes athletes in front of their teammates following a mistake.	SD	D	N	A	SA	29.
30. uses physical intimidation following a technical mistake to get athletes to perform up to their potential.	SD	D	N	A	SA	30.
31. shows no emotion when athletes make a mistake.	SD	D	N	A	SA	31.
32. keeps athletes on task to accomplish the overall objectives and goals.	SD	D	N	A	SA	32.
33. provides athletes information on their technique after a successful performance.	SD	D	N	A	SA	33.
34. pulls athletes aside to let them know they are doing a good job.	SD	D	N	A	SA	34.
35. prepares athletes by informing them of their schedules and tasks.	SD	D	N	A	SA	35.
36. is willing to discuss relationship problems that affect athletes' performance.	SD	D	N	A	SA	36.
37. verbally praises the team and individual athletes after they have successfully executed a play/skills.	SD	D	N	A	SA	37.
38. does not make comments about good performances.	SD	D	N	A	SA	38.
39. says things like "keep trying" when athletes make a mistake on a new performance task that was introduced.	SD	D	N	A	SA	39.
40. spends time helping athletes who are having trouble improving their performance.	SD	D	N	A	SA	40.

	SD	**D**	**N**	**A**	**SA**	
I prefer a coach who	1	2	3	4	5	
41. immediately removes athletes from competition following a mistake.	SD	D	N	A	SA	41.
42. uses sarcasm when communicating to athletes about correcting flaws in technique or skills.	SD	D	N	A	SA	42.
43. does not comment and allows athletes to learn from their own mistakes.	SD	D	N	A	SA	43.
44. is fair in upholding the team rules no matter who is involved.	SD	D	N	A	SA	44.
45. provides individual instruction to athletes about technical skills and competition strategies.	SD	D	N	A	SA	45.
46. spends time during practice praising athletes for things they have done well during competition.	SD	D	N	A	SA	46.
47. clearly defines roles and responsibilities of the athletes.	SD	D	N	A	SA	47.
48. is willing to discuss personal problems that affect athletes' performance.	SD	D	N	A	SA	48.

Thank you for your time and consideration!

APPENDIX B

LETTER TO COACHES

Letter to Coaches

, 2002

To Whom It May Concern:

As per our telephone conversation, I am interested in collecting data on athletes' preferences of coaching behaviors. You indicated a willingness to allow your athletes to complete the Coaching Behavior Questionnaire. This brief questionnaire requests general information about athletes' preferred coaching behaviors, it does not ask about your specific coaching behaviors. The questionnaire will take approximately 15 minutes to complete. If you have any additional questions concerning this study, please contact Seth Kravig at (940) 565-3057 or Dr. Scott Martin at (940) 565-3418. The Institutional Review Board at the University of North Texas has approved this study and can also answer questions about the rights of participants in research at (940) 565-3940. Once the signed permission form is received, we can arrange a convenient time to administer the questionnaire. Enclosed is a copy of the Coaching Behavior Questionnaire, informed consent sheet for athletes and the coaches' permission form. I appreciate your time and consideration in this matter.

Sincerely,

Seth Kravig
Graduate Student

Scott Martin, Ph.D.
Assistant Professor

APPENDIX C

COACH PERMISSION FORM

Coach Permission Form

I, _____, agree to allow my team to participate in a research project involving athletes' preferences for coaching behaviors. I understand that my athletes' involvement will include completing a survey that is meant to determine their general preferences for coaching behaviors for the sport in which they compete. The questionnaire will take approximately 15 minutes to complete. The answers they provide will help sport psychology practitioners, athletic administrators, and coaches gain a better understanding of which coaching behaviors are most desired by athletes in selected sports.

I fully understand the purpose of this research and realize there is no personal risk or discomfort directly involved related to participation in the study. As a participant in this study the athlete is a volunteer. It is his/her option to terminate participation at any time without penalty or prejudice to him/her. I also understand that my identity and the athletes' identity will remain strictly confidential. Thus, I understand that general information collected regarding coaching preferences as a function of sport and gender may be reported in scientific papers and presentations as long as my name and the names of my athletes are excluded.

If I have any questions or concerns related to my participation in this research project, I should contact Seth Kravig at (940) 565-3057 or Dr. Scott Martin at (940) 565-3418. The Institutional Review Board at the University of North Texas has approved this study and can also answer questions about the rights of participants in research at (940) 565-3940.

_____ _____

(Date) (Coach's Signature)

APPENDIX D

PARENT INFORMATION SHEET

Parent Information Sheet

Coaching Behavior Preference Research Project

Your child will be asked to participate in a research project involving athletes' preferences for coaching behaviors. Participation will include completing a survey that is meant to determine athletes' general preferences for coaching behaviors for the sport in which they compete. The answers provided might help sport psychology practitioners, athletic administrators, and coaches gain a better understanding of which coaching behaviors are most desired by athletes in selected sports.

The questionnaire will take approximately 15 minutes to complete. There is no personal risk or discomfort directly involved. The athletes' identity will remain strictly confidential. As a participant in this study your child is a volunteer. Your child has the option to terminate participation at any time without penalty or prejudice to him/her. Although general information collected regarding coaching preferences as a function of sport and gender may be reported in scientific papers, no names of athletes will be included.

If I have any questions or concerns related to my participation in this research project, I should contact Seth Kravig at (940) 565-3057 or Dr. Scott Martin at (940) 565-3418. The Institutional Review Board at the University of North Texas has approved this study and can also answer questions about the rights of participants in research at (940) 565-3940.

APPENDIX E

ATHLETE CONSENT FORMS

Athlete Consent Form

I, _____, agree to participate in a research project involving athletes' preferences for coaching behaviors. I understand that my involvement will include completing the attached survey as honestly as possible. This survey is meant to determine my general preferences for coaching behaviors for the sport in which I compete. The questionnaire will take approximately 15 minutes to complete. The answers I provide on my survey will help sport psychology practitioners, athletic administrators, and coaches gain a better understanding of which coaching behaviors are most desired by athletes in selected sports.

I fully understand the purpose of this research and realize there is no personal risk or discomfort directly involved. I also understand that both my identity and the answers provided on my survey are strictly confidential. Thus, I understand that general information collected regarding coaching preferences as a function of sport and gender may be reported in scientific papers and presentations as long as my name is excluded. I understand that as a participant in this study I am a volunteer and have the option to terminate my participation at any time without penalty or prejudice to me.

If I have any questions or concerns related to my participation in this research project, I should contact Seth Kravig at (940) 565-3057 or Dr. Scott Martin at (940) 565-3418. The Institutional Review Board at the University of North Texas has approved this study and can also answer questions about the rights of participants in research at (940) 565-3940.

_____ _____

(Date) (Participant's Signature)

APPENDIX F

CBQ INSTRUCTIONS

CBQ Instructions

I would like to start by thanking you for taking part in this survey. Please listen to the following instructions before you begin. The packet in front of you should contain three pages. One informed consent form and two pages front and back, of a survey. You will start by reading the informed consent form. If you understand the study and wish to continue please sign your name and date the informed consent form. The survey is comprised of two parts: (a) a 12-item demographic section, and (b) a 48-item coaching behavior section. While answering the survey include information only about yourself and the interscholastic sport that you participate in the most. I want you to be thinking about only one sport while answering the survey. If you have any questions feel free to raise your hand and I will come to you and help.

APPENDIX G

TABLES

Table 1

Reliability Analysis

Subscale	*Internal Consistency*	*Test-retest Reliability*
R	.71	.88
NR	.69	.72
MCE	.65	.83
MCTI	.80	.88
P	.65	.77
PTI	.65	.85
IM	.70	.83
KC	.61	.85
GTI	.71	.91
GE	.61	.83
O	.64	.89
GC	.64	.68

Note. R = Reinforcement, NR = Non-reinforcement, MCE = Mistake Contingent Encouragement, MCTI = Mistake Contingent Technical Instruction, P = Punishment, PTI = Punitive Technical Instruction, IM = Ignoring Mistakes, KC = Keeping Control, GTI = General Technical Instruction, GE = General Encouragement, O = Organization, GC = General Communication

Table 2

Descriptive Statistics for Male and Female Athletes Participating in Coactive, Mixed, and Interactive Sports

	Type of Sport															
	Coactive				Mixed				Interactive				Total			
	Male		Female		Male		Female		Male		Female		Male		Female	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
R	4.09	.45	4.44	.42	4.20	.64	4.46	.49	3.75	.64	4.11	.68	4.09	.59	4.37	.52
NR	2.09	.44	1.88	.43	2.23	.64	1.93	.58	2.88	.88	2.35	.83	2.27	.66	2.00	.61
MCE	3.55	.59	3.71	.59	3.81	.64	3.99	.68	3.59	.57	4.09	.62	3.67	.62	3.87	.64
MCTI	4.25	.48	4.43	.40	4.27	.59	4.45	.59	3.77	.66	4.21	.57	4.19	.58	4.38	.50
P	2.59	.70	2.10	.52	2.56	.69	2.24	.64	2.99	.71	2.72	.69	2.63	.71	2.28	.64
PTI	2.20	.70	1.87	.52	2.70	.76	1.98	.59	3.15	.70	2.91	.71	2.57	.80	2.14	.72
IM	2.03	.53	1.86	.46	1.98	.62	1.98	.58	2.72	.78	2.20	.87	2.12	.66	1.97	.62
KC	4.10	.49	4.18	.40	4.01	.64	4.28	.50	3.58	.62	4.08	.67	4.00	.60	4.18	.50
GTI	4.04	.44	4.17	.47	4.07	.57	4.29	.49	3.74	.66	3.99	.58	4.01	.55	4.16	.51
GE	3.67	.59	3.79	.59	3.80	.59	3.84	.45	3.70	.69	3.91	.67	3.74	.61	3.83	.57
O	3.83	.49	3.90	.51	3.91	.50	4.04	.62	3.65	.57	3.92	.57	3.84	.51	3.94	.55
GC	3.87	.50	4.00	.52	3.98	.57	4.01	.58	3.54	.65	4.06	.60	3.87	.57	4.02	.55

Note. R = Reinforcement, NR = Non-reinforcement, MCE = Mistake Contingent Encouragement, MCTI = Mistake Contingent Technical Instruction, P = Punishment, PTI = Punitive Technical Instruction, IM = Ignoring Mistakes, KC = Keeping Control, GTI = General Technical Instruction, GE = General Encouragement, O = Organization, GC = General Communication

Table 3

Discriminant Function Correlations and Univariate Fs

Dependent Variables	Gender	*F*		*Eta*^{2}	Type of Sport	*F*		*Eta*^{2}	Interaction	*F*		*Eta*^{2}
R	.59	20.08	*	.07	.31	9.53	*	.07	.11	.20		.00
NR	.58	19.53	*	.07	.53	21.09	*	.14	.20	1.20		.01
MCE	.45	11.91	*	.04	.17	5.64	**	.04	.27	1.52		.01
MCTI	.50	14.60	*	.05	.33	9.41	*	.07	.26	1.18		.01
P	.55	17.54	*	.06	.39	11.64	*	.08	.02	.70		.01
PTI	.64	23.92	*	.08	.75	39.92	*	.23	.42	2.91		.02
IM	.38	8.18	**	.03	.43	14.00	*	.09	.48	3.04	***	.02
KC	.52	15.46	*	.05	.29	6.98	*	.05	.21	2.81		.02
GTI	.38	8.43	**	.03	.23	6.01	**	.04	.02	.33		.00
GE	.22	2.69		.01	.05	.61		.00	.17	.37		.00
O	.29	4.84	***	.02	.07	2.28		.02	.14	.69		.01
GC	.41	9.75	**	.04	.12	1.90		.01	.48	3.22	***	.02

Note. $p < .001$ *, $p < .01$ **, $p = .05$ ***, R = Reinforcement, NR = Non-reinforcement, MCE = Mistake Contingent Encouragement, MCTI = Mistake Contingent Technical Instruction, P = Punishment, PTI = Punitive Technical Instruction, IM = Ignoring Mistakes, KC = Keeping Control, GTI = General Technical Instruction, GE = General Encouragement, O = Organization, GC = General Communication

Table 4

Gender Preferences for Coaching Behaviors

	Male		Female		Total	
	M	*SD*	*M*	*SD*	*M*	*SD*
R	4.09	.59	4.37	.52	4.22	.58
NR	2.27	.66	2.00	.61	2.15	.65
MCE	3.67	.62	3.87	.64	3.76	.64
MCTI	4.19	.58	4.38	.50	4.27	.56
P	2.63	.71	2.28	.64	2.48	.70
PTI	2.57	.80	2.14	.72	2.38	.79
IM	2.11	.66	1.97	.62	2.05	.64
KC	3.98	.60	4.18	.50	4.07	.57
GTI	4.01	.55	4.16	.51	4.08	.54
GE	3.73	.61	3.83	.57	3.78	.59
O	3.84	.51	3.94	.55	3.89	.53
GC	3.87	.57	4.02	.55	3.94	.57

Note. R = Reinforcement, NR = Non-reinforcement, MCE = Mistake Contingent Encouragement, MCTI = Mistake Contingent Technical Instruction, P = Punishment, PTI = Punitive Technical Instruction, IM = Ignoring Mistakes, KC = Keeping Control, GTI = General Technical Instruction, GE = General Encouragement, O = Organization, GC = General Communication

Table 5

Sport Type Preferences for Coaching Behaviors

	Coactive		Mixed		Interactive		Total	
Subscales	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
R	4.27	.47	4.29	.61	3.95	.68	4.22	.58
NR	1.98	.45	2.13	.63	2.59	.88	2.15	.65
MCE	3.63	.59	3.87	.66	3.87	.65	3.76	.64
MCTI	4.34	.45	4.32	.59	4.01	.64	4.27	.56
P	2.34	.66	2.46	.69	2.84	.70	2.48	.70
PTI	2.03	.64	2.46	.78	3.01	.71	2.38	.79
IM	1.94	.50	1.98	.60	2.43	.86	2.05	.64
KC	4.14	.45	4.10	.61	3.86	.69	4.07	.57
GTI	4.11	.46	4.14	.55	3.88	.63	4.08	.54
GE	3.73	.59	3.81	.55	3.81	.68	3.78	.59
O	3.86	.50	3.95	.54	3.80	.58	3.89	.53
GC	3.94	.52	3.99	.57	3.83	.67	3.94	.57

Note. R = Reinforcement, NR = Non-reinforcement, MCE = Mistake Contingent Encouragement, MCTI = Mistake Contingent Technical Instruction, P = Punishment, PTI = Punitive Technical Instruction, IM = Ignoring Mistakes, KC = Keeping Control, GTI = General Technical Instruction, GE = General Encouragement, O = Organization, GC = General Communication

APPENDIX H

FIGURES

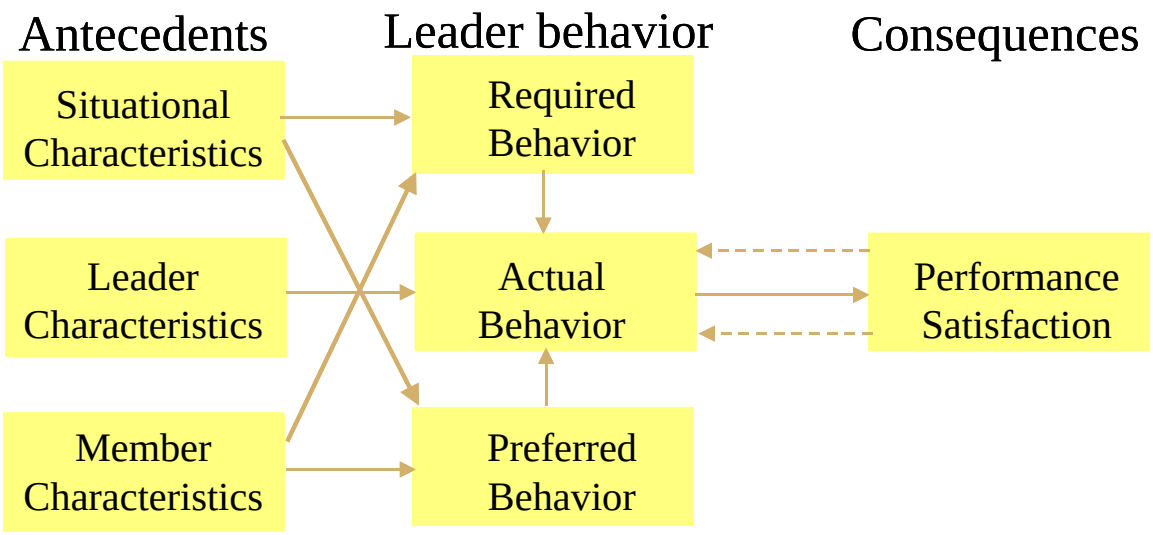

Figure 1. Multidimensional Modal of Leadership: Leadership Scale for Sport (LSS) (Chelladurai and Saleh, 1978)

Coactive Teams	Mixed Coactive-Interactive Teams	Interactive Teams
Low means-interdependent tasks	Moderate means-interdependent tasks	High means-interdependent tasks
Archery Bowling Field Events (track) Golf Riflery Skiing Ski Jumping Wrestling	American Football Baseball/Softball Figure Skating Rowing Track events Tug-of-War Swimming	Basketball Field Hockey Ice Hockey Rugby Soccer Team Handball Volleyball

Degree of interdependence required

⇒ ⇒ ⇒ ⇒ ⇒ ⇒

Low Moderate High

Figure 2. Relationship of required interdependence to the nature of the sport and player interaction (Cox, 1990).

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