NCAA DIVISION I ATHLETES' COACHING BEHAVIOR PREFERENCES

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The purpose of this study was to determine whether coaching behavior preferences of NCAA Division I athletes differ as a function of gender and type of sport. The Coaching Behavior Questionnare (CBQ; Martin & Barnes, 1999) was administered to 195 NCAA Division I athletes. Gender and sport type were the independent variables and the participant's mean scores for the subscales on the CBQ were the dependent variables. Descriptive statistics revealed that, overall, NCAA Division I athletes prefer positive and instructional behaviors more than non-responses or negative behaviors. A 2 (gender) x 3 (type of sport) MANOVA and follow-up discriminant function analysis indicated that coaching behavior preferences differed as a function of gender and type of sport played. Thus, NCAA Division I coaches should consider both individual and situational characteristics when working with their athletes to achieve the desired outcome.

ACKNOWLEDGEMENTS

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CHAPTER I

INTRODUCTION

Sport has become an important part of society today to the point where it has become a social institution. Society has witnessed a drastic increase in the number of organized youth sport programs. It is estimated that the number of children participating in youth sports range as high as 45 million (Smoll & Smith, 2001). Youth sports have become more complex with parents, businessmen, and people in the community providing a vested interest in local teams (Berryman, 1988). The traditional "sandlot" sports have drastically evolved due to high levels of involvement in structured athletic programs supervised by adults. Recently, the psychology of youths involved in such programs has come under the scrutiny of researchers (see Smoll & Smith, 2001).

Researchers have stated that the issue is not whether athletics are good for the athletes who participate, but rather, whether the program and the conditions of these programs are having a positive affect on athletes (Smoll & Smith, 2001). There is little disagreement among researchers that one of the determining factors as far as the willingness of athletes to participate exists is the relationship between the coach and player (Smoll, Smith, Curtis, & Hunt, 1978). Although emphasis on coach and player relationships remained important, research on the participant was virtually non-existent. However, Smoll et al. (1978) conducted observational research on coaching behaviors, and Chelladurai and other authors (Chelladurai & Arnott, 1985, Chelladurai, Haggerty, & Baxter, 1989; Chelladurai & Saleh, 1978, 1980; Chelladurai & Quek, 1995) conducted systematical research to determine athletes' and coaches' preferences for coaching behavior based upon Vroom and Yetton's (1973) model of preferred leadership. The

findings on coaching behavior (Smith, Smoll, & Hunt, 1977; Smoll et al., 1978) and

coaching style (Chelladurai & Arnott, 1985; Chelladurai & Haggerty, 1978; Chelladurai

et al., 1989, Chelladurai & Saleh, 1978, 1980; Chelladurai & Quek, 1995) are the

motivation of the current investigation.

Research Related to Measuring Coaching Effectiveness

Researchers have developed various models and instruments in an attempt to

determine the affect coaching behaviors and leadership styles have on athletes

(Chelldurai & Saleh, 1978; Martin & Barnes, 1999; Smith et al., 1977). The following

sections highlight three different models used for studying coaching behaviors.

Behavioral Observation Approach: Coaching Behavior Assessment System.

Smith et al. (1977) developed a direct observational code that allows researchers

to record coaching behaviors during practices or games. Their Coaching Behavior

Assessment System (CBAS) consists of twelve coaching behavioral categories "(a)

Reinforcement (a positive, rewarding action, verbal or non-verbal, 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); (e) Punishment (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's mistakes); (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)

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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)" (see Kravig, 2002, pg. 2).

According to Smith et al. (1977), there are two types of coaching behavior

classifications: (a) Reactive and (b) Spontaneous. Responses that are considered

Reactive (elicited) behaviors are responses that immediately precede athlete or team

behaviors (see Smoll & Smith, 2001). Reactive responses are associated with a desired

performance, mistake, or misbehavior on the part of the athlete. The coaching

behaviors categorized as reactive behaviors include 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 coaching behavior classification is considered

Spontaneous (emitted) behaviors. Responses that are initiated by coaches but are not

associated with preceding events are considered Spontaneous behaviors (see Smoll &

Smith, 2001). The coaching behaviors categorized as spontaneous behaviors include

General Technical Instruction, General Encouragement, Organization, and General

Communication (Smith et al., 1977).

Smith et al. (1977) found that many athletes prefer coaches who are more

supportive and instructional. Previous research (Smith & Smoll, 1990; Smith, Smoll, &

Curtis, 1979; Smith, Zane, Smoll, & Coppell, 1983; Smoll et al., 1978) also found that

youth athletes preferred coaches who were encouraging and who provided technical

instruction following a mistake. Smith et al. (1979) found that in general, coaches were

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not aware of their actual coaching behaviors. This indicates that those coaches may need to improve their awareness of their behaviors. Other researchers have seen the beneficial aspect of an observational tool such as the CBAS. For example, Horn (1985) used the CBAS to explore the relationship between coaches and female junior high school players' perception of competence and expectations for future athletic success. Horn's research differed from Smith and Smoll's in that she addressed the coach's feedback on individual team members rather than assessing the coach's feedback on the team as a unit.

Multidimensional Model of Leadership: Leadership Scale for Sport (LSS).

The Leadership Scale for Sport (LSS) is a sport-specific questionnaire that was developed by Chelladurai and Saleh (1978, 1980). The LSS examines leadership behavior based on a multidimensional approach. The multidimensional approach maintains that antecedent characteristics, leader behavior, and consequences are the three main factors that affect athlete performance and satisfaction. This model contends that the antecedent characteristics (i.e., situational, leader, and member) and the leader behavior characteristics (i.e., required, actual, and preferred) combine to determine athlete/team performance and satisfaction (consequences). Thus, leadership styles that effectively produce positive sport outcomes are the result of (a) the coach's behavior, (b) the athlete's preferred coaching styles, and (c) leadership styles that are sport and situation specific. The LSS consists of five behavioral scales. These coaching behaviors include one instructional behavior scale, two decision-making scales, and two motivational scales (Gardner, Shields, Bredemeier, & Bostrom, 1996). There are three distinct versions of the LSS, (a) a coaches version in which the coach is required to

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describe his or her own behaviors, (b) a perceived version in which the athletes are required to describe their coach's behavior, and (c) a preferred version in which athletes are required to describe the behaviors they would most prefer in a coach. The LSS was found to be a stable instrument for measuring coaching behavior and was deemed to be an adequate tool for determining preferred and perceived coaching behaviors (Chelladurai & Saleh, 1980).

Chelladurai and Saleh (1978, 1980) researched the differences in coaching behaviors as a function of sport. They found that athletes in interactive (team) sports (e.g., basketball, baseball) preferred coaches who displayed training and instructional behaviors more than athletes who participated in coactive (individual) sports (e.g., golf and skiing). Likewise, research has shown that there is an increased need for training and instruction in conjunction with increased interdependence of the task (Chelladurai, 1993). Therefore, athletes who participate in team sports prefer coaches who display training and instruction behaviors more than those athletes who participate in individual sports. Also, male athletes most prefer coaches who displayed autocratic behaviors (making decisions with the athletes providing almost no input), whereas female athletes prefer coaches who provide a more democratic environment (allowing athletes to assist in decision-making) (Chelladurai & Saleh, 1980, Chelladurai, 1990, Chelladurai and Arnott, 1985).

Multidimensional Model of Leadership: Coaching Behavior Questionnaire (CBQ).

Martin and Barnes (1999) developed the Coaching Behavior Questionnaire (CBQ) based upon the twelve observed coaching behaviors of Smith et al. (1977) and the Multidimensional Leadership Model (Chelladurai & Saleh, 1980). Much like the LSS,

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the CBQ includes three distinct versions, which are a required, actual, and preferred version. Each version of the CBQ is comprised of two sections: (a) a 12-item demographics section, and (b) a 48-item coaching behavior section. The 12-item demographic section contains questions regarding the athlete's age, gender, race, education level, sport most played, and number of years participating in their predominant sport as well as questions regarding preferred coaches age and gender. The 48-item coaching behavior section includes questions regarding the twelve coaching behavior categories as defined by the CBAS (Smith et al., 1977) with each coaching behavior represented by four questions. All three versions of the CBQ contain the same 48 items with only the stem to the questions changing. The CBQ required version has a stem that begins with "A coach at this level…", the CBQ actual version begins with the stem "My coach…", and the CBQ preference version starts with the stem "I prefer a coach who…". Therefore, the CBQ is a self-report measure of coaching behavior that combines the multidimensional model provided by the LSS, as well as the twelve coaching behavior categories developed for the CBAS.

The preferred version of the CBQ was administered to high school and collegiate female athletes (Kravig, Ludtke, & Martin, 2002). Kravig and colleagues divided athletes into three separate categories based upon the sport classification system developed by Cox (1990). The three categories include (a) coactive (e.g., archery and golf) in which little interaction among teammates is required to be successful, (b) interactive (e.g., basketball and baseball) which requires teammates working together to be successful, and (c) mixed (e.g., track and field and gymnastics) which requires varying degrees of both coactive and interactive participation (Cox, 1990; Cratty, 1989).

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Kravig et al. (2002) found significant differences between sport type (coactive, interactive and mixed) and an athletes preference for coaching behaviors. The results showed that Punitive Technical Instruction and Punishment were preferred by athletes who participated in interactive sports more than athletes who participated in coactive sports. However, athletes in coactive sports preferred spontaneous behaviors more than athletes who participated in mixed and interactive sports (Kravig et al., 2002).

Purpose of the Study

The purpose of this study was to explore whether coaching behavior preferences of NCAA Division I athletes differ as a function of gender and sport type. Chelladurai and Saleh (1978, 1980) and Smith et al. (1979) developed uniquely different methods of observing and measuring coaching behavior. Smith, Smoll and colleagues (Smith & Smoll, 1978; Smith et al., 1979, Smith et al., 1977) used the CBAS to observationally measure the behaviors of youth sport coaches, whereas Chelladurai and colleagues (Chelladurai & Arnott, 1985; Chelladurai & Saleh, 1978, 1980) used the LSS to primarily focus on high school and college athletes and the leadership styles they prefer whereas The current study was designed to take a systematic approach to the CBAS by formatting the 12 observational coaching behaviors into the form of a questionnaire based on Chelladurai's Leadership Scale for Sport. Based on past coaching effectiveness research, collegiate athletes are expected to prefer Reinforcement, Mistake-Contingent Technical Instruction, General Technical Instruction, and Mistake-Contingent Technical Instruction more than Non-Reinforcement, Punishment, Punitive Technical Instruction, and Ignoring Mistakes. Likewise, based on past coaching and gender socialization literature, female college athletes are most likely to prefer

Reinforcement and Mistake-Contingent Technical Instruction more than male college athletes. Finally, a unique aspect of this study is to explore the coaching behavior preferences of college athletes who participate in coactive, mixed, and interactive sports. College athletes participating in interactive sports will most likely prefer training and instruction and positive feedback more than athletes who participate in coactive or mixed sports.

Delimitations of the Study

The following were delimitations for the study:

1. Only athletes from NCAA Division I Universities were used for this study.

2. Each sport type (coactive, interactive, and mixed) was only represented by one sport (golf, basketball, and track).

Limitations of the Study

The following were potential limitations to this study:

1. Use of subjective reporting from participants. This includes trusting that the

   participant was truly reporting how he or she feels. It also means that the

   participant holds no biases and was able to accurately and honestly rate what he

   or she has witnessed.

2. There may be contingencies that affect the decision style adopted by the coach.

   Because situational differences can lead to variance in decision styles, the

   amount/type of athletes on the team, and the previous year's win/loss record

   could have some influence.

CHAPTER II

REVIEW OF LITERATURE

Researchers investigating leadership and decision styles have taken two

different approaches (Chelladurai & Haggerty, 1978; Smith & Smoll, 1978). One of the

first models for examining leadership, the Coaching Behavior Assessment System

(CBAS) was developed by Smith et al. (1977). The CBAS measures coaching

behaviors by having a trained rater record coaching behaviors that are directly

observed. The second approach is the Multidimensional Model of Leadership proposed

by Chelladurai and colleagues (Chelladurai & Carron, 1978; Chelladurai & Saleh, 1978;

1980). The model proposed by Chelladurai and colleagues used the problem attributes

developed by Vroom and Yetton (1973). They modified the attributes and applied them

to athletics. This chapter will review these two different methods of evaluating coaching

styles and behaviors.

Smith and Smoll's Coaching Behavior Model

Smith et al. (1977) used aspects from the Social Learning Theory (Golfied &

Sprafkin, 1974; Mischel, 1973) to develop the Coaching Behavior Assessment System

(CBAS). The CBAS consists of twelve behavioral categories that were used to record

and monitor coaching behaviors that were directly observed by the researchers. During

the development of the CBAS, observers coded coaching behaviors during practice

sessions by carrying a portable tape recorder and doing a "play-by-play" analysis (see

Smith & Smoll, 1978, p. 176). Based upon these observations, researchers were able to

develop an initial set of categories for scoring, which was instrumental in helping to

develop the current system (see Smith & Smoll, 1978, p. 176). Subsequent use of the

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CBAS maintained that the system was comprehensive enough for a majority of coaching behaviors (see Smith & Smoll, 1978). It was also determined that the CBAS was able to discern individual differences in behavior, and that the CBAS was easy to incorporate in field settings (see Smith & Smoll, 1978).

Because the CBAS can allow for several raters to simultaneously observe one coach, there is a need for independent observers to agree on how behaviors should be categorized (see Smith & Smoll, 1978). Therefore, Smith et al. (1977) developed a coaching effectiveness training program which included: (a) extended study of a training manual, which contained an explanation of the CBAS and instructions for its use; (b) group instruction on the use of the scoring system, which included viewing and discussion an audio visual training module; (c) written tests which required the trainees to define the CBAS categories and score behavioral examples; (d) having the trainees score the videotaped sequences of coaching behaviors; and (e) extensive practice using the CBAS in field settings (see Smith & Smoll, 1978). Thus, a trainee must have demonstrated expertise in using the CBAS before they were allowed to collect data (Smith & Smoll, 1978).

Several reliability studies were performed to test both the CBAS coding system as well as the effectiveness of the observer training program (see Smith & Smoll, 1978). In the first study, 31 trainees were shown a videotaped sequence of 48 coaching behaviors performed by an actor. In each sequence, a narrator described each game situation verbally, and the trainees were then shown the coach's behavior (see Smith & Smoll, 1978). Each CBAS category was represented four times. Scoring accuracy was determined according to whether or not the trainee agreed with the researchers' view of

the coaching behavior (see Smith & Smoll, 1978). Scoring errors ranged from 0-5, with

a mean of 1.06 errors per observer, which yielded an average of 97.8% concurring with

the experts (see Smith & Smoll, 1978).

Researchers then had the trainees' review the videotape of the coaching

behaviors after one week had past to test the consistency of scoring over time (see

Smith & Smoll, 1978). During the week between the training session and the re-

administration of the test, no feedback was given to the trainees about their initial

responses (see Smith & Smoll, 1978). Consistency was based upon the percentage of

behaviors that were scored identically on the two tests. The percentages ranged from

87.5% to 100%, with a mean of 96.4% indicating a high rating for consistency over time

(see Smith & Smoll, 1978, p. 179).

Once it was established that the CBAS was consistent over time, studies were

then conducted to determine interrater reliability of the CBAS in a field setting (see

Smith & Smoll, 1978). In the first study, five observers coded the behaviors of a female

little league baseball coach during a 6-inning game (see Smith & Smoll, 1978). The

correlation coefficients between the five observers' across the twelve CBAS categories

ranged from + .77 to + .99, with the average inter-rater reliability coefficient being +.88

(see Smith & Smoll, 1978). For the second study, two of the authors, Smith and Smoll,

as well as 19 trained observers used the CBAS to code a male little league baseball

coach during a 5-inning game (see Smith & Smoll, 1978). Smith and Smoll consulted

with one another during the scoring process to provide a firm foundation for assessing

the accuracy of the other observers. Reliability coefficients were then run between all

possible pairs of observers, which totaled 171 coefficients of coding frequencies (see

Smith & Smoll, 1978). The mean inter-rater reliability for the 171 observer pairs was +.88. The observer's codings were then compared to those of the author's, which yielded a correlation ranging from + .62 to + .98, with a mean of + .86 (see Smith & Smoll, 1978).

Once the CBAS was shown to be a reliable instrument, Smoll et al. (1978) used the CBAS to determine the coach's actual behavior, the children's perception of the coach's behavior, and how the children felt overall about their experience and themselves (Magill, Ash, & Smoll, 1982). The study was conducted in two phases. Phase One involved 51 male coaches in three little league baseball leagues. The leagues were divided into three levels: minors (8-9 years old), majors (10-12 years old), and senior (13-15 years old) (Magill et al., 1982). Coaches were observed and, using the CBAS, their behaviors were recorded during at least three games (Magill et al., 1982). At the end of the season, coaches completed the Coaching Philosophy Questionnaire, and 542 players (238 minors, 187 majors, and 117 seniors) were interviewed (see Smith & Smoll, 1978).

The results of Phase One revealed four factors that would help to determine the dimensions of the CBAS categories: (a) activity level, (b) the degree with which the coach was punitive, (c) Instructional Orientation versus General Orientation, and (d) Supportiveness (see Smith & Smoll, 1978). Phase One also yielded three main factors that influence the athlete's perception of coaching behaviors: (a) Supportive and structuring behaviors (reinforcement, general encouragement, general technical instruction, & keeping control); (b) aversive behaviors (punishment, punitive technical instruction, & non-reinforcement); and (c) coach's tendency to respond to mistakes

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rather than ignoring them (see Smith & Smoll, 1978). In addition, the researchers found that factors influencing athletes' perceptions differ as a function of age level (see Smith & Smoll, 1978). The most important factor that influenced the athletes at the minor level was the punitive categories and non-reinforcement (see Smith & Smoll, 1978). The factors most affecting the athletes at the major level were reinforcement and encouragement, with the senior level athletes most influenced by technical instruction and organization (see Smith & Smoll, 1978). Finally, Phase One also revealed that the relationship between the coaches' and players' ratings of the coaches' behaviors were low and non-significant, indicating that the coach's ability to provide accurate self-ratings may be limited (see Smith & Smoll, 1978).

Phase Two involved modifying coaching behaviors and evaluating the success of the trained intervention program (see Smith & Smoll, 1978). Thirty-one little league baseball coaches were assigned to either a treatment or no-treatment group (see Smith & Smoll, 1978). The coaches assigned to the treatment group attended a pre-season training program that was designed to help them relate more effectively to the children involved in their sport (see Smith & Smoll, 1978). During the training session, behavioral guidelines, both verbal and written were presented to the coaches. The verbal demonstration was supplemented with demonstrations (i.e., modeling) on how to behave in desirable ways (see Smith & Smoll, 1978). The coaches also received behavioral feedback and self-monitoring procedures to help increase their self-awareness and encourage them to follow the coaching guidelines (see Smith & Smoll, 1978). The effects of the training program were measured by repeating Phase One of this study.

The results of Phase Two concluded that the trained coaches differed from the coaches that were placed in the control group in manners consistent with the behavioral guidelines (see Smith & Smoll, 1978). The trained group expressed more reinforcement and encouragement and less punitive behaviors than the coaches in the control group (see Smith & Smoll, 1978). Despite the fact that the win-loss average for both groups was almost identical, the trained coaches were better liked and they were rated as better teachers of baseball skills (see Smith & Smoll, 1978). Of greater significance was the fact that children who exhibited lower self-esteem prior to the study gained more self-esteem when working with the trained coaches (Magill et al., 1982, p. 186). Such children respond favorably to coaches that follow the behavioral guidelines, and they have a greater chance at increasing their feelings of self-worth through a positive sport experience (Smith et al., 1979).

Since the development of the CBAS, other researchers have used this observational assessment to study various other aspects of coaching behaviors, such as gender differences and coaching experience. Studies have shown that male coaches have been found to give more technical instruction and less encouragement than do their female counterparts (Dubois, 1981; Millard, 1990). In addition, high-experienced coaches have been found to give more technical instruction than do low-experienced coaches (Sherman & Hassan, 1986). The degree to which something such as experience or past experience affects coaching behaviors remains unclear.

Millard (1993) used the CBAS to determine the degree to which coaching behavior frequencies can be explained by gender. Using the CBAS, varsity and junior varsity soccer coaches (29 males, 29 females) were observed by twelve trained

observers during a mid-season game (Millard). Two of the CBAS categories, Non-reinforcement and Ignoring Mistakes were not used in the study because they showed low reliability in scoring (Smith et al., 1983). The male coaches, in this study, were older and had more coaching experience than did the female coaches, however the female coaches had more playing experience than did the male coaches (Millard). The results indicated a significant difference between the male and female coaches for the amount of instruction, general encouragement, and control keeping behaviors they exhibited (Millard). Male coaches, as compared to female coaches, engaged more frequently in technical instruction and less frequently in general encouragement. Considering there is some evidence that players like coaches that give more technical instruction (Hastie, 1993), female coaches should be encouraged to provide more instruction in their interactions with their players in the future*.

Chelladurai and Colleagues' Multidimensional Model of Leadership

Following the method by Vroom and Yetton (1973), Chelladurai and Arnott (1985) measured the coaching preferences of 114 basketball players (77 females, and 67 males). Chelladurai and Arnott took the five problem attributes developed by Vroom and Yetton and altered them slightly so they were more athletically oriented. Chelladurai and Arnott's five problem attributes were the following: quality requirement, coach's relative information, problem complexity, group acceptance, and group integration.

A case was written out for each of the 16 problem types, and a chart was provided which showed the presence or absence of the problem attributes (Chelladurai & Arnott, 1985). At the bottom of each case, the 4 decision styles were listed and the participants were asked to indicate the decision style they would prefer their coaches to

use for that situation (Chelladurai & Arnott, 1985). The results indicated that decision style preference was dependent upon the athlete's gender. When it came to the participative style, 46.9% of the females preferred that style, while only 34.1% of the males chose participative styles (Chelladurai & Arnott, 1985). Further, the modal response for females was participative (46.9%), however, the modal response for males was autocratic (38.9%; Chelladurai & Arnott, 1985). When the leader was faced with simple problems, both sexes preferred more participation in decision making when there was a quality requirement, however, when there was quality requirement with complex problems, the did not prefer to participate (Chelladurai & Arnott, 1985). Athletes also preferred less participation when they felt the coach had the necessary information to make his/her decision as opposed to when the coach did not possess such information (Chelladurai & Arnott, 1985).

Chelladurai et al. (1989) continued to examine the differences between decision styles and gender by assessing the decision style preferences of coaches and players of both genders in various situations. Ninety-nine basketball players and twenty-two coaches were presented with thirty-two cases. Following each case was a chart, which outlined the level (high or low) of each of the five attributes as well as the five decision styles. For example, if the case presented the coach with choosing a team captain, the selection of a team captain or leader would be treated low on quality requirement, but high on acceptance requirement. With the extra knowledge of which problems were rated high and low on all five of the attributes, the coaches were asked to indicate the decision style they would use, while the players were asked to indicate the decision style they would prefer their coach to use. The results indicated that males and females

differed from each other only in one case. Female athletes preferred more participation then did male athletes (Chelladurai et al., 1989). The coaches' choices were different than those of the players in seven of the thirty-two cases. More specifically, the coaches chose the autocratic styles more than did both groups of players in two cases (Chelladurai et al., 1989). The results indicated that there were no significant differences between the three groups for choices in twenty-four of the thirty-two cases, indicating considerable congruence between players and coaches (Chelladurai et al., 1989). For instance, when the acceptance requirement was high, all three groups preferred a relatively more participative style than when it was low. Each group also chose the lowest levels of participation when quality requirement was high and team integration was low. The three groups were similar in choosing a more autocratic style when both the quality requirement and problem complexity were high than when either or both were low. In addition, Chelladurai and colleagues found that both male and female players were more inclined toward the autocratic styles than the maximally consultative and participative styles.

Chelladurai and Saleh (1978) developed the Leadership Scale for Sport (LSS) as a tool to investigate sport leadership. In the first stage of the development of the LSS (Chelladurai & Saleh, 1978), 160 students responded to a questionnaire containing 99 items that were chosen and modified from existing leadership scales. Each of the 99 items was preceded with the phrase, "The coach should..." and five response categories were provided (Chelladurai & Saleh, 1978). Based upon the athlete's responses, the researchers chose five factors that they felt were present and meaningful in coaching behaviors: training, democratic behavior, autocratic behavior, social support, and

rewarding behavior (Chelladurai & Saleh, 1978). Although Chelladurai and Saleh found the factors they felt were meaningful to coaching behaviors neither the reliability nor validity of the instrument was examined. In addition, the sample sizes were limited therefore they may not have given an adequate indication of coaching behaviors in different types of sports. Because those factors were not considered, Chelladurai and Saleh (1980) revised the LSS and measured the reliability and validity of the revised scale.

In the second stage of development, seven or more items were added to include the "instructional" behavior of the coach (Chelladurai & Saleh, 1980). The new questionnaire was then administered to a different sample of 102 physical education students, and to a male sample of 223 varsity athletes. In addition, the athletes also responded to a version of the scale where they recorded their perceptions of the actual behavior. For the preference version, the items were preceded by "I prefer my coach to…" and for the perceived version, the items were preceded by "My Coach...".

The factors that were selected as most meaningful were as follows: training and instruction, democratic behavior, autocratic behavior, social support, and positive feedback (Chelladurai & Saleh, 1980). Internal consistency estimates ranged from .45 to .93, and test-retest reliability coefficients ranged from .71 to .82 (Chelladurai & Saleh, 1980). The relative stability across the different samples helped to confirm the validity of the scale. Overall, Chelladurai and Saleh determined that the LSS could be a beneficial tool for the analysis of coaching behaviors.

Chelladurai (1984) continued to assess leadership behaviors of coaches by using both the preferred and perceived versions of the LSS. Chelladurai's study involved 196

varsity athletes and their preferences and perceptions of coaching behaviors. The athletes were measured on their task attributes whereby a value of + 1 or - 1 was assigned to a sport depending upon the presence or absence of a task characteristic. In addition, the athlete's satisfaction with individual performance, team performance, leadership, and overall involvement were each measured on a scale of 1 to 7 (i.e., 1 = very dissatisfied to 7 = very satisfied) via a single question (e.g., "How satisfied are you with your own performance") (Chelladurai, 1984).

The results showed that the athlete's satisfaction with leadership varied depending on the sports that the athletes represented (Chelladurai, 1984). Basketball players indicated that they were more satisfied when their perceptions of coaching behavior were highly related to their preferences to training and instruction, democratic behavior, social support, and positive feedback (Chelladurai, 1984). Conversely, the lower the perceptions of coaching behavior, relative to the athletes preferences in autocratic behavior, the higher the satisfaction with leadership. Furthermore, wrestlers indicated that the higher the perception in relation to the athlete's preferences in training and instruction and social support, the higher the satisfaction with leadership (Chelladurai, 1984). The track and field athletes showed that the greater their perception of coaching behavior for training and instruction, relative to their preferences, the greater their overall satisfaction.

When it came to satisfaction with individual and team performances, the basketball players indicated that the higher the perceptions of coaching behavior relative to the preferences for positive feedback, the higher the satisfaction with team performance (Chelladurai, 1984). Wrestlers showed that the higher the perceptions of

training and instruction, democratic behavior, and social support related to the athlete's preferences the higher the satisfaction with team performance (Chelladurai, 1984). And, according to the Track and Field athletes, training and instruction were curvilinearly related to satisfaction with team performance. The research showed that none of the discrepancies in coaching behavior were related to satisfaction with individual performance (Chelladurai, 1984).

Furthermore, coaching behaviors were unrelated to overall involvement satisfaction for basketball players (Chelladurai, 1984). However, with wrestlers, the higher the perception of coaching behaviors to training and instruction relative to the athletes' preferences, the higher the overall involvement satisfaction. Likewise, track and Field athletes indicated that the higher the perception for social support, relative to their preferences, the higher the overall involvement satisfaction (Chelladurai, 1984). Furthermore, the results showed that as coaches' perceived emphasis on training and instruction increased, the athletes' satisfaction with the coaching leadership increased (Chelladurai, 1984). These findings support those by Gill (1978), who found that athletics is a task-oriented enterprise, and that coaching behavior that emphasizes the task orientation of the sport will be consistent with athlete satisfaction.

Chelladurai and Quek (1995) attempted further examine coaching behaviors by extending the research of Chelladurai et al. (1989) and Chelladurai and Saleh (1978) in three significant ways. The first way was by measuring the decision style choices of high school coaches since previous research had only dealt with college athletics. The second way was by considering coaches' motivational patterns as determinants of decision style choices, and the third way was by measuring the team's win/loss

percentage to determine whether or not decision styles of the coach were related to group performance.

In Chelladurai and Quek's (1995) study, fifty-one male high school basketball coaches were asked to complete Fiedler's Least Preferred Coworker Measure, as well as the set of 32 cases. At the bottom of each case, Vroom and Yetton's (1973) five decision styles were used: (a) Autocratic I (coach makes the decisions using the available information); (b) Autocratic II (coach obtains the information that is necessary from relevant players and then makes the decision); (c) Consultive I (coach consults relevant players individually and then makes the decision alone); (d) Consultive II (coach consults with all players as a group and then makes the decision alone); and (e) Group (coach shares problems with all players and has the players help in the decision making process). The results yielded no significant correlations between the total participation score (TPS) and the Least Preferred Coworker Scale, and between the TPS and the win/loss record. Participants were most autocratic when quality requirement and problem complexity were both high, and they were most participative when one of the attributes (or quality requirements) was high, but the problem was not complex, and vice versa (Chelladurai & Quek, 1995). When both attributes were low, the participants were moderately autocratic. Participants tended to be more autocratic when acceptance requirement was low regardless of whether problem complexity was low or high (Chelladurai & Quek, 1995). When acceptance requirement was high, participants tended to be more participative under high group integration than under low group integration, but when the acceptance requirement was low, they tended to be more autocratic when group integration was high rather than when it was low

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(Chelladurai & Quek, 1995). These findings indicate the importance of situational factors when measuring preferred and perceived coaching behaviors.

Coaching Behavior Questionnaire

The Coaching Behavior Questionnaire (CBQ) was developed by Martin and Barnes (1999). The questionnaire was developed to systematically examine the 12 coaching behaviors as defined by the Coaching Behavior Assessment System (Smith, et al., 1977). The CBQ consists of three distinct versions of the questionnaire: required, actual, and preferred based upon Chelladurai and Saleh's (1980) Leadership Scale for Sport. Each version of the CBQ is comprised of two parts: (a) a 12-item demographics section, and (b) a 48-item coaching behavior section (see Appendix A). The 12-item demographics section contained questions regarding age, gender, ethnicity, education level, sport most played, and preferences of coach age and gender. The 48-item coaching behavior section was used to determine the coaching behavior preferences of NCAA Division I athletes. The three versions of the CBQ include 12 subscales of coaching behaviors. The 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. Each subscale was comprised of four sequentially ordered questions for a total of 48 questions. Athletes were asked to respond with their preferences for coaching behaviors (i.e., "I prefer a coach who…") using a 5-point Likert Scale with anchors of Strongly Disagree (1) to Strongly Agree (5).

The preferred version has been the only version of the CBQ that has been used

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thus far in research (Kravig, et al., 2002). Kravig and colleagues administered the

preferred version of the CBQ to high school and collegiate female athletes. Kravig and

colleagues divided athletes into three separate categories based upon the sport

classification system developed by Cox (1990). The three categories were (a) coactive

(e.g., bowling and golf) in which little interaction among team members is required for

success, (b) interactive (e.g., basketball and soccer) which requires considerable

interaction among team members for success, and (c) mixed (e.g., track and field and

swimming) which requires varying degrees of both coactive and interactive participation

(Cox, 1990; Cratty, 1989).

The results revealed that the preferred version of the CBQ was stable over time

with test-retest reliability of .85 or higher on all 12 scales for 43 college and high school

athletes ranging in age from 14 to 25 years of age (Kravig et al., 2002). Furthermore,

Kravig et al. found significant differences between sport type (coactive, interactive and

mixed) and preferred coaching behaviors. The results showed that Punitive Technical

Instruction and Punishment were preferred by athletes who participated in interactive

sports more than by athletes who participated in coactive sports. However, athletes in

coactive sports preferred spontaneous behaviors more than athletes who participated in

mixed and interactive sports (Kravig et al., 2002).

Summary

Both the Coaching Behavior Assessment System (Smith et al., 1977) and the

Multidimensional Model for Leadership (Chelladurai & Saleh, 1978; 80) can be very

beneficial in determining athletes' preferences and perceptions for coaching behaviors.

Adult leadership can be a very positive feature of organized sport programs. Coaches

who acquire the proper training can help athletes develop physical skills they can continue to master. Complaints about youth sports mainly center on the adults involved in the youth sport programs (Smith, Smoll, & Smith, 1989, p. 5) Critics will say that the coaches show little concern for their athletes because they are wrapped up in achieving their own personal goals. However, supporters of youth sport programs recognize that there are many aspects in sport that contribute to a child's personal development (Smith et al., 1989, p.5). A child's coach can become a significant adult in the life of that child, which is why proper training is necessary to ensure all children have a positive sport experience (Smith et al., 1989, p. 5, 6). Thus, having unified instruments that provide a means of evaluating athletes' perceptions of coaching behaviors and a method to observe coaching behaviors would be beneficial for determining coaching effectiveness and athlete satisfaction. Educational training programs for coaches could include survey responses that come directly from the coaches themselves, athletes and trained observers (such as using the CBAS and the preferred and actual versions of the

CHAPTER III

METHODOLOGY

The purpose of this study was to determine the coaching behaviors most preferred by NCAA Division I collegiate athletes using the Coaching Behavior Questionnaire. This chapter will provide identification of the following: (a) participants, (b) instruments, (c) procedures, and (d) design and analysis.

Participants

The participants included 195 student athletes from NCAA Division I Universities in the contiguous United States. The participants included 94 female and 101 male college athletes whose ages ranged from 17 to 23 years of age ($M = 20$, $SD = 1.7$). The college athletes that were sampled represented coactive (golf), mixed (track and field), and interactive (basketball) sports as defined by Cox (1990). Of the 195 college athletes who participated in the study, 54 were golfers (25 females, 29 males), 67 were track and field athletes (30 females, 37 males), and 74 were basketball players (39 females, 35 males). The majority of the participating athletes were Caucasian ($n = 133$), followed by African-American ($n = 37$), Hispanic ($n = 8$), Asian ($n = 8$), and 9 who responded by indicating "other". The athletes were volunteers who read an informed consent sheet prior to participating in the study. Informed consent was approved by the University of North Texas Human Subjects Institutional Review Board, as well as the Institutional Review Board from the University where the student athletes were recruited. Completion of the questionnaire indicated their consent to participate.

Instruments

The Coaching Behavior Questionnaire (CBQ) used in this study was designed by

Martin and Barnes (1999). During the development of the CBQ, a panel of four sport

psychology consultants and four collegiate coaches read each item to assure the

instrument had high content validity. Test-retest reliability was found to be .85 or higher

on all 12 scales of the CBQ for 43 college and high school athletes ranging in age from

14 to 25 years of age (Kravig et al., 2002), which indicated that the questionnaire was

stable over time. The preferred version of the CBQ is comprised of two parts: (a) a 12-

item demographics section, and (b) a 48-item coaching behavior section (see Appendix

A). The 12-item demographics section contained questions regarding age, gender,

ethnicity, education level, sport most played, and preferences of coach age and gender.

The 48-item coaching behavior section includes 12 subscales of coaching behaviors.

The 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. Each subscale was comprised of four sequentially ordered questions

for a total of 48 questions. Athletes were asked to respond with their preferences for

coaching behaviors (i.e., "I prefer a coach who…") using a 5-point Likert Scale with

anchors of Strongly Disagree (1) to Strongly Agree (5).

<div align="center">Procedures</div>

Approval from the Institutional Review Board (IRB) was obtained prior to any

involvement with the participants of this study. Upon approval from the IRB Committee,

letters were mailed to the athletic directors of NCAA Division I Universities to ask for

permission to contact their coaches (see Appendix B). When approval from the athletic

directors was obtained, a letter was mailed to the coaches (both head coaches and assistant coaches) to ask for their participation (see Appendix C). The letter to the coach requested their assistance in administering the CBQ to their athletes. Once a coach agreed to assist with the data collection, the questionnaires, along with the informed consent (see Appendix D), were then mailed out to the coach with self-addressed stamped envelopes. Prior to the administration of the questionnaire, the athletes were given the informed consent document, which detailed the purpose of the study as well as the confidential nature of their athlete's information. Once the informed consent document was read, the athletes were given the questionnaire to complete. After the participants completed the questionnaire, it was then collected by the coaches and sent back to the primary investigator.

Design and Analysis

The CBQ was analyzed to determine internal consistency (extent to which the four items for each subscale measured the same behavior) and stability (using a test-retest analysis). To measure stability, 27 athletes were administered the CBQ two separate times with no greater than one month between the two administrations.

Descriptive statistics were used to indicate the athletes' demographic information such as age, gender, years of sport experience, and most preferred coaching behaviors. A 2 (Gender) by 3 (Type of Sport) MANOVA was performed using the mean scores of the twelve coaching behavior categories as dependent variables to determine if athletes' preferred coaching behaviors differed as a function of gender and type of sport. Follow-up univariate and discriminant functional analysis were then conducted to

identify the coaching behaviors that maximized the differences between gender and

sport type.

CHAPTER IV

RESULTS

Reliability of the Instrument

The responses from 195 NCAA Division I collegiate athletes were evaluated to determine internal consistency reliability. The results of this investigation yielded coefficient alphas, and internal consistencies ranging from .45 to .67 with a median of .62 (see Table 1). The results for the coefficient alpha were slightly lower than those recommended for research instruments (Nunnally & Berstein, 1994). However, alpha values of the sub-scales reached over the adequate value of .70 when one item of the same average correlation was added to the analysis (see Pedhazur & Smelkin, 1991). When examining reliability, it is often necessary to make concessions when attempting to make the scale more concise.

It is important to consider several reliability estimations to understand the measurement qualities of an instrument (Morrow & Jackson, 1993). Therefore, the CBQ was administered to a subgroup 27 athletes twice within a one month interval to determine the instruments stability. The test-retest reliabilities ranged from .62 to .95 with a median of .81 (see Table 1). These results suggest that the preferred version of the CBQ has adequate long-term stability.

Descriptive Statistics

The athletes' preferred coaching behavior subscale response means and standard deviations are shown in Table 2. The descriptive statistics indicate that Mistake-Contingent Technical Instruction, Reinforcement, Keeping Control, and General Technical Instruction were the most preferred coaching behaviors. Conversely, Non-

Reinforcement, Ignoring Mistakes, Punitive Technical Instruction, and Punishment were the least preferred coaching behaviors.

<div align="center">Gender x Sport MANOVA</div>

A 2 (gender) x 3 (sport) multivariate analysis of variance (MANOVA) was used to examine coaching behavior preference differences among male and female athletes participating in golf, track and field, and basketball. The response mean scores for each coaching behavior category (i.e., subscale) were computed and were then utilized as the dependent variable for the MANOVA.

The results of the MANOVA yielded a significant main effect for gender, Wilks' Lambda = .86, $F(12,178) = 2.51$, $p = .005$, $Eta^2 = .144$. To identify the coaching behaviors that accentuated the gender differences, follow-up discriminant function and univariate analysis were conducted (see Table 3). The results showed a significant difference between male and female athletes for Reinforcement, Non-Reinforcement, Mistake-Contingent Technical Instruction, and Keeping Control. Female athletes preferred Reinforcement, Mistake-Contingent Technical Instruction, and Keeping Control more than the male athletes. Conversely, male athletes preferred Non-Reinforcement and Punitive Technical Instruction more than female athletes.

The MANOVA also revealed significant main effects between coaching preferences and sport most played, Wilks' Lambda = .71, $F(24,356) = 2.74$, $p = .0001$, $Eta^2 = .16$. The results of the follow-up discriminant function and univariate analyses revealed that athletes in coactive sports (golf) preferred Non-Reinforcement and Ignoring Mistakes more then athletes who participate in mixed (track and field) and interactive (basketball) sports (see Table 3). In addition, the results revealed that

interactive (basketball) sport athletes preferred punishment more than athletes in coactive (golf) or mixed (track and field) sports.

The MANOVA results revealed a significant interaction effect between gender and sport type, Wilks' Lambda - .81, $F(24,356) = 1.64$, $p = .03$, $Eta^2 = .10$. The results of the follow-up discriminant function and univariate analyses revealed that female basketball players preferred Punishment significantly more than athletes in all other groups (see Table 3 and Figure 1). The results also showed that female golfers preferred Punitive Technical Instruction less than all other athletes (see Table 3 and Figure 2). In addition, the results indicated that female basketball players and male golfers preferring Organization less than all other athletes (see Table 3 and Figure 3), which is a unique finding specific to this study. Finally, the results revealed that male golfers preferred General Communication less than all other athletes (see Table 3 and Figure 4).

Summary

The results revealed that the preferred version of the CBQ is a moderately reliable and stable instrument over time with the current population. Furthermore, although there were differences for coaching behavior preferences between genders, the differences were not as vast as we had originally anticipated indicating a lessening in the gender gap in sports. The results also revealed statistically significant differences for coaching behavior preferences between sports, and interaction effects between gender and sport most played. These findings indicate broad implications for coaches at the NCAA Division I level which will be discussed further in the following chapter.

CHAPTER V

DISCUSSION

The purpose of this study was to explore the use of the Coaching Behavior Questionnaire (CBQ) with NCAA Division I Athletes who participated in either coactive (golf), mixed (track and field) or interactive (basketball) sports. The CBQ is based on Smith, Smoll, and Hunt's (1977) Coaching Behavior Assessment System and Chelladurai and Saleh's (1978; 1980) Multidimensional Model of Leadership. This study was designed to gain a greater understanding of the coaching behaviors most preferred by NCAA Division I athletes and how those preferences differed as a function of gender and type of sport played.

Reliability of the Coaching Behavior Questionnaire

The CBQ consists of two sections: (a) a 12-item demographic section, and (b) a 48-item coaching behavior section. Although coefficient alphas for internal consistency were lower than those recommended for scales used in research (Nunnally & Berstein, 1994), the addition of one item, in most cases, of the same average correlation yielded alpha values exceeding the often cited value of .70. Furthermore, both the LSS and the revised LSS had low internal consistencies (.49 and .59) for the athlete's preferred autocratic scale.

Stability of the CBQ was determined by conducting a test-retest to calculate the reliability coefficients. The results showed that the CBQ was a stable test over time and was consistent with the reliability coefficients seen with the LSS. Thus, the CBQ can be a useful tool in examining athlete's coaching behavior preferences.

Coaching Preferences of NCAA Division I Athletes

In the present study, the results showed that, overall, the most preferred coaching behaviors of NCAA Division I athletes were Reinforcement, Mistake-Contingent Technical Instruction, Keeping Control, and General Technical Instruction. The least preferred coaching behaviors among the athletes were Non-Reinforcement, Punishment, Punitive Technical Instruction, and Ignoring Mistakes. The preferred coaching behaviors seen in this study, support Smith et al. (1977) findings that athletes respond most favorably to coaches who exhibit instructional or supportive behaviors. Furthermore, the preferred coaching behaviors determined in this study, fall into the general categories of training and instruction, democratic behavior, autocratic behavior, social support, and positive feedback, which were the five coaching styles deemed the most important and meaningful by Chelladurai and Saleh (1978). These results seem to suggest that coaches can enhance their athletes' positive sport experience by using positive reinforcement and technical instruction more than punishment, punitive technical instruction, or ignoring mistakes (Barnett, Smoll, & Smith, 1992). Future studies can be useful in helping coaches understand the dynamics of their behaviors and the affect those behaviors have on their athletes.

Coaching Preferences and Gender

As anticipated, gender differences were seen between male and female athletes for the following coaching behaviors: Reinforcement, Non-Reinforcement, Mistake-Contingent Technical Instruction, and Keeping Control. Female athletes preferred Reinforcement, Keeping Control, and Mistake-Contingent Technical Instruction more than male athletes, whereas the male athletes preferred Punishment more than female

athletes. These findings are consistent with past research (Chelladurai, 1990; Martin, Dale, & Jackson, 2001; Martin, Jackson, Richardson, & Weiller, 1999), which indicated that female athletes prefer democratic and participatory coaching styles more than male athletes. One possible explanation for the discrepancy between male and female athletes for coaching behaviors such as Reinforcement could be based on athletes' past experience with coaches. For example, male athletes have generally had only male coaches, and past research (Lacy & Goldston, 1990) suggests that male coaches show less praise and more scolding than female coaches. Therefore, if female athletes have had only female coaches or both female and male coaches, they may have experienced more praise and encouragement from past coaches than their male counterparts. Male and female athletes may have two different expectations of coaching behavior based upon their past sport experiences. Therefore, coaches may need to be aware that gender differences exist, especially if they are coaching the opposite sex.

Although significant differences were found between male and female athletes in this study (Chelladurai & Arnott, 1985), there were more similarities between male and female NCAA Division I athletes than was originally anticipated. These findings support those of Peng (1998) who found that male and female basketball players were significantly different for situational and democratic behavior, but there were no significant gender differences for training and instruction, autocratic behavior, social support, or positive feedback. This may indicate that there has been a lessening of the gender gap over the past thirty years and that in 2003 male and female athletes may have similar preferences for training and instructional coaching behaviors. In the current study, this could be the result of the skill level of the athletes who participated. Past

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research has shown that while youth athletes prefer more positive and rewarding coaching behaviors (Martin et al., 1999), athletes' preferences for training and instruction increase in conjunction with skill level (see Chelladurai, 1993). Therefore, because the female athletes in this study were competing at the NCAA Division I level, they may prefer more training and instruction than females competing at other levels of competition.

<div align="center">Coaching Preferences and Sport Most Played</div>

The results of this study indicate a significant difference between sport type and preferred coaching behaviors with athletes in interactive sports (i.e., basketball) preferring Punishment more than athletes who participated in coactive and mixed sports (i.e., golf and track and field, respectfully). Furthermore, the athletes in the coactive sport preferred Non-Reinforcement and Ignoring Mistakes more than athletes in interactive and mixed sports. These findings support those reported by Chelladurai and Saleh (1978, 1980), and Kravig et al. (2002). Chelladurai and Saleh showed that team sport athletes preferred training and instruction more than athletes who participate in individual sports. Likewise, Kravig et al., found that interactive sport athletes preferred Punishment more than coactive sport athletes. The discrepancy between interactive and coactive athletes' preferences toward training and instruction could be explained by examining the role that coaches play in designing and executing athletes' goals (Chelladurai, 1984). In coactive sports, athletes develop goals based upon their past performances. Therefore, goal setting is more internal to coactive athletes with coaches being a more peripheral figure (Chelladurai, 1984). However, with team sports, the goals for the team are, typically, set by coaches and athletes, with the influence of the

<div align="center">36</div>

coach being critical in not only setting the goals, but in achieving them as well

(Chelladurai, 1984). This could explain why athletes in interactive sports repeatedly feel

that training and instruction are more important to their success than those athletes in

coactive sports. These results support the notion that situational characteristics are vital

in determining athlete's preferences for coaching behaviors. Further research should be

conducted to determine which specific aspects of training and instruction are preferred

for the interactive sport athletes, and which aspects of training and instruction, if any,

are preferred by the athletes in coactive sports.

Coaching Preferences for Gender and Sport Interaction

The current investigation also found a significant interaction between gender and

type of sport. The results revealed that female golfers preferred Punitive Technical

Instruction less than all other athletes, and male golfers preferred General

Communication less than all other athletes. These findings support past research that

revealed female and coactive athletes prefer negative coaching behaviors and

instruction less than male athletes as well as athletes in either interactive or mixed

sports (Kravig et al., 2002; Martin et al., 2001). The differences found between NCAA

Division I male and female athletes could be explained by the socialization patterns in

males and females in the United States (see Martin et al., 2001). Often, male athletes

are conditioned to view sports as a competition with the emphasis placed on winning

and success, whereas female athletes are encouraged to view sports as a more social

or aesthetic activity (Yambor & Connely, 1991). This suggests that coaches need to

consider motivation factors and athletes' reasons for participating in sport in order to

learn how to communicate more effectively to produce the desired outcome.

The current findings also yielded two unique findings. The first intriguing finding was that female basketball players preferred Punishment more than all other athletes. Although past research has found that athletes who participate in interactive sports prefer autocratic behaviors more than those athletes in coactive sports (Terry & Howe, 1984). The athletes who participated in this study were all competing at the same skill level and for virtually equally successful teams, therefore those aspects should not be contributing to this result. Chelladurai and Arnott (1985) found that coaching preferences were influenced by a combination of several factors: (a) coaches information, (b) interaction of quality requirement and (c) problem complexity. Thus, it may be possible that the differences found in this study may be the result of a combination of unexamined factors as proposed by Chelladurai and Arnott.

The second novel finding was that NCAA Division I female basketball players and male golfers preferred Organization less than all other athletes. These findings may be explained by something other than the individual or gender differences examined in this study. For example, Chelladurai and Arnott (1985) found that the sport situation had three times the influence than individual differences in determining preferred coaching styles. This finding may be a result of the influence of situational factors over individual differences however further research should be done to see if these findings could be reproduced.

Conclusion

The version of the CBQ utilized in this study was developed to help determine athlete's preferred coaching behaviors. Some limitations to this study are that the current investigation only utilized the preference version of the CBQ (i.e., did not include

the actual or required versions) and did not include observations made with the CBAS. Thus, the results of this study are limited and only provide information on preferred coaching behaviors as a function of gender and type of sport played at the NCAA Division I level. Further, only three sports were included, one for each sport type (coactive, mixed and interactive). Therefore, the results may not be indicative of all sports in that particular sport type. Another limitation to this study included that coaches administrated the CBQ to their own team, which could have affected the way athletes' responded to the questionnaire. Likewise, the CBQ was administered during various times of the year and sport season, which may have influenced the results.

The results of this study indicate that there is a difference between male and female athletes and their preferences for coaching behaviors. This study and other studies (Chelladurai & Arnott 1985; Chelladurai et al.,1989) indicate that female athletes prefer more reinforcing and encouraging coaching behaviors, whereas male athletes preferred less reinforcing behaviors. However, the differences between genders were not as great as were originally anticipated. This may suggest that the gender gap in coaching preferences, at least at the NCAA Division I level, is lessening. Future research should examine more closely the coaching behavior preferences of female athletes as compared to male athletes. In addition, female athletes at various skill levels should be examined to determine if the change is due to a fundamental societal difference, or if it is the result of the skill level. Furthermore, researchers should examine the difference between female athletes' coaching preferences that have had only female coaches as compared to female athletes that have had only male coaches. Because male coaches tend to be more authoritative (Millard, 1993) perhaps female

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athletes that have had only male coaches in the past prefer the coaching behaviors generally supported by the male athletes in the same sport.

The results of the current study suggest that athletes in interactive sports prefer more feedback regarding training and instruction than athletes in coactive sports. However, the differences in the athletes' mean responses were only slight which resulted in nominal effect sizes. It is possible that the track athletes that participated in this study were athletes in the more interactive track and field events, thus increasing their chances of agreement with the basketball athletes. Further research is needed in this area to better determine if coaching preferences of athletes in mixed sports differ as a function of the event they participate in or other factors. Also, researchers should examine whether or not there are any situations where athletes in coactive sports prefer training and instruction.

The unique findings reported in the study could be a result of situational factors that were not measured. Future research should be conducted using the actual and preference version of the CBQ and the CBAS to determine coaches' awareness of their own coaching behaviors, as well as to determine athletes' perceptions about their coaches' behavior and how that can be affected by other situational factors. Future research also needs to determine which situational factors play the largest roles in determining athletes' preferences for coaching behaviors. Examining situational factors can help coaches better understand how their behaviors affect the athletes on their teams, and the results can be used to facilitate growth and satisfaction in sport for both the coach and athlete.

APPENDICES

Appendix A Coaching Behavior Questionnaire

Directions

The following is a questionnaire about your **<u>preferred</u>** coaching behaviors. The

Coaching Behavior Questionnaire is not designed to assess your current coach's or

coaches' **<u>actual</u>** behavior, but rather it is designed to test the types of behaviors you

would **<u>prefer</u>** from coaches. Therefore, when you complete the questionnaire, please be

sure to indicate what aspects of coaching behavior you would **<u>most want</u>** to see in a

potential coach. Your completion and honesty are greatly appreciated.

Coaching Behavior Questionnaire

Completion of the questionnaire indicates consent.

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

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

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Part Two: Please provide the appropriate answers on the answer sheet below.
Answer as honestly as possible.
Mark the appropriate box using the following scale.

SD	D	N	A	SA
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

	SD	**D**	**N**	**A**	**SA**	
I prefer a coach who						
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						
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						
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 Athletic Directors

March, 11 2002

To Whom It May Concern:

My name is Kelly Barnes and I am a graduate student at the University of North Texas. I am interested in collecting data on athletes' preferences of coaching behaviors. I am writing to inquire if you would be willing to allow your coaches (basketball, track, and golf) to be contacted by our investigator to see whether they would allow their athletes to complete the Coaching Behavior Questionnaire. This brief questionnaire requests general information about athletes' preferred coaching behaviors, <u>it does not ask about the specific coaching behaviors regarding the coaches at your institution</u>. I realize that your athlete's and coaches are extremely busy, however the questionnaire will only take approximately 15 minutes to complete. If you have any additional questions concerning this study, please contact me at (630) 653-1811. 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 will contact the coaches at your University. Enclosed is a copy of the Coaching Behavior Questionnaire, informed consent sheet for athletes, and the athletic director and coaches' permission forms. I appreciate your time and consideration in this matter.

Sincerely,

Kelly A. Barnes
University of North Texas

Scott Martin, Ph.D.
Assistant Professor

Appendix C Letter to Coaches

April 29, 2002

Dear Coach _____:

My name is Kelly Barnes and I am currently completing my master's thesis from the University of North Texas. I am interested in collecting data on NCAA Division I athletes' preferences of coaching behaviors. My thesis advisor and I created the Coaching Behavior Questionnaire, a general 48-item questionnaire asking about different coaching styles. This brief questionnaire requests general information about athletes' preferred coaching behaviors, it does not ask about your specific coaching behaviors. If you could please assist us by giving the questionnaires to your athletes at a convenient time, it would be greatly appreciated. I understand that you and your athletes are extremely busy, however the questionnaire will only take approximately 15 minutes to complete. If you should agree to help me with the data collection process, I will mail you copies of the Coaching Behavior Questionnaire for you to give to your athletes, and a coaches' permission form to be signed by you granting your permission. Once the data is gathered, you may send it back to me in the enclosed self-addressed stamped envelope. Further, please indicate if you are interested in obtaining the results of your athlete's preferred coaching behavior questionnaires. I would be more than happy to send you the findings once the data has been analyzed. If you have any additional questions concerning this study, please contact me at (630) 653-1811. 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. I appreciate your time and consideration in this matter and I thank you for your help.

Sincerely,

Kelly A. Barnes
University of North Texas

Scott Martin, Ph.D.
Assistant Professor

Appendix D Athlete Informed Consent

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 <u>strictly</u> <u>confidential</u>. 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. I further understand that completion of this questionnaire will be considered as an indication of my willingness to participate.

If I have any questions or concerns related to my participation in this research project, I should contact Kelly Barnes (630) 653-1811 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 Tables

Table 1: Reliability Analysis

Subscale	Internal Consistency	Test-retest Reliability
R	.58	.73
NR	.66	.95
MCE	.64	.81
MCTI	.62	.85
P	.65	.94
PTI	.59	.76
IM	.62	.87
KC	.48	.92
GTI	.67	.78
GE	.45	.62
O	.55	.76
GC	.63	.78

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 College Athletes Participating in Coactive, Mixed, and Interactive Sports

	Type of Sport															
	Coactive (Golf)				Mixed (Track & Field)				Interactive (Basketball)				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	4.2	.43	4.6	.3	4.3	.45	4.4	.54	4.4	.47	4.4	.51	4.3	.46	4.5	.48
NR	2.5	.68	1.9	.60	2.0	.60	1.8	.63	2.1	.68	1.8	.57	2.2	.68	1.8	.59
MCE	3.7	.54	4.0	.58	3.7	.55	3.8	.53	3.9	.76	3.7	.55	3.9	.59	3.9	.65
MCTI	4.1	.45	4.4	.33	4.4	.43	4.4	.54	4.4	.37	4.5	.51	4.3	.43	4.4	.48
P	2.4	.63	2.1	.64	2.4	.79	2.2	.6	2.4	.66	2.7	.76	2.4	.70	2.4	.74
PTI	2.4	.7	1.6	.45	2.2	.71	2.1	.64	2.1	.67	2.2	.71	2.3	.68	2.0	.64
IM	2.5	.65	2.2	.55	2.0	.57	1.9	.72	1.8	.35	1.9	.51	2.1	.59	2.0	.60
KC	4.1	.41	4.3	.50	4.2	.50	4.3	.52	4.3	.42	4.4	.50	4.2	.45	4.3	.50
GTI	3.9	.70	4.2	.45	4.2	.42	4.2	.60	4.3	.45	4.3	.64	4.2	.54	4.2	.58
GE	3.7	.50	3.8	.64	3.9	.52	4.0	.57	4.0	.40	3.9	.60	3.9	.48	3.9	.60
O	3.9	.39	4.2	.43	4.0	.47	4.2	.57	4.2	.41	4.0	.64	4.1	.43	4.1	.57
GC	3.9	.48	4.3	.50	4.1	.53	4.0	.62	4.3	.44	4.1	.61	4.1	.51	4.1	.59

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	.53	8.94**	.05	.03	.73	.01	.41	2.59	.03
NR	.78	19.57*	.09	.36	3.76***	.04	.24	1.49	.02
MCE	.11	.39	.00	.15	2.20	.02	.44	2.57	.03
MCTI	.35	3.80	.02	.30	1.82	.02	.22	1.42	.02
P	.16	.86	.01	.37	4.80**	.05	.52	3.89***	.04
PTI	.47	7.01**	.04	.11	.56	.01	.68	6.79*	.07
IM	.28	2.44	.01	.67	9.60 *	.09	.40	2.22	.02
KC	.46	6.61***	.03	.22	1.25	.01	.15	.48	.01
GTI	.11	.37	.00	.36	2.63	.03	.20	.98	.01
GE	.05	.09	.00	.31	2.47	.03	.22	.81	.01
O	.15	.71	.00	.07	.18	.00	.50	3.56***	.04
GC	.02	.02	.00	.19	1.12	.01	.58	5.38**	.05

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
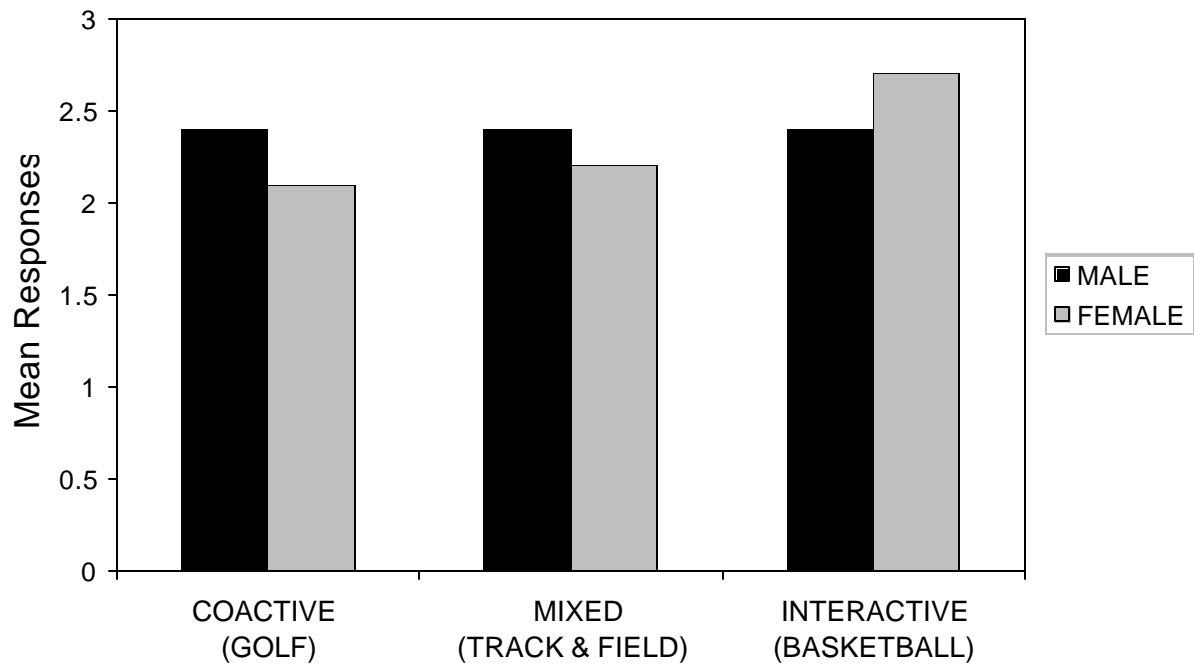
Appendix H Figures

Figure 1. Univariate Interaction Effect Between Gender and Sport Type for Punishment
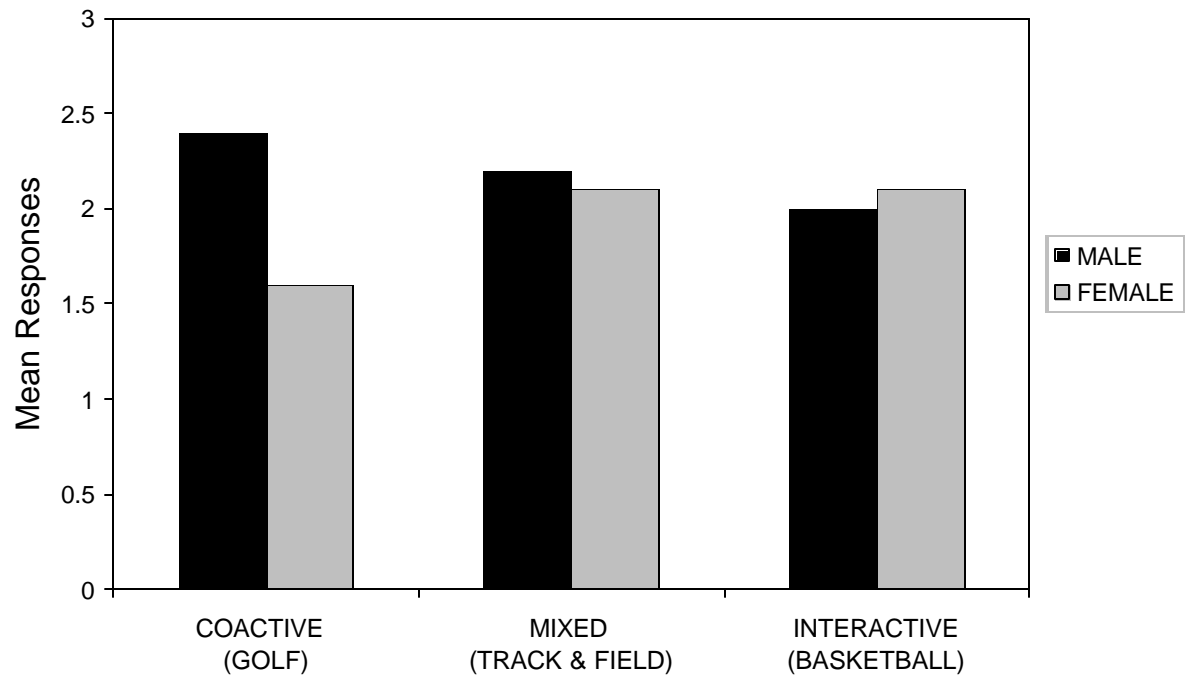
Figure 2. Univariate Interaction Effect Between Gender and Sport Type for Punitive
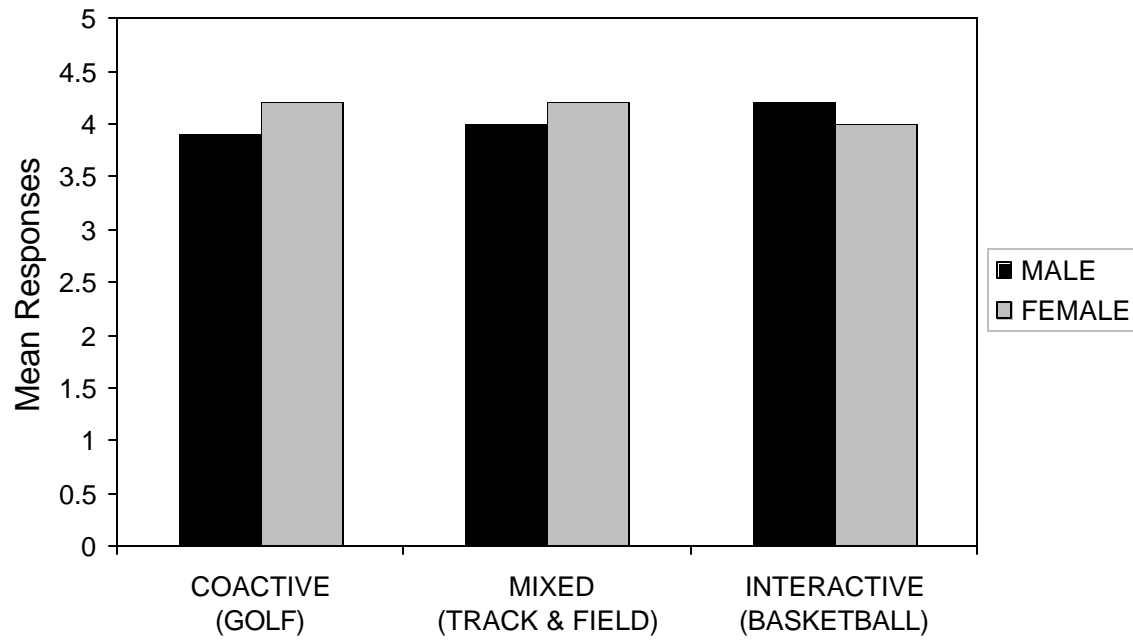
Technical Instruction

Figure 3. Univariate Interaction Effect Between Gender and Sport Type for
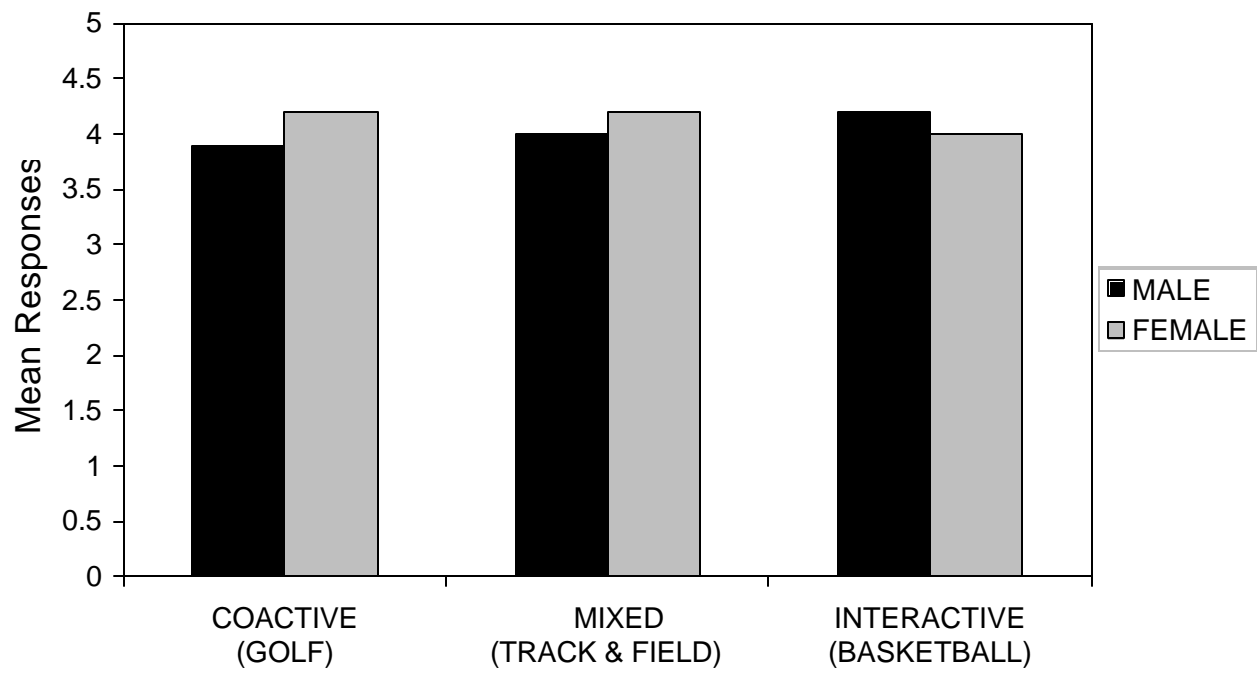
Organization

Figure 4. Univariate Interaction Effect Between Gender and Sport Type for General

Communication

REFERENCES

Barnett, N. P., Smoll, F. L., & Smith, R. E. (1992). Effects of enhancing coach-athlete

relationships on youth sport attrition. *The Sport Psychologist, 6*, 111-127.

Berryman, J. W. (1988). The rise of highly organized sports for preadolescent boys. In

F.L. Smoll, R.A. Magill, & H.J. Ash (Eds.), *Children in sport* (pp. 3-16).

Champaign, IL: Human Kinetics.

Chelladurai, P. (1984). Discrepancy between preferences and perceptions of

leadership behavior and satisfaction of athletes in varying sports. *Journal of*

Sport Psychology, 6, 27-41.

Chelladurai, P. (1990). Leadership in sports: A review. *International Journal of Sport*

Psychology, 21(4), 328-354.

Chelladurai, P. (1993). Leadership. In R.N. Singer, M. Murphy, & L Tennant (Eds.)

Handbook of Research on Sport Psychology. New York : Macmillan.

Chelladurai, P., & Arnott, M. (1985). Decision styles in coaching: Preferences of

basketball players. *Research Quarterly for Exercise and Sport, 56*, 15-24.

Chelladurai, P., & Carron, A.V. (1978). Psychological factors and athletic success: An

analysis of coach-athlete interpersonal behaviour. *Canadian Journal of Applied*

Sport Sciences, 3(1), 43-50.

Chelladurai, P., & Haggerty, T. R. (1978). A normative model of decision styles in

coaching. *Athletic Administrator, 13*(1), 6-9.

Chelladurai, P., Haggerty, T. R., & Baxter, P. R. (1989). Decision style choices of

university basketball coaches and players. *Journal of Sport and Exercise*

Psychology, 11, 201-215.

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Chelladurai, P., & Saleh, S. D. (1978). Preferred leadership in sports. *Canadian Journal of Applied Sport Sciences, 3*(2), 85-92.

Chelladurai, P., & Saleh, S. D. (1980). Dimensions of leader behavior in sports: Development of a leadership scale. *Journal of Sport Psychology, 2*, 34-45.

Chelladurai, P., & Quek, C. B. (1995). Decision style choices of high school basketball coaches: The effects of situational and coach characteristics. *Journal of Sport Behavior, 18*, 91-108.

Cox, R. H. (1990). *Sport psychology: Concepts and applications* (2nd ed.). Dubuque, IA: Wm. C. Brown Publishers.

Cratty, B. J. (1989). *Psychology in contemporary sport.* (3rd Ed.), Englewood Cliffs, NJ: Prentice Hall

Dubois, P. E. (1981). The youth sport coach as an agent of socialization: An exploratory study. *Journal of Sport Behavior, 4,* 95-107.

Gardner, D. E., Shields, D. L., Bredemeier, B.J., & Bostrom, A. (1996). The relationship between perceived coaching behaviors and team cohesion among baseball and softball players. *The Sport Psychologist, 10,* 367-381.

Goldfied, M. R., & Sprafkin, J. N. (1974). *Behavioral personality assessment.* Morristown, NJ: General Learning Press.

Gill, D. L. (1978). Cohesiveness and performance in sport groups. *Exercise and Sport Science Review, 5,* 131-155.

Hastie P. A., (1993). Players' perceptions of accountability factors in secondary school sports settings. *Research Quarterly for Exercise and Sport, 64,* 158-166.

Horn T. S., (1985). Coaches' feedback and changes in children's perceptions of their

      physical competence. *Journal of Educational Psychology, 77(2),* 174-186.

Kravig, S. D., Ludtke, D., & Martin, S. B. (2002). *Preferred coaching behaviors of*

      female athletes participating in different sports. Poster session presented at the

      annual meeting of the Association for the Advancement of Applied Sport

      Psychology, Tucson, AZ.

Lacy, A. C., & Goldston, P. D. (1990). Behavior analysis of male and female coaches in

      high school girls' basketball. *Journal of Sport Behavior, 13,* 29-39.

Magill R. A., Ash, M. J., & Smoll, F. L. (1982). *Children in sport.* Champaign, Il.:

      Human Kinetics Publishers.

Martin, S. B., & Barnes, K. (1999). Coaching behavior questionnaire. *Unpublished*

      manual, University of North Texas, Denton.

Martin, S. B., Dale, G. A., & Jackson, A. W. (2001). Youth coaching preferences of

      adolescent athletes and their parents. *Journal of Sport Behavior, 24,* 197-212.

Martin, S. B., Jackson, A. W., Richardson, P. A., & Weiller, K. H. (1999). Coaching

      preferences of adolescent youths and their parents. *Journal of Applied Sport*

      Psychology, 11, 247-262.

Millard L., (1990). A study of overt coaching behaviors of high school soccer and

      volleyball coaches. *Unpublished manuscript,* Springfield College, Springfield,

      MA.

Millard L., (1993). *Gender differences in overt coaching behaviors of high school soccer*

      coaches. Thesis, Springfield College, University of Oregon publishers.

Mischel, W. (1973). Toward a cognitive social learning reconceptualization of

personality. *Psychological Review, 80,* 252-283.

Morrow, J. R., & Jackson, A. W. (1993). How "significant" is your reliability? *Research*

Quarterly for Exercise and Sport, 64, 352-355.

Nunnally, J. C., & Berstein, I. H. (1994). *Psychometric theory.* (3rd ed.). New York:

McGraw-Hill.

Pedhazur, E. J., & Schmelkin, L. P. (1991). *Measurement, design, and analysis: An*

integrated approach. Hillside, NJ: Lawrence Erlbaum.

Peng, H. (1998). *Comparison of preferred coaching leadership behaviors of basketball*

players at the NCAA Division III level. Thesis, University of Oregon, 1998:

Microform Publications.

Sherman M. A., & Hassan, J. S. (1986). In M. Pieron, & G. Graham (Eds.), *The 1984*

Olympic scientific congress proceedings (Vol 6). Champaign, IL: Human

Kinetics.

Smith R. E., & Smoll, F. L. (1978). Coaching behaviors in little league baseball. In F.L.

Smoll and R.E. Smith (Eds.), *Psychological perspectives in youth sports.*

Washington, DC: Hemisphere Publishing.

Smith, R. E., & Smoll, F. L. (1990). Self-esteem and children's reactions to youth sport

coaching behaviors: A field study of self-enhancement processes.

Developmental Psychology, 26(6), 987-993.

Smith, R. E., Smoll, F. L., & Curtis, B. (1979). Coach effectiveness training: A cognitive-

behavioral approach to enhancing relationship skills in youth sport coaches.

Journal of Sport Psychology, 1, 59-75.

Smith R. E., Smoll, F. L. & Hunt, E. B. (1977). A system for the behavioral assessment

of athletic coaches. *Research Quarterly, 48,* 401-407.

Smith R. E., Smoll, F. L., & Smith, N. J. (1989). *Parents' complete guide to youth sports.*

Costa Mesa, CA.: HDL Publishing.

Smith R. E., Zane, N. S., Smoll, F. L., & Coppell, D. B. (1983). Behavioral assessment

in youth sports: Coaching behaviors and children's attitudes. *Medicine and*

Science in Sport and Exercise, 15, 208-214.

Smoll, F. L., & Smith, R. E. (2001). Conducting sport psychology training programs for

coaches: Cognitive-behavioral principles and techniques. In J. M. Williams (Ed.)

(4th ed.), *Applied Sport Psychology: Personal Growth to Peak Performance* (p.

378-393). Mountain View, CA: Mayfield Publishing Company.

Smoll F. L., Smith R. E., Curtis B., & Hunt E. (1978). Toward a mediational model of

coach-player relationships. *Research Quarterly, 49,* 528-541.

Terry, P., & Howe, B. (1984). Coaching preferences of athletes. *Canadian Journal of*

Applied Sport Sciences, 9, 188-193.

Vroom V. H., & Yetton, R. N. (1973). *Leadership and decision-making.* Pittsburgh:

University of Pittsburgh Press.

Yambor, J., & Connelly, D. (1991). Issues confronting female sport psychology

consultants working with male student-athletes. *The Sport Psychologist, 5,* 304-

312.