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Coach Behaviors and Athlete Satisfaction in Team and Individual Sports

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The coach can have a profound impact on athlete satisfaction, regardless of the level of sport involvement. Previous research has identified differences between coaching behavior preferences in team and individual sport athletes. The present study examined the moderating effect that an athlete's sport type (i.e., individual or team) may have on the relationships among seven coaching behaviors (mental preparation, technical skills, goal setting, physical training, competition strategies, personal rapport, and negative personal rapport) for predicting coaching satisfaction. Moderated multiple regression analyses indicated that each of the seven coaching behaviors were significant main effect predictors of coaching satisfaction. However, sport type (i.e., team or individual sports) was found to moderate six of the seven relationships: mental preparation, technical skills, goal setting, competition strategies, personal rapport, and negative personal rapport in predicting satisfaction with the coach. These findings indicate that high coaching satisfaction for athletes in team sports is influenced to a greater extent by the demonstration of these behaviors than it is for individual sport athletes.

KEY WORDS: Coaching, Satisfaction.

For the vast majority of athletes, coaches are involved in training and conditioning processes. Coaches can have a profound impact on the life of the athlete, regardless of their levels of sport involvement. Previous research has examined the relationships among coaching behaviors and satisfaction in many cohorts including different sport groups such as basketball players (Weiss & Friedrichs, 1986), track and field athletes (Schliesman, 1987), ten-

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nis players (Riemer & Toon, 2001), and field hockey players (Allen & Howe, 1998). Further, different competition levels have also been investigated. For instance, Terry (1984) examined coaching behaviors and athlete satisfaction in elite athletes while Reimer and Toon (2001) researched coaching satisfaction among university level athletes. These studies have effectively indicated that the behaviors demonstrated by the coach are important determinants of athlete satisfaction. Moreover, the limited research available on differences between team and individual sport athletes indicates significant differences in preferred coaching behaviors across different types of sports. For example, team sport athletes have been found to prefer more autocratic coaching styles (Terry, 1984; Terry & Howe, 1984) and greater emphasis on physical training behaviors (Chelladurai & Saleh, 1978; Terry, 1984; Terry & Howe, 1984) than individual sport athletes.

The model typically presented to explain the complex interaction between coach and athlete is the Multidimensional Model of Leadership (Chelladurai, 1990; Chelladurai & Carron, 1981; Chelladurai & Riemer, 1998). This model proposes that athlete outcomes such as satisfaction are determined by the level of congruency among the coach behaviors required by the task, coach behaviors preferred by the athlete, and actual coach behaviors perceived by the athlete. High congruency among these behaviors results in high satisfaction with the coach. Research examining the Multidimensional Model of Leadership has predominantly used the Leadership Scale for Sport (LSS; Chelladurai and Saleh, 1980), a scale that examines five categories of coaching behaviors: training behaviors, democratic behaviors, autocratic behaviors, social support, and rewarding behaviors. A revised version of the LSS was recently developed by Zhang and colleagues (Zhang, Jensen, & Mann, 1997) and has been used to examine differences between male and female coaches at different coaching levels (Jambor & Zhang, 1997).

While considerable attention has been given to the development of the Multidimensional model to explain coach/athlete interaction, a complete profile of this relationship is not available. Terry and Howe (1984) indicated that research in sport leadership has been retarded for two reasons, 1) a lack of sport-specific measurement devices for quantifying leader behavior and 2) the use of leadership strategies derived from other fields of human endeavor (e.g., LSS is based on Path-Goal Theory; House, 1971) to explain coaching behaviors. While these research limitations were identified some time ago, little headway has been made in the development of relevant tools for measuring coaching leadership in sporting contexts.

The Coaching Model (CM)

Chelladurai (1990) suggested "future research could focus on generating items based on the experiences and insights of both coaches and athletes" (p. 340). To this end, Côté and (CM) colleagues proposed the Coaching Model (Côté, 1998; Côté, Salmela, Trudel, Baria, & Russell, 1995) as a more inclusive model to describe coach/athlete relationships, grounded in qualitative research done with expert coaches and athletes (e.g., Côté & Salmela, 1996; Côté, Salmela, & Russell, 1995; Sedgwick, Côté, & Dowd, 1997). The CM stipulates that the coaching process is best understood by examining the interaction of three types of coach behaviors, training, competition, and organizational behaviors. Further, each of these behaviors is affected by the coach's personal characteristics, athlete's personal characteristics, and various contextual factors. Several studies have provided support to the CM as a valuable framework to study coaches' behaviors (d'Arripe-Longueville, Fournier, & Dubois, 1998; Bloom, Durand-Bush, & Salmela, 1997; Gilbert & Trudel, 2000; Salmela, 1996).

A characteristic that distinguishes the CM from the Multidimensional models is that its theoretical framework was developed entirely from research with athletes and coaches. The theoretical underpinnings of the CM were used as the basis for developing the Coaching Behavior Scale for Sport (CBS-S) (Baker, Côté, & Hawes, 2000; Côté, Yardley, Hay, Sedgwick & Baker, 1999). The seven behaviors addressed in the Coaching Behavior Scale for Sport included physical training and planning, goal setting, mental preparation, technical skills, competition strategies, personal rapport, and negative personal rapport. The purpose of this study is to examine the relationships between coach behaviors and athlete satisfaction in team and individual sport athletes using the CBS-S.

While previous research has identified differences between preferred and perceived behaviors, and coaching satisfaction among team and individual sport athletes, the majority of these studies fail to consider the potential moderating influence that sport type has on the predictive relationship of perceived frequencies of these behaviors on coaching satisfaction. Moderating variables are variables that affect the strength and/or direction of the relationships among predictor variables and outcome variables (Barron & Kenny, 1986). Because team and individual sport athletes differ in the behaviors they prefer from their coaches, it is expected that the relationships among perceived behaviors and satisfaction with their coach's leadership would be affected by sport type. For example, if team sport athletes desire greater emphasis on behaviors related to physical training than individual

sport athletes, as indicated by Chelladurai and Saleh (1978), Terry (1984) and Terry and Howe (1984), then one would predict that under conditions of low frequency of physical training behaviors, coaching satisfaction should be more greatly affected for team sport athletes. In comparison, satisfaction with coach for the individual sport athlete should be less affected by frequencies of physical training behaviors because these athletes do not require their coach to emphasize these behaviors to the same extent. These examples demonstrate the theoretical potential of a moderating role for sport type in the coaching behavior-coaching satisfaction relationship.

Methods

Sample

The convenience sample for this study included 198 university and club level athletes from 14 sports. Team sport athletes ($N = 110$) were drawn from basketball, hockey, rugby, soccer, and volleyball while individual sport athletes ($N = 88$) were drawn from swimming, athletics, gymnastics, equestrian, wrestling, golf, triathlon, badminton, and squash. The sample consisted of 49% females and 51% males with a mean age of 17.8 years ($SD = 3.98$). The athletes had spent an average of 10.6 years ($SD = 4.33$) involved in sport and 7.2 years ($SD = 4.27$) in their current primary sport.

Measures

The CBS-S (Côté et al., 1999) is a 44-item scale that examines the frequency of seven coaching behaviors: physical training and planning, technical skills, goal setting, mental preparation, competition strategies, personal rapport, and negative personal rapport. The CBS-S has been used previously (e.g., Baker, Côté, & Hawes, 2000) and has reasonable reliability and validity (Côté et al., 1999). Cronbach alpha-coeffficients for the CBS-S subscales were all above .85 and each subscale had items that loaded clearly on a single factor, had eigenvalues greater than 1.0 and accounted for significant variance beyond that of the other factors. The factor structure of the CBS-S has recently been confirmed using confirmatory factor analyses (Côté, Baker, & Stevens, 2002).

Sport Type

Sport type was determined using the dependency classification system presented by Chelladurai and Saleh (1978). The authors contended that interdependent and independent sports differ in the level of reliance among athletes. Specifically, this refers to the degree to which success is determined by the successful coordination of group members. Athletes in sports that demonstrated a high degree of interdependency were classified as team sport athletes (i.e., basketball, hockey, soccer, and volleyball) while athletes in sports that demonstrated

primarily independence were classified as individual sport athletes (i.e., swimming, athletics, gymnastics, wrestling, golf, triathlon, badminton, and squash).

Coaching Satisfaction

Coaching satisfaction was measured by the Chelladurai, Imamura, Yamaguchi, Oinuma, and Miyauchi (1988) scale. The construct contains 7 single-item questions regarding how satisfied the athlete is with the leadership of his/her coach. The scale requests that respondents rate their level of satisfaction on a scale from 1 (extremely dissatisfied) to 7 (extremely satisfied), for items such as "the leadership provided by my coach(es)" and "my coach(es)'s ability to teach me". Chelladurai et al. (1988) indicated that the scale had good reliability (Cronbach alpha = .95) and validity (items loaded clearly on a single factor, eigenvalues exceeded 1.0, and factor accounted for significant variance).

Analytical Procedures

Prior to the multiple regression procedures used to test the moderating hypothesis, a number of pre-analysis procedures were carried out. Correlation analyses were performed to check the relationships among predictor variables (Table I). As previously reported (Baker et al., 2000), significant correlations existed among the coaching behaviors as a result of the obvious overlap among the measures. Due to the complexity of the specific behaviors required for effective coaching, a certain degree of inter-relation is expected. While several moderate to strong correlations were found among the coaching behaviors, the amount of shared variance for the majority of variables was less than 50%, demonstrating a reasonable degree of discrimination among the predictor variables. However, for three variable pairs (i.e., goal setting-mental preparation, competition strategies- mental preparation, and competition strategies-technical skills) the amount of shared variance was between 55%-58%. When examining these pairs of variables it is clear that there was a significant degree of overlap across the behaviors that may account for the shared variance. However, each of the variables is conceptually different from the other (i.e. , the goal setting and mental preparation sub-scales mea-

Table I
Zero-order Correlations Among Predictor Variables (N=198)

	1	2	3	4	5	6	7
1. Technical Skills							
2. Physical Training	.47**						
3. Goal Setting	.60**	.66**					
4. Mental Preparation	.67**	.59**	.76**				
5. Competition Strategies	.74**	.57**	.69**	.76**			
6. Personal Rapport	.41**	.42**	.50**	.58**	.59**		
7. Negative Personal Rapport	-.16*	-.07	.04	-.07	-.14*	-.12	
8. Sport Type (1 = individual sport, 2 = team sport)	-.12	-.46**	-.32**	-.16*	-.20**	-.18*	-.04

For all coefficients * is sig. at .05 level, ** is sig. at .01 level.

sure different types of behaviors and are both essential elements of an athlete's competition strategies). Furthermore, although this correlation is strong and expected (e.g., mental preparation and goal setting both deal with cognitive behaviors), there is still > 40% unaccounted variance between these variables suggesting an acceptable degree of discrimination between the measures. Therefore, each has been included in this study as independent predictors.

Examination of the residuals for coaching satisfaction indicated that the variable conformed to analytical requirements for normality, linearity, and homoscedasticity and, therefore, did not require transformation. This study used moderated multiple regression analyses (Cohen & Cohen, 1983; Zedeck, 1971) to examine relationships among predictor, moderating, and outcome variables. This procedure consisted of entering the predictors on three steps: Step 1, demographic covariates; Step 2, substantive predictors; and Step 3, interaction terms.

Due to differences presented in the literature for gender and age (Riemer & Chelladurai, 2001; Terry, 1984), these demographic covariates were entered in Step 1 of the regression procedure to statistically remove the variance associated with these variables on the relationships being examined. In Step 2, the substantive predictors were entered (i.e., sport type and each coaching behavior). This step allows for the examination of the unique predictive strength of each of the substantive predictors on the outcome variable (i.e., satisfaction with coach). In Step 3 , the interaction terms (i.e., sport type x each coaching behavior) were entered.

Prior to computing the interaction term, each of the substantive predictor variables underwent a centering transformation to control any possible problems associated with multicollinearity (see Aiken & West, 1991). By entering the interaction term on Step 3, after the covariates and substantive predictors, the unique predictive relationship of each interaction term may be measured. Furthermore, in order to examine the unique predictive ability of the predictor variables and interaction terms, separate regression procedures were carried out for each of the predictive coaching behaviors (i.e., physical training, technical skills, goal setting, mental preparation, personal rapport, and negative personal rapport).

Results

A significant relationship was found between athletes' age and coaching satisfaction indicating that older athletes in the sample reported higher satisfaction with their coach. Further, the gender-coaching satisfaction relationship was statistically significant and indicated males reported greater satisfaction with their coaches than females.

Sport-type was entered on the second step of each analysis and the strength of its relationship to coaching satisfaction varied in each analysis ranging from $\beta = -.04$ to $\beta = -.34$. The significant beta coefficients for sport type show a trend that indicated individual sport athletes reported greater satisfaction with their coaches than team sport athletes.

Further, the regression analyses indicated significant ($p < .001$) main effect relationships for each of the substantive predictors and coaching sati-

sfaction (see Table II); technical skills (β=.64, $p<.001$), goal setting (β=.62, $p=<.001$), mental preparation (β=.60, $p<.001$), physical training (β=.60, $p<.001$), competition strategies (β=.66, $p<.001$), personal rapport (β=.62, $p<.001$), and negative personal rapport (β=-.33, $p<.001$). These results indicated that, with the exception of negative personal rapport, as the frequency of these coaching behaviors increased, coaching satisfaction increased. As the frequency of negative personal rapport behaviors increased satisfaction with coaches decreased.

Among the seven regression analyses testing for interactions among the coaching behaviors and sport type, significant ($p<.05$) variance was accounted for on Step 3 for six of the seven analyses. Significant interactions are presented in Table II and graphically presented in Figures 1 through 6. The most significant interactions were for competition strategies by sport type and negative personal rapport by sport type (β =.20 and -.15, $p<.01$ respectively; Figures 1 and 2). Mental preparation, personal rapport and technical skills also had significant ($p<.01$) interactions with sport type (β =.14 for all three variables; Figures 3 through 5 respectively), while the interaction between goal setting and sport type was the weakest of the significant interactions (β = .12, $p<.05$; Figure 6). There was no significant interaction between physical training by sport type and coaching satisfaction.

In each of the relationships provided in Figures 1 through 6 the slope of the line for team sport athletes is greater than the line for individual sport athletes. This indicates that under conditions of low frequency of mental pre-

TABLE II
Regression Coefficients (β) for Coaching Behavior Variables Predicting Coaching Satisfaction (N = 198)

Regression Equation	Step 1		Step 2		Step 3
	Gender	Age	Sport Type	Coach Behavior	Coach Behavior x Sport Type
Negative Personal Rapport	-.12*	-.22**	-.34***	-.33***	-.15**
Physical Training	-.12*	-.22**	-.04	.60***	.06
Mental Preparation	-.12 *	-.22**	-.22 ** *	.60** *	.14**
Goal Setting	-.12*	-.22**	-.15**	.62***	.12*
Competition Strategies	-.12*	-.22**	-.20**	.66***	.17**
Personal Rapport	-.12*	-.22**	-.15**	.62***	.14**
Technical Skills	-.12*	-.22**	-.27***	.64***	.14**

For all coefficients * is sig. at .05 level, ** is sig. at .01 level, *** is sig. at .001 level.
Note. The above table presents the results for the seven regression analyses (i.e., one for each coaching behavior). Step 1 variables remain consistent across the analyses. For sport type analyses 1 = individual sport athletes, 2 = team sport athletes.

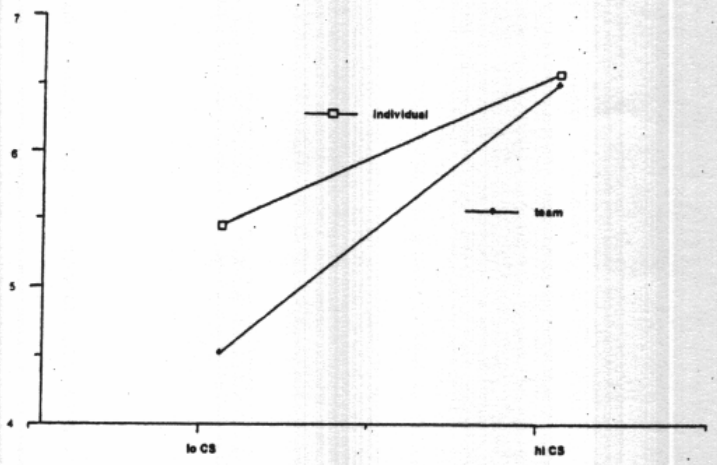

Fig. 1. - Interaction effects for competition strategies by sport type.

paration, personal rapport, technical skills, and goal setting behaviors and high frequency of negative personal rapport behaviors, coaching satisfaction is more affected for athletes in team sports. The lower slope for individual sport athletes indicates coaching satisfaction is less strongly influenced by the frequency of the measured coaching behaviors.

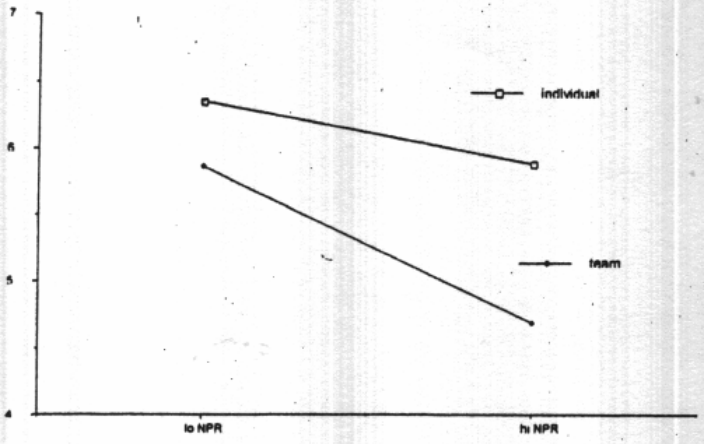

Fig. 2. - Interaction effects for negative personal rapport by sport type.

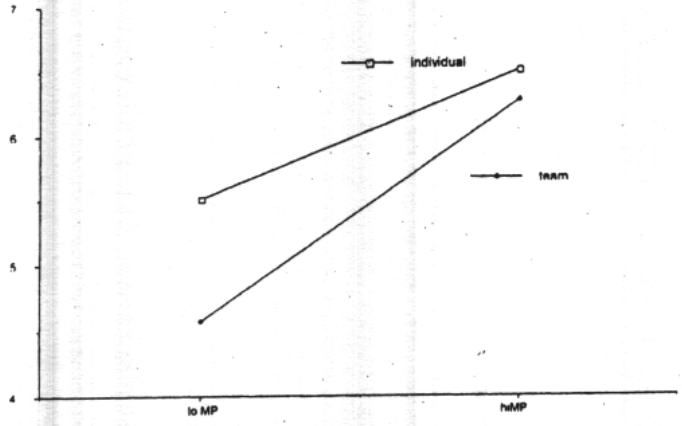

Fig. 3. - Interaction effects for mental preparation by sport type.

Discussion

The results of the current study support previous research identifying significant relationships for the demographic variables of gender and age (Riemer & Chelladurai, 2001; Terry, 1984). Further, significant main effects for each of the substantive predictors reflects the potential importance of

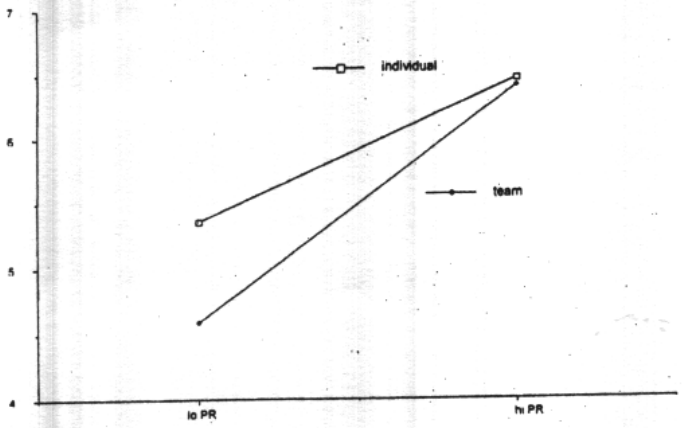

Fig. 4. - Interaction effects for personal rapport by sport type.

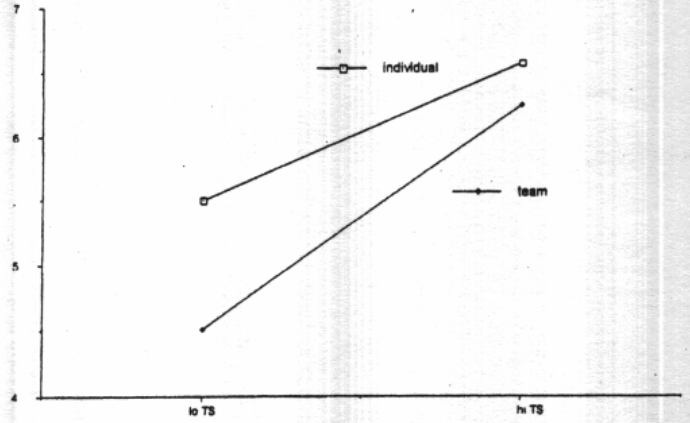

Fig. 5. - Interaction effects for technical skills by sport type.

each of the coaching behaviors in determining an athlete's satisfaction with their coach. The consistent pattem among the positive beta weights for each of the positive coaching behaviors (i.e., physical training, goal setting, mental preparation, competition strategies, personal rapport, and technical skills) indicates that each of the variables has a highly significant, positive relationship to coaching satisfaction. In addition , the consistency in strength across

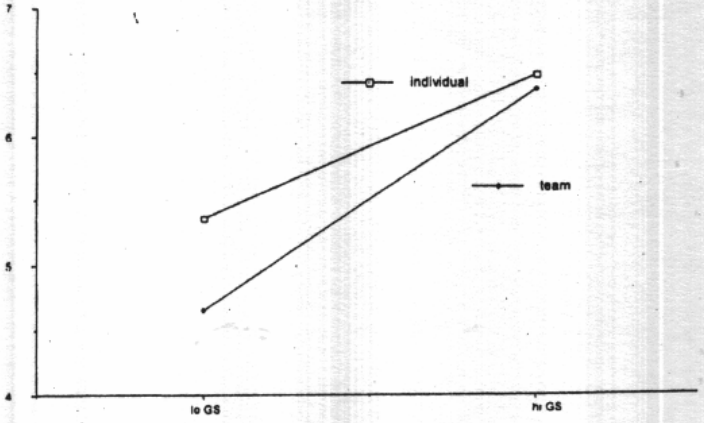

Fig. 6. - Interaction effects for goal setting by sport type.

the beta weights (i.e., all are moderate to strong in strength) indicates that each of these behaviors are, in an individual sense, equal in importance as predictors of athletes' satisfaction with their coaches. The negative beta weight for negative personal rapport also indicates that this behavior is an important predictor of coaching satisfaction. These results support previous research that identified relationships among coaches' behaviors and their athletes' satisfaction (Chelladurai, 1984; Schliesman, 1987). Coaches who are concerned with their athletes feelings of satisfaction would be advised to include high frequencies of these positive behaviors while maintaining low levels of negative personal rapport behaviors.

Most importantly, the findings of this study extend previous research by examining the moderating role of sport type on the coaching behavior-coaching satisfaction relationship . The identification of sport type as a moderator in six of the seven coaching behavior-coaching satisfaction relationships demonstrates the need to take into account sport type when investigating the relations among antecedent coaching behaviors and athletes' perceptions of coaching satisfaction. What makes these results even more significant is that the interactions were still evident after a significant portion of the variance had been accounted for (i.e., in Step 3 of the regression equation).

In each of the interaction relationships the slope of the line for team sport athletes was greater than the slope of the line for individual sport athletes. A possible explanation for this moderating relationship is that team sport athletes prefer a greater emphasis on each of these positive coaching behaviors and a lower emphasis on negative coaching behaviors due to the specific requirements of team sport competition. For instance, team sport athletes may require greater coach control over these aspects of the sport environment. Terry and Howe's (Terry, 1984; Terry & Howe, 1984) finding that team sport athletes prefer greater autocratic behavior and less democratic behavior supports this postulation. When their coaches do not demonstrate these desired behaviors, team sport athletes are less satisfied resulting in low coaching satisfaction. However, for individual sport athletes, high frequency of these behaviors is not required to the same extent, therefore, the lack of these behaviors has less effect on coaching satisfaction.

These results are also consistent with Chelladurai and Riemer's (1998) notion that tasks that are variable and interdependent (i.e., team sports) will require greater control over structure and logistics by their leader (i.e., coach). Because of the unique requirements of team sports, athletes prefer a greater emphasis on coach control and tasks require greater coach control than in individual sports. When these preferences are not met, coaching satisfaction is decreased.

The lack of moderation for the physical training-coaching satisfaction relationship, at first glance is not consistent with previous studies. Chelladurai and Saleh (1978), Terry (1984), and Terry and Howe (1984) have previously indicated that team sport athletes prefer a greater emphasis on physical training than individual sport athletes and, therefore, one would have expected that low frequencies of this behavior would have a differential effect on coaching satisfaction in team sport athletes. Therefore, since physical training behaviors are more desired by team sport athletes than by individual sport athletes, a low frequency of these behaviors would be expected to lower team sport athletes' satisfaction with their coaches. However, on a closer inspection, the research on which this postulation is based used the Leadership Scale for Sport (LSS; Chelladurai & Saleh, 1980) to examine coaching behaviors. The LSS differs significantly from the CBS-S in their respective physical training constructs. The LSS physical training construct contains items related to skill development while the CBS-S provides separate scales for technical skill behaviors and physical training behaviors. The differences between the preferences of team and individual sport athletes reported previously may reflect a difference in the preference for behaviors that emphasize technical skill development rather than actual physical training behaviors.

This study has identified the importance of sport type as a moderator in coaching behavior analyses. Previous research findings are limited in that they did not consider this relationship. While identifying differences between preferred and perceived coaching behaviors for team and individual sport athletes is useful, the role of sport type is important in more specifically illuminating the relationships among coaching behaviors and coaching satisfaction. The findings also highlight that although positive and negative behaviors are important factors in all sports coaching, they are more important in team sports. Therefore, team sports coaches, in particular, should be mindful of the need to provide appropriate behaviors.

Future studies should determine if the moderating effect of sport type is consistent for other sport outcomes (e.g., anxiety, enjoyment, performance). Further, researchers should also examine the possible moderating roles of other variables, especially gender (both athlete and coach). The relationship between negative coaching behaviors and coaching satisfaction also requires further investigation. In the present study, the negative personal rapport subscale was a strong predictor of coaching satisfaction yet represents only a small portion of the coach behaviors that might be categorized as "negative". Continued examination of these areas will further our understanding of the complex relationship between coach behaviors and athlete satisfaction.

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