

THE RELATIONSHIP BETWEEN PERCEIVED COACH LEADERSHIP BEHAVIOURS AND TEAM COHESION AMONG ROMANIAN ATHLETES

Marius Crăciun y Claudia-Lenuța Rus

Babes-Bolyai University, Department of Psychology, Cluj-Napoca,
Romania

ABSTRACT: Cohesion is an important aspect of performance groups. Therefore it is important to investigate the antecedents of team cohesion, such as leadership. Although the relationship between coach leadership behaviors and team cohesion has been extensively studied, it is not so clear. In the present study, we examined the relationship between the perceived coach leadership behaviors and group cohesion. The 81 participants have completed the Leadership Scale for Sport (LSS; athlete perceptions version) and Group Environment Questionnaire (GEQ). The results show that perceived cohesion of the basket team members is significantly lower than the perceived cohesion of the volleyball, rugby and handball team members. Most of the coach leadership behaviors were negatively associated with the overall team cohesion and its dimensions. It was found that the coach leadership behaviors did not predict the overall team cohesion, when controlling the effects of gender and the type of sport. Theoretical and practical implications are discussed.

KEYWORDS: Leadership, team cohesion, basket, coach

RESUMEN: La cohesión es un aspecto importante en el rendimiento de los grupos. Por consiguiente, es importante investigar los antecedentes de la cohesión del equipo, tales como el liderazgo. A pesar de que la relación entre las conductas de liderazgo percibidas del entrenador y la cohesión del equipo se ha estudiado bastante, no está suficientemente clara. En el presente trabajo, estudiamos la relación entre las conductas de liderazgo percibidas en el entrenador y la

cohesión de equipo. 81 participantes han completado el Cuestionario de Liderazgo Deportivo (LSS, del inglés Leadership Scale for Sports) -la versión de la percepción del atleta- y el Cuestionario del Ambiente Grupal (GEQ, del inglés Group Environment Questionnaire). Los resultados muestran que la cohesión percibida por los jugadores de baloncesto es significativamente más baja que la percibida por los de voleibol, rugby y balonmano. La mayoría de las conductas mostraban una asociación negativa con la cohesión total del equipo y sus dimensiones. Se detectó que las conductas de liderazgo del entrenador no predecían la cohesión total del equipo, al controlar los efectos del género y el tipo de deporte. Se analizan las implicaciones teóricas y prácticas.

PALABRAS-CLAVE: Liderazgo, cohesión de equipo, baloncesto, entrenador

RESUMO: A coesão é um aspecto importante no rendimento dos grupos. Nesse sentido, é importante investigar os antecedentes da coesão das equipas, tais como a liderança. Apesar de a relação entre os comportamentos de liderança percebidos do treinador e a coesão da equipa ter sido já bastante estudada, não é suficientemente clara. Neste trabalho, estudamos a relação entre os comportamentos de liderança percebidos do treinador e a coesão da equipa. Os 81 participantes preencheram a Escala de Liderança para o Desporto (LSS, do inglês Leadership Scale for Sports), na versão correspondente à percepção dos atletas, e o Questionário do Ambiente de Grupo (GEQ, do inglês Group Environment Questionnaire). Os resultados revelaram que a coesão percebida pelos jogadores de basquetebol é significativamente mais baixa do que a percebida pelos jogadores de voleibol, rugby e handebol. A maioria dos comportamentos de liderança do treinador associou-se negativamente à coesão global da equipa e às suas dimensões. Verificou-se que os comportamentos de liderança do treinador não prediziam a coesão global da equipa, quando controlados os efeitos do género e do tipo de desporto. As implicações teóricas e práticas são discutidas.

PALAVRAS-CHAVE: Liderança, coesão de equipa, basquetebol, treinador.

INTRODUCTION

The relationship between leader behaviors and cohesion in natural groups has received empirical attention. In a military context, the cohesiveness of combat groups has been investigated in relationship to the behavior of unit leaders (Bartone & Kirkland, 1991). In the therapeutic context, data suggest that leaders who are less directive and exhibit more personal warmth have groups

with higher cohesiveness (Antonuccio, Davis, Lewinsohn, & Breckenridge, 1987). In an organizational context, group cohesiveness has been shown to increase when leaders reward productivity (Podsakoff & Todor, 1985).

The leadership perspective emphasizes coaches' interpersonal behavior, more specifically, the impact of coaches' behaviors and actions on athletes' physical and psychosocial aspects such as per-

formance, satisfaction and self-esteem. This perspective has largely defined coaches' behaviors or coach leadership as "the behavioral process of influencing individuals and group toward set goal" (Barrow, 1977). In essence, leadership is a characteristic of the coach and leading is what the coach does to the athlete and originates with the coach.

One of the major approaches to the study of coach leadership behavior in sport teams has been most frequently studied in light of Chelladurai and Carron's (1978) Multidimensional Model of Leadership. This model focuses on three aspects of coaching behavior: actual leader behavior (i.e. behavior that originates from a leader's personality, ability, and experience), preferred leader behavior (i.e., behavior that reflects characteristics of the members), and required leader behavior (i.e., behavior that is dictated by the demands and constraints of the situation) (Beauchamp, Bray, Eys, & Carron, 2005). The model suggests that athletes' performance and satisfaction are attributable to the degree of congruence among the three aspects of leader behavior.

Leadership Scale for Sports (LSS; Chelladurai & Saleh, 1980) was developed to measure five coaching behaviors from both the coach's (perceived) and the athlete's (perceived and preferred) perspectives. According to Chelladurai (1993), the autocratic and democratic behaviors represent the decision style coach commonly used. The training and instruction behaviors correspond to the task-oriented coach behavior, which

aims at improving athletes' performance. The social supportive behaviors correspond to the relationship-oriented behavior, where the coach emphasizes personal concern for individual athletes. Finally, coaches' positive feedback is focused on providing credit, appreciation, and reward for athletes' good performance, which serve as a motivator.

The issue of group cohesion in the context of team sports has received considerable attention (Widmeyer, Carron, & Brawley, 1993), specially in the sport psychology domain (Ntoumanis & Aggelonidis, 2004). Group cohesion is considered an important variable in the models of effectiveness and performance (Høigaard, Säfvenbom, & Tønnesses, 2006). The high interest in the concept of cohesion stems, in part, from the belief that team cohesiveness plays an important role in team performance, a belief that has been largely supported (Widmeyer et al., 1993). Over the years, group cohesion has been operationalised in different ways (Chand & Bordia, 2001). Initially, it was defined as the degree of group cooperation toward a goal (Weinberg, 1979), then as a trait variable (Bormann, 1990) or group attraction (Cragan & Wright, 1995; Rozell & Gundersten, 2003).

Defining the group cohesion as a dynamic process which is reflected in the tendency for a group to stick together and remain united in the pursuit of its instrumental objectives and/or for the satisfaction of member affective needs, Carron (1982) proposed a Multidimensional Model of Group

Cohesion, in which leadership is identified as an important antecedent. It was developed specifically for sport teams and recent studies have highlighted the challenges of adapting the GEQ for measuring cohesion in work teams (Carron & Brawley, 2000). According to this author, the concept of cohesion is best conceptualized as involving both task and social dimensions, encompassing both individual and group aspects (Carron & Brawley, 2000; Hardy, Eis, & Carron, 2005). Carron's theoretical model of group cohesion stimulated the development of the Group Environment Questionnaire (GEQ; Carron, Widmeyer, & Brawley, 1985). This questionnaire is currently the instrument most widely used to assess cohesion among sport teams due to the empirical support received in the past 20 years by Multidimensional Model of Group Cohesion (Hardy, Eis, & Carron, 2005; Rovio, Eskola, Kozub, Duda, & Lintunen, 2009). GEQ has proven to be a valid instrument that has value in the laboratory and in the field (Carron et al., 1985) and has been adapted for different cultural settings and different languages. The GEQ is a useful tool at several levels when groups of athletes are brought together to form a team.

The complex interaction between coach and players appears to influence the development of cohesion. A considerable body of research has examined the association between leader decision style and cohesion (Carron & Chelladurai, 1981; Westre & Weiss, 1991). Results from these studies: a par-

ticipative style of decision-making is related to greater perceptions of cohesiveness. The type of leadership behavior exhibited by the coach also has been found to be associated with the development of cohesion. However the optimal type of leader behavior is not clear. For example, Westre and Weiss (1991) found that high level of training and instruction behavior, social support behavior and positive feedback with high school football players were associated with higher levels of task cohesion. In a study conducted with high school basketball teams, however, Kozub et al. (1993) found that only higher level of training and instruction behavior and social support behavior were related to greater task cohesion. These authors found a positive relationship between every LSS scale except autocratic behavior (which could not be assessed because of poor internal consistency) and task cohesion. In both studies, the social cohesion scales of the GEQ had to be discarded because of poor internal reliability. Gardner et al. (1996) found all five coaching behaviors to be related to both the task and social dimensions of team cohesion, and the relationships were especially strong when team-level analyses were conducted.

In the present study, we investigated the relationship between leadership behavior and group cohesion within the context of Romanian team sport. According to our knowledge, there are no Romanian studies which have studied this relationship using the model of coach leadership behavior proposed by

Chelladurai (1980) and the group cohesion model developed by Carron et al. (1998).

METHOD

Participants

In the present study were included 81 participants from 6 sport teams. The mean age of the participants is 23.1, (SD= 1.85). 16 athletes (19.8%) derived from two basketball teams (9 male, 7 female), 10 female athletes (12.3%) from one volleyball team, 30 athletes (37%) from two handball teams (14 male, 16 female) and 25 male athletes from one rugby team. All the athletes participated voluntarily in the study.

Instruments

In order to evaluate the dimensions of leader behavior, the perception version of the Leadership Sport Scale (LSS; Chelladurai & Saleh, 1978, 1980) was used. The 40 items of this scale were grouped in 5 scales measuring five different coaching behaviors. The first scale, Training and Instruction, evaluated through 13 items ($\alpha = .90$) the coaching behavior aimed at improving the athletes' performance by emphasizing and facilitating hard and strenuous training; instructing them in the skills, techniques and tactics of the sport; clarifying the relationship among the members and by structuring and coordinating the members activities. The Democratic Behavior Scale (9 items, $\alpha = .69$), measured the coaching behavior which allows greater participation by the athletes in

decisions, pertaining to group goals, practice methods, and game tactics and strategies. The Autocratic Behavior was evaluated through 5 items ($\alpha = .53$). It was conceptualized as the coaching behavior which involves independent decision making and stresses personal behavior authority. The Social Support Scale evaluated the coaching behavior characterized by a concern for the welfare of individual athletes, behavior positive group atmosphere and warm interpersonal relations with members (8 items, $\alpha = .61$). The Positive Feedback Scale evaluated the coaching behavior which reinforces an athlete by recognizing and rewarding good performance feedback (5 items, $\alpha = .81$). The participants rated the frequency of their actual coach's behavior using a 5-point Likert-scale ranging from always (1) to never (5). The scores for each scale were computed by summing the items responses and by dividing this sum by the number of items. High scores reveal a high perceived frequency of the two decision making styles (democratic and autocratic behavior), motivational tendencies (social support and positive feedback) and of the instructional behavior of the coach.

The team cohesion was evaluated using The Group Environment Questionnaire (Carron, Brawley & Widmeyer, 2002). This instrument consists of 18 items grouped in 4 scales which measure four different aspects of team cohesiveness. The Group Integration Task Scale (GI-T) evaluated the participants' feelings about the simi-

larity, closeness and bonding within the team as a whole around the group task (5 items, $\alpha = .58$). The Group Integration Social Scale (GI-S) was used to measure the individual team members' feelings about the similarity, closeness, and bonding within the team as a whole around the group as a social unit (4 items, $\alpha = .56$). The Individual Attractions to the Group Task Scale (ATG-T) measured the individual team members' feelings about his/ her personal involvement with the group task, productivity, goals and objectives (4 items, $\alpha = .57$). The Individual Attraction to the Group Social Scale (ATG-S) evaluated the individual team members' feelings about his/ her personal acceptance and social interactions with (5 items, $\alpha = .50$). The participants had to check a numerical response for each question about their team sport experience, using a Likert-type scale with 9 points ranging from strongly disagree (1) to strongly agree (9). In order to compute the scores for each scale, all the individual item responses were summed and then divided by the number of items (in order to compare the four aspects of cohesiveness between them). Higher scores represent a stronger perception of cohesiveness.

Procedure

The 2 questionnaires were administered at one meeting at the end of a training session. The participants filled in the perceived version of the LSS and then the GEQ. Every participant completed the questionnaires individually,

being assured in what concerned the anonymity and the confidentiality of their ratings. In order to compute the results we used SPSS 15.

RESULTS

The results of the univariate analysis for each scale used are presented in Table 1. It was computed the means, standard deviations and the skewness indicators because all the variables were evaluated on numerical scales.

The participants consider that their coaches express lower behaviors such as improving the athletes' performance by emphasizing and facilitating hard and strenuous training, instructing them in the skills, techniques and tactics of the sport, clarifying the relationship among the group members, structuring and coordinating the team members' activities ($M = 2.05$, $SD = .70$). The evaluated coaches are perceived by the participants in the terms of giving a low social support ($M = 2.68$, $SD = .62$) and positive feedback ($M = 2.15$, $SD = .80$).

Further, the value of skewness indicators for the training and instruction, autocratic behavior and positive feedback variable reveals that most of the participants have given low scores regarding these three dimensions of coach behavior. In order to establish the symmetry of the scores distributions for a variable, it was used the z threshold value (1.96) proposed by Field (2000).

Table 1. The summary results of the univariate analysis for each scale used in this study (N= 81)

| Variable | M | SD | Skewness ¹ |
|--|------|------|-----------------------|
| 1. Training and instruction | 2.05 | .70 | 1.07 |
| 2. Democratic behavior | 3.06 | .75 | .12 |
| 3. Autocratic behavior | 3.07 | 1.22 | 7.08 |
| 4. Social support | 2.68 | .62 | .10 |
| 5. Positive feedback | 2.15 | .80 | 1.03 |
| 6. Individual attractions to the group- social | 7.12 | 1.33 | -.37 |
| 7. Individual attractions to the group-task | 6.78 | 1.45 | -.15 |
| 8. Group integration-social | 5.56 | 1.56 | -.22 |
| 9. Group integration-task | 6.41 | 1.44 | .28 |

¹Standard error of skewness= .26

The analysis of the means of GEQ scales shows that the sample included in this study is more cohesive regarding the social and task individual attractions to the group (M = 7.12, SD = 1.33; M = 6.78, SD = 1.45) and less cohesive regarding social and task group interaction (M = 5.56, SD = 1.56). It seems that participants have stronger perception about the personal motivations acting to attract and to retain the individual in the group and stronger feelings about the group compared to their perception about the closeness, similarity and bonding within the group as a whole, as well as the degree of unification of the

group field.

In order to set if these aspects of group cohesion can be included in the regression analysis, the score distribution and the reliability of each scale were examined. It was found that all four scales had a poorer reliability, lower than .70. This means that these scales can not be used in regression analysis as a criterion variable. So, we computed the reliability for the 2 components of team cohesion specified in the conceptual model used in this study: individual attraction to the group and group integration. A total score for the group cohesion was also computed (see Table

Table 2. The summary results of univariate analysis and the Alpha Cronbach coefficients for the group cohesion and its components (N= 81)

| Variable | M | SD | Skewness ¹ | Alpha Cronbach |
|---------------------------------------|------|------|-----------------------|----------------|
| 1. Individual attraction to the group | 5.42 | .86 | -.37 | .61 |
| 2. Group integration | 4.69 | 1.00 | .04 | .73 |
| 3. Group cohesion | 5.06 | .81 | .10 | .78 |

¹Standard error of skewness= .26

2). The results show that the reliability of individual attraction to the group scale was lower than .70. Even if the reliability of the group integration scale was acceptable (.71), it was preferred to include in the regression analysis as a criterion variable only the overall scale of team cohesion.

The results of bivariate analysis of all variables measured are presented in Table 3. The results show that all dimensions of coaching behavior are positively interrelated, excepting the association of autocratic behavior with training and instruction ($r = .12, p > .05$), respectively with democratic behavior ($r = .03, p > .05$). The autocratic behavior is independent from these two types of coaching behavior.

The training and instruction behavior is associated negatively with the most of the cohesion dimensions, except the social individual attraction to group ($r = -.04, p > .05$). This means that a high coach's focus on improving the athletes' performance is associated with low feelings of athletes about their personal involvement with the group task, productivity, goals and objectives ($r = -.49, p < .01$), about the similarity, closeness and bonding within the team as a whole around the task of the group ($r = -.36, p < .01$) and around the group as a social unit ($r = -.22, p < .05$). Similar, a high coach's focus on training and instruction of the athletes is negatively associated with the individual attractions to the group ($r = -.31, p < .01$), group integration ($r = -.34, p < .01$) and overall cohesion ($r = -.38, p < .01$).

The coach's democratic behavior seems to be independent from all the whole? group cohesion variables. The autocratic behavior is associated only with the social group integration ($r = -.22, p < .05$) and the composite group integration ($r = -.23, p < .05$). The participants that perceive a high level of coach's autocratic behavior will tend to express low feelings about the closeness, similarity and bonding within the group as a whole, specially around the group as a social unit.

The social support offered by the coach of the team is negatively associated with the individual attractions to the group ($r = -.22, p < .05$), the attraction of the group to individual task ($r = -.22, p < .05$) and the group integration ($r = -.28, p < .01$), particularly the task aspect ($r = -.30, p < .01$). Similarly, the social support correlates negatively with the overall group cohesion ($r = -.29, p < .01$). The direction of these associations reflects that participants who rated their coach as giving a high social support to the team members have expressed lower levels of feelings about their personal involvement with the group task, productivity, goals and objectives, feelings about the similarity, closeness and bonding within the team as a whole around the group task and about the team as a unit.

As it happens with the training and instruction behavior, the positive feedback is associated negatively with the most of the cohesion dimensions, composite cohesion dimensions and overall cohesion, except the social individual

Table 3. Matrix of intercorrelation *r* Bravais-Pearson of the variables measured in this study (N= 81)

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|--|--------|-------|-------|--------|--------|-------|-------|-------|-------|-------|-------|----|
| 1. Training and instruction | 1 | | | | | | | | | | | |
| 2. Democratic behavior | .22* | 1 | | | | | | | | | | |
| 3. Autocratic behavior | .12 | .03 | 1 | | | | | | | | | |
| 4. Social support | .61** | .44** | .22* | 1 | | | | | | | | |
| 5. Positive feedback | .79** | .25* | .36** | .60** | 1 | | | | | | | |
| 6. Individual attractions to the group- social | -.04 | -.09 | -.04 | -.14 | .00 | 1 | | | | | | |
| 7. Individual attractions to the group-task | -.49** | .09 | -.10 | -.22* | -.39** | .28** | 1 | | | | | |
| 8. Group integration-social | -.22* | .14 | -.22* | -.18 | -.27* | .33** | .33** | 1 | | | | |
| 9. Group integration-task | -.36** | -.02 | -.17 | -.30** | -.34** | .34** | .38** | .47** | 1 | | | |
| 10. Individual attractions to the group | -.31** | .00 | -.09 | -.22* | -.22* | .83** | .77** | .41** | .45** | 1 | | |
| 11. Group integration | -.34** | .05 | -.23* | -.28** | -.36** | .39** | .42** | .83** | .88** | .50** | 1 | |
| 12. Group cohesion | -.38** | .03 | -.19 | -.29** | -.34** | .68** | .67** | .73** | .78** | .84** | .88** | 1 |

* *r* Bravais-Pearson is significant at $p < .05$; ** *r* Bravais-Pearson is significant at $p < .01$

attraction to group ($r = .00$, $p > .05$). The participants who perceive that their coach gives them a positive feedback regarding their performance express lower levels of feelings about their personal involvement with the group task, productivity, goals and objectives ($r = -.39$, $p < .01$), about the similarity, closeness and bonding within the team as a whole around the task of the group ($r = -.34$, $p < .01$) and around the group as a social unit ($r = -.27$, $p < .05$). A high coaching behavior which reinforces the participants by recognizing and rewarding a good performance is negatively associated with the individual attractions to the group ($r = -.22$, $p < .05$), group integration ($r = -.36$, $p < .01$) and overall team cohesion ($r = -.34$, $p < .01$). The associations between the four aspects of team cohesion (social and task individual attractions to the group, social and task group integration), the two major subfactors of team cohesion (individual attractions to the group and group integration) and the overall team cohesion are all positive.

In order to examine the power of the coaching behaviors in predicting the team cohesion when controlling the effects of gender and the type of sport, we conducted a multilinear regression analysis with 2 steps:

Step 1: includes gender (male, female) and sport type (basket, volleyball, handball and rugby).

Step 2: includes gender (male, female), sport type (basket, volleyball, handball and rugby) and the five dimensions of leader behavior in sport (training and

instruction, democratic behavior, autocratic behavior, social support, positive feedback).

In the first step, the gender and the sport type significantly estimate the overall team cohesion, $F(4, 76) = 5.70$, $p < .01$ and explain 23% of its variance. Instead of this, at an individual level of predictors, only dummy volleyball variable is a significant predictor of overall team cohesion ($\beta = .61$, $t = 4.71$, $p < .01$). This means that the team volleyball members are more cohesive than the basket team members.

In the second step, the demographic variables and the dimensions of leader behavior in sport estimated significantly the team cohesion, $F(9,71) = 4.44$, $p < .01$. This model is significantly better than the model based only on the demographic variables, $F(5,71) = 2.86$, $p < .01$ and additionally explains 12% of the team cohesion. The variables regarding the sport type were the only predictors of the criterion variable. The perceived cohesion of the basket team members is significantly lower than the perceived cohesion of the volleyball team members ($\beta = .50$, $t = 3.80$, $p < .01$), rugby team members ($\beta = .41$, $t = 2.36$, $p < .05$) and the cohesion of the handball team members ($\beta = .29$, $t = 2.14$, $p < .05$). None of the coaching behaviors significantly predicts the team cohesion.

Table 4. The results of regression analysis conducted in order to estimate the team cohesion based on dimensions of leader behavior in sport (N= 81)

| Model | F | R ² | ΔR ² | F sch | β | t |
|---|----------|----------------|-----------------|----------|-------|--------|
| Model 1 | F(4,76)= | .23 | .23 | F(4,76)= | | |
| Demographic variables | 5.70** | | | 5.70** | | |
| 1. Gender | | | | | -.22 | -1.67 |
| 2. Dummy- volleyball | | | | | .61** | 4.71 |
| 3. Dummy- handball | | | | | .23 | 1.71 |
| 4. Dummy- rugby | | | | | .16 | 1.14 |
| Model 2 | F(9,71)= | .36 | .12 | F(5,71)= | | |
| Demographic variables | 4.44** | | | 2.86* | | |
| 1. Gender | | | | | -.09 | -.70 |
| 2. Dummy- volleyball | | | | | .50** | 3.80** |
| 3. Dummy- handball | | | | | .29* | 2.14* |
| 4. Dummy- rugby | | | | | .41* | 2.36* |
| Dimensions of leader behavior in sport | | | | | | |
| 1. Training and instruction | | | | | -.27 | -1.41 |
| 2. Democratic behavior | | | | | .15 | 1.42 |
| 3. Autocratic behavior | | | | | -.10 | -.93 |
| 4. Social support | | | | | .06 | .39 |
| 5. Positive feedback | | | | | -.17 | -.96 |

* F, β is significant at p<.05

** F, β is significant at p<.01

The results show that the dimensions of leader behavior in sport do not significantly predict the team cohesion, when controlling the effects of gender and type of sport.

Discussions

In this study we investigated the relationship between leadership behaviors and group cohesion of some sport teams. The athletes perceive that their coaches are very concerned about the welfare of the individual athletes, positive group atmosphere and warm interpersonal relationship with the team members. In addition, these coaches are

considered as not reinforcing an athlete by recognizing and rewarding its good performance. The results show that perceived cohesion of the basket team members is significantly lower than the perceived cohesion of the volleyball, rugby and handball team members. Most of the coach leadership behaviors were negatively associated with the overall team cohesion and its dimensions. The inspection of the hierarchical multiple regression analysis show that different leadership behaviors are not significant predictors of team cohesion, when controlling the effects of the gender and type of sport. We controlled the effects of gender because some studies suggest-

ed that gender may influence the factorial structure of cohesiveness model proposed by Carron. Scultz et al. (1994) have found that the analysis of factorial structures of GEQ across gender showed different factorial structures, but none of these structures had an model adequate fit (apud. Ntoumanis & Aggelonidis, 2004).

Generally, these results are not in accordance with the results of some other studies. Firstly, this discrepancy can be explained through the poorer reliability of some of the scales that evaluated the coach behaviors. Further, in a review, Chelladurai and Riemer (1998) showed that the scale's reliability estimates have not been consistent or adequate. In other words, certain behavioral dimension (i.e. autocratic behavior, social support and positive feedback) in both the "athletes' preferences" and "athletes' perceptions" versions have repeatedly failed to record acceptable internal consistency estimates. The moderately low level of explained variance reports in the original LSS validation suggest that the scale may not measure all or majority of the aspects involved in relationship coach-athletes.

The reliability of the GEQ scales was also lower. Even if the reliability of the GEQ scale was above .70, according to some authors the criterion variable in a predictive regression analysis is better to be above .80 (Sava, 2004). Some of the studies from the sport literature revealed that the factorial structure of the GEQ is a problematic one. For example, Ntoumanis and Aggelonidis

(2004) found in a study of psychometric evaluation of the Group Environment Questionnaire, that the very high factor correlations rendered problematic the discriminant validity of the questionnaire. But in this context, it is important to note that Bawley and Carron (2003) have suggested some sport teams may not exhibit every dimension of cohesion measured by the questionnaire.

Secondly, the team cohesion was compute by summing the social and task cohesion. Some studies had shown that different coach leadership set of behaviors explained differently the variance of the social and task cohesion (Jowett & Chaundy, 2004). For example, Turman (2003) identified that specific leadership strategies such as the behaviors that promote instruction, can potentially enhance the level of task cohesion in sport teams. Further, there are inconclusive results regarding the factorial validity of the GEQ. For example, Leeson and Fletcher (2005) using elite female netball players, reported a strong factorial invariance for social and task cohesion scores, whereas differential stability was achieved only by the task cohesion scores. These authors also found that the latent mean stability of GEQ was not established.

The relation between coach behavior and team cohesion cannot be considered without noticing some limitations of this study. Because the subjects participated voluntarily, we cannot discuss the generalizability of the results. The participants derived from different sport teams. As the regression analysis

showed, there were some effects of the type of sport on team cohesion.

In the present study, only the version of the actual coach behaviour was used. Further studies can use all the versions of the Leadership Sport Scale in order to predict the team cohesion.

REFERENCES

- Antonuccio, D. O., Davis, C., Lewinsohn, P. M., & Breckenridge, J. S. (1987). Therapist variables related to cohesiveness in a group treatment for depression. *Small Group Behavior, 18*, 557-564.
- Barrow, J.C. (1977). The variable of leadership: A review and conceptual framework. *Academy of Management Review, 2*, 231-251.
- Bartone, P. T., & Kirkland, F. R. (1991). Optimal leadership in small army units. In R. Gal & A. D. Mangelsdorff (Eds.), *Handbook of military psychology* (pp. 393-409). Chichester, England: Wiley.
- Beauchamp, M. R., Bray, S. R., Eys, M. A., & Carron, A. V. (2005). Leadership behavior and multidimensional role ambiguity perceptions in teams sports. *Small Group Research, 36*, 5-20.
- Brawley, L.R. & Carron, A.V. (2003). Caution in Interpreting Confirmatory Factor Analysis of the Group Environment Questionnaire: A Response to Sullivan, Short, and Cramer (2002). *Perceptual and Motor Skills, 97*, 315-18.
- Carron, A. V. (1982). Cohesiveness in sport groups: Interpretations and considerations. *Journal of Sport Psychology, 4*, 123-128.
- Carron, A.V., & Chelladurai, P. (1981). Cohesion as a factor in sport performance. *International Review of Sport Sociology, 16*, 2-41.
- Carron, A. V., Widmeyer, N., & Brawley, L. (1985). The development of an instrument to assess cohesion in sport teams: The Group Environment Questionnaire. *Journal of Sport and Exercise Psychology, 10*, 244-266.
- Carron, A. V. & Brawley, L. R. (2000). Cohesion: Conceptual and measurement issues. *Small Group Research, 31*, 89-106.
- Chang, A. & Bordia, P. (2001). A multi-dimensional approach to the group cohesion-group performance relationship. *Small Group Research, 32*, 379-405.
- Chelladurai, P., & Carron, A. V. (1978). Leadership. Canadian Association for Health, *Physical Education and Recreation Sociology of Sport Monograph Series A*, Calgary, AB: University of Calgary.
- Chelladurai, P. (1993). Leadership. In R. Singer, M. Murphey, & L. K. Tennant (Eds.), *Handbook of research on sport psychology* (pp. 647-671). New York: Macmillan.
- Chelladurai, P., & Saleh, S. (1978). Preferred leadership in sports. *Canadian Journal of Applied Sport Sciences, 3*, 85-92.
- Chelladurai, P., & Saleh, S. (1980). Dimensions of leader behavior in

- sports: Development of a leadership scale. *Journal of Sport Psychology*, 2, 34-45.
- Chelladurai, P., & Riemer, H.A. (1998). Measurement of leadership on sport. In J.L.Duda (Ed), *Advances in sport and exercise psychology measurement* (pp. 227-253). Morgantown, WV: Fitness Information Yechnology.
- Gardner, D. E., Shields, D. L. L., Bredemeier, B. J. L., & Bostrom, A. (1996). The relationship between perceived coaching behaviors and team cohesion among baseball and softball players. *The Sport Psychologist*, 10, 367-381.
- Hardy, J., Eys, M. A., & Carron, A. V. (2005). Exploring the potential disadvantages of high cohesion in sports teams. *Small Group Research*, 36, 166-187.
- Hoigaard, R., Säfvenbom, R., & Tønnessen, F. E. (2006). The relationship between group cohesion, groups norms, and perceived social loafing in soccer teams. *Small Group Research*, 37, 217-232.
- Jowett, S. & Chaundy, V. (2004). An investigation into the impact of coach leadership and coach-athlete relationship on group cohesion. *Group Dynamics: Theory, Research, and Practice*: 8, 4, 302-311.
- Kozub, S.A. and Button, C.J. (2000). The influence of a competitive outcome on perceptions of cohesion in rugby and swimming teams. *International Journal of Sport Psychology*, 31, 82-95.
- Ntoumanis. N. & Aggelonidis, Y. (2004). A psychmetric evaluation of the Group Environment Questionnaire in a sample of elite and regional level Greek volleyball players. *European Physical Education Review*, 10, 261-278.
- Podsakoff, P. M., & Todor, W. D. (1985). Relationships between leader reward and punishment behavior and group processes and productivity. *Journal of Management*, 11, 55-73.
- Rovio, E., Eskola, J., Kozub, S. A., Duda, J. L., & Lintunen, T. (2009). Can high group be harmful? A case study of a junior ice-hockey team. *Small Group Research*, 40, 421-435.
- Rozell, E. R. & Gundersen, D. E.(2003). The effects of leader impression management on group perceptions of cohesion, consensus, and communication. *Small Group Research*, 34, 197-222.
- Shields, D. L. L., Gardner, D. E., Bredemeier, B. J. L., & Bostro, A. (1997). The relationship between leadership behaviors and group cohesion in team sports. *The Journal of Psychology*, 13(2), 196-210.
- Turman, P. D. (2003). Coaches and cohesion: The impact of coaching techniques on team cohesion in the small group sport setting. *The Journal of Sport Behavior*, 26, 86-104.
- Westre, K., & Weiss, M. (1991). The relationship between perceived coaching behaviors and group cohesion in high school football teams. *The Sport Psychologist*, 5, 41-54.

Widmeyer, W. N., Carron, A. V., & Brawley, L. R. (1993). Group cohesion in sport and exercise. In R. Singer, M. Murphey, & L. K. Tennant (Eds.), *Handbook of research on sport psychology* (pp. 672-692). New York: Macmillan.

Manuscrito recibido: 31/3/2009
Manuscrito aceptado: 28/10/2009