

## ATHLETES PERCEPTION OF COACHES' LEADERSHIP STYLE AND TENDENCY TO COOPERATE AMONG COMPETITIVE TEAMS

### PERCEPCIÓN DE LOS DEPORTISTAS SOBRE EL ESTILO DE LIDERAZGO DE LOS ENTRENADORES Y LA TENDENCIA A COOPERAR EN EQUIPOS COMPETITIVOS

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#### Abstract

The purpose of the present study was to discover the relationships between athletes' perceived coach behaviors during training and competition, and

cooperation via Bayesian network (BN). Professional male athletes from several team sports (N = 158) completed the Portuguese version of the Leadership Scale for Sport and the *Questionário de Cooperação Desportiva* to assess cooperation. Relationships were identified between perceived coach behaviors in training and competition environments and with athletes tendency

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to cooperate. Overall, the findings support that in sports, coaching behaviours congruent with the athletes' individual needs and adapted to the situational demands may promote prosocial behaviour.

**Keywords:** cooperation; bayesian network; professional athletes.

## Resumen

El propósito del presente estudio fue descubrir las relaciones entre los comportamientos del entrenador percibidos por los deportistas durante el entrenamiento y la competición y la cooperación a través de la red bayesiana. Los deportistas masculinos profesionales de varios deportes de equipo (N = 158) completaron la versión portuguesa de la Escala de Liderazgo para el Deporte y el *Cuestionario de Cooperación Deportiva* para evaluar la cooperación. Se identificaron relaciones entre los comportamientos percibidos del entrenador en entornos de entrenamiento y competición y la tendencia de los atletas a cooperar. En general, los hallazgos apoyan que, en el deporte, los comportamientos del entrenador congruentes con las necesidades individuales de los atletas y adaptados a las demandas situacionales pueden promover el comportamiento prosocial.

**Palabras clave:** cooperación; redes bayesianas; deportistas profesionales.

## Introduction

In team sports, coaches are ultimately responsible for all aspects of the team as well as for the athletes' performance; therefore, their decisions and actions play a key role and influence both the individual level and the internal dynamics of their teams (Brandão & Carchan, 2010; Buceta, 2009; Kleinert et al., 2012). In this sense, a sports team is subject to various influences including individual differences among athletes (e.g., physical and mental skills, sports skills, psychological dispositions,

etc.) and coaches' behavior (Fenoy & Campoy, 2012; Ponseti et al., 2012; Vella, Oades, & Crowes, 2013).

In the sports field of study, two of the main concepts that describe the functioning of teams are cohesion and cooperation. According to Olmedilla et al. (2011, p. 232), "*while cohesion is the level of social affiliation (whether by the group or the task), cooperation is the pursuit of personal and team goals and their combination to produce team behaviors*". In this sense, the sport cooperation paradigm arises from the need to explain the interactions within the team and the individual dilemma between cooperation and competition, and can be seen as a framework that contributes to the understanding of the dynamic of sports teams (Almeida & Lameiras, 2013).

Currently, sports cooperation has been defined as the pursuit of individual and collective goals and their combination to produce a certain sporting behavior (García-Mas et al., 2009; Olmedilla et al., 2011). It can also be characterized as dynamic decision making based on the repeated interaction between individuals who aim to achieve certain goals and their integration on a sport team (Olmedilla et al., 2011).

Additionally, sportive cooperation can also be understood as a form of prosocial behavior that reflects the player's individual decisions concerning the dedication of his or her efforts and technical skills to the team's objective (Almeida & Lameiras, 2013; García-Mas et al., 2006; Lameiras, Almeida, & García-Mas, 2014). In this sense, and due to their influence, coaches' leadership styles shape the environment in which athletes carry out their responsibilities and personal effort, and may influence athletes' cooperative (thus prosocial) behaviors (Sari, Ilić, & Ljubojević, 2013; Spink, Wilson, Brawley, & Odnokon, 2013).

García-Mas et al. (2006) proposed a conceptual framework which is based on the assumption that the observable of players' behaviors will be in part dependent on its decision to cooperate or not regarding a common goal. This decision can be made on the basis of a more stable dispositional factor, reflecting a personal tendency to cooperate or compete, or on particular situational factors related to contextual variables. The authors proposed

a distinction between these two types of dispositional cooperation: conditioned cooperation (describing how effort made by the athlete is conditioned by perceptions of personal goals that can be achieved by being a part of the team), and unconditioned cooperation (which occurs regardless of the achievement of personal objectives).

Another assumption proposed by the same authors concerns the existence of situational cooperation, derived mainly from perceptions of rational self-interest. These situational factors are grouped into two categories: *where to cooperate* (in or off the field), and *with who do so* (which is divided between cooperation with teammates and cooperation with the coach) (Almeida & Lameiras, 2013). In this sense, athletes decide to dedicate their physical, technical and tactical efforts thanks to the perception that they can achieve their objectives as a counterpart for the established interaction with teammates or coaches, and this compensatory relationship can occur off the field, in training, or in competition (García-Mas et al., 2006; García-Mas et al., 2009; Olmedilla et al., 2011).

Particularly regarding cooperation with the coach, athletes express their cooperative behavior by helping and following instructions from the coach in order to have an opportunity to achieve their own goals, which is in part an implicit or explicit negotiation (García-Mas et al., 2009; Lameiras et al., 2014; Olmedilla et al., 2011). In fact, there is broad consensus in highlighting the importance of the coaches' leadership style and their capacity to influence people to work together towards the achievement of a common goal which can determine, in part, the cohesion levels of the team and the cooperative behavior of each athlete (Carvalho, Martins, & Portela, 2013; Swanson & Kent, 2014).

One of the models used most widely when investigating the role of the coach, is the Multidimensional Model of Leadership (MML; Chelladurai, 2001, 2007), which remains a fundamental framework for several empirical studies (Fletcher & Roberts, 2013; Hoigaard, De Cuyper, Fransen, Boen, & Perters, 2015; Leo, Sánchez-Miguel, Sánchez-Oliva, Amado, & García Calvo, 2013; Toros, Salman, & Sari, 2013). The MML proposes that group performance and member satisfaction are a function of the congruence of required, actual,

and preferred leadership behavior, conceiving of leadership in sports as a dynamic process that involves the interaction of a coach, an athlete and situational factors (Chelladurai, 1990, 1993, 2001). Also, leadership behaviors are considered to vary in response to the antecedent variables of situational characteristics, (contextual factors such as the nature of the sport and associated social norms), leader characteristics (aspects that can influence behavior) and member characteristics –ability, intelligence, motivation, etc.– (Hoigaard et al., 2015; Moen, 2014).

Aiming to increase team effectiveness, team leaders engage in many different behaviors intended to structure the team, to help individual members improve their contributions and to work with the team as a whole (Breukelen, Leeden, Wesselius, & Hoes, 2010; Sullivan, & Gee, 2007). In this sense, and in diverse sporting situations, the coach implement different types of leadership that imply interpersonal and technical components: *training and instruction* (direct tasks of the coach, such as assisting athletes in developing skills and learning the tactics of the sport); *social support* (coach's ability to satisfy the interpersonal needs of the athletes, creating a supportive atmosphere among members); *positive feedback* (coach's ability to recognize and express appreciation of members' efforts and complement performance); *democratic behavior* (essentially athlete oriented, supportive, instructive and ready to reinforce and to provide positive feedback information to their athletes); and *autocratic behavior* (mainly task-oriented, less supportive, less instructive and less rewarding) (Chelladurai, 1990, 1993, 2001).

Previous research identified that leadership styles oriented to training and instruction, positive feedback, social support, and democratic behavior are all positively linked to collective great confidence in individuals/team and increases beliefs of high efficacy (Hampson & Jowett, 2014; Soyer, Sarı, & Laurențiu, 2014). Particularly, research has shown that a democratic coaching style, besides increasing athletes' sense of competence, independence, satisfaction and self-esteem, may probably result in more adaptive behaviors, stronger commitment, higher level of sportspersonship, and focus on task and achievement (Horn, 2002; Moen, 2014; Park, Seo, & Ko,

2016). Also, adopting a behavior orientated to help team members to achieve a higher level of team performance and to elevate the need of the members from self to collective interests, i.e, transformational leadership, tend to inspire higher levels of commitment (Hoigaard et al., 2015) and cooperation (Carvalho et al., 2013; Swanson & Kent, 2014).

On an opposite side, coaching leadership research has shown that an autocratic leadership behavior is negatively related to both task and social cohesion (Vincer & Loughhead, 2010), tend to promote a motivational climate focused on interpersonal competition and comparison, which can impair the functioning of the group, as the athletes feeling a decreased sense of closeness, bonding, personal acceptance and involvement.

Given the importance of the coaches regarding internal team dynamics and, consequently on cooperation, and the lack of studies on the interrelations between these two factors, the purpose of this study was to understand the relationship between perceived coaching behaviours (positive feedback, training and instruction, democratic behaviour, autocratic behaviour) and cooperation (dispositional conditioned cooperation, dispositional unconditioned cooperation, situational cooperation with the coach), among professional players through Bayesian networks (BNs).

A BN is a graphical model that encodes relationships among variables of interest. (Koller & Friedman, 2009). It establishes the relationships of dependencies and conditional independences underlining the data, helping to make inferences in the problem and to obtain some conclusions. More specifically, a BN was used to establish a framework to explain the relationship between perceived coaching behaviours and cooperation, from a data set of 8 relevant features within a group of professional team sports players.

From an applied point of view, given the strong theoretical and empirical links between sports coaching and athlete/team development, this type of analysis may be relevant for improving the effectiveness of interventions on sports teams.

## Method

### Participants

The study sample consisted of 158 male professional and semi-professional athletes ( $M$  age = 24.1 years,  $SD = 4.6$ , range = 16 to 37) competing on different sports teams. Of these, 74 (46.8 %) practised soccer, 32 (20.3 %) rugby, 25 (15.8 %) handball, 19 (12.0 %) basketball, and 8 (5.1 %) futsal. Mean athletic experience in the sports practiced was 12.0 yr. ( $SD = 5.8$ ). Mean training time per week was 10 h. ( $SD = 2.3$ ).

### Measures

#### Cooperation

To measure sports cooperation, the *Questionário de Cooperação Desportiva* (QCD-p) was used. The QCD-p is a translated and adapted version of the *Cuestionario de Cooperación Deportiva* (CCD; García-Mas et al., 2006) for the portuguese population. The QCD-p (Almeida, Lameiras, Olmedilla, Ortega, & García-Mas, 2012) is composed of 12 items testing three factors: two dispositional factors (conditioned and unconditioned cooperation) and one situational factor (cooperation with the coach). Conditioned cooperation was assessed through three items (“When I help a companion in the field with my game or my effort, I hope to be somehow recognised”). Unconditioned cooperation was measured through six items (“I collaborate with my teammates and my coach, whatever the circumstances of the game are”). Cooperation with the coach (“I cooperate with the coach, whether I’m a substitute or a first line-up”) was assessed through three items. Responses to these 12 items were given on a 5-point scale with anchors 1: *Nothing* and 5: *A lot*. Support for the reliability and validity of these scales has been reported in past research in the sport context (see Almeida et al., 2012; Lameiras et al., 2014). In the present study, the Cronbach alpha ranged between .68 and .73 for all the factors.

### *Coaching behavior*

To measure how players, perceive their head coaches' leadership behavior over a playing season, *the Escala de Liderança no Desporto* (Serpa, 1993) was used. It is a translated and adapted version of the Leadership Scale for Sport (LSS; Chelladurai & Saleh, 1980) for the Portuguese population. The perception version of the LSS is a 40-item measure that includes the following five subscales: training and instruction (13 items), democratic behavior (nine items), autocratic behavior (five items), social support (eight items), and positive feedback behavior (five items). Items are scored on a 5-point Likert scale anchored from 1 (*always*) to 5 (*never*). Previous research involving Portuguese athletes (see Duarte, 2004; Gonçalves & Mourão, 2008; Serpa, 1993) provided evidence for the validity and internal consistency of the leadership style dimensions (Cronbach's  $\alpha$ s between .80 and .85). In the present study, the Cronbach alpha ranged between .71 and .88 for all the factors.

### *Procedures*

The study followed the ethical procedures and guidelines of the Portuguese Psychologists' Association. In order to collect the data, the heads of the clubs were contacted, requesting their permission to undertake the investigation. Once permission had been granted, researchers talked with the coaches of each team to agree on a time and date for administering the questionnaires to their players. On the day of data collection, informed consent was obtained from the participants and the coaches of each team. Prior to handing them the questionnaire, the participants were informed about the objectives of the investigation and basic instructions were given about the completion of the questionnaires. Also, they were assured that their participation in the study was completely voluntary, and that they could withdraw at any time without penalty. A researcher was present on site to administer the questionnaire and answer any questions from the participants. The participants completed the two questionnaires within half an hour.

### *BN Approach*

Our proposed model to analyze the relationships between athletes' perceived coach behaviors during training and competition, and cooperation is a BN. We give an overview of the necessary background, and we describe the process to obtain the BN model.

#### *Learning BN*

Learning a BN implies learning the structure of the directed acyclic graph, which is the identification of the topology of the BN, and parametric learning, that is the estimation of numerical parameters (conditional probabilities) given the topology (Fuster-Parra, García-Mas, Ponseti, & Leo, 2015).

To obtain the structure, we used the package *bnlearn* (Nagarajan, Scutari, & Lèbre, 2013; Scutari, 2010) of R language (R Development Core Team, 2012). The present model was learnt with the *tabu* algorithm. A large number of network structures were explored (500 BNs) applying bootstrap resampling to our data set) to reduce the impact of locally optimal (but globally suboptimal) networks on learning. The networks were averaged to obtain a more robust model. The averaged network structure was obtained using the arcs present in at least 80 % of the networks, which gives a measure of strength of each arc and establishes its significance given a threshold (Figure 1).

The conditional probability distributions, or the estimation of numerical parameters, was performed by the *bn.fit* function and bayes estimator using a non-informative prior.

Although the inference can be performed with the *bnlearn* package in order to obtain a graphical interface for manipulating the probabilistic network, from the structure and parameters obtained in R language, the BN was implemented in SAMIAM software package (2013).

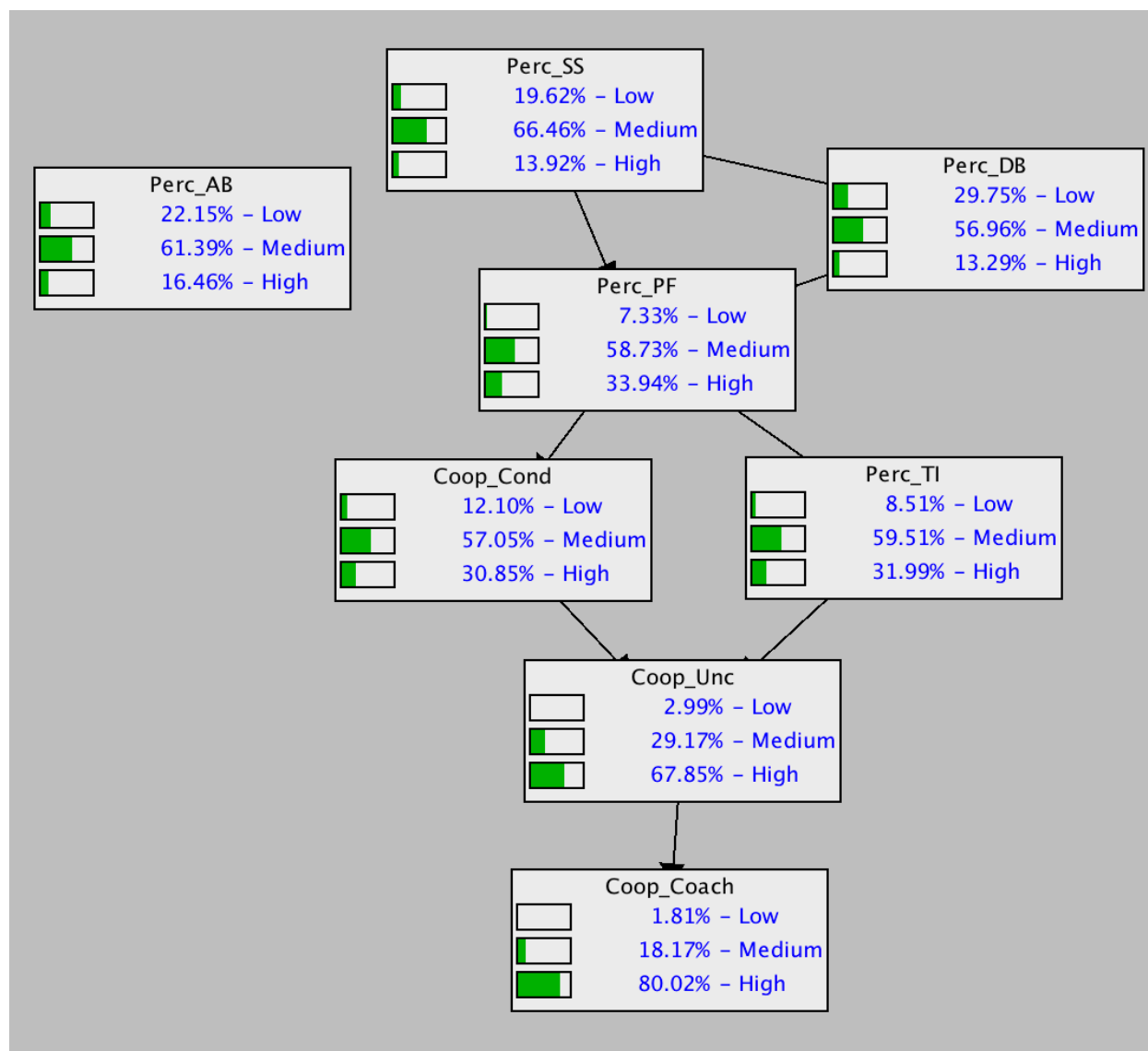


Figura 1. BN structure obtained by model averaging over 500 networks built with tabu learning algorithm from bnlearn package in R language, and graphical representation using SAMIAM software package.

#### Validation of the BN model

The BN was validated using a 10-fold cross-validation for BN. We can observe In Table 1 the area

under the Receiver Operating Characteristic curve (AUC) values associated with the Low, Medium and High probabilities of every one of the variables studied together with the accuracy.

Table 1.

*AUCs obtained by ROC curves and accuracy.*

Variable	Low	Medium	High	Accuracy
Positive Feedback	.546	.648	.833	.684
Democratic Behavior	.807	.691	.653	.677
Social Support	.691	.665	.629	.645
Autocratic Behavior	.561	.614	.533	.614
Training and Instruction	.656	.651	.527	.608
Unconditioned Cooperation	.760	.600	.717	.703
Conditioned Cooperation	.555	.660	.517	.608
Cooperation with the Coach	.775	.651	.824	.857

## Results

The obtained BN, which can observe on Figure 1, reveals five levels of findings: (a) cooperation variables are dependent of the leadership variables, with the exception of Cooperation with the Coach, which only has a direct dependency with Unconditioned Cooperation; (b) only leadership variables that have a direct dependency to cooperation variables are Positive Feedback and Training and Instruction; (c) Autocratic Behavior has no connection with any of the features of this network., and was not included to build the BN; (d) Conditioned Cooperation has the lowest level of probability of all the cooperation variables; (e) Social Support is a probabilistically independent variable with a medium level of probability and; (f) Cooperation with the Coach is the

variable with greatest probabilistic dependency of all those studied.

A BN can be used to explain the observed data, as well as, to carry out instantiations of hypothetical data based on the obtained network. Based on the BN of Figure 1, five different instantiations were done with hypothetical data. The chosen variables are fundamental variables to analyze the relationship between cooperation and leadership, yet, have never been observed in such extreme values. Hence, all the four leadership variables (Social Support, Democratic Behavior, Positive Feedback and Training and Instruction) were instantiated to High state and the effects on the cooperation variables can be observed. On the other four instantiations, the effects of a High state instantiation of each leadership variable individually were observed with no change on the

Table 2.

*Five instantiations of the Bayesian Network created with hypothetical data of leadership behavior variables and its impact on cooperation, expressed in percentages. For the variables of Conditioned Cooperation, Unconditioned Cooperation and Cooperation with the Coach, the first column shows the initial likelihood for low, moderate, high values once the BN has been compiled.*

			Instantiations				
			1	2	3	4	5
Social Support (Perc_SS)			High	High	No change	No change	No change
Democratic Behavior (Perc_DB)			High	No change	High	No change	No change
Positive Feedback (Perc_PF)			High	No change	No change	High	No change
Training and Instruction (Perc_TI)			High	No change	No change	No change	High
Conditioned Cooperation (Coop_Cond)	High	30.85 %	51.72 %	46.25 %	48.85 %	51.72 %	39.02 %
	Medium	57.05 %	39.66 %	44.43 %	42.16 %	39.66 %	50.20 %
	Low	12.10 %	8.62 %	9.33 %	8.99 %	8.62 %	10.78 %
Unconditioned Cooperation (Coop_Unc)	High	67.85 %	87.70 %	76.29 %	77.48 %	78.70 %	89.03 %
	Medium	29.17 %	10.05 %	21.72 %	20.61 %	19.46 %	9.27 %
	Low	2.99 %	2.25 %	1.99 %	1.91 %	1.84 %	1.70 %
Cooperation with the Coach (Coop_Coach)	High	80.02 %	82.95 %	81.63 %	81.82 %	82.02 %	83.41 %
	Medium	18.17 %	16.18 %	17.07 %	16.94 %	16.81 %	15.86 %
	Low	1.81 %	0.87 %	1.30 %	1.24 %	1.18 %	0.73 %

remaining variables. With these individual instantiations, the distinct effects of each leadership variable on cooperation features can be detected.

Table 2 summarizes the changes of all the values of the cooperation variables in the five different instantiations. Each of the calculations for the variables of leadership behaviors produces changes in the probability of occurrence of the three factors of cooperation.

On the first instantiation (Table 2, second column) a high probability of the 4 leadership behaviors (data never obtained in empirical studies) was hypothesized. These changes produce hypothetical results in the variables of cooperation: Unconditioned Cooperation and Conditioned Cooperation have the largest positive impact, while Cooperation with the Coach also have a positive impact, albeit smaller. The other four instantiations show similar variations with Unconditioned Cooperation and Conditioned Cooperation having the bigger change while the Cooperation with the Coach had a small positive impact.

It can be observed that Conditioned Cooperation had the largest positive change when all the four leadership variables are instantiated to High state (first instantiation) and when Positive Feedback is instantiated to High state (fourth instantiation). Unconditioned Cooperation has the largest change when Training and Instruction is instantiated to High state (fifth instantiation). The variable Cooperation with the Coach had the largest change when Training and Instruction is instantiated to High state (fifth instantiation).

## Discussion

In competitive sports, while effective coaching style may be dependent upon factors such as team structure and level of player skill, the coach as the formal leader can affect both team internal dynamics and athletes' behavior (Brandão & Carchan, 2010; Buceta, 2009). Thus, the aim of this study was to discover the relationships between athletes' perceived coach behaviors during training and competition, and cooperation via BN. To the

best of our knowledge, this is the first study to reveal that self-reported cooperation between professional players on team sports is associated with an athletes' perception of coaches' leadership style.

However, when analysing the probabilistic relationships of causal dependence and independence that have been found through the Bayesian network between the two variables analysed, some results appear that do not exactly correspond to those previously found or predicted. Based in the network obtained in the present study the variable Perceived social support revealed probabilistic independence. Social support is a complex construct (Bianco & Eklund, 2001), comprised of three key facets [social integration, perceived support, and received support (Lakey, 2010)] and has been recognized as a key factor for the success and well-being of athletes (DeFreese & Smith, 2013; Fletcher & Sarkar, 2012). Since the sample of the study was composed by professional athletes with several years of experience, with a combination of heterogeneous personalities and different personal goals, the impact of Perceived social support could be diminished; also, athletes may systematically disagree in their perceptions of the supportiveness of coaches (Coussens, Rees, & Freeman, 2015; Rees, Freeman, Bell, & Bunney, 2012). Although social support is integral to the coaching process (Coussens et al., 2015), based on the results obtained, we can assume that athletes' prosocial behaviors are not dependable of the Perceived social support provided by the coaches. However, future investigations should address if some specific dimension of social support (emotional, esteem, informational, and tangible) may promote and potentiate cooperation within competitive teams.

Additionally, the results found indicate that perceived Autocratic behaviour has no connection with any of the features of this network and, hence, was not used to build the BN. Our findings support García-Mas and colleagues' (2006) observation that cooperative behavior has a dispositional trend (a personal, and more stable, disposition to cooperate, despite the possibility of obtaining any counterparts for this behavior) but can also be affected by external and situational factors. In addition, these results were also congruent with the findings of Alzate, Lázaro, Ramírez, and Valencia (1997) which

emphasized that the instability that characterizes a sportive situation –which undoubtedly will affect the global and individual perceptions of team members– originates with the coaches' need to adjust certain strategies (e.g., tactics), and to adopt a more autocratic or empathic behavior. The authors also found that a certain style of leadership, viewed separately, does not promote or inhibit cohesion, but a coach's behavior adjusted to the situational demands (calm or pressure) and to its temporal evolution. Certainly, instructional styles are related with cooperation, but also it seems that the autocratic style does not interfere with the rest of the players' prosocial behaviors, expressed through team cooperation during practices and matches.

Moreover, we find that situational Cooperation with the coach show complete probabilistic dependency from unconditioned cooperation. These findings may indicate that the participants in the present investigation, as suggested by previous research (García-Mas et al., 2006; Olmedilla et al., 2011), decided to express their desires for cooperation through collaboration by following the instructions of the coach and by perceiving the possibilities of achieving their goals through explicit or implicit negotiation with their coach. Likewise, the results suggest that the players' tactical, physical and technical effort (Situational cooperation with the coach) depends on the personal disposition to cooperate in the absence - or at least in some part - of the priority motivation for obtaining personal objectives, and above all, their tendency to respond to the very different and changing sports situations and to follow the tactical and strategic instructions provided by the coach (García-Mas et al., 2006). Overall, and as pointed by García-Mas et al. (2006, p. 430) it seems that *"behaviors of situational cooperation derive from the dispositional conditioned cooperation"*.

According to our network, and in general, all the instantiations with hypothetical data made for a high level of Leadership demonstrate an increase in all the cooperation dimensions. When analysing the most relevant results for each dimension, it can be observed that the probability of Situational cooperation with the coach and with Unconditioned cooperation have the major increases when we instantiated Training and instruction to high. These findings were consistent with previous

studies examining the effect of sports coaches' behaviors on motivational climate and team cohesion (Bosselut, Heuzé, Eys, Fontayne, & Sarrazin, 2012; Loughhead & Carron, 2004). In other words, players' prosocial cooperation could be transformed into sportive behaviors through these specific instructional styles and by the tactics defined by the coach. In fact, sports coaching behaviors (Training and instruction, Positive feedback, Social support and Democratic behavior) intended to create a team climate that emphasizes skill acquisition, reinforcement and goals, encourages maximal individual effort and promotes cooperative behaviors (Almeida & Lameiras, 2013, Leo et al., 2013).

Similarly, the probability of Conditioned cooperation has the larger increases when we instantiate Positive feedback to high. From a probabilistic point of view that could make us think that a coaching behavior that reinforces an athlete by recognizing and rewarding good performance can have a catalytic effect of individual and collective decision-making that involve cooperative aspects in different competitive actions (e.g. tactics proposed by the coach). Furthermore, the results obtained may indicate that positive feedback might increase the athletes' perception of an explicit negotiation and consciousness of objectives between player and coach, i.e., that they can obtain some of their goals as a counterpart of their coach, but also the necessary interdependency for establish the cooperative bonds needed to an effective teamwork.

In conclusion, when we instantiate all the Leadership dimensions to a maximum value we obtain an increase in the cooperation dimensions. So, in line with the findings of García-Mas and colleagues (2006), we can conclude that despite sportive cooperation comprising each player's decision-making process, this determination appears to indicate that athletes' cooperative behaviors are related to the leadership style adopted by the coaches.

The results are preliminary and limited by the small sample size and use of self-report questionnaires. The group dynamics literature indicates that every individual player can contribute to functioning on sports teams and sports coaches should ensure optimal development through sufficient effort (McArdle & Duda, 2002) and

promote sportive cooperation encouraging individuals to work together in order to achieve a common goal (Lameiras et al., 2014; Standage, Duda, & Pensgaard, 2005). Since this is a transversal study unable to provide test-retest reliability data, future investigations may adopt a longitudinal design and a multilevel data analysis.

Additionally, given the recognition that collective efficacy has important implications for sport teams because it should affect choices, effort, persistence and performance, future investigation may examine the relationships between the athletes' perception of team collective efficacy and performance and their cooperation scores.

From a practical point of view, the results obtained in this study emphasize the importance of adopting specific coaching behaviors –the negotiation with player's personal objectives – congruent with the idiosyncratic characteristics of the various team members, and the importance of implementing leadership concepts adapted to the situational demands, mainly oriented to training and instruction using positive feedback, in order to promote cooperation, either situational or dispositional.

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