

# Goal orientation based relationship between coaching efficiency, athlete satisfaction, and team cohesion

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## ABSTRACT

In this study, the mediating role of goal orientations in the relationship between a coach-athlete relationship (CAR) and collective effectiveness (CE), based on the results between the coaching efficiency variables, athlete satisfaction, and team cohesion was investigated. Participants were 252 professional athletes from four different sports. Data were obtained using questionnaires on coaching performance, athlete satisfaction, and team cohesion. Structural equation modelling showed that CAR has a positive indirect effect on athlete satisfaction and a positive direct effect on team cohesion. Athletes' satisfaction also had both direct and indirect positive effects on team cohesion. Also, the coaching effectiveness had the greatest effect on group cohesion. Coaches can use strategies and stimuli that create a sense of satisfaction in athletes and lead them to appropriate, professional, and athletic behaviour. The results show that a good quality CAR increases athletes' focus on their goals and develop their individual skills, thus improving team performance.

**Keywords:** Sport psychology, Physical activity psychology, Group identity, Motivations, Strategic capability, Social cohesion, Satisfaction, Professional team sports.

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## INTRODUCTION

Sports team coaches need two important factors to improve team cohesion. Increase the abilities and satisfaction of athletes. An athlete's understanding of the coach's behaviors and feedback will have a major impact on his or her psychological aspects, including behavior, motivation, performance, and anxiety (Goffena & Horn, 2021). One of the most important factors related to these psychological aspects is coaching efficiency because it is related to coaching behavior (Li et al., 2019).

Performance is one of the characteristics of coaches that is influenced by their expectations, beliefs, and goals (Moore & Weiller-Abels, 2020). It is the effectiveness of awareness that influences coaching behaviors (Keathholetswe & Maletse, 2019). Based on the model of Myers et al. (2008), coaching behavior can affect athletes' performance and behavior. Rylander (2016) studied the role of coaches in influencing individual and team performance and concluded that coaches are the most effective source of performance for athletes.

The coaching structure was developed by Feltz et al. (1999). They used Bandura's (1997) theory of self-efficacy, as a framework and guideline and defined coaching efficiency by their capacity and ability to influence learning (Kamis et al., 2021). Based on the coaching efficiency model of Myers et al. (2008), a coaching performance criterion has four sub-principles: motivation, training technique, game strategy, and character-building (Knott et al., 2019). According to research, coaching is related to motivation, performance, and behavior (Tshube & Hanrahan, 2018). Coaching practice has attracted a lot of attention in sports psychology research in recent years, which shows the importance of this issue. Athletes who work with more efficient coaches have more satisfaction, better performance, more self-esteem, and a more positive attitude (Watson & Kleinert, 2019). Also, Pulido et al. (2020) stated that athletes' perceptions of more efficient coaches are effective in motivating and satisfying.

Various studies on the role of "*athletes' perceptions of the importance of coaching*" have emphasized the importance of this issue and have said that athletes' perceptions of coaching behavior affect whether they continue or leave their activities (Rocchi & Pelletier, 2018). Also, Soto et al. (2021) argue that coaches have the greatest impact on the performance results of athletes. Coach behaviors can affect athletes' perceptions, motivations, attitudes, and behaviors (Tshube et al., 2018). The effectiveness of motivation is shown by two indicators, effort and satisfaction, and athletes while trying harder, express satisfaction with the sport (Günel & Duyan, 2020).

Inoue et al. (2020) Satisfaction is defined as a psychological structure that indicates the inner and psychological desire, and the athlete's decision to continue cooperation and satisfaction with it, which is influenced by various internal or external factors. In Riemer and Chelladurai's (1998) athlete satisfaction model, satisfaction is defined as a positive and effective response to sports experience that reflects the feeling of appropriate and useful behaviors (individual and group) (Teques et al., 2021). According to Riemer and Chelladurai's (1998) model, the criterion of athletes' satisfaction has four subscales of satisfaction with team performance, satisfaction with personal involvement, satisfaction with training, and satisfaction with individual performance. Erikstad et al. (2018) by examining the motivations for continuing to take part in sports activities, found that athlete satisfaction is the most important factor in the team cohesion model. According to research by Pacewicz et al. (2020), team cohesion is one of the most important indicators of success, regardless of win or loss.

Also, the two main factors, athlete satisfaction, and team cohesion are necessary for people to continue in sports activities, improve sports behavior, participation in physical activity, and the amount of effort of athletes

(Brisimis et al., 2018). According to the team cohesion model of Carron et al. (1985), the criterion of team cohesion has four components: teamwork attraction, social attraction to the group, task integration, and social cohesion (Schürer et al., 2021). Given the very important role of cohesion in maintaining sports participation, it is necessary to examine the factors affecting it. Coaches have a lot of interaction with athletes and that is why they can play an important role in increasing the integration of athletes towards each other or vice versa. Thus, the need to study the behaviors of coaches also shows that coach performance is related to their behavior (Bezaire, 2020). The project design and its results can have many educational applications for coaches and athletes in the country because coaches who have survived coach training are more effective than coaches who have passed this course (Junior et al., 2018). As Smittick et al. (2019) have shown that athletes who have worked with trained coaches experience less anxiety, higher levels of anxiety and self-esteem, less stability and solidarity with the coach and team, and are less likely to leave training.

Given that most of the studies conducted on athletes' perceptions of coaching and coaching capacity, and unfortunately the previous research process, less reference to an important feature, (direct relationship between coaching performance and coaching behavior), this article uses Structural equation testing has examined the causal relationships between research variables, perception of athletes 'performance as an effective factor in athletes' satisfaction and their team integration (CE). Thus, using the data and results of this research, dear coaches can identify effective strategies to improve the perception of athletes and their satisfaction and use them to strengthen individual and team cohesion. Also, respected officials of federations and sports officials can use the results of the article to enrich the training courses of coaches at different levels of coaching.

### **Coaching efficiency**

The special role of coaches in sport has led researchers to focus on the impact of "*coaches' effectiveness beliefs on athletes' learning, development, and performance*" (Wagstaff, 2017). Feltz et al. (1999) developed a conceptual model for coaching effectiveness, based on Bandura's (1997) theory and the performance model of teachers Denham and Michael (1981), which was developed as a measure of coach effectiveness in practice (Kamis et al., 2021; Kao et al., 2021; Kaya, 2019). In this conceptual model, Feltz et al. (1999) four dimensions were considered for coaching effectiveness, which affected the results of coaches, individual athletes, and teams. These dimensions include coaches' confidence in (a) their ability to coach the team during the match and guide it to deliver successful performance (game strategy effectiveness), (b) their ability to influence players' skills and mental states (motivational efficiency), (c) their ability to develop and recognize skills (technical efficiency), and (d) their ability to develop their athletes' personality (characterization efficiency) (Parent & Chappolet, 2017).

The effectiveness of the trainers was expressed in the form of several main factors. (A) Strategic performance refers to the coaches' confidence in coaching during the match and their ability to lead the team to achieve successful team performance. (B) Motivational efficiency refers to a coach's confidence in his or her ability to change the mental state and abilities of athletes. (C) The effectiveness of teaching methods refers to the degree to which educators are confident in their diagnostic and training skills. (D) Finally, personality building efficiency involves coaches' perceptions of their abilities to influence personality, maturity, and the development of positive athletic attitudes in the athlete (Potrac et al., 2013).

### **Athlete satisfaction**

Satisfaction is an inner and mental state of participating and enjoying sports. Without satisfaction, athletes look for other sources of success and enjoyment. In this regard, some researchers believe that the main purpose of the exercise is to provide opportunities for athletes through sports participation (Loughead et al.,

2014). It is very important to discuss the satisfaction of athletes because athletes are the main producers and stakeholders of sports. Exercise is like a hobby for athletes, and, athletes spend more time training than competing (Schinke et al., 2016). The study of athlete satisfaction is important for several reasons: First, Daniel (1983) believes that the study of satisfaction is important and vital because the compatibility between achieving an organizational goal and the satisfaction of people within the organization is a necessary and clear goal. And are complementary. Coaches and managers must be sensitive to the satisfaction and enjoyment of the athlete experience (Kroupis et al., 2019). Second, Kendall and Hulin (1969) argue that measuring athlete satisfaction is an important step in developing a general theory that can be used in future research. Finally, although athlete satisfaction has been used as a variable in research, the methods used to do so have been inadequate (Tavakoli et al., 2018). Riemer and Chelladurai (1998) define athlete satisfaction as a positive emotional state that is achieved by a complex evaluation of the structures, processes, and consequences associated with sports experiences. This assessment is based on the difference between what the athlete wanted and what he received. The parameters of this assessment include psychological, physical, and environmental contexts (Baker et al., 2017).

### **Team cohesion**

Team cohesion is the strength and level of interpersonal communication of team members and is a determining factor in team development, for successful teams. It is the interpersonal bond that facilitates the participation of members and keeps them motivated to achieve their goals. Cohesive teams have a "us" attitude (Weinberg & Gould, 2019). Sports psychologists believe that athletes not only need to increase self-awareness but also need to be able to understand the roles, perspectives, values, motivations, and needs of other team members. They have suggested that increasing mutual understanding between team members is the basis of the team-building process (Piasecki et al., 2021). The importance of mutual understanding between team members and the benefits of team dynamics has also been acknowledged by other sports psychologists. For example, Orlick and McCaffrey (1991) state that many problems between team members (which can undermine team dynamism) are the result of not understanding the needs, motivations, and feelings of their teammates (Gallucci, 2013).

Team or group cohesion in sport is defined as a dynamic process that reflects the intensity of the group's concerted efforts to stay united in pursuit of goals or to meet the affective needs of members. According to this definition, team cohesion in sports includes two main dimensions, task cohesion, and social cohesion. Task coherence indicates the degree to which group members are organized and the extent to which they are committed to achieving goals and tasks or tasks. In contrast, social cohesion reflects group attractiveness with aspects that create group attractiveness to strangers (Filho et al., 2015). Successful teams are in control of almost every single situation. Also, in unsuccessful teams, there is a difference in the perception of player cohesion. Researchers have identified differences in perceptions of teamwork cohesion as a possible determinant of team success (Najafi et al., 2018).

According to the model of Shanthi Jacob and Carron (1998), cohesion in sports is multidimensional, dynamic, instrumental, and emotional in nature, and environmental, individual, leadership, and team factors are related to or can predict team cohesion. Leadership factors include leadership behaviours, leadership, decision-making style, personal relationship between coach and athlete, and coach-team relationship. The leadership factor is especially important because coaching behaviours can predict and influence cohesion in sports teams. The characteristics of coaches include the type and number of feedback, training, social support, type of leadership (authoritarian or democratic), and reaction to playing conditions and pressures (McLaren & Spink, 2020). The conceptual model of the research is shown in Figure 1.

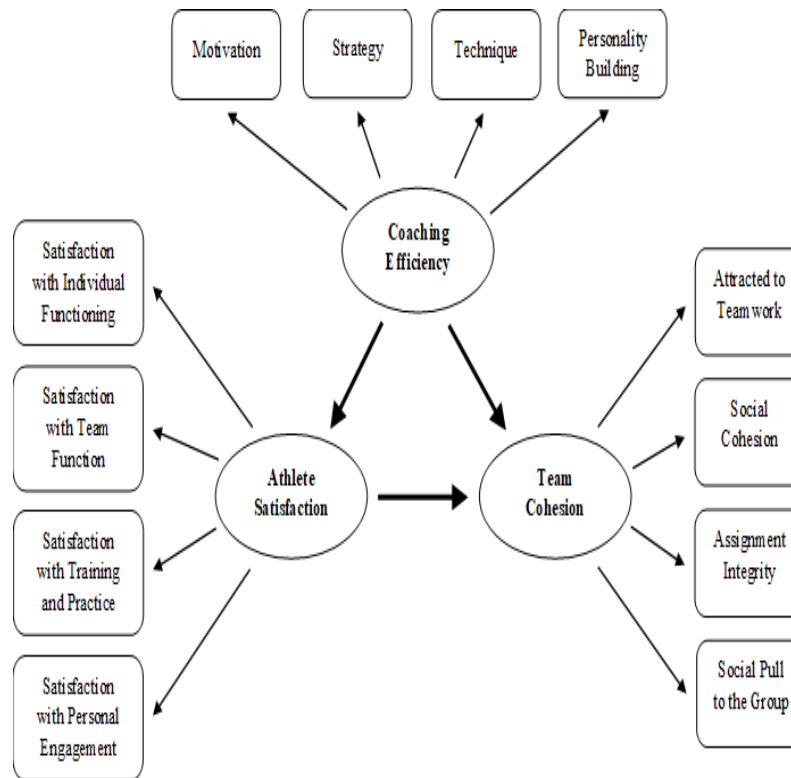


Figure 1. The conceptual model of the research.

## MATERIAL AND METHODS

### *Participants*

The statistical population of this study includes people who all have a history of professional and team sports and also have the least history of membership in a sports team in their field. Selected team sports include football, basketball, volleyball, and handball. The selected sports teams are a combination of men's and women's teams in different age categories. This criterion ensures that all participants are high-performing athletes and that participants in recreational sports are eliminated. The sample is selected by simple random sampling. In the factor analysis method, the number of samples should be at least twice the number of items, which according to the number of items in the research questionnaire (56 items), the number of samples is selected equal to 252 people (4.5 times). Thus, the statistical sample of this study includes 5 football teams (3 men's teams and 2 women's teams), 3 basketball teams (2 men's teams and 1 women's team), 3 volleyball teams (1 men's team and 2 women's teams) and 3 handball teams (2 men's teams and 1 women's team).

### *Procedures*

The tools of the present study include a personal information questionnaire (such as name, age, gender, sports history, type of sport, team history, etc.), and a coaching performance questionnaire (athletes' views on the performance of coaches). Myers et al. (2008) include 26 items, Athlete Satisfaction Questionnaire (level of satisfaction that athletes experience by participating in training), Riemer and Chelladurai (1998) includes 16 items and Team Cohesion Questionnaire (Team Cohesion Assessment) Carron et al. (1985) includes 18 cases (Carron et al., 1985; Myers et al., 2008; Riemer & Chelladurai, 1998). These are based on a Likert value range of 5 (1 = agree, 2 = disagree, 3 = no opinion, 4 = disagree, and 5 = disagree). To test the validity of the research tool, the opinions of 10 professors of sports management and 10 successful coaches

in sports teams are used. After a random study of 42 members of the research sample, Cronbach's alpha results show that the research tools are very reliable (Cronbach's alpha coaching efficiency = 0.92, Cronbach's athlete satisfaction = 0.79, and Cronbach's team cohesion = 0.84). The procedures adopted in this research obey the Criteria of Ethics in Research with Human Beings according to Resolution no. 466/12 of the National Health Council. This research is applied, descriptive and correlational purpose. With the coordination of the trainers of the sample research teams, the mentioned questionnaires are distributed among the players of the teams, and the research data are prepared in this way.

### Analysis

The results of confirmatory factor analysis confirm the construct validity of all research variables. These results also show that all research questions have good external validity in evaluating research variables. The KMO (Kaiser-Mayer-Olkin) test confirms the adequacy of the sample members for path analysis (above 0.7 acceptable). The results of the Bartlett test also show that the correlation matrix between the research variables is not a single matrix. Thus, the structure (factor model) can be identified and defined based on the correlation of variables (Ho et al., 2017). Omit, SPSS, and Amos software is used to analyse the research data. Table 1 shows the results of the above two tests.

Table 1. Results of KMO Test and Bartlett's Test.

KMO Test	Bartlett's Test	
0.749	Chi-Square	2169.863
	Degrees of freedom	52
	Significant	.000**

Note. \*\*significant at the level of  $p \leq .01$ .

## RESULTS

### Description of research topics

The statistical sample of the study includes 252 professional athletes who work with sports teams. Of these, 165 are male (65.5%) and 87 are female (34.5%). Omit, 41 are under 20 years (16.3%), 68 are between 20 and 25 years (27%), 94 are between 25 and 30 years (37.3%) and 49 are over 30 years (19.4%). Also, 39 people are between 1 and 3 years old (15.5%), 66 people are between 3 and 5 years old (26.2%), 84 people are between 5 and 7 years old (33.3%) and 63 people are between 7 and 9 years old (25%). Who has a history of professional sports and membership in a sports team?

### Normality of research variables

Normality of research data is one of the necessary conditions for path analysis. In some studies, multivariate normality, cortisone, and skewness have been used to assess normality (Bardakçı, 2019). Table 2 shows the normality of the research variables.

Table 2. Normality of research variables.

Indicator / Variable	Coaching efficiency	Athlete satisfaction	Team cohesion
Mean	42.94	21.37	17.27
Standard Deviation	8.94	3.59	3.28
Kurtosis	-0.484	-0.240	-0.335
Skewness	-0.365	-0.518	-0.223



According to the table above, Acceptable values of skewness fall between  $-3$  and  $+3$ , and kurtosis is appropriate from a range of  $\pm 10$  when utilizing SEM (Brown, 2006). In addition, the multivariate normality, the kurtosis, and the skewness are also significant. Therefore, we conclude that the distribution of research data is normal. Table 3 shows the correlation matrix between the study variables.

Table 3. Correlation matrix between the study variables.

Variable	Coaching efficiency	Athlete satisfaction	Team cohesion
Coaching efficiency	1		
Athlete satisfaction	0.792**	1	
Team cohesion	0.430**	0.567**	1

Note. \*\*significant at the level of  $p \leq .01$ .

According to Table 3, the results of the Pearson correlation coefficient show that there is a positive and significant relationship between the variables of Coaching Efficiency, Athlete Satisfaction, and Team cohesion at the level of  $p \leq .01$  (Helwig, 2017).

### Factor model and data analysis

In this model, the coaching efficiency variable is considered as an exogenous variable and the variables of athlete satisfaction, and team cohesion are considered as endogenous variables. Various statistics and indicators have been presented to measure the model fit. Because each of these indicators reflects only a particular aspect of the model fit. Thus, several indicators are usually used to measure model fit. To test the fit of the model, among the absolute fit indices, the relative chi-square index (CMIN/DF) (Chi-square fit statistics/degree of freedom) and the second root index, estimating the variance of approximation error (RMSEA) (Root Mean Square Error of Approximation), and among the adaptive fit indices, the CFI (Comparative fit index), TLI (Tucker–Lewis index), IFI (Incremental fit index) and NFI (Normed fit index) indices are used. Figures 2 and 3 show the results of standard and non-standard regression coefficients of structural equation modelling.

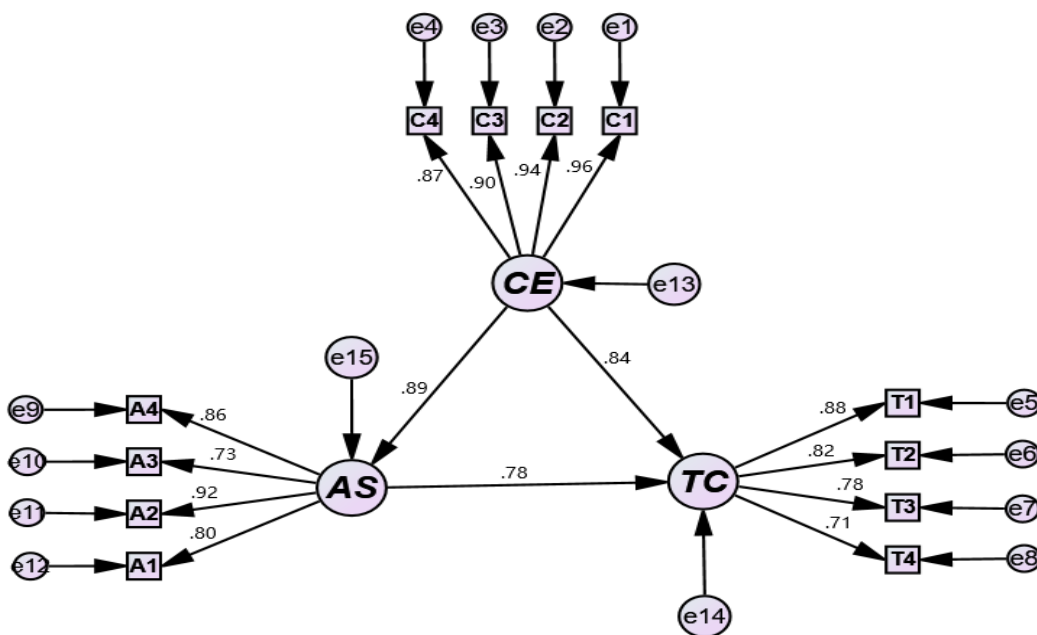


Figure 2. Standard regression coefficients.

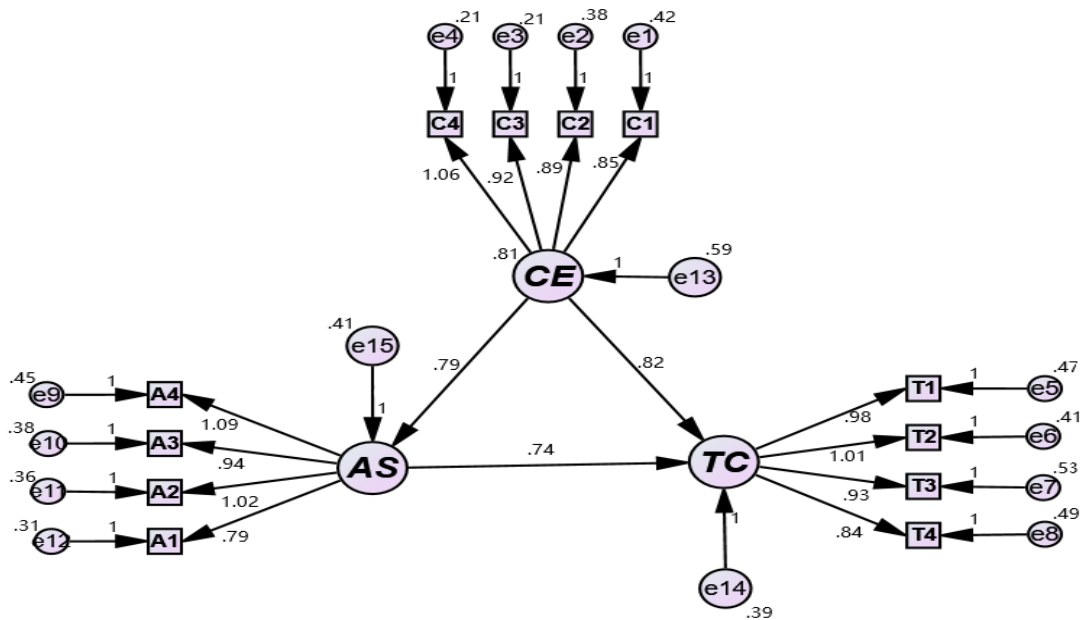


Figure 3. Non-standard regression coefficients.

According to the above figures, standard coefficients, non-standard coefficients, and significant numbers are shown in Table 4.

Table 4. Standard and non-standard coefficients of structural equation modelling.

Path	Standard coefficient	Non-standard coefficient	Significant number
CE→AS	0.89	0.79	9.53
CE→TC	0.84	0.82	6.81
AS→TC	0.78	0.74	6.02

Note. CE (Coaching Efficiency), AS (Athlete Satisfaction), and TC (Team Cohesion).

According to Table 4, all paths are statistically significant. Because the standard coefficients are in the range of ±1 and close to +1, the paths have strong and positive coefficients (Mukaka, 2012). Significance means that the absolute value of the numbers must be greater than 1.96. The greater the significance number than 1.96, indicates that the independent variable has a stronger effect on the dependent variable (Deng, 2016). Table 5 shows the direct, indirect, and total effects of the research variables on each other.

Table 5. Direct, indirect, and total effects.

Path	Direct effect	Indirect effect	Total effect
CE→AS	0.000	0.413	0.413
CE→TC	0.541	0.000	0.541
AS→TC	0.291	0.183	0.474

According to the above table, coaching efficiency has a positive and indirect effect on athletes' satisfaction ( $\beta = 0.413$ ). Also, the effect of coaching efficiency on team cohesion is positive and direct ( $\beta = 0.541$ ). With a positive and direct effect on team cohesion ( $\beta = 0.291$ ), athletes' satisfaction has a positive and indirect



effect on it ( $\beta = 0.183$ ). Examination of the total effect column also shows that coaching efficiency has the greatest effect on team cohesion ( $\beta = 0.541$ ). The model fit indices are shown in Table 6.

Table 6. Results of structural equation modelling fit.

Indicator	Value
CFI	0.997
TLI	0.959
IFI	0.989
NFI	0.974
CMIN/DF	1.487
RMSEA	0.042
p-value	.000

The table above shows that the research fit indicators of the conceptual model are very appropriate. Since CFI, TLI, IFI, and NFI indices are all higher than 0.95, CMIN / DF index is less than 2 and RMSEA index is less than 0.5 (Kline, 2015). Finally, according to the obtained values, the fit of the research model is reported to be good and acceptable.

## DISCUSSION

This study examines the mechanism by which the relationship between the three variables, coaching efficiency, athlete satisfaction, and team cohesion in sports teams is examined. Based on the research literature, a preliminary model is proposed to investigate the relationship between the above variables. The results show that there is a positive and significant relationship between coaching efficiency and team cohesion and athlete satisfaction. Also, other research in this field has confirmed the relationship between coaching performance and athlete satisfaction as well as team cohesion in sports teams (Günel & Duyan, 2020; Junior et al., 2018; Kamis et al., 2021).

For coaches of sports teams, efficiency is an essential feature. Because this feature can help in choosing the best methods and tactics for team success, motivate athletes during training and competition, and create a positive attitude towards sports, and sports behaviours. Thus, the reflection of a coach's behaviour and performance can be reflected in the team performance and individual performance of the athletes who work with him (Keatholetswe & Maletse, 2019; Smittick et al., 2019). The effective behaviour of the coach can affect the athlete's perception and increase and enhance individual satisfaction and improve team cohesion. Only then will the athlete feel satisfied with the coach, his teammates, and his sport. Thus, the coach, according to his efficiency, can strengthen the sense of satisfaction, and individual and group cohesion (CE) in the athlete. Developing and promoting such behaviours in sports environments can improve team performance and cohesion and foster a spirit of satisfaction in athletes. Thus, athletes who experience coaching behaviours with their perception will be more satisfied and better on the team than in training activities (McLaren & Spink, 2020; Pacewicz et al., 2020; Watson & Kleinert, 2019).

In general, the results of the study showed that "*athletes' perceptions of the effectiveness of coaches*" affect their performance, team cohesion, and level of satisfaction. In mediator analysis, the athlete satisfaction variable can play a mediating role between the variables, coaching efficiency, and team cohesion. The effectiveness of the coach tests the athlete's understanding of the coach's ability to promote athlete satisfaction and professional behaviour in the team, to deal with pride and superiority in the team, instil respect for others and technical principles, and to build team cohesion. Technical factors in sports have a

significant impact on promoting the professional personality of athletes, increasing athlete satisfaction and cohesion within the athlete team (García-Calvo et al., 2014; Kao & Tsai, 2016; Kim & Cruz, 2016). Finally, coaches can use strategies and stimuli that give the athlete a sense of satisfaction and effectiveness in the team and lead him to appropriate athletic behaviour and professional cohesion within the team. Such a process can increase the experience of discussing CE (and in groups) and the satisfaction of athletes.

## CONCLUSIONS

Coaches who have passed coaching courses have been more effective, and, the athlete's perception of coaching effectiveness, so affects their motivation, attitude and performance, satisfaction, and individual and group cohesion. Thus, the model presented in this research has many applications for better management of team sports in the departments of coaching training and coaching courses to increase the level of coaching efficiency by including the principles of training efficiency in coaching courses. It also helps the dear coaches to increase the cohesion in the group under their guidance and the level of satisfaction of the athletes, to provide suitable conditions for improving the performance, development, and maintenance of qualified athletes.

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## DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

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