COLLECTIVE EFFICACY AND LEADERSHIP STYLE AMONG ATHLETES FROM TEAM SPORTS

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ABSTRACT
*Leadership style and collective efficacy are among the significant factors related to sports performance and satisfaction with sports activities. Objectives: to reveal the manifestations of leadership style and collective effectiveness of athletes, differentiated by sex, kind of sport, and sports results. The research was conducted among 356 athletes, comprising 193 men and 163 women, who practiced team sports (volleyball, basketball, football, rugby, handball, field hockey, and baseball) with a mean age of 18.6 years (±4.6 years). Methods: The following instruments were used: the Leadership Scale for Sport (LSS) and the Questionnaire for Collective Effectiveness in Sport (CEQS), adapted for Bulgarian conditions. Results: A stepwise regression analysis was applied to reveal the influence of leadership style on collective efficacy. Ability was found to increase through training and instruction (β = .269**) and through receiving social support (β = .277**) from the coaches. Building the training-competition process by applying training and instructions (β = .433**) and promoting democratic behavior (β = .149**) fosters unity. Training and instruction (β = .483**) and democratic behavior (β = .139**) have a positive influence on persistence. Athletes' preparation increases when the activity is structured through training and instructions (β = .353**) and when social support is provided by coaches (β = .269**). Efforts increase when applying training and instructions (β = .395**) and when engaging in democratic behavior (β = .166**). Conclusion: The results of this study provide reason to assume that the leadership style of the coach influences the collective efficacy of athletes practicing team sports.*

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Keywords: *training and instruction; democratic behavior; preparation; persistence.*

INTRODUCTION

In the modern era, numerous scientific surveys have examined the importance of coaches' leadership style and its influence on sports results (Chelladurai & Saleh, 1980; Bandura & Kavussanu, 2018; Li et al., 2025). Leadership is the process by which an individual influences a group of people to achieve a common goal. The coach's style has a significant impact on team performance (Chelladurai, 1993; Kim & Cruz, 2016; Cotterill & Fransen, 2016; Kapitanski, 2022; Jawoosh et al., 2022).

The coaching leadership style is defined by the specific ways and means by which the coach manages the team. One of the primary tasks of the coach is to manage the team and assist the athletes in improving their sports performance. Coaches influence the team through their behavior, actions, decisions, and reactions.

R. Chelladurai and H. Riemer (1998) proposed a multidimensional model of leadership in sport, based on the underlying concepts of leadership in different social spheres. According to the model, athlete satisfaction and team effectiveness are a function of the combined impact of the leader's required, preferred, and actual behaviors. The required behavior of the leader includes the expected and situationally determined features - parameters of the organization, its environment, normative decisions, age, gender, etc. A leader's preferred behavior is influenced by the characteristics of team members and situational variables. Actual behavior is a function of leader characteristics, expected behavior, required behavior, preferred behavior, group effectiveness, and degree of satisfaction. According to Chelladurai, a good sports leader needs to develop their leadership qualities by expanding their technical, cognitive, and emotional skills, depending on the type of sport (Chelladurai, 2007).

Effective leadership is a significant factor in achieving *satisfaction*, as compatibility between the coach and athlete in decision-making, coach support, rewards, and democratic decisions is generally associated with greater athlete satisfaction. Athletes practicing team sports place more importance on positive coaching behavior than those involved in

individual sports; *cohesion* – coaches with a high level of competence, democratic behavior, social support, positive feedback, and low autocratic behavior have teams with greater cohesion; *performance* – losing teams need more social support from their leaders (coaches) to maintain their motivation (Domuschieva-Rogleva, 2023b).

Numerous studies in the field of sports have found that the most commonly applied coaching leadership styles are training and instruction, positive feedback, social support, and democratic leadership (Hampson & Jowett, 2014; Iancheva & Prodanov, 2019; Kapitanski, 2022; Leo et al., 2022; Zhu et al., 2024).

Conversely, if the coach is autocratic, expresses themselves in an authoritarian tone, refuses to change their mind, and makes all decisions without considering the players, this can reduce the players' confidence in their ability to face rivalry and create divisions and tension among them, leading to a lack of unity within the team. From this perspective, it is important that coaches, through their actions and the way they lead and guide their players, enhance the sense of collective efficacy and foster stronger team unity (Hampson & Jowett, 2014; Hoigaard et al., 2015; Leo et al., 2022).

Another important factor that influences the functioning and performance of sports teams is collective efficacy (Bandura, 1997; Heuzé et al., 2006; Stajkovic et al., 2009; Yordanov, 2022; Leo et al., 2022; Hamaidi et al., 2025).

Collective efficacy is defined as "a group's belief in their conjoint capabilities to organize and execute the courses of action required to produce a given level of attainments" (Bandura, 1997, p. 477). Collective efficacy in sports is entirely focused on the capabilities of the team. It is not measured by an individual's confidence in themselves or in another team member, but rather by each member's confidence in the entire group (Elms et al., 2023). It is a motivational state that emerges at the team level and helps guide the team's efforts toward accomplishing a given task (Rapp et al., 2021).

Collective efficacy influences how team members make decisions, their level of cooperation, their motivation and engagement, as well as their ability to overcome challenges. This shared belief highlights the importance of joint efforts and perseverance, shaping the overall behavior and success of the sports team (Hamaidi et al., 2025).

Teams with higher collective efficacy tend to perform better and accomplish their goals more than those with lower collective efficacy (Hepler et al., 2021).

Numerous studies have established a positive relationship between collective efficacy and numerous other factors: performance (Stajkovic et al., 2009; Elms et al., 2023), satisfaction (Luu & Narayan, 2017; Ganotice, et al., 2022), group cohesion (Heuzé et al., 2006; Ganotice, et al., 2022), leadership style (Høigaard et al., 2015; Leo et al., 2022), task goal orientation (Blecharz et al., 2014; Junior et al., 2019) mastery-oriented motivational climate, coach-athlete relationship (Heuzé et al., 2006 b; Kao & Watson, 2014; Çepikkur & Eren, 2017).

This study aimed to reveal the interrelationships between leadership style and collective efficacy in athletes differentiated by gender, type of sport, and ranking.

METHODOLOGY

1. Leadership Scale for Sport – LSS (Chelladurai & Saleh, 1980), adapted to Bulgarian conditions (Fenerova et al., 2011). The test includes five subscales: training and instruction, democratic behavior, autocratic behavior, social support, and positive feedback.

2. Collective efficacy questionnaire in sport – CEQS (Short, Sullivan, and Feltz, 2005), adapted to Bulgarian conditions (Iancheva et al., 2012). The test contains five subscales: abilities, unity, persistence, preparation, and effort.

Participants: The research was conducted among 356 athletes (193 men, 163 women) participating in team sports, including volleyball, football, basketball, handball, rugby, field hockey, and baseball, with a mean age of 18.6 years (±4.6). There are 173 medal-winning athletes, and 183 are ranked after third place. Signed informed consent for voluntary participation in the study was obtained from a parent or participant, respectively. SPSS 25.0 was used for statistical processing. A set of statistical procedures was applied: descriptive statistics, comparative analysis (Mann-Whitney (U) - for two samples, Kruskal-Wallis (H) test - for more than two groups of subjects), correlation, and regression analysis.

RESULTS

Regarding the leadership style, the leading subscales among the researched individuals were training and instructions ($M = 4.20$, $SD = 0.63$) and positive feedback ($M = 3.88$, $SD = 0.68$). Authoritarian behavior had the lowest values ($M = 2.56$, $SD = 0.88$) (Table 1).

Table 1. *Average values of the leadership style of the studied persons overall and grouped by sex*

Variables	Training and instruction		Democratic behavior		Autocratic behavior		Social support		Positive feedback	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Athletes in the research	4.20	0.63	3.48	0.77	2.56	0.88	3.72	0.76	3.88	0.68
Women	4.22	0.78	***3.37***	0.78	***2.43***	0.82	***3.74***	0.78	3.80	0.71
Men	4.18	0.62	***3.57***	0.76	***2.67***	0.91	***3.70***	0.75	3.95	0.65

***Darker numbers in this and the following tables indicate the presence of statistically significant differences in the studied variables between individual groups*

The authoritarian leadership style was more frequent in the group of men (U = 13058.000; p = .006) (Mann-Whitney test). The democratic style was also reported more frequently in the same groups (U = 13271.500; p = .011). In addition, the men received more often positive feedback (U = 13838.500; p = *.050*) than the female group.

Regarding the type of sport, statistically significant differences (Kruskal-Wallis test) were found among three subscales characterizing the leadership style: democratic behavior (H = 6.158; p = .001), social support (H = 24.949; p = .001), and autocratic behavior (H = 13.410; p = .037).

Baseball coaches apply training sessions and instructions (M = 4.52; SD = 0.24), provide positive feedback (M = 4.34; SD = 0.99), use an authoritarian style most rarely (M = 2.13; SD = 0.79), and offer social support (M = 3.16; SD = 0.36). Rugby coaches typically apply an authoritarian style (M = 3.00; SD = 1.29), but also provide social support (M = 4.09; SD = 0.59). Field hockey coaches rarely resort to the democratic style (M = 3.24; SD = 0.87) and the authoritarian style (M = 2.66; SD = 0.68) (Table 2).

Table 2. *Average values of leadership style according to the type of sport*

Variables	Training and instruction		Democratic behavior		Autocratic behavior		Social support		Positive feedback	
Type of sport	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
Volleyball	4.26	0.48	***3.37***	0.74	***2.39***	0.75	***3.85***	0.72	3.86	0.60
Basketball	4.21	0.43	***3.31***	0.59	***2.50***	0.63	***3.53***	0.67	3.90	0.56
Football	4.23	0.59	***3.44***	0.83	***2.56***	0.95	***3.67***	0.81	3.84	0.73
Handball	4.24	0.53	***3.83***	0.59	***2.70***	0.73	***3.85***	0.60	3.97	0.58
Rugby	4.10	0.83	***3.96***	0.70	***3.00***	1.23	***4.09***	0.59	4.04	0.58
Field hockey	3.76	1.09	***3.24***	0.87	***2.66***	0.68	***3.50***	1.04	3.59	0.99
Baseball	4.52	0.24	***3.27***	0.45	***2.13***	0.79	***3.16***	0.36	4.34	0.33

There were no statistically significant differences among the individuals who were researched, depending on their sports results. The group of the medalists' activity is characterized by training and instructions (M = 4.24; SD = 0.61), an authoritarian style (M=2.59; SD=0.84), and positive feedback (M=3.91; SD=0.88), compared to those ranked after third place. The second group is often subjected to a democratic style (M = 3.52, SD = 0.79) and social support (M = 3.73, SD = 0.78) (Table 3).

Table 3. *Average values of leadership style according to the sports results*

Variables	Training and instruction		Democratic behavior		Autocratic behavior		Social support		Positive feedback	
Sports results	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
I-III place	4.24	0.61	3.43	0.76	2.59	0.84	3.71	0.75	3.91	0.64
after III place	4.16	0.64	3.52	0.79	2.53	0.91	3.73	0.78	3.86	0.72

The results of the study on the collective efficacy of the subjects in general show that the highest mean values were effort (M = 4.10; SD = 0.63), followed by persistence (M = 4.06; SD = 0.69), unity (M = 3.95; SD = 0.73) while the values obtained for preparation (M = 3.91; SD = 0.72) and abilities (M = 3.85; SD = 0.70) were the lowest (Table 4). Similar trends were found in other studies (Iancheva & Iskrov, 2011; Yordanov, 2012; Iskrov, 2016).

Table 4. *Average values of collective efficacy of the studied persons overall and grouped by sex*

Variables	Ability		Unity		Persistence		Preparation		Effort	
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*
Athletes in the research	3.85	0.70	3.95	0.73	4.06	0.69	3.91	0.72	4.10	0.65
Women	3.90	0.71	3.94	0.74	4.05	0.68	3.92	0.76	4.07	0.63
Men	3.81	0.69	3.96	0.72	4.06	0.69	3.91	0.69	4.13	0.66

The gender factor does not significantly affect athletes' expectations of collective efficacy either. These results were also confirmed in other studies (Iancheva et al., 2012; Yordanov, 2022).

For the athletes studied, grouped by sports disciplines, preparation (H = 13.130; p = .041) (Kruskal-Wallis test) was statistically significantly higher for volleyball (M = 4.08; SD = 0.60) and rugby (M = 3.95; SD = 0.83) players compared to the other groups of athletes.

Regarding the sports results, in the prize-winners group, expectations for collective efficacy were statistically significantly higher in terms of the subscales: abilities (U = 129575.500; p = .001), perseverance (U = 13072.000; p = .036), preparation (U = 13072.000; p = .004), effort (U = 13753.000; p = .031) collective efficacy (total) (U = 13318.500; p = .010), compared to athletes ranked after third place (Table 5). These results are expected because teams with higher levels of collective efficacy are expected to perform better than teams with low levels of collective efficacy (Yordanov, 2022).

Table 5. *Mean values of collective efficacy according to sports results*

Variables	Ability		Unity		Persistence		Preparation		Effort		Collective efficacy	
Sports results	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***
I-III place	***3.94***	0.73	4.00	0.74	**4.12**	0.70	***4.01***	0.75	***4.18***	0.56	***4.05***	0.64
after III place	***3.76***	0.66	3.90	0.72	**3.99**	0.67	***3.83***	0.68	***4.04***	0.64	***3.90***	0.60

Correlation analysis (Spearman's test) was applied to reveal the relationships and interdependencies between the studied variables. Positive correlations were found between the components of leadership style —training and instructions, democratic style, autocratic behavior, social support, and positive feedback —and the components of collective efficacy: abilities, unity, persistence, preparation, and effort (Table 6).

Table 6. *The correlation analysis results between the leadership style components and collective efficacy.*

Variables	Abilities	Unity	Persistence	Preparation	Effort	Collective efficacy
Training and instruction	.466**	.527**	.554**	.519**	.525**	.573**
Democratic behavior	.326**	.373**	.386**	.396**	.372**	.407**
Autocratic behavior						
Social support	.430**	.413**	.405**	.474**	.403**	.470**
Positive feedback	.344**	.424**	.448**	.385**	.422**	.449**

Note: p=.05; ** p=.01*

A stepwise regression analysis was conducted to investigate the impact of leadership style on collective efficacy. Ability was found to increase through training and instruction (β = .269**) and through receiving social support (β = .277**) from coaches. Building the training–competition process by applying training and instruction (β = .433**) and promoting democratic behavior (β = .149**) fosters unity. Training and instruction (β = .483**) and democratic behavior (β = .139**) have a positive influence on persistence. Athletes' preparation increases when the activity is structured through training and instruction (β = .353**) and when they are provided with social support (β = .269**) by coaches. Effort increases when training and instruction are applied (β = .395**) and when democratic behavior is observed (β = .166**) (Table 7).

Table 7. *Results of regression analysis*

Variables	Training and instruction				Social support				Democratic behavior			
	β	*t*	*sig.*	*Δ R²*	*β*	*t*	*sig.*	*Δ R²*	*β*	*t*	*sig.*	*Δ R²*
Ability	0.269	4.504	.001	0.239	0.277	4.652	.001	0.197				
Unity	0.433	8.247	.001	0.261					0.149	2.828	.005	0.275
Persistence	0.483	9.430	.001	0.306					0.139	2.720	.007	0.318
Preparation	0.353	6.231	.001	0.271	0.269	4.739	.001	0.312				
Efforts	0.395	7.333	.001	0.229					0.166	3.085	.002	0.251

DISCUSSION

This study aims to reveal the characteristics of the leadership style and collective efficacy used by team sports athletes. Regarding the leadership style, the leading subscales among the researched individuals were training and instructions, as well as positive feedback. Other authors have reached similar conclusions (Calvo & Topa, 2019; Abako et al., 2019; Domuschieva-Rogleva, 2023). Authoritarian behavior had the lowest values. This has been confirmed by other researchers (Iancheva & Prodanov, 2019; Kapitanski, 2022; Domuschieva-Rogleva, 2023; Abieraba et al., 2025).

Regarding collective efficacy, the leading subscales among the researched individuals were effort, persistence, and unity. Other studies have also established similar trends (Iancheva & Iskrov, 2011; Yordanov, 2012; Iskrov, 2016).

The gender factor does not significantly affect athletes' expectations of collective efficacy either. These results were also confirmed in other studies (Iancheva et al., 2012; Iskrov, 2016; Yordanov, 2022).

A positive correlation was found between leadership style and collective efficacy. These results were also confirmed in other studies (Høigaard et al., 2015; Leo et al., 2022).

The established trends in this study give reason to assume that the coach's leadership style plays a significant role in forming collective efficacy. Applying a democratic style, structuring team actions through training, and coaches giving social support increase the components of collective efficacy: abilities, unity, persistence, preparation, and effort.

CONCLUSION

The results of this study suggest that the coach's leadership style may influence the collective efficacy of athletes participating in team sports. They serve as a valuable guide for coaches on utilizing specific aspects of leadership style to foster collective efficacy, leading to optimal sports performance and satisfaction with sports activities.

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