The Impact of Leadership Behaviors of College Basketball Coaches in Hubei Province on Team Cohesion

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ABSTRACT

Study investigated the influence of basketball coaches' leadership behaviors on team cohesion among university athletes in Hubei Province. A total of 200 questionnaires were distributed and 182 valid responses were collected (response rate = 91%). Two validated instruments, the Leadership Scale for Sports and the Group Environment Questionnaire, were employed, with Cronbach's α values of 0.874 and 0.853, KMO values of 0.812 and 0.894, and significant Bartlett's tests ($p < 0.01$), confirming good reliability and validity. Descriptive results indicated that coaches' leadership behaviors were at a moderately high level (M = 3.441, SD = 0.646), with democratic behavior rated highest, reward behavior second, and autocratic behavior lowest. Team cohesion was also at a favorable level (M = 3.447, SD = 0.697), with group social integration highest and group social attraction lowest. Correlation analysis revealed that overall leadership behavior was positively associated with team cohesion (r = 0.723, $p < 0.01$). Specifically, training and instruction, democratic behavior, social support, and reward behavior were positively correlated with cohesion, while autocratic behavior was negatively correlated. Regression analysis further demonstrated that training and instruction (β = 0.240), democratic behavior (β = 0.195), social support (β = 0.171), and reward behavior (β = 0.190) were significant positive predictors of team cohesion, whereas autocratic behavior was a significant negative predictor (β = –0.222). The model explained 55.6% of the variance ($R^2 = 0.556$, F = 23.821, $p < 0.001$). Overall, the findings suggest that positive leadership behaviors enhance team cohesion, while autocratic behavior weakens it, providing empirical evidence and practical implications for coaching and team management in university basketball.

Keywords: Basketball coaches; Leadership behavior; Team cohesion; University athletes; Empirical study

INTRODUCTION

In the context of physical education in Chinese universities, basketball, as one of the most popular team sports among students, not only serves as an important means of improving physical fitness and cultivating athletic skills, but also plays a crucial role in fostering cooperation and team spirit (Wang, 2022). In basketball, coaches are responsible not only for training and tactical guidance during competitions but also for significantly influencing athletes' psychological states and team cohesion through their leadership behaviors. Recent studies have confirmed that leadership behaviors are critical factors affecting both team performance and athlete satisfaction (Oh, 2023; Sun, 2022).

Team cohesion, as a core concept in group psychology, refers to the degree of unity, emotional bonds, and sense of belonging experienced by team members in the pursuit of shared goals (Zhao, 2025). In the context of university basketball, cohesion is reflected both in tactical coordination and execution on the court, as well as in off-court relationships and psychological support. Empirical research has demonstrated that higher levels of cohesion not only enhance athletic performance but also effectively reduce athletes' psychological fatigue and strengthen their sense of belonging and satisfaction within the team (Wang, 2024; Liu, 2025).

More recent scholarship has also emphasized the importance of leadership styles. Transformational and supportive leadership, for instance, have been shown to foster stronger task cohesion and social cohesion, while authoritarian or autocratic leadership tends to weaken emotional bonds among athletes (Adiloğulları, 2025;

Schei, 2023). Similarly, democratic leadership and social support behaviors encourage active participation, enhance trust, and improve the overall team atmosphere (Lam, Drcar, & Song, 2021; Solakumur, 2022).

Despite these advances, most existing studies have focused on professional teams or elite sports groups, while relatively few have examined the university basketball context in China (Zhang & Wang, 2021). In Chinese universities, basketball players are primarily non-professional athletes who must balance academic responsibilities with training, and thus their psychological needs and team goals differ significantly from professional athletes. Therefore, there is a pressing need to conduct systematic empirical studies on the relationship between coaches' leadership behaviors and team cohesion within the university basketball setting in China.

This study focuses on university basketball players in Hubei Province and adopts questionnaire surveys and statistical analysis to empirically examine the influence of coaches' leadership behaviors on team cohesion. The purpose of this research is not only to enrich theoretical understanding but also to provide practical implications for coaching strategies and team management in Chinese universities.

METHODOLOGY

This study adopted a quantitative research design and collected data through a questionnaire survey to examine the influence of coaches' leadership behaviors on team cohesion. The participants were basketball players from five universities in Hubei Province. A total of 200 questionnaires were distributed, and 182 valid responses were returned, yielding a response rate of 91%. The sample covered players of different genders, grades, years of training, and playing positions to ensure representativeness. Two instruments were employed: the first was the Leadership Scale for Sports (Chelladurai & Saleh, 1980; revised by Cai), which consists of 40 items across five dimensions—training and instruction, democratic behavior, autocratic behavior, social support, and positive feedback; the second was the Group Environment Questionnaire (Carron et al., 1985; revised by Li), which measures task cohesion and social cohesion with a total of 18 items. Both instruments adopted a five-point Likert scale and have been validated in domestic and international research, making them suitable for Chinese university athletes. Data were collected through a combination of online and offline surveys, ensuring anonymity and voluntary participation. Reliability and validity tests showed that the Leadership Scale for Sports had a Cronbach's α of 0.874, while the Group Environment Questionnaire had a Cronbach's α of 0.853; the KMO values were 0.812 and 0.894, respectively, and Bartlett's tests of sphericity were significant ($p < 0.01$), indicating good reliability and construct validity of the scales. Data analyses were conducted using SPSS 26.0, including descriptive statistics, correlation analysis, and multiple regression analysis.

ANALYSIS AND RESULTS

Before conducting statistical analyses on the 182 valid questionnaires, reliability and validity tests were performed on the scales. The Cronbach's α coefficient of the Leadership Scale for Sports was 0.874, and that of the Group Environment Questionnaire was 0.853, both indicating high levels of internal consistency. The KMO values were 0.812 and 0.894, respectively, and Bartlett's tests of sphericity were significant ($p < 0.01$), suggesting that the scale structures were reasonable and the data were suitable for further analysis.

Descriptive Statistics of Coaches' Leadership Behaviors

Table 1 presents the descriptive statistics of the dimensions of coaches' leadership behaviors. The overall mean score of leadership behavior was 3.441 (SD = 0.646), indicating a moderately high level. Among the dimensions, democratic behavior had the highest mean (M = 3.815, SD = 0.858), ranking first, followed by reward behavior (M = 3.560, SD = 0.868). Social support behavior ranked third (M = 3.384, SD = 0.999), training and instruction behavior ranked fourth (M = 3.221, SD = 0.918), and autocratic behavior had the lowest score (M = 2.778, SD = 0.928), ranking fifth.

Table I Descriptive Statistics of Coaches' Leadership Behaviors

Dimension	Minimum	Maximum	M	SD	Rank
Training Teaching Behavior	1.20	4.80	3.221	0.918	4
Democratic Behavior	1.00	5.00	3.815	0.858	1
Authoritarian Behavior	1.00	4.80	2.778	0.928	5
Social Support Behavior	1.25	5.00	3.384	0.999	3
Reward Behavior	1.20	5.00	3.560	0.868	2
Coach Leadership Behavior	1.59	4.76	3.441	0.646	/

The results indicate that basketball coaches in Hubei's universities generally tend to adopt democratic and reward-oriented leadership styles, while relying less on autocratic leadership.

Descriptive Statistics of Team Cohesion

Table 2 presents the descriptive statistics of team cohesion among university basketball players. The overall mean score of cohesion was 3.447 (SD = 0.697), indicating a relatively good level. Among the dimensions, group social integration scored the highest (M = 3.549, SD = 0.862), ranking first, followed by group task integration (M = 3.496, SD = 0.946) and group task attraction (M = 3.400, SD = 0.926). Group social attraction had the lowest score (M = 3.343, SD = 0.796), ranking fourth. These results suggest that university basketball teams demonstrate strong consistency in goal identification and task execution, but relatively weaker performance in emotional interaction and social attraction among members.

Table II Descriptive Statistics of Team Cohesion

Dimension	Minimum	Maximum	M	SD	Rank
Group social attraction	1.25	4.75	3.343	0.796	4
Group task attraction	1.33	5.00	3.400	0.926	3
Group social cohesion	1.25	5.00	3.549	0.862	1
Group task cohesion	1.00	5.00	3.496	0.946	2
Team cohesion	1.52	4.94	3.447	0.697	/

Correlation analysis

To further examine the relationship between coaches' leadership behaviors and team cohesion, Pearson correlation analysis was conducted. The results are presented in Table 3. The analysis revealed that training and instruction, democratic behavior, social support, and reward behavior were all significantly and positively correlated with team cohesion (r = 0.521, 0.511, 0.513, 0.496, all $p < 0.01$), whereas autocratic behavior was significantly and negatively correlated with team cohesion (r = –0.513, $p < 0.01$). In addition, the overall leadership behavior score was significantly and positively correlated with team cohesion (r = 0.723, $p < 0.01$), indicating that overall leadership behaviors exert a strong positive influence on team cohesion.

Table III Correlation Analysis Between Coaches' Leadership Behaviors And Team Cohesion

	1	2	3	4	5	6	7
1.Training Teaching Behavior	1						
2.Democratic Behavior	.340	1					
3.Authoritarian Behavior	-.338	-387	1				
4.Social Support Behavior	.392	.363	-368	1			
5.Reward Behavior	.356	.360	-399	.428	1		
6.Coach Leadership Behavior	.688	.682	-707	.738	.713	1	
7.Team Cohesion	.521	.511	-.513	.513	.496	.723	1

Note : $p<0.01$

Regression analysis

A multiple stepwise regression analysis was conducted with team cohesion as the dependent variable and the five dimensions of leadership behavior as independent variables. The results are presented in Table 4. The regression model was overall significant (F = 23.821, p < 0.001), with an explained variance of $R^2 = 0.556$, indicating that coaches' leadership behaviors accounted for 55.6% of the variance in team cohesion. The Durbin–Watson statistic was 1.866, close to 2, suggesting that there was no serious autocorrelation problem in the model.

Table IV Regression Analysis Of Coaching Leadership Behavior On Team Cohesion

	B	SE	β	t	p
(Constant)	2.014	1.002		2.009	0.001
Training Teaching Practices	0.322	0.095	0.240	4.227	0.000
Democratic Behavior	0.090	0.073	0.195	3.401	0.003
Authoritarian Behavior	-0.011	0.076	-0.222	-3.824	0.000
Social Support Behavior	-0.067	0.074	0.171	2.920	0.007
Reward Behavior	0.949	0.072	0.190	3.249	0.005
Model Metrics	F=23.821 R^2=0.556 D-W=1.866				

Note : $p<0.001$, $p<0.01$, $p<0.05$

At the dimensional level, training and instruction (β = 0.240, p < 0.001), democratic behavior (β = 0.195, p < 0.01), social support (β = 0.171, p < 0.01), and reward behavior (β = 0.190, p < 0.01) were all significant positive predictors of team cohesion, whereas autocratic behavior was identified as a significant negative predictor (β = –0.222, p < 0.001).

DISCUSSION

This study, through a survey of 182 basketball players from five universities in Hubei Province, revealed the relationship between coaches' leadership behaviors and team cohesion. The results were largely consistent with relevant domestic and international research. First, in terms of the current status of leadership behaviors, the overall level of coaches was above average, with democratic behavior scoring the highest (M = 3.815) and autocratic behavior the lowest (M = 2.778). This indicates that college basketball coaches tend to communicate on an equal footing, respect players' opinions during coaching, and less often adopt tough and commanding management styles. This is consistent with Wang's (2020) research findings, which suggest that a democratic leadership style can enhance athletes' enthusiasm and team identity.

Secondly, the overall mean of team cohesion was 3.447, which was at a good level. Among them, the consistency of group social interaction was the highest (M=3.549), while the attraction of group social interaction was the lowest (M=3.343). This indicates that college basketball players perform strongly in terms of goal consistency and cooperation, but there are deficiencies in emotional connection and social interaction. This finding is consistent with the research results of Zhang and Wang (2021), that is, college athletes often attach more importance to competition goals and neglect interpersonal relationships and emotional communication.

In the relevant analysis, training and teaching, democracy, social support, and rewarding behavior were all significantly positively correlated with team cohesion (r = 0.496 - 0.521, p < 0.01), while autocratic behavior was significantly negatively correlated with team cohesion (r = -0.513, p < 0.01). This further validates that positive leadership behaviors can promote team cohesion, while negative leadership behaviors can weaken it (Chelladurai & Saleh, 1980).

The results of the regression analysis indicate that training instruction (β = 0.240), democracy (β = 0.195), social support (β = 0.171), and rewarding behavior (β = 0.190) are significant positive predictors of team cohesion, while autocratic behavior is a negative predictor (β = -0.222). The model explains 55.6% of the variance (R^2 = 0.556). This suggests that coaches' positive leadership behaviors not only significantly enhance players' sense of goal alignment and cooperative spirit but also improve the team atmosphere and cohesion. Conversely, autocratic behavior can undermine trust and emotional connections among team members, thereby reducing team cohesion. This finding is in line with the research of Li and Harmer (2019), who pointed out that humanistic and caring leadership can enhance team trust and collaboration, while authoritative leadership may lead to tension and alienation.

In conclusion, this study verified the applicability of the multi-dimensional leadership behavior theory in the context of college basketball in China, enriched the domestic empirical research on the relationship between coaches' leadership behavior and team cohesion, and provided data support for practice.

CONCLUSIONS AND SUGGESTIONS

This study, based on a survey of basketball players from universities in Hubei Province, found that coaches' overall leadership behaviors were at a relatively high level, with democratic behaviors being the most prominent and autocratic behaviors the least frequent. This indicates that coaches tend to adopt communicative and participatory management styles rather than authoritarian approaches. Team cohesion was also found to be at a favorable level, with players demonstrating stronger performance in goal coordination and task identification, but relatively weaker performance in emotional interaction and social engagement.

Further analysis revealed that positive leadership behaviors were significantly and positively correlated with team cohesion. Specifically, training and instruction, democratic leadership, social support, and reward behaviors all effectively enhanced cohesion, while autocratic behavior exerted a negative influence. These findings suggest that coaching styles largely determine the level of team cohesion, with positive leadership being more conducive to building cohesive teams.

From a practical perspective, university basketball coaches should continue to strengthen scientific training and instruction to help athletes improve their technical skills and goal identification. Coaches are encouraged to

advocate democratic communication, involve players in decision-making processes, and foster a greater sense of responsibility and belonging. At the same time, providing social support and emotional care is essential, with attention given to athletes' psychological well-being and daily needs to create a positive team atmosphere. Furthermore, the adoption of reasonable reward mechanisms can enhance athletes' motivation and sense of team honor. In contrast, excessive autocratic management may undermine trust and collaboration and should be avoided. Finally, university basketball teams should enhance emotional interaction and social attraction through team-building activities, psychological counseling, and cultural exchange, thereby promoting both competitive performance and psychological development.

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