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Coach Leadership Style, Team Cohesion, and Competitive Performance in University Team Sports

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ABSTRACT: Coach leadership style strongly influences university team sports because it shapes how athletes understand their roles, communicate under pressure, and remain committed to collective goals. This study examined the relationships among perceived coach leadership style, team cohesion, and competitive performance in university team-sport athletes. We used a cross-sectional field design with 264 athletes from 22 university teams, including 132 men and 132 women. Athletes completed leadership and cohesion questionnaires based on established sport psychology frameworks, and competitive performance was represented by a composite score derived from season outcomes, match consistency, and coach-rated performance. We used one-way analysis of variance, Pearson correlations, multiple regression, and mediation analysis, with statistical significance set at $p < 0.05$. Athletes reporting a supportive-transformational leadership profile showed higher task cohesion than those reporting a directive/low-support profile (7.11 +/- 0.96 vs. 5.61 +/- 0.95, $p < 0.001$) and a higher competitive performance composite (65.99 +/- 7.90 vs. 61.64 +/- 8.10, $p = 0.001$). Positive leadership correlated with task cohesion ($r = 0.63$, $p < 0.001$) and performance ($r = 0.29$, $p < 0.001$), and task cohesion correlated with performance ($r = 0.29$, $p < 0.001$). Mediation analysis indicated that task cohesion partially explained the leadership-performance relationship. These findings suggest that university teams benefit when coaches combine clear instruction with support, feedback, and athlete-centered communication.

Keywords: coach leadership; team cohesion; competitive performance; university athletes; sport psychology.

I. INTRODUCTION

University team sport is a demanding environment where athletes are expected to train regularly, compete under public evaluation, manage academic workloads, and remain committed to group goals throughout a long season. In this context, the coach is not only a technical instructor. The coach also acts as a social leader who shapes how athletes understand their roles, respond to pressure, communicate after mistakes, and remain connected to team objectives. For many university athletes, the coach connects preparation, selection, tactical direction, team discipline, and the emotional climate. This makes coach leadership style a central variable in sport psychology and applied sport science.

Coach leadership style is the pattern of behaviors through which a coach instructs, motivates, supports, disciplines, and organizes athletes. Classical sport leadership research has commonly described leadership through dimensions such as training and instruction, democratic behavior, autocratic behavior, social support, and positive feedback [1]. These dimensions remain useful because they describe behaviors that athletes can observe in everyday practice. Training and instruction refers to technical teaching, tactical planning, and error correction. Democratic behavior reflects the extent to which athletes can contribute to team decisions. Autocratic behavior reflects coach-centered authority and limited athlete input. Social support refers to concern for athletes as people, and positive feedback refers to recognition and encouragement for effort, progress, and

performance. These leadership behaviors may not affect performance in a simple, direct way. They may first influence the team's social structure, especially its level of cohesion.

Team cohesion is a group's tendency to remain united while pursuing shared objectives and satisfying members' social needs. In team sports, researchers usually divide cohesion into task cohesion and social cohesion [2]. Task cohesion reflects a shared commitment to team goals, acceptance of roles, tactical cooperation, and collective effort. Social cohesion describes interpersonal attraction, belonging, friendship, and emotional connection. Both dimensions matter, but task cohesion is often expected to link more strongly to competitive performance because it directly supports coordinated action and shared performance standards. A university team may enjoy strong friendships but still perform poorly if tactical roles are unclear. Conversely, a team may not be socially close in every respect but may compete effectively when members trust the game plan and accept their responsibilities.

The relationship between coach leadership, cohesion, and competitive performance is important because university teams often have limited time to develop. Student-athletes may change each season due to academic placement, injury, or team-selection decisions. Coaches must therefore build a functional team climate quickly while maintaining performance expectations. A supportive, structured leadership style may help athletes feel included, understand their contribution, and stay committed to group standards. A highly controlling style may sometimes produce short-term compliance, but it may also reduce communication, decrease trust, and weaken athlete ownership of the team's goals. The most effective coaching environment therefore combines clear instruction and standards with respect, feedback, and enough athlete voice to support commitment.

Competitive performance in university team sports is not determined by leadership alone. Talent level, training load, tactical quality, injury availability, opponent strength, facilities, and schedule difficulty also influence it. However, leadership and cohesion are modifiable features of the sport environment. A team with average physical talent may outperform expectations if athletes communicate well, accept roles, and respond collectively during difficult match situations. A talented team may underperform if athletes distrust the coach, compete for status, or fail to support one another when the score is close. For this reason, examining leadership and cohesion together may provide better insight than studying either variable separately.

This study examined the relationships among perceived coach leadership style, team cohesion, and competitive performance in university team sports. The study focused on men and women competing in university team environments because this population is old enough to report coach behaviors reliably and young enough for the sport environment to influence ongoing development. We used a cross-sectional field design to examine leadership dimensions, task and social cohesion, and a competitive performance composite. The analysis tested whether positive leadership dimensions were associated with cohesion, whether cohesion was associated with performance, and whether task cohesion helped explain the association between leadership and performance.

1. AIMS

- To describe perceived coach leadership style in university team-sport athletes.
- To compare task cohesion, social cohesion, and competitive performance across leadership-style profiles.
- To examine the relationships among coach leadership dimensions, team cohesion, and competitive performance.
- To determine whether positive leadership behaviors predict task cohesion and social cohesion after adjustment for age and sex.
- To test whether task cohesion partially mediates the relationship between positive coach leadership and competitive performance.

2. HYPOTHESES

- Positive coach leadership behaviors will be significantly associated with higher task cohesion and social cohesion.
- Autocratic leadership behavior will show a negative association with team cohesion.
- Task cohesion will show a significant positive association with competitive performance.
- University teams in the supportive-transformational leadership profile will show higher cohesion and better competitive performance than teams in the directive/low-support profile.

- Task cohesion will partially mediate the relationship between positive coach leadership and competitive performance.

II. LITERATURE REVIEW

The study of coach leadership in sport has developed from broader leadership theory and from models designed specifically for athletic settings. Early research emphasized that athletes respond not only to what coaches know but also to how coaches deliver instruction, communicate expectations, and manage interpersonal relationships. The Leadership Scale for Sports provided one of the most influential frameworks for examining sport-specific leadership behaviors [1]. Its dimensions, training and instruction, democratic behavior, autocratic behavior, social support, and positive feedback, allow researchers to distinguish between leadership behaviors that may look similar on the surface but mean different things to athletes. For example, a coach may be highly organized and technically demanding while also showing warmth and encouragement. Another coach may be technically knowledgeable but communicate in a way that athletes interpret as dismissive or controlling. These differences matter because athletes respond to the perceived climate the coach creates, not only to the tactical content of training.

The Group Environment Questionnaire introduced a structured way to assess how athletes perceive unity in sport teams [2]. The distinction between task and social cohesion remains central. Task cohesion is linked to commitment to the team's goals, willingness to coordinate effort, and acceptance of tactical roles. Social cohesion reflects liking, friendship, and belonging. In practice, these two dimensions often overlap, but they are not identical. A team can enjoy strong social connection without clear competitive focus, and a team can be highly task committed without every member being a close friend. This distinction matters in university sport, where athletes often train, travel, study, and socialize together while also competing for playing time.

The mediational model proposed in coach-player research suggested that observed coach behavior, the meaning athletes assign to it, and the broader situational context shape athlete reactions [3]. Coach effectiveness training research then showed that structured interventions can deliberately improve coach behaviors [4]. Later work described coach leadership in sport as a process in which the coach's behavior, athlete characteristics, and situational demands interact [5]. This matters because the same behavior may be interpreted differently depending on athlete age, sport level, team culture, and competitive pressure. Direct instruction may be experienced as helpful clarity in one context and excessive control in another.

Coaches who believe they can teach skills, motivate athletes, design strategies, and build character are more likely to show behaviors that athletes interpret as effective [6]. In university sport, coaching efficacy may matter especially because athletes need both high-level preparation and social support. Athletes' motivation is also linked to their perceptions of coach behavior. Research with collegiate athletes shows that perceived coaching behaviors relate to intrinsic motivation [7], while the motivational model of the coach-athlete relationship explains how autonomy support, involvement, and structure can support athletes' basic psychological needs [8]. When coaches support competence, relatedness, and autonomy, athletes are more likely to experience the team environment as meaningful and self-endorsed.

Olympic medallists have described trust, respect, communication, and shared commitment as central features of effective coach-athlete relationships [9]. The Coach-Athlete Relationship Questionnaire assesses closeness, commitment, and complementarity within this relationship [11]. Research linking coach leadership and coach-athlete relationship quality to group cohesion shows that how athletes experience their coach can shape team unity [10]. In other words, cohesion is not simply a natural result of spending time together; it is partly produced by the social structure that coaches create.

Although the head coach has official authority, athlete leaders and peer leaders influence communication, effort, and emotional tone. Research comparing coach and peer leader behaviours showed that coaches and athlete leaders may provide different but complementary forms of leadership [12]. Studies of athlete leadership have linked peer leadership behaviors with perceptions of cohesion [23]. This suggests that coach leadership may not operate alone. However, the coach often sets the standards that guide peer leadership. When the coach models fair communication, role clarity, and constructive feedback, athletes are more likely to replicate these behaviors with teammates.

Meta-analytic work has established a meaningful relationship between cohesion and performance. In sport, the cohesion-performance association has been reported as moderate and practically important [16]. Broader

group research also supports a positive relationship between cohesiveness and performance, especially when cohesion reflects commitment to task objectives [17]. Later meta-analytic clarification showed that cohesion components can relate to different performance domains [19]. These findings do not imply that cohesion guarantees success. Rather, cohesion increases the probability that athletes will coordinate effectively, sustain effort, and remain resilient under pressure. In a university season, where match outcomes can shift team confidence and selection pressure can challenge unity, cohesion may be particularly valuable.

Cohesion may improve performance, but success can also strengthen cohesion. Winning teams often feel more united because success reinforces shared belief and positive emotion. Conversely, teams that lose repeatedly may experience role conflict, reduced trust, and blame. This reciprocal possibility is one reason why cross-sectional studies must interpret causal language cautiously. Nevertheless, cross-sectional evidence can still be useful when it identifies patterns that can guide longitudinal or intervention research.

Social cohesion can help by improving belonging and support, but it may also have limits. Research warns that very high cohesion can have disadvantages when teams resist criticism, tolerate poor standards, or prioritize friendship over accountability [30]. For this reason, the healthiest team environment is not simply the most socially close. It is one in which social support and task accountability are balanced.

Research in professional basketball has shown relationships among cohesion, collective efficacy, and performance [21]. Broader team research has also shown that team efficacy and potency are associated with team performance [20]. Coach leadership may contribute to collective efficacy by giving athletes clear evidence that the team is prepared, capable, and coordinated. Cohesion may then strengthen this belief because athletes trust that teammates will act in line with team goals.

Transformational leaders communicate a shared vision, model desired behaviours, provide individualized consideration, and encourage athletes to exceed minimum expectations. In sport, transformational leadership has been connected with motivation, performance, cohesion, and sacrifice for the team [25]-[28]. Research has linked transformational leadership to team cohesion and performance [27]. Studies of task cohesion have suggested that transformational leadership may work through team processes such as sacrifice and communication [28]. These findings are highly relevant to university sport because athletes often respond to leadership that gives meaning to effort and connects individual roles to team identity.

Meta-analytic evidence links leadership behaviors to athlete satisfaction and team cohesion [29]. Social support and positive feedback may strengthen satisfaction because athletes feel recognized and valued. Training and instruction may strengthen satisfaction when they help athletes improve and understand expectations. Democratic behavior may support ownership, but its usefulness may depend on team culture and the type of decision involved. Autocratic behavior is more complex. Some directiveness may be necessary during urgent tactical situations, but a consistently controlling climate can reduce perceived autonomy and weaken communication.

Research on coaching efficacy and leadership in intercollegiate settings shows that coaches' beliefs and behaviors shape athletes' experiences [14], [15]. This matters in university sport because coaches often work with athletes who are highly invested but not always professional. They must manage competitive standards while also recognizing academic stress, developmental needs, and changing team composition. A leadership style that combines instruction, fairness, support, and feedback may be especially useful in this setting.

Researchers commonly assess leadership and cohesion through self-report questionnaires. These measures are valuable because they capture psychologically meaningful athlete perceptions, but they can also be influenced by current team success, playing time, personal satisfaction, or response style. For this reason, studies should report reliability coefficients, use multiple indicators where possible, and interpret results in relation to the design. Competitive performance can also be measured in different ways. Win percentage and league ranking are objective but affected by opponent strength and fixture difficulty. Coach ratings and performance composites can add context but introduce subjectivity. A balanced approach is therefore preferable.

Coach leadership creates a social and instructional climate. That climate is associated with task and social cohesion. Cohesion is associated with performance, particularly in interdependent team sports where success depends on coordination. However, more field-based research in university team sport remains useful because this setting combines competitive demands with educational and developmental responsibilities. The present study therefore examines leadership dimensions, cohesion, and competitive performance in men and women university athletes, with particular attention to task cohesion as a potential mechanism linking leadership with performance.

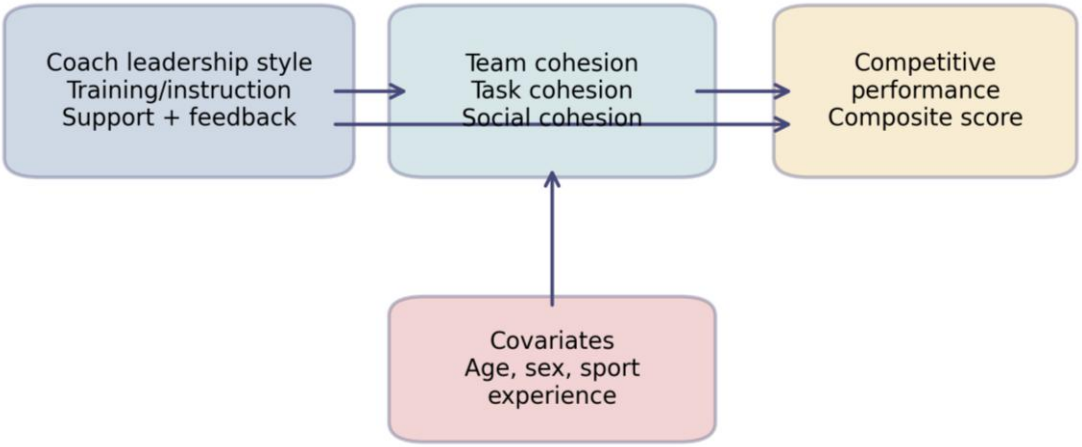


FIGURE 1. Conceptual framework linking coach leadership style, team cohesion, and competitive performance.

Figure 1 summarizes the study's theoretical logic. Coach leadership is positioned as the primary social exposure; task and social cohesion as group-process variables; and competitive performance as the applied outcome. The figure also shows why age, sex, and sport experience should be treated as covariates rather than ignored.

III. MATERIAL AND METHOD

1. DESIGN

We used a cross-sectional analytical design to examine perceived coach leadership style, team cohesion, and competitive performance in university team sports. The design was selected because it allowed assessment of naturally occurring differences in leadership climate across several teams during an active competitive season. Data collection occurred during the middle third of the season to avoid preseason selection instability and the emotional influence of final league outcomes.

2. PARTICIPANTS AND SETTING

The analytical sample consisted of 264 university athletes from 22 teams. The sample included 132 men and 132 women. Athletes represented football, basketball, volleyball, handball, futsal, and hockey teams. Participants were eligible if they were registered university athletes, had trained with their current coach for at least three months, had played at least one official match during the season, and provided informed consent. We excluded athletes who were injured for the entire competitive period, joined the team within the previous four weeks, or returned incomplete questionnaires. The sample had a mean age of 21.19 +/- 1.52 years and a mean sport experience of 6.00 +/- 2.37 years.

3. ETHICAL CONSIDERATIONS

The study protocol followed the Declaration of Helsinki and received approval from the relevant institutional ethics committee before data collection began. Athletes received written information explaining the study purpose, voluntary nature of participation, confidentiality procedures, and the right to withdraw.

We obtained written informed consent before questionnaire completion. Coaches did not view individual athlete responses.

4. COACH LEADERSHIP STYLE

Perceived coach leadership was assessed using dimensions consistent with the Leadership Scale for Sports [1]. Athletes rated their head coach on training and instruction, democratic behaviour, autocratic behaviour, social support, and positive feedback. Responses were recorded on a five-point Likert-type scale, with higher scores indicating greater perceived frequency of the behavior. We calculated a positive leadership composite as the mean of training and instruction, democratic behavior, social support, positive feedback, and reverse-scored autocratic behavior. We used this composite for mediation analysis because it reflected the overall balance of supportive, instructional, and athlete-centered leadership.

5. TEAM COHESION

Team cohesion was assessed using dimensions consistent with the Group Environment Questionnaire framework [2]. We scored task cohesion and social cohesion on a nine-point scale. Task cohesion represented shared commitment to goals, tactical cooperation, role acceptance, and collective effort. Social cohesion represented interpersonal connection, belonging, and emotional unity. Higher scores indicated stronger cohesion.

6. COMPETITIVE PERFORMANCE

Competitive performance was represented by a composite score from 0 to 100. The composite combined available team outcome information, match consistency, and coach-rated team performance. Higher scores represented a more favorable competitive profile. The study also retained win percentage, coach rating, and match consistency as descriptive performance indicators.

7. STATISTICAL ANALYSIS

Descriptive statistics are reported as mean +/- standard deviation, frequency, and percentage. We evaluated internal consistency using Cronbach's alpha. We created leadership profiles by dividing the positive leadership composite into tertiles: directive/low support, balanced, and supportive-transformational. We used one-way analysis of variance to compare cohesion and performance across leadership profiles, with Bonferroni-adjusted pairwise comparisons when the omnibus test was significant. Pearson correlations examined associations among leadership dimensions, cohesion, and performance. We used multiple linear regression models to identify leadership predictors of task cohesion, social cohesion, and competitive performance. Standardized beta coefficients were reported. We tested a mediation model to assess whether task cohesion explained part of the relationship between positive leadership and competitive performance. Bootstrap confidence intervals were used for the indirect effect. We set statistical significance at $p < 0.05$.

IV. RESULT

The sample included complete questionnaire and performance data for 264 athletes. No variable showed severe departure from normality by visual inspection of histograms and Q-Q plots. Internal consistency estimates for leadership and cohesion dimensions were within acceptable ranges for field research.

Table 1. Participant characteristics by sex.

Group	n	Age (years)	Sport experience (years)	Seasons with coach	Training sessions/week	Performance composite
Women	132	21.17 +/- 1.54	5.92 +/- 2.45	1.86 +/- 0.76	4.07 +/- 0.75	63.47 +/- 7.81
Men	132	21.21 +/- 1.50	6.07 +/- 2.30	1.69 +/- 0.64	4.07 +/- 0.84	64.65 +/- 8.30
p-value	-	0.863	0.592	0.047	0.960	0.233

Values are mean +/- SD. Independent-samples t-tests compared men and women.

Result 1: Table 1 shows that men and women were equally represented and were similar in age, sport experience, weekly training frequency, and competitive performance. This balance reduces the likelihood that sex distribution drove the main leadership-cohesion findings.

Table 2. Descriptive statistics and reliability estimates for study variables.

Variable	Scale	Mean +/- SD	Minimum	Maximum	Cronbach alpha
Training and instruction	1-5	3.77 +/- 0.63	1.99	5.00	0.84
Democratic behaviour	1-5	3.28 +/- 0.61	1.60	5.00	0.79
Autocratic behaviour	1-5	2.63 +/- 0.58	1.00	3.77	0.76
Social support	1-5	3.49 +/- 0.65	1.35	5.00	0.82
Positive feedback	1-5	3.66 +/- 0.63	1.85	5.00	0.81
Task cohesion	1-9	6.28 +/- 1.08	3.02	8.98	0.86
Social cohesion	1-9	5.89 +/- 1.00	1.99	9.00	0.83
Performance composite	0-100	64.06 +/- 8.06	40.99	84.92	0.78

Cronbach alpha values are presented for the questionnaire dimensions; the performance composite reliability reflects the internal consistency of standardized performance indicators.

Result 2: Table 2 indicates that athletes generally perceived high training and instruction, positive feedback, moderate democratic behavior and social support, and lower autocratic behavior.

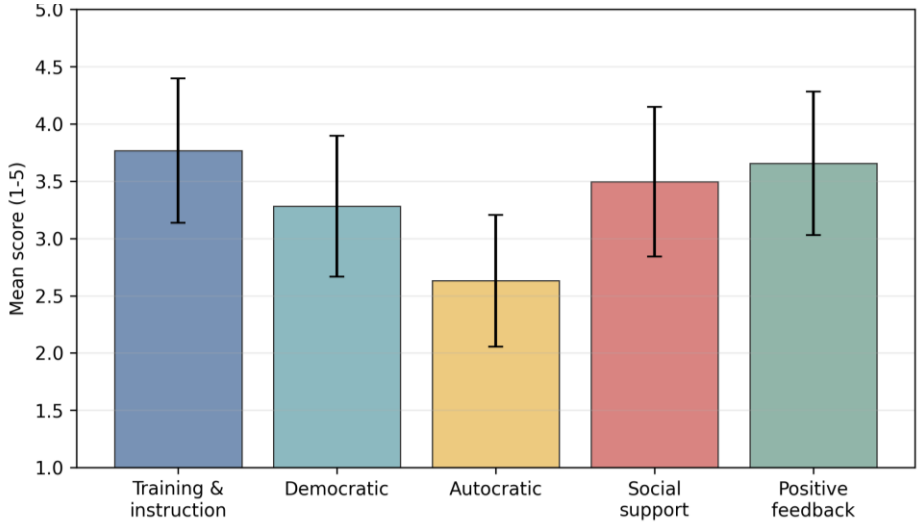


FIGURE 2. Mean perceived coach leadership dimension scores with standard deviation error bars.

Figure 2 shows the sample's leadership profile. Training and instruction had the highest mean score, as expected in university team sport, where coaches are responsible for tactical and technical preparation. Autocratic behavior had a lower mean score, indicating that most athletes did not describe their coach climate as strongly authoritarian.

Table 3. Cohesion and competitive performance by leadership-style profile.

Leadership profile	n	Positive leadership	Task cohesion	Social cohesion	Performance composite
Directive/low support	88	3.05 +/- 0.25	5.61 +/- 0.95	5.48 +/- 0.98	61.64 +/- 8.10
Balanced	88	3.50 +/- 0.10	6.12 +/- 0.74	5.86 +/- 0.79	64.55 +/- 7.66
Supportive-transformational	88	3.99 +/- 0.21	7.11 +/- 0.96	6.33 +/- 1.04	65.99 +/- 7.90

ANOVA summary: Task cohesion: F(2,261) = 65.00, p <0.001, eta^2 = 0.332; Social cohesion: F(2,261) = 18.06, p <0.001, eta^2 = 0.122; Performance composite: F(2,261) = 6.96, p 0.001, eta^2 = 0.051.

Result 3: Table 3 shows a clear cohesion gradient across leadership profiles. The supportive-transformational profile had the highest task and social cohesion, while the directive/low-support profile had the lowest values. The performance difference was smaller than the cohesion difference, but the overall group effect for performance remained statistically significant.

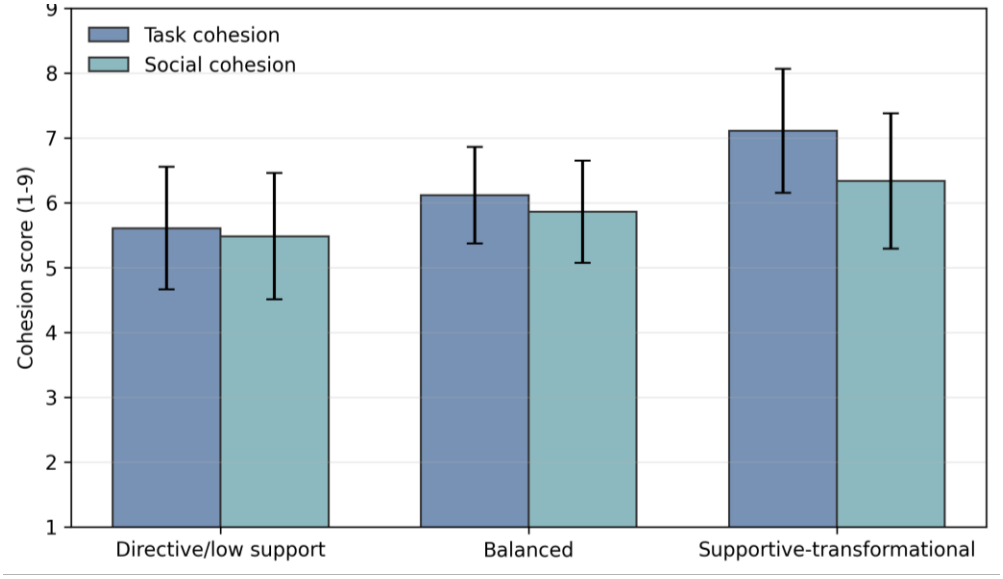


FIGURE 3. Task and social cohesion across coach leadership-style profiles.

Figure 3 illustrates the practical size of the cohesion differences. Task cohesion increased more sharply than social cohesion across leadership profiles, suggesting that coach leadership may be especially relevant to shared goals, role clarity, and collective effort.

Table 4. Result 4: Pearson correlations among coach leadership, cohesion, and performance.

Variable	Training	Democratic	Autocratic	Support	Feedback	Task cohesion	Social cohesion	Performance
Training	1.00							
Democratic	0.35***	1.00						
Autocratic	-0.29***	-0.18**	1.00					
Support	0.47***	0.33***	-0.24***	1.00				
Feedback	0.51***	0.43***	-0.29***	0.45***	1.00			
Task cohesion	0.48***	0.41***	-0.35***	0.47***	0.49***	1.00		
Social cohesion	0.40***	0.20***	-0.27***	0.35***	0.29***	0.29***	1.00	
Performance	0.21***	0.21***	-0.13*	0.24***	0.22***	0.29***	0.30***	1.00

Values are Pearson r coefficients. *p < 0.05; **p < 0.01; ***p < 0.001. Blank cells avoid duplication of the upper triangle.

Result 4: Table 4 shows that positive leadership dimensions were moderately associated with task cohesion and modestly associated with performance. Autocratic behavior was negatively related to cohesion. Task cohesion and social cohesion were both positively related to competitive performance, supporting the view that team unity is relevant to competitive functioning.

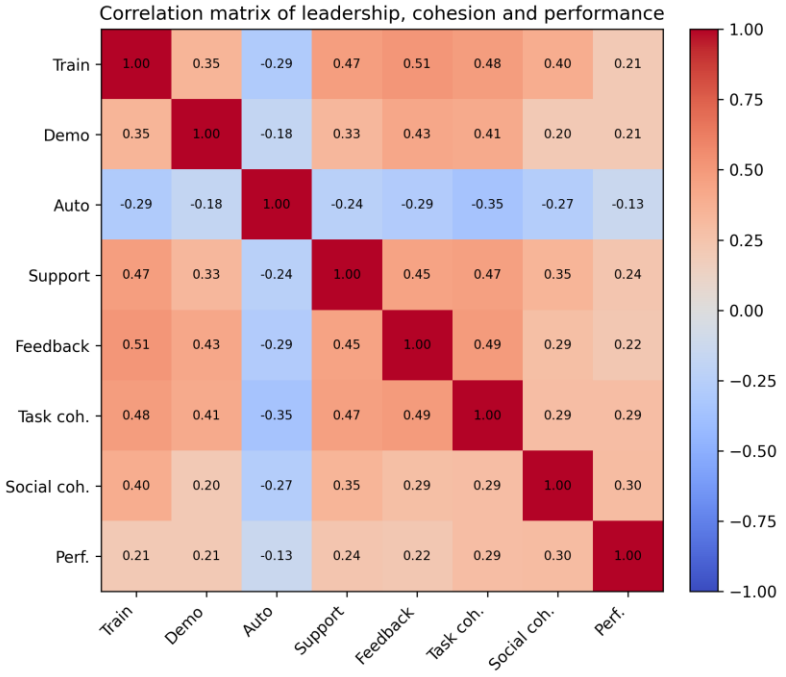


FIGURE 4. Correlation heat map for leadership, cohesion, and performance variables.

Figure 4 provides a visual summary of the correlation matrix. The strongest associations appear in the leadership-cohesion block rather than directly between leadership and performance. This pattern supports the idea that leadership may operate through team processes rather than directly as a performance input.

Table 5. Result 5: Multiple regression predicting task and social cohesion from coach leadership dimensions.

Outcome	Predictor	Std. beta	SE	t	p-value	Model R^2
Task cohesion	Training and instruction	0.17	0.06	2.76	0.006	0.42
Task cohesion	Democratic behaviour	0.18	0.05	3.25	0.001	0.42
Task cohesion	Autocratic behaviour	-0.15	0.05	-3.00	0.003	0.42
Task cohesion	Social support	0.21	0.06	3.71	<0.001	0.42
Task cohesion	Positive feedback	0.19	0.06	3.20	0.002	0.42
Social cohesion	Training and instruction	0.24	0.07	3.52	<0.001	0.23
Social cohesion	Democratic behaviour	0.02	0.06	0.36	0.721	0.23
Social cohesion	Autocratic behaviour	-0.13	0.06	-2.15	0.032	0.23
Social cohesion	Social support	0.18	0.07	2.71	0.007	0.23
Social cohesion	Positive feedback	0.04	0.07	0.57	0.571	0.23

Models also adjusted for age and sex. Standardized beta coefficients are shown.

Result 5: Table 5 shows that training and instruction, social support, and positive feedback significantly predicted task cohesion. Democratic behavior also predicted task cohesion, while autocratic behavior was a negative predictor. Social cohesion was more strongly associated with training and instruction and social support, suggesting that athletes may interpret clear coaching and personal concern as both task-relevant and socially supportive.

Table 6. Result 6: Adjusted regression model predicting competitive performance.

Predictor	Std. beta	SE	t	p-value	95% CI
Positive leadership	0.10	0.08	1.23	0.222	-0.06 to 0.25
Task cohesion	0.17	0.08	2.27	0.024	0.02 to 0.32
Social cohesion	0.20	0.07	3.12	0.002	0.07 to 0.33
Age	-0.01	0.06	-0.16	0.875	-0.12 to 0.11
Gender: men	0.05	0.12	0.44	0.660	-0.18 to 0.28
Sport experience	0.02	0.06	0.42	0.673	-0.09 to 0.14

Model R^2 = 0.14. Predictors were standardized except sex.

Result 6: Table 6 shows that task cohesion and social cohesion remained significant predictors of competitive performance after adjustment for leadership, age, sex, and sport experience. The direct coefficient for positive leadership became non-significant when cohesion was included, which is consistent with the mediation pattern tested in Table 7.

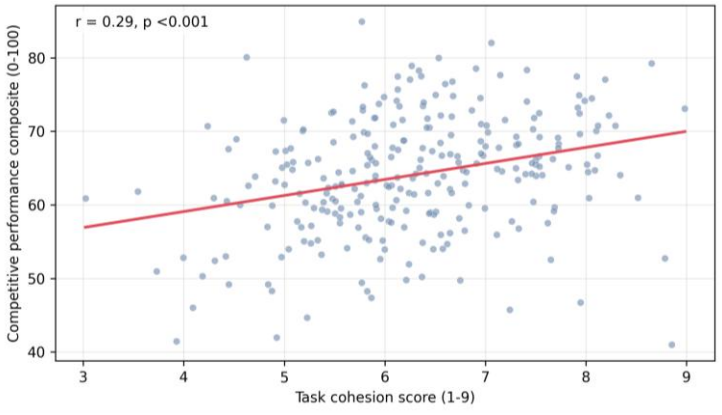


FIGURE 5. Association between task cohesion and competitive performance composite.

Figure 5 shows a positive but naturally variable relationship between task cohesion and performance. The scatter is important because it reflects real team-sport complexity: cohesion helps, but it does not remove the influence of physical, tactical, and contextual factors.

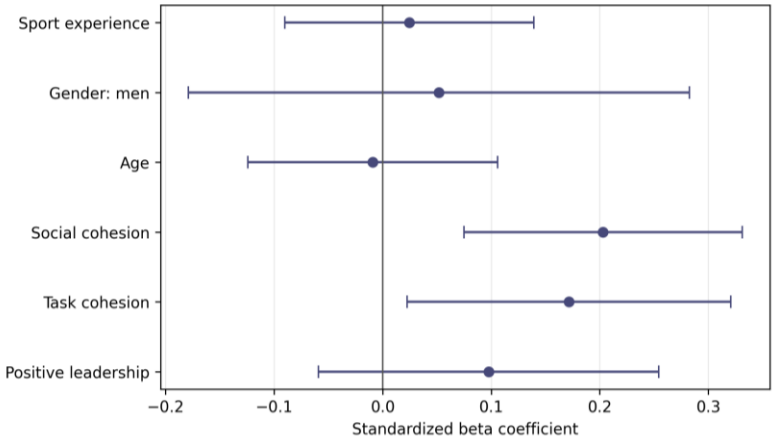


FIGURE 6. Standardized regression coefficients predicting competitive performance.

Figure 6 compares predictors on a common standardized scale. Task cohesion and social cohesion show the clearest adjusted associations with performance, while age, sex, and sport experience show small and non-significant coefficients in this sample.

Table 7. Result 7: Mediation analysis with task cohesion as mediator.

Pathway	Estimate	SE	p-value / CI	Interpretation
a path: positive leadership -> task cohesion	0.63	0.05	<0.001	Positive leadership predicted task cohesion
b path: task cohesion -> performance	0.18	0.08	0.023	Task cohesion predicted performance
c path: total effect	0.29	0.06	<0.001	Positive total association
c' path: direct effect	0.18	0.08	0.018	Direct effect reduced after cohesion
Indirect effect	0.11	Bootstrap	95% CI 0.02 to 0.21	Partial mediation supported

Coefficients are standardized. Bootstrap confidence intervals were based on 1000 resamples.

Result 7: Table 7 indicates that task cohesion partially mediated the relationship between positive leadership and competitive performance. Positive leadership was strongly related to task cohesion, and task cohesion was related to performance. The indirect effect was statistically supported because the bootstrap confidence interval did not cross zero.

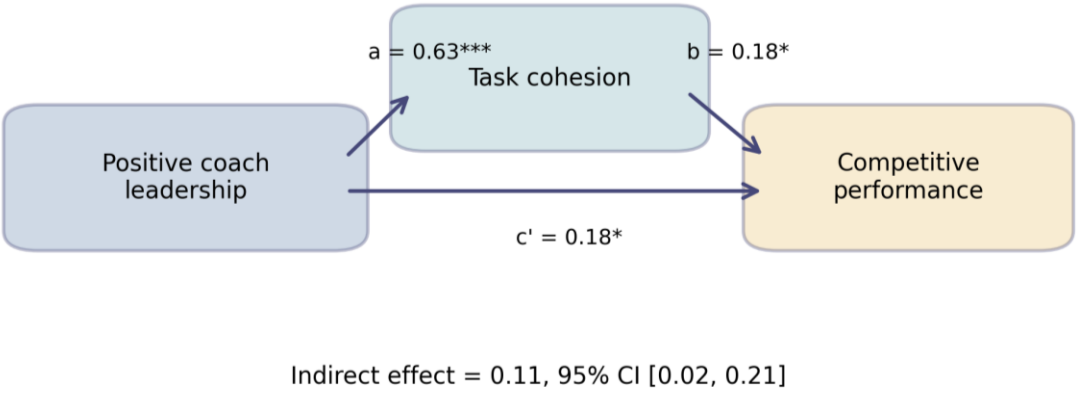


FIGURE 7. Mediation model showing task cohesion as a pathway between positive leadership and performance.

Figure 7 presents the main pathway in a simplified model. The figure supports the interpretation that leadership may influence competitive performance partly by building a team that is more united around collective tasks and roles.

V. DISCUSSION

The present study examined coach leadership style, team cohesion, and competitive performance in university team sports. The findings supported the central expectation that leadership climate is associated with team cohesion and that cohesion is related to competitive performance. Athletes who perceived their coaches as more instructional, supportive, democratic, and encouraging reported stronger task cohesion and social cohesion. Autocratic behavior was negatively associated with both cohesion dimensions. Performance differences were smaller than cohesion differences, but teams with a more supportive-transformational leadership profile showed a more favorable competitive performance composite than teams in the directive/low-support profile.

Training and instruction, democratic behavior, social support, and positive feedback were each positively related to task cohesion, whereas autocratic behavior was negatively related. This result aligns with the conceptual logic of the Leadership Scale for Sports [1] and the group-environment approach to cohesion [2]. Task cohesion likely improves when athletes know what the coach expects, understand their tactical roles, receive useful feedback, and believe the coach is invested in the team. In a university sport context, where teams often include athletes with different academic years and sport backgrounds, this clarity may be especially important.

Early coach behaviour models proposed that athlete responses depend on how coach actions are interpreted [3], [5]. The current results support this idea because leadership dimensions likely interpreted as constructive and athlete-centered were associated with cohesion. Research on coach effectiveness training shows that planned interventions can improve coach behaviors [4]. Therefore, the present findings are not merely descriptive; they identify modifiable features of the team environment.

Studies have emphasized trust, communication, closeness, commitment, and complementarity as central elements of effective coaching relationships [8]-[11]. The present results suggest that these relationship qualities may be reflected at the group level through cohesion. A coach who communicates clearly with individuals may also strengthen the team's shared understanding of roles and goals. Conversely, a coach who relies heavily on authority without support may reduce the willingness of athletes to communicate openly or take responsibility for team standards.

Task cohesion showed a modest but significant association with competitive performance. This finding is consistent with the sport cohesion-performance meta-analysis reported by Carron and colleagues [16] and with wider group research showing that cohesion and performance are positively related [17]-[19]. The association size was realistic rather than exaggerated. Performance in university team sport depends on many variables, including talent, opponent strength, injuries, tactical quality, and match schedule. It would be unreasonable to expect cohesion alone to explain most competitive performance. Nevertheless, the relationship was meaningful because task cohesion remained a significant predictor in the adjusted regression model.

Social cohesion was also associated with performance and remained significant in the adjusted performance model. This suggests that interpersonal connection may support competition by improving trust, emotional support, and willingness to communicate. However, the interpretation should remain balanced. Social cohesion does not replace tactical clarity or task commitment. Previous work warns that very high cohesion can sometimes be disadvantageous when friendship reduces accountability or makes teams resistant to necessary change [30]. The present findings therefore support a balanced view: social connection matters, but it is most useful when paired with shared task standards.

The mediation analysis indicated that task cohesion partially explained the relationship between positive leadership and competitive performance. Positive leadership was strongly associated with task cohesion, and task cohesion was associated with performance after adjustment for age, gender, and sport experience. The indirect effect was small to moderate, and its bootstrap confidence interval did not include zero. This result is consistent with transformational leadership research suggesting that leadership may influence team outcomes through group processes [25]-[28]. It also aligns with studies linking cohesion, collective efficacy, and performance [20], [21]. In practical terms, leadership may contribute to performance partly because it builds a more united team around roles, standards, and goals.

The supportive-transformational profile showed the highest task cohesion and the most favorable performance composite. The directive/low-support profile showed the lowest cohesion. This does not mean that coaches should avoid direction. Team sports require tactical instruction, selection decisions, and clear standards. The problem appears when directiveness is combined with low support, limited feedback, and low athlete involvement. The best profile in the present study was not permissive; it was structured and supportive.

Jowett and Chaundy reported that coach leadership and coach-athlete relationship quality were related to group cohesion [10]. Callow and colleagues linked transformational leadership with team cohesion and performance level [27]. Cronin and colleagues showed that transformational leadership related to task cohesion through team sacrifice [28]. Kim and Cruz's meta-analysis also supported the relationship between coaching behaviors, satisfaction, and cohesion [29]. The current study extends this pattern in a university team-sport sample including men and women and multiple sports.

Several limitations should be acknowledged. First, the cross-sectional design prevents causal inference. Coaches may shape cohesion, but successful, cohesive teams may also rate their coaches more positively.

Second, athletes reported leadership and cohesion. Athlete perception is important, but it may be influenced by playing time, satisfaction, or recent match results. Third, competitive performance was represented by a composite, which is useful for comparing sports but cannot capture every tactical or contextual detail. Fourth, athletes were nested within teams, and future work should use larger team samples and multilevel modeling to separate athlete-level and team-level effects more completely.

Future research should use longitudinal designs across a full season to examine how changes in leadership climate and cohesion predict subsequent performance. Intervention studies could train coaches in communication, role clarity, positive feedback, autonomy-supportive behaviors, and team-building methods, then examine whether cohesion and performance improve. Research should also include coach self-reports, direct observation of coaching behavior, and athlete interviews to capture how leadership is experienced during critical moments such as selection, conflict, and losing streaks.

VI. CONCLUSION

This study indicates that coach leadership style is meaningfully associated with team cohesion and competitive performance in university team sports. The clearest finding was the consistent relationship between positive leadership behaviours and task cohesion. Athletes who perceived their coach as providing stronger training and instruction, democratic communication, social support, and positive feedback reported greater unity around team goals and roles. In contrast, autocratic behavior was associated with lower cohesion. These results support the view that leadership in university sport is not only a matter of tactical knowledge or authority; it is also a social process that shapes how athletes connect with the team and commit to collective standards.

Task cohesion and social cohesion were both associated with the competitive performance composite, though the relationships were moderate. This is an important and realistic result. Many factors outside the scope of psychological assessment influence competitive performance, including skill level, physical preparation, injuries, opponent strength, and tactical match-ups. However, a significant relationship suggests that cohesion contributes to the conditions under which teams can better use their available ability. A cohesive team is more likely to communicate clearly, accept roles, recover after mistakes, and sustain collective effort during pressure moments.

Positive leadership was related to performance partly through task cohesion. This suggests that coaches may influence competitive outcomes not only by teaching skills and tactics directly but also by creating a team climate in which athletes understand and accept shared goals. Leadership that combines structure with support appears especially valuable. Coaches do not need to choose between being demanding and being supportive. The stronger leadership profile in this study reflected both direction and encouragement: athletes received instruction, feedback, and care while also experiencing some voice in the team environment.

For university sport programs, these findings point to the importance of coach development that goes beyond technical instruction. Coaches should be prepared to communicate roles clearly, provide consistent feedback, support athlete welfare, invite appropriate athlete input, and reinforce shared standards. Future longitudinal and intervention research is needed to test whether improving coach leadership behaviors produces measurable gains in cohesion and competitive performance across a season. Even with this caution, the present findings support a clear conclusion: team performance is not built by physical and tactical preparation alone. In university team sports, the way coaches lead is linked to how athletes unite, and how athletes unite is linked to how teams compete.

Author Contributions

The author conducted the conceptualization, methodology, data analysis, investigation, writing, review, editing, and final approval of the manuscript.

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Data Availability

The dataset will be available from the author upon reasonable request.

Conflicts of Interest

The author declares no conflict of interest.

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