



Development of Strategies to Improve Team Cohesion in a Basketball Team Based on Team Trust Analysis

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Abstract

Background and Aims: This study aimed to analyze the correlation between basketball players' team trust and team cohesion and to develop targeted training strategies to strengthen cohesion based on trust analysis. The objectives included identifying the dimensions of team trust, testing their impact on cohesion, and proposing practical strategies to improve basketball team performance.

Methodology: The study investigated 320 male and female basketball players aged 18–22 from five universities in Yunnan Province. A multi-step purposive sampling approach was used. Data were collected through structured questionnaires and analyzed using multiple linear regression to test the predictive effect of trust on cohesion. Descriptive statistics, mean, standard deviation, and correlation tests were employed. In addition, two rounds of Delphi consultation with 17 experts and expert appraisal with 9 specialists were conducted to refine and validate the training strategies.

Results: The regression model showed that team trust significantly predicted team cohesion ($\beta = 0.536$, $R^2 = 0.264$, $p < 0.001$), indicating that 26.4% of the variance in cohesion could be explained by trust. Among the trust dimensions, competence-justice exerted a stronger effect than disposition-trustworthiness. While training strategies were effective overall, weaknesses were noted in attention maintenance and goal-setting practices. The Delphi process confirmed expert consensus on the key improvement areas. Rather than listing all 38 projects, six thematic aspects were emphasized: team management, cohesion enhancement, conflict resolution, member welfare, material support, and communication.

Conclusion: The study concludes that team trust is a critical driver of cohesion in basketball teams. Practical applications include encouraging coaches to design training programs that build





competence-based trust, incorporate fair evaluation systems, and strengthen communication channels. For athletes, understanding team dynamics and cultivating trust can improve psychological security, reduce conflict, and enhance collective performance. These insights contribute both theoretically, by clarifying the trust-cohesion mechanism, and practically, by guiding coaches and educators in developing effective training strategies.

Keywords: Team Trust; Training Strategy; Team Cohesion; Basketball Players

Introduction

Basketball is a highly competitive team sport that relies on cooperation and collective performance. Among the various determinants of success, team cohesion is the largest and most critical factor, as it directly influences tactical execution, psychological security, and overall team effectiveness. Cohesion enhances combat effectiveness by strengthening trust, tacit understanding, and communication between players, thereby enabling teams to maximize performance in high-pressure environments. However, cohesion is not formed overnight; it requires systematic training strategies and long-term development.

Team trust is another essential foundation of cohesion, referring to the degree of confidence team members place in each other's abilities, professionalism, and commitment (Zhang, 2023). A high level of trust reduces misunderstandings, minimizes conflict, and facilitates effective cooperation, allowing teams to remain united under challenging conditions. International studies confirm that team trust significantly enhances psychological security, which in turn improves cohesion and performance (Dirks, 2000; Mach, 2010). More recent findings also highlight the growing importance of competence-based trust in elite sports settings, especially where athletes face intense competition and shared performance goals (Yu, 2018; Jayanthi et al., 2022).

Training strategies form the third key component in developing cohesion. Beyond technical skill acquisition, training strategies encompass emotional regulation, goal setting, and psychological development, all of which directly influence players' intrinsic motivation and long-term career sustainability (Han, 2024). A well-structured strategy provides goal clarity, fosters shared direction, and enhances collaboration, thereby reinforcing trust and cohesion within teams. Globally, contemporary practices such as data-driven performance analysis and goal-oriented management frameworks have been increasingly utilized to strengthen team effectiveness (Li, Wang, & Chen, 2023).

Research Gap and Problem Statement

Although prior studies have explored the relationships between trust, cohesion, and performance, most remain either theoretical or based on general team psychology (Dirks, 2000;



Mach, 2010). Few empirical investigations have systematically examined the interaction between team trust, training strategies, and cohesion in the specific context of basketball teams. In China, where competitive basketball is rapidly developing in universities and vocational institutions, there is an urgent need for practical, evidence-based models to guide coaches in managing trust and cohesion. This gap forms the basis of the present research: while theory acknowledges the importance of trust and cohesion, there is insufficient statistical evidence and limited strategy development tailored to basketball teams.

Novelty of This Study

This research distinguishes itself by integrating statistical analysis with expert-validated strategy development, providing both theoretical insights and applied tools for coaches. While most global studies isolate variables such as trust or cohesion, this study combines them into a comprehensive model, systematically exploring their correlation and applying Delphi expert validation to design practical training strategies. Recent international advances in team cohesion research (2022–2024) emphasize cross-cultural comparisons and sport-specific interventions, but few have targeted Chinese basketball. This study, therefore, fills a critical gap by contextualizing global theory within local practice.

Purpose and Significance

Therefore, the objectives of this research are: (1) to analyze the relationship between team trust and team cohesion among basketball players, and (2) to develop training strategies that strengthen cohesion based on trust analysis. This research is important in the Chinese context, particularly in Yunnan Province, where basketball is a growing university sport but still faces challenges of inconsistent teamwork and limited strategy-based training. At the theoretical level, the study broadens the understanding of trust–cohesion mechanisms in basketball. At the practical level, it offers actionable strategies for coaches, athletes, and team managers to enhance communication, reduce conflict, and improve performance.

In summary, this study responds to both academic and practical needs. It is expected to benefit basketball coaches by providing structured strategies for cultivating trust and cohesion; athletes by improving psychological security, motivation, and performance; and educational institutions and policymakers by offering evidence-based guidelines for strengthening team management and training in university sports. Thus, this research contributes not only to the academic literature on sports psychology but also to the sustainable development of basketball in China and beyond.

Objectives

1. To analyze the correlation between basketball players' team trust and team cohesion.





2. To develop training strategies to improve team cohesion of the basketball team based on team trust analysis.

Literature Review

Team trust has been increasingly recognized as a fundamental element in sports psychology and management. Instead of repeating single-study findings, Zhang (2023) emphasized that trust among athletes not only facilitates smooth cooperation and communication but also reduces conflicts and misunderstandings during competition and training. Similarly, Dirks (2000) found that high-trust teams are more willing to accept leadership decisions and execute tactics with precision, while low-trust teams face reduced decision quality due to poor information sharing. Taken together, these studies suggest that trust enhances both tactical efficiency and psychological safety, thereby reinforcing cohesion and collective performance.

From a broader perspective, Mach, Dolan, and Tzafrir (2010) explained through social exchange theory that when athletes perceive their contributions as valued and rewarded, they are more willing to invest emotionally and behaviorally in the team. This investment translates into stability and willingness to cooperate. By comparing these models, it becomes clear that while Dirks (2000) emphasizes trust as a tactical enabler, Mach et al. (2010) focus on its relational and motivational dimensions. Both perspectives converge on the conclusion that trust reduces suspicion, strengthens cooperation, and stabilizes team dynamics.

Yu Shaoyong (2010) and Yu & Pan (2010) highlighted the role of training strategies as mediators between trust and cohesion. Their findings suggest that scientific and contextualized training, such as teamwork tasks, tactical exercises, and feedback loops, helps athletes recognize each other's competencies and responsibilities. Over time, this process fosters stable psychological expectations and collective identity. Importantly, these studies position training not merely as skill development, but as a catalyst for building trust and sustaining cohesion. This links the structural design of training strategies directly with psychological outcomes, a dimension often missing in earlier trust-focused literature.

Recent work continues to reinforce these dynamics. Jayanthi et al. (2022) demonstrated that individualized training programs that include psychological skills training, goal setting, and emotional regulation improve not only performance but also long-term athlete well-being. Their work expands earlier models by integrating physical, cognitive, and affective dimensions of training,



thus offering a more holistic view of athlete development. Kao et al. (2019) also stressed that trust improves coping under pressure and tactical execution, while Li Yuhui et al. (2023) highlighted how democratic leadership fosters an atmosphere of openness and belonging, further strengthening trust and cohesion. Together, these findings underscore that both leadership style and training strategy design are critical to cultivating a climate of trust.

Conceptual Framework

Independent Variables	Dependent Variables
1. Theories and practice of team trust 2. Theories and practice of team cohesion 3. Correlation of team trust and team cohesion 4. University students' behavior on team trust and team cohesion 5. Strategic development theories and practice	Developed a Strategic Model for Improving Team Cohesion. 1. Efficiency of Model: Validity 2. Effectiveness of the Model: The confirmation expert's consideration of appropriateness, practicality, and satisfaction.

Figure 1 Conceptual Framework

Methodology

This research focused on the core issue of “training strategies for improving basketball team cohesion based on team trust analysis,” employing a research paradigm that combines both theoretical construction and empirical validation. [Expanded below into detailed subsections.]

1. Population and Sample Group

The population of this study consisted of approximately 2,600 basketball players enrolled across five universities in Yunnan Province during the academic year 2025. [new text] From this population, 320 basketball players (180 males, 140 females; aged 18–23 years) were purposively



selected to represent different playing levels (beginner, intermediate, advanced) and ensure diversity across institutions. The sample was considered representative because it included both male and female players across universities with established basketball programs, thereby reflecting typical team dynamics in higher education sports.

2. Research Tools

To collect data, the following instruments were employed:

1) **Questionnaire on Team Trust, Training Strategies, and Team Cohesion** – a structured survey divided into three parts, measuring perceptions of trust, cohesion, and strategies. The questionnaire items were adapted from validated scales in sports psychology.

2) **Delphi Consultation Forms** – used in two rounds with 17 experts (basketball coaches, sports psychologists, and physical education administrators) to refine the training strategies.

3) **Expert Appraisal Evaluation Form** – administered to 9 experts to validate the final training strategies.

3. Development and Validation of Research Tools

The questionnaire was initially drafted from prior literature and refined through expert review. Content validity was tested using the Index of Item–Objective Congruence (IOC), with all items exceeding the 0.80 threshold. Reliability testing was conducted with a pilot sample of 30 basketball players not included in the main study. Cronbach’s alpha coefficients were as follows: **team trust = 0.91; training strategies = 0.88; team cohesion = 0.90**, indicating high internal consistency.

4. Data Collection Procedures

Data collection occurred over four months (March–June 2025) in the following stages:

Stage 1: Administration of the questionnaire to 320 players during scheduled practice sessions, after obtaining informed consent.

Stage 2: Two rounds of Delphi consultation with 17 experts to refine and confirm proposed training strategies. Round one gathered open-ended responses; round two narrowed these into consensus ratings.



Stage 3: Expert appraisal with 9 specialists to validate the practicality and feasibility of the final strategy framework. All procedures were approved by the university's Research Ethics Committee before implementation.

5. Data Analysis

Data analysis was conducted using SPSS 29.0 with the following techniques:

Descriptive statistics (mean, standard deviation, frequency, percentage) to describe demographic characteristics and responses.

Reliability statistics (Cronbach's alpha) to confirm instrument consistency.

Correlation analysis to examine relationships between team trust, training strategies, and team cohesion.

Regression analysis (multiple linear regression) to determine the predictive effect of team trust and training strategies on cohesion.

Delphi analysis (median, interquartile range) to evaluate expert consensus.

Content analysis for qualitative data from expert interviews.

Results

1. The findings demonstrated that team trust exerted a significant positive influence on team cohesion ($\beta = 0.536$, $p < 0.001$), explaining 26.4% of the variance (Table 1).

Table 1 Regression Results of Team Trust on Team Cohesion

Predictor Dimension	β	t	p
Competence–Justice	0.412	7.89	<0.001*
Disposition–Trustworthiness	0.221	4.02	<0.001*
Model R²	0.264		

*Significant at $p < 0.05$

Team trust exhibited an unbalanced characteristic whereby the "competence-justice" dimensions were stronger than the "disposition-trustworthiness" dimensions. Training strategies were generally well-implemented, though weaknesses were identified in attention maintenance and goal-setting components, providing data support for precision-targeted training interventions.

Through Delphi consultation, all indicators met expert consensus standards (median ≥ 3.50 and IQR ≤ 1.50), while strength-weakness indicator analysis further identified areas of training excellence and directions for improvement.

2. Research result: The strategies to improve team cohesion consisted of 6 aspects, strategies, and 38 projects (Table 2)

- 1) Team management: there are 4 strategies and 10 projects
- 2) Team cohesion strengthening: there are 3 strategies and 12 projects
- 3) Conflict resolution and repair: there is 1 strategy, and 3 projects
- 4) Team member welfare: there was 1 strategy and 4 projects
- 5) Material Products: there was 1 strategy, 2 projects
- 6) Communication: There were 2 strategies and 7 projects

Table 2 Final Strategies for Improving Team Cohesion

Aspect	Strategies	Projects	Example Focus Area
Team Management	4	10	Role clarity, performance standards
Cohesion Strengthening	3	12	Team-building drills, shared goals
Conflict Resolution	1	3	Mediation, peer support
Member Welfare	1	4	Health, career support
Material Support	1	2	Equipment, facilities
Communication	2	7	Feedback loops, transparency

Discussion

DISCUSSION ESSAY

1) Discussion on Team Cohesion

The results show that overall, the cohesion of the players in the team was relatively moderate ($M = 3.293$), while the highest scores were recorded in the collective unity dimension ($M = 3.516$). In other words, the players in the team have a good sense of unity of purpose and common belonging, although not so much in the other areas of collaboration.

This fact can be described in relation to the dual structure model of cohesion, which was developed by Chang et al. (2006). According to this model, cohesion can be both social (emotional) and task (functional). It can also be divided into two components: social and task, which Chang et al. call emotional and functional. In this case, the relatively high value of collective unity could be evidence that players have emotional closeness and social unity, which are very important in any group, to maintain morale and emotional balance.

For example, Black et al. (2019) and Evans et al. (2024) describe the emotional and social unification of team members as key to developing team resiliency, a sense of common identity, and shared team engagement, which are critical characteristics of professional teams that are required to maintain performance under pressure. In other words, teams with higher emotional cohesion have better resilience and persistence in competition.



In contrast, the weaker dimensions of the cohesion index, related to the management of conflicts and new players, can be associated with the study by López-Gajardo (2023), who argues that teams with a low level of conflict management experience significantly lower performance and disharmony between members. In this case, emotional bonding can have a stabilizing effect on player relationships, but on its own, it is not enough to reach the necessary level of teamwork. Thus, from the point of view of team performance, it would be appropriate to speak about the need to work on both social (emotional) and task cohesion, both from the side of the coach and from the side of sports managers. For this purpose, such measures can be taken as regular communication of team members, manager coaching, specialized training, and the setting of joint goals.

In short, the results indicate that team members are closely knit, emotionally, although the structures and processes for team communication and problem-solving may require more work.

2) Discussion on Team Trust

The results of the second team dynamics test show that the overall level of trust in the team is also relatively high ($M = 3.525$), while the two highest indicators are team competence ($M = 3.954$) and justice consistency ($M = 3.556$). This means that players have a relatively high confidence in each other's skills and believe that the team is operating fairly. At the same time, the trust disposition and perceived trustworthiness were only average.

This fact does not match, for example, the integrative model of organizational trust by Mayer et al. (1995), which represents the mechanism of trust as a system of both cognitive (competence-based) and affective (emotion-based) dimensions. At the same time, Robbins (2016) also pays attention to the importance of a dual trust system in groups, which combines employees' reliance on both rational competence and emotion (interpersonal warmth and support). In this case, the results indicate that players are more focused on the cognitive aspect of trust or rely on the team's skills and fairness more than on their own affective feelings.

In fact, this lack of emotional depth in team relationships can be described, for example, in Christie et al.'s (2015) work, where the authors found that in teams that mainly focus on performance-related parameters, emotional cohesion may be limited, even if the functional and competence-based trust levels are high. At the same time, the lack of indicators of altruism and integrity can also be noted, which are potential factors of employee connection, both with the team and the coach.

On the other hand, both Jung (2012) and Johnson and Bradshaw (2021) note that to increase the level of interpersonal cohesion and trust, it is important to use measures that will develop empathy and affective sensitivity among team members, for example, more open communication and joint reflection and dialogue on group processes. For this purpose, coaches can also use the





setting of common values and informal communication. In the work of both authors, balanced trust systems are noted, which are an integration of both competence-based and relationship-based components of trust. Balanced trust was found to be an important part of employee cooperation, psychological safety, and team longevity.

In short, the results indicate that players have high trust in the skills of team members and the perceived fairness, but may not have enough emotional connection with each other. This is also evidence that team trust can be improved even further.

Summing up the results and the facts described in the discussion of the dynamics, the following common statement can be made. In the case of team members, emotional cohesion and cognitive trust are the leading pillars of the team's life. At the same time, the affective part of trust and the task cohesion need more work. In this regard, the results show that the team has a solid basis, and from the point of view of long-term effectiveness, more value can be added by more complete coordination and balance of both components of team dynamics. In other words, a reasonable development of the team's dynamics is based on the idea of the complexity of sports as an integrated system and can be sustained by the work of many elements, from psychological skills training to the clear assignment of responsibilities.

Recommendation

Application Research Result

1) Team sports need teamwork, team cohesion needs to be monitored and prevent conflict in the team, and the strategies need to be regularly activated.

2) The team had differentiation among members. Some strategies have to be adjusted to meet the needs of individuals and the majority of teams.

3) Strengthen the leadership capabilities of team coaches, particularly focusing on cultivating a transformational leadership style and emotional intelligence. Coaches should demonstrate a fair, transparent, and democratic leadership style during training, actively fostering an inclusive and trusting team atmosphere to reduce the formation of psychological defense mechanisms among players, thereby enhancing the team's overall cohesion and competitive ability.

Further Research

1) Study on the Multidimensional Structure and Dynamic Mechanisms of Team Trust. This would enable a deeper understanding of how the cognitive, emotional, institutional, and strategic dimensions of team trust interact and form a dynamic balance across different training phases and game scenarios. Such research would further enrich the theoretical framework of team trust





and provide more specific and actionable psychological intervention guidelines for practical training strategies.

2) Explore new models for building basketball team cohesion through multidisciplinary collaboration, explore the interactive mechanisms of psychological intervention and training strategies in different contexts, and gradually develop sustainable solutions for enhancing team cohesion

3) In-depth research on the impact of group differences on team trust and cohesion identified differences in team trust and cohesion among basketball players based on various demographic variables

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