

# The Moderating Role of Football Player Satisfaction in the Relationship between Coaches' Transformational Leadership and Team Cohesion

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**Abstract:** This study focuses on football coaches and their athletes from universities in Shaanxi Province, aiming to explore the moderating role of football player satisfaction in the relationship between coaches' transformational leadership and team cohesion. Utilizing a questionnaire survey and Structural Equation Modeling (SEM) for analysis, our findings reveal that player satisfaction significantly moderates the relationship between coaches' transformational leadership and team cohesion. Specifically, higher levels of athlete satisfaction with their coaches' transformational leadership correspond to increased team cohesion. Furthermore, athletes' satisfaction acts as a mediating factor in the positive impact of coaches' transformational leadership on team cohesion. This research provides a theoretical foundation and practical guidance for university football coaches in enhancing team cohesion.

**Keywords:** Football Player Satisfaction; Coaches' Transformational Leadership; Team Cohesion; Moderating Role; University Football

## 1. Introduction

This chapter presents the results of a study investigating the three dimensions of transformational leadership, athlete satisfaction, and team cohesion among soccer coaches at all levels in colleges and universities in Shaanxi Province, China. The findings presented in this chapter are based on the data analysis conducted as part of the study and are subsequently discussed in greater detail. The chapter presents a brief summary of the findings, followed by the final conclusions of the study. It then offers scientifically sound recommendations for relevant future research

directions.

## 2. Summary of Findings

The objective of this study was to examine the role of Chinese college football coaches in fostering team cohesion among athletes. Additionally, the study explored athletes' perceptions of satisfaction and team cohesion. The researcher conducted a comprehensive examination of the relationships between the independent, dependent, and moderating variables, which led to the development of the research framework for this study. The three factors to be considered in this study are transformational leadership, team cohesion, and athlete satisfaction of Chinese football coaches.

The dependent variable in this study was team cohesion, while athlete satisfaction served as the moderator variable. Prior to the final distribution of the questionnaire for data collection, a small sample test was conducted in this study to ensure that the questionnaire reflected the psychometric characteristics and the quality of the reliability and validity of the questionnaire. The purpose of the test was achieved. Four primary research questions were posed, and a self-administered questionnaire was utilized to collect data in a quantitative manner. The data were analyzed using the Statistical Package for the Social Sciences (SPSS). The analysis included the application of descriptive and inferential statistics, specifically factor analysis and structural equation modeling (SEM), respectively. The moderating effect of athlete satisfaction was investigated using structural equation modeling (SEM) with AMOS.

The primary findings of this study indicate that athletes at all levels of higher education in Shaanxi Province categorize satisfaction into two distinct types: outcome-oriented satisfaction and process-oriented satisfaction.

Furthermore, athletes rated satisfaction higher. Conversely, athletes perceived their head coaches as exemplars of transformational leadership. Additionally, they highly rated the atmosphere of their college sports teams through athlete satisfaction, and the data were provided in tabular form. The results of the factor analysis study indicated a substantial positive correlation between coaches' transformational leadership, athletes' satisfaction with coaches' transformational leadership, and team cohesion. The effect of the moderating variable (athletes' satisfaction) was further determined using SEM.

The coaches' transformational leadership was limited to two dimensions of virtuous exemplar and transformational leadership qualities because the other dimensions were not tested to identify the corresponding dimensions. The four dimensions of coaches' transformational leadership were only identified as two dimensions during the factor analysis process. Multiple covariance tests for the other dimensions, including covariance tolerance and variance inflation factor tests, found no high correlation between the predictor variables.

The study also demonstrated that the relationship between coaches' transformational leadership and team cohesion was influenced by the moderating effect of athlete satisfaction. An analysis of the 5,000 bootstrap sample for the moderating variable study revealed that the effect of the moderating variable was statistically significant. Simple slope analysis was employed in this study to determine the validity of the moderation for additional analysis. The results of the study indicated that both aspects of athlete satisfaction, namely process-oriented satisfaction and outcome-oriented satisfaction, moderated the relationship between coaches' transformational leadership and team cohesion. In collegiate football, coaches' transformational leadership and good athlete satisfaction have a positive impact on team cohesion. Finally, the study employed structural equation modeling (SEM) to elucidate the structural relationships between the variables, as depicted in the text. This approach facilitated a more intuitive comprehension of the research topic. The revised index table served as a reference for the re-specification, which aimed to enhance the model fit indices. This outcome indicates

that the revised recommended model aligns with the findings of the previous research study.

### 3. Discussion

#### 3.1 Research Question 1

*H1: Transformational leadership is related to team cohesion among Chinese university football coaches.*

Transformational leadership is a cutting-edge topic in the field of leadership theory. In recent years, Western scholars have conducted numerous empirical studies on transformational leadership. However, there are relatively few studies on transformational leadership in China, particularly in the context of Chinese colleges and universities in relation to a specific sports program. As the times evolve, the competition between Chinese university sports organizations intensifies. Traditional leadership behaviors, however, are no longer sufficient to meet the demands of the modern era. Consequently, research on transformational leadership is gaining traction in the field of sports in Chinese universities. This study draws upon the theory of transformational leadership and existing relevant research to examine the relationship between transformational leadership and group cohesion among Chinese university football coaches. It also aims to uncover the underlying mechanisms of action of group cohesion.

This study employed factor analysis and structural equation modeling analysis to validate the structure of coaches' transformational leadership in the context of Chinese colleges and universities. The results of the study indicated that transformational leadership in this particular cultural context of Chinese colleges and universities encompasses four sub-dimensions: moral modeling, visionary motivation, personality care, and leadership charisma (Li & Shi, 2005). However, during the actual factor analysis of this study, the active football players in Chinese colleges and universities demonstrated only two sub-dimensions of the sub-dimensions, namely, Virtuous Exemplar and Transformational Leadership Qualities.

China and the West have distinct cultural heritages, disparate national circumstances, and divergent evaluations of leadership behaviours (Dong, 2024). In the specific

context of Chinese universities, athletes have different understandings and interpretations of coaches' transformational leadership behaviors. The survey revealed that athletes' perceptions of leadership charisma, in addition to the personality traits that coaches should possess, such as self-confidence, self-esteem, and autonomy, as well as the ability to resolve conflict within the sports team, are also key factors in the evaluation of coaches' behavior. Furthermore, the ability of coaches to be both "virtuous and talented" and to "persuade people with virtue" is also a significant aspect of this evaluation. Conversely, the ability of coaches to exemplify both "virtue and talent" and "convince people by virtue" is a crucial reference standard for athletes in evaluating coaches' change leadership from the perspective of "exemplary moral behavior." Conversely, this also corroborates the findings of Chinese scholars, indicating that there is still scope for further development of the measurement dimension of transformational leadership behavior.

Furthermore, the concept of personality care was imbued with additional connotations by Chinese college football players. The findings of the study indicate that while personality care is not explicitly articulated, it is nevertheless embodied in transformational leadership qualities. However, in the actual management process of Chinese college sports teams, transformational leadership theory emerged in the United States of America in a culture of individualism (Huang et al., 2023). In this context, personalized care primarily emphasizes the attention of coaches and managers to the athletes' training, competition, and personal development. Western athletes evaluate the standard of "personalized care" based on whether coaches and managers can provide it in the context of training and competition. However, for aspects of life outside of training and competition, which pertain to personal private life, coaches and administrators should prioritize the personal development of athletes. With regard to the aspects of life outside of training and competition, these pertain to the private lives of individuals and are therefore not a concern. Conversely, Chinese athletes' comprehension of "personalized care" encompasses not only the domain of training and competition, but also that of life in general. On the one hand,

athletes hope that coaches and administrators can be discerning, know people well, and provide an objective environment for them to give full play to their specialties. On the other hand, they hope that coaches and administrators can be sympathetic to people's sentiments, understand the difficulties of the life and family of special athletes, and provide them with the best care for their lives. Conversely, it is anticipated that coaches and administrators will demonstrate empathy towards individuals, comprehend the challenges faced by some special athletes and their families, and offer them assistance.

However, at the same time, Chinese college athletes also pointed out in the survey that most coaches in China are "high above", difficult to get close to, and "personalized care" is not strong enough. Nevertheless, athletes also emphasized the importance of personalized care, which can make people feel valued, cared for and warm, and is one of the biggest motivations for athletes to train and compete hard. The survey found that female athletes were more vocal in this regard. In addition, as for "leadership charisma" and "visionary motivation", athletes think that "leadership charisma" is very important, which reflects the coach's ability to "generalize". It reflects the coach's ability to "generalize" and reflects the leader's visionary and strategic analysis skills. Under the background of the expanding scale of competitive programs, increasingly complex management environment and intensifying external competition, the macro-control ability of coaches and managers is particularly important for the development of college sports teams. Athletes are not positive about "visionary motivation", thinking that it is not very useful and that they can solve problems by themselves because they have plans for the future. However, they did accept "new and creative ideas" from coaches and managers. At the same time, the athletes also indicated that the transformational leadership of coaches is more appropriate for the development of today's college football teams. The development of Chinese college football teams requires transformational leaders. This study supports the assertion that "transformational leadership theory is equally applicable to countries with collectivist cultures".

Moral modeling represents a crucial aspect of

coaches' transformational leadership. In this context, coaches exert a profound influence on team members, guiding them through their own ethical behaviors and values. Nevertheless, although Moral modeling is widely recognized as an important factor in enhancing team cohesion, in practice, the impact of Moral modeling on team cohesion is not always significant. This paper will examine the reasons why Moral modeling fails to have a significant impact on team cohesion in the context of a study of active football players from college football teams at all levels in Shaanxi Province. The reasons will be elucidated through the interpretation and transmission of Moral modeling, inconsistency of Moral modeling, and superficiality of moral behaviors.

The efficacy of Moral modeling is contingent upon the manner in which coaches interpret and disseminate their ethical conduct and values. In the event that this process is executed in an inadequate manner, the ethical modeling may not result in the desired level of team cohesion. Research indicates that coaches must ensure that team members can comprehend and accept ethical behaviors through effective communication and behavioral modeling when conveying them (Turnnidge & Côté, 2018). In Shaanxi province's college football teams, some coaches have been observed to suffer from miscommunication and inadequate behavioral modeling in the process of transmitting ethical behaviors. While coaches in practice demonstrate high standards of ethical behavior during training, athletes fail to fully comprehend the values underlying these behaviors due to a lack of effective communication and explanation. In this instance, it is challenging to translate moral modeling into team cohesion, as athletes are unable to discern clear messages and gain insights from coaches' behaviors.

Another significant factor contributing to the limited impact of Moral modeling on team cohesion is the lack of consistency in its implementation. If coaches demonstrate inconsistency in the enforcement of ethical standards, such as being more lenient with some team members and more strict with others, this inconsistency may result in dissatisfaction and divisiveness, thereby weakening team cohesion. (Cotterill & Fransen,

2016). In practice, some coaches were observed to display inconsistency in moral modeling. The coaches exhibited high standards of ethical conduct in certain situations, yet they demonstrated a lack of accountability for certain team members' infractions in other situations. Such inconsistency leads to a loss of credibility and consistency in the eyes of the team members, which in turn weakens team cohesion. Furthermore, athletes may perceive a lack of fairness and consistency in coaches' behavior, which may result in a threat to trust and cooperation within the team, thus affecting team cohesion.

If a manager's ethical conduct is perceived as insincere or for the sake of image engineering rather than a true reflection of intrinsic values, team members may feel deceived, which can affect team cohesion. Research has demonstrated that the perceptions of team members regarding the authenticity of coaches' ethical conduct and intrinsic values are pivotal factors influencing the efficacy of moral modeling. Wang (2020). In our study, we observed that some coaches' ethical behaviors were perceived by team members as insincere or for the purpose of image engineering. For instance, some coaches exhibited high standards of ethical conduct in public settings but demonstrated behaviors that contradicted these standards in private. Such insincere ethical conduct prompts team members to question the credibility and authenticity of the coaches, thereby undermining team cohesion. It is possible that team members may perceive the coach's behavior as lacking true intrinsic values, which could subsequently affect team cohesion.

To summarize, there are multiple reasons why Moral modeling in coaches' transformational leadership fails to have a significant impact on team cohesion. Factors such as the interpretation and transmission of virtue vouchers, inconsistency of virtue vouchers, lack of feedback and communication, and superficiality of ethical behaviors may result in a diminished impact of virtue vouchers on team cohesion.

### **3.2 Research Question 2**

*H2: the transformational leadership of football coaches in Chinese universities is correlated with athlete satisfaction.*

Transformational Leadership (TL) is a leadership style that has been widely regarded as a means of significantly enhancing team member satisfaction and performance in management and psychology research. However, a synthesis of research data on active football players at all levels of higher education in Shaanxi Province and related literature from the past five years revealed that the effect of transformational leadership on athlete satisfaction is not always significant. This phenomenon can be analyzed through multiple dimensions, including Contextual factors, individual differences, athlete engagement, leadership personalization, motivation types, and leadership visibility are all factors that influence the effectiveness of a leader.

The efficacy of transformational leadership is contingent upon the specific context. In high-stress or highly competitive sport environments, athletes may prioritize direct performance feedback and specific skill enhancement over a motivational, future-oriented leadership style. This is supported by the findings of Kao et al., (2023). For instance, during periods of intense competition, athletes whose primary objective is to emerge victorious are more inclined to seek out specific tactical guidance and immediate feedback than to engage with long-term vision and motivation. The impact of transformational leadership in this context may be diminished, resulting in a non-significant effect on the enhancement of athlete satisfaction. In this study, active athletes of the Shaanxi Provincial University football team were in a critical period of preparation for the provincial tournament at the time of the survey. The athletes demonstrated a strong need for feedback on training matches and specific tactical guidance. This need was particularly evident in high-pressure environments, where athletes were more inclined to focus on short-term factors that would enhance their game performance rather than a long-term vision of team development. Consequently, the motivational and future-oriented nature of transformational leadership may be challenging to align with the immediate needs of athletes in this specific context, potentially leading to a less pronounced effect on satisfaction.

Individual differences among athletes

represent a significant variable that affects the efficacy of transformational leadership. The differing personality traits, personal goals, and needs of athletes result in their responding in disparate ways to various leadership styles Arthur et al., (2019). For instance, introverted athletes may be more inclined to favour stable training environments, whereas extroverted athletes may be more comfortable with challenging and changing training patterns. Consequently, not all athletes will respond positively to transformational leadership, which may result in nonsignificant overall satisfaction outcomes. The findings of this study indicate that introverted athletes exhibit lower levels of satisfaction when confronted with transformational leadership. These athletes prefer a stable and predictable training-playing environment. The motivational and changing nature of transformational leadership may cause them to feel uncomfortable and stressed, which may affect their satisfaction. In contrast, extroverted athletes may exhibit higher levels of satisfaction with transformational leadership. However, the overall increase in satisfaction is not statistically significant due to individual differences.

Transformational leadership is predicated upon the participation and shared decision-making of team members. Nevertheless, if athletes are not fully engaged in the change process, they may feel marginalized and uninvolved, which can reduce their satisfaction with transformational leadership Wang & Li (2019). For instance, when developing training programs and game tactics, if athletes' opinions and suggestions are not taken into account, they may perceive that their value is being overlooked, which can subsequently impact their satisfaction with coaches. The study revealed that some coaches failed to adequately consider athletes' engagement and opinions when implementing transformational leadership. This resulted in some athletes feeling that their opinions and needs were ignored, which in turn affected their satisfaction with transformational leadership. In particular, with regard to the development of training programs, the majority of coaches failed to heed the opinions and suggestions of athletes. Furthermore, athletes are seldom inclined to offer feedback on their own ideas, and the majority of athletes tend to be passive

when participating in training, which significantly diminishes their satisfaction with the coaches.

Transformational leadership must be tailored to the specific needs and abilities of each athlete. In the event that coaches fail to implement this approach, it may result in dissatisfaction among some athletes Turnnidge and Côté (2018). In particular, younger athletes who are new to the team may require more guidance and support, while seasoned veterans may require more autonomy and trust. In the event that coaches fail to personalize their leadership to the needs of different athletes, it is possible that satisfaction may suffer. The study revealed that the majority of current frontline coaches are relatively young, and as a result of their lack of experience, they are unable to fully consider the individualized needs of different athletes in training and life. This ultimately results in some athletes feeling uncomfortable, which in turn affects their satisfaction.

The types of motivation exhibited by athletes, namely intrinsic and extrinsic motivation, are significant factors that influence their satisfaction with transformational leadership. Intrinsic motivation refers to an athlete's intrinsic drive to engage in sport, such as the love of sport and the pursuit of self-improvement. Extrinsic motivation, in contrast, consists of external rewards and recognition, such as medals, prizes, and social status (Fang et al., 2018). In the event that transformational leadership fails to inspire intrinsic motivation in athletes, it is possible that they may not experience satisfaction. The study revealed that some athletes compete primarily for personal achievement and honor, while coaches' transformational leadership is more oriented towards team goals and long-term development. This discrepancy in motivation may result in athletes experiencing low levels of satisfaction.

The efficacy of transformational leadership is contingent upon the extent to which coaches' behaviors are observable. If coaches' transformational leadership behaviors are not sufficiently visible, athletes may be unable to recognize the presence and value of leadership, which can affect satisfaction González et al., (2021). For instance, if coaches engage in strategic planning and decision-making behind the scenes and athletes lack a direct awareness

of these efforts, they may underestimate the coach's contributions and leadership, which can affect satisfaction. The study revealed that some coaches were not sufficiently visible in their behaviors when implementing transformational leadership. The majority of coaches engage in extensive strategic planning and team management activities behind the scenes, yet these efforts are not directly perceived by athletes. Consequently, athletes lack awareness of the coaches' leadership, which negatively affects their satisfaction. It is possible that athletes may perceive coaches' work as merely superficial management, failing to recognize the true extent of their efforts and contributions to team development. In conclusion, the impact of transformational leadership on athlete satisfaction is not always pronounced, and this phenomenon can be examined from multiple perspectives. Contextual factors, individual differences, athlete engagement, leadership personalization, leadership personalization, type of motivation, and leadership visibility are all dimensions that may influence the effectiveness of transformational leadership. A study of current football players at universities in Shaanxi Province revealed that these factors were significant reasons for the lack of significance of coaches' transformational leadership on athletes' satisfaction.

### 3.3 Research Question 3

*H3: There is a correlation between athlete satisfaction and team cohesion in Chinese universities.*

The relationship between athlete satisfaction and team cohesion has been a subject of considerable interest to researchers. While numerous studies have indicated that athlete satisfaction has a positive impact on team cohesion, there are also studies and actual cases that demonstrate that satisfaction does not always significantly affect team cohesion. The findings of this study indicate that the satisfaction of active college football athletes at all levels in Shaanxi Province does not significantly impact team cohesion. The reasons for this are analyzed and elaborated upon in detail, including individual differences, the influence of external factors, competition among players, and changes in team dynamics. Individual differences among athletes, including personality traits and personal goals,

may result in disparate perceptions and responses to team cohesion. Some athletes prioritize individual achievement over team relationships, which can diminish the impact of athlete satisfaction on team cohesion. Research has demonstrated that athletes with disparate personality traits exhibit disparate levels of team dependence. For example, Li et al. (2020) have observed that athletes with different personality traits have different levels of team dependence. Some athletes derive satisfaction from individual achievement rather than from team success. Even when athletes are satisfied with coaching and training, they may not be actively involved in team-building activities, which can diminish the impact of satisfaction on team cohesion. Some of the athletes in the study exhibited a greater concern with their individual performance and future career development than with the overall performance of the team. These athletes were typically highly self-driven and competitive, preferring to achieve their goals through individual efforts rather than relying on team support. This individual difference does not result in a significant improvement in team cohesion, even if the athletes are satisfied with coaching and training.

Athlete satisfaction can be significantly affected by external factors. Some athletes are dealing with pressures such as financial, family, academic, and emotional pressures, which will diminish the impact of athlete satisfaction on team cohesion. Even when athletes are satisfied with both outcome-oriented and process-oriented satisfaction, the influence of external factors can make it challenging to translate this satisfaction into team cohesion (Lyons, 2020). The study revealed that some athletes were confronted with family issues and academic pressures, which significantly influenced their psychological state and team participation. When confronted with these challenges, athletes are unable to fully engage in training and competition, which has a direct or indirect impact on team cohesion.

The third section of the study is concerned with the relationship between satisfaction and team cohesion. The presence of competition among team members can diminish the impact of satisfaction on team cohesion. In a competitive team where the level of competition between members is intense and trust and cooperation between team members

is affected, competitive relationships may weaken team cohesion even when athlete satisfaction is high. Empirical evidence indicates that competition between team members may give rise to inter-team tensions, which in turn can negatively impact the overall cohesion of the team. For instance, Li (2022) has demonstrated that competition between team members can lead to a decline in team cohesion. The study revealed the existence of robust competitive relationships within certain teams, particularly between core team members. This competitive relationship has a detrimental impact on trust and cooperation among players, particularly evident in high-level teams where competition among players makes it challenging to translate athlete satisfaction into team cohesion. In some university football teams in Shaanxi Province, there are highly competitive teams. Athletes are more concerned with individual performance and results, even if they are satisfied with coaching and training. Competition and conflict among them still weaken team cohesion.

The dynamic changes that occur within a team, such as the frequent turnover of team members, the addition of new team members, or the withdrawal of old team members, can influence the relationship between satisfaction and team cohesion. Such dynamic changes may impede the development of stable cohesion within teams (Xie, 2020). In our study, we observed a high frequency of turnover among team members on some teams, particularly at the beginning of a new semester. Furthermore, the addition of new players had a significant impact on team stability. The introduction of new players necessitates a re-evaluation of the team's composition and structure. Furthermore, the departure of veteran players can result in a decline in team stability, leading to a gradual weakening of team cohesion, even in the presence of a satisfied coaching staff and training.

In conclusion, although athlete satisfaction is often presumed to have a positive impact on team cohesion, this relationship is not always substantiated in empirical studies within specific disciplines. Among active athletes of college football teams at all levels in Shaanxi Province, satisfaction did not have a significant effect on team cohesion. To gain a more comprehensive understanding of the

relationship between athlete satisfaction and team cohesion, it is necessary to consider individual differences, external factors, competition among players, and dynamic changes in the team.

### 3.4 Research Question 4-5

*H4: the variable representing athlete satisfaction plays a mediating role in the relationship between transformational leadership among Chinese university football coaches and team cohesion.*

*H5: the variable representing athlete satisfaction plays a moderating role in the relationship between transformational leadership among Chinese university football coaches and team cohesion.*

There is still some controversy and room for research on how transformational leadership specifically affects team cohesion. In recent years, some research studies have shown that athlete satisfaction (AS) plays a significant moderating role between transformational leadership and team cohesion. Although a variable cannot usually serve as both a moderator and mediator in a particular analysis, a variable can serve as a moderator or mediator in different research models or under different hypotheses, respectively. Consequently, when a variable functions as a moderator in the same research model, it does not act as a mediator. Conversely, when a variable serves as a mediator in a particular analysis, it does not act as a moderator.

The findings of this study indicate that athlete satisfaction, as a moderating variable, significantly moderates the relationship between coaches' transformational leadership and team cohesion. As Martínez et al. (2020) have demonstrated, transformational leadership has a direct positive effect on team performance and cohesion, which is further enhanced by the presence of athlete satisfaction. This indicates that when athletes are satisfied with the leadership style of their coaches, they are more likely to develop close team cohesion, which enhances overall team performance (Martínez et al., 2020).

Athlete satisfaction can be classified into two distinct categories: process-oriented satisfaction and outcome-oriented satisfaction. The former category encompasses athletes' satisfaction with the support, recognition, and personal development opportunities

experienced during training and competition. In contrast, the latter category pertains to athletes' satisfaction with the final outcome of the competition and their personal performance. Research has demonstrated that both types of satisfaction are effective in moderating the relationship between transformational leadership and team cohesion. García et al. (2021) conducted a longitudinal study and found that both process-oriented and outcome-oriented satisfaction significantly enhanced transformational leadership on team cohesion. This indicates that athletes are more likely to develop robust team cohesion when they feel adequately supported and recognized during training and competition, or when they are satisfied with the outcome of the competition (García et al., 2021). This finding was further validated by Johnson et al.'s (2022) study. The researchers found that athlete satisfaction played a pivotal role as a crucial moderating variable between transformational leadership and team cohesion. Specifically, when athletes were satisfied with their coaches' leadership styles, they were more likely to develop trust and cooperation within the team, thereby enhancing overall team cohesion (Johnson et al., 2022).

The aforementioned arguments lead to the conclusion that this result is consistent with previous research findings. Research indicates that athlete satisfaction, whether process-oriented or outcome-oriented, plays a moderating role between transformational leadership and team cohesion. Studies of García et al. (2021) and Johnson et al. (2022) provide substantial evidence that when athletes feel supported and validated during training and competition, or are satisfied with the outcome of the game, they are more likely to develop strong team cohesion. This phenomenon is also applicable among current athletes of college football teams in Shaanxi Province. Consequently, this study further corroborates the notion that football players' satisfaction serves as a moderating variable, effectively moderating coaches' transformational leadership and team cohesion. With regard to the regulatory mechanism of athletes' satisfaction, which specifically governs the relationship between transformational leadership and team cohesion during practice, the mechanism can be elucidated primarily in the following ways.



Firstly, in terms of psychological needs fulfillment, Chang and Cho (2019) posited that transformational leadership enhances athletes' satisfaction by fulfilling their psychological needs (e.g., sense of belonging, sense of accomplishment, and sense of autonomy). This satisfaction further promotes trust and collaboration among team members, thus enhancing team cohesion (Chang & Cho, 2019). Secondly, in terms of social support and recognition, Zhang et al. (2020) demonstrated that personalized care and motivation in transformational leadership enhanced athletes' sense of social support and recognition. This sense of social support and recognition enhances athletes' satisfaction and makes them more willing to engage in team-building activities, which in turn enhances team cohesion (Zhang et al., 2020). Finally, in terms of goal congruence, Erikstad and Enoksen (2021) demonstrated that transformational leadership was able to motivate team members through a clear vision and common goals, thereby enhancing their satisfaction and sense of meaningfulness in the pursuit of their goals. This congruence of goals not only increased athlete satisfaction but also promoted team cohesion (Erikstad & Enoksen, 2021).

The study also demonstrated the veracity of the aforementioned ideas in practice. First, Wang and Li (2019) proposed that transformational leadership enhances athletes' satisfaction by meeting their psychological needs. This was further validated in a study of active football players at colleges and universities in Shaanxi Province. The study revealed that when coaches were able to effectively meet athletes' psychological needs, athletes' satisfaction increased significantly. This satisfaction was not only reflected at the individual level, but also manifested in the form of higher levels of trust and collaboration among team members, thus enhancing team cohesion. Secondly, this study corroborates the findings of Zhang et al. (2020) that transformational leadership, characterised by personalised care and motivation, enhances athletes' sense of social support and recognition. In our study, we observed that when coaches were able to provide their athletes with personalized care and motivation, the athletes' sense of social support and recognition significantly increased. This sense of social support and recognition not only enhanced athletes' satisfaction but

also made them more willing to engage in team-building activities, which in turn enhanced team cohesion. Finally, this study further validates Erikstad and Enoksen's (2021) argument that transformational leadership can motivate team members through a clear vision and common goals, thereby enhancing their satisfaction and sense of meaningfulness in the pursuit of those goals. In a study of active football players at colleges and universities in Shaanxi Province, it was found that when coaches were able to clearly communicate the team's visionary goals, athletes reported greater satisfaction and a sense of meaningfulness in the pursuit of those goals. This goal congruence not only increased athletes' satisfaction, but also promoted team cohesion.

In conclusion, the results of an empirical study of active football players in colleges and universities in Shaanxi Province indicate that transformational leadership has a significant positive effect on athletes' satisfaction and thus team cohesion. This is achieved by meeting their psychological needs, enhancing their sense of social support and recognition, and providing a clear vision and common goals. The influence of coaches' transformational leadership on athletes' satisfaction was found to be less pronounced for those who were more satisfied than for those who were less satisfied. In other words, less satisfied athletes were more sensitive to coaches' transformational leadership. This finding not only enriches the theoretical research on the relationship between transformational leadership and team cohesion, but also provides useful theoretical guidance for coaches and managers in actual management practice.

## 4 Implications

### 4.1 Implication for Theory

The concept of the moderating effect of athlete satisfaction between coaches' transformational leadership and team cohesion is of great interest in the field of educational leadership and management. This theoretical framework of this study aims to shed light on the intricate relationships within institutions of higher education in the management of athletic teams and how they rely on improved coaching styles and increased athlete satisfaction to further contribute to increased team cohesion.

Academic research has made several important contributions to this theory. Firstly, the research highlights the pivotal role of coaches' transformational leadership in fostering team cohesion. Transformational leadership, characterised by visionary leadership, motivation, and the promotion of innovation, is a key factor in shaping team cohesion. Coaches' transformational leadership is instrumental in inspiring a shared vision among athletes and promoting a positive and cooperative team climate. This is a fundamental premise for understanding how transformational leadership affects team cohesion.

Secondly, the moderating role of athlete satisfaction as a bridge between coaches' transformational leadership and team cohesion was emphasised. In this specific context of China, athlete satisfaction encompasses athletes' satisfaction with four aspects: training, coaching, themselves and logistics. It moderates the influence of college coaches' leadership on the overall team cohesion of the sports team. The study highlighted that positive athlete satisfaction enabled by transformational leadership contributes to a more dynamic and adaptive team climate, enhancing team cohesion. The study suggests that this moderating effect has a significant impact on team cohesion and athlete satisfaction. The team climate created by transformational leadership increases athlete engagement and satisfaction, which in turn affects broader team cohesion. When athletes are engaged and satisfied with their training, they are more likely to contribute positively to improving team cohesion, creating a virtuous cycle.

#### **4.2 Implication for Practice**

The findings of this study have several practical implications for coaches and administrators in college football programs. Firstly, coaches should focus on developing their transformational leadership skills to enhance athlete satisfaction and, in turn, improve team cohesion. This involves fostering a supportive and empowering environment where athletes feel valued and motivated to contribute to the team's success. Secondly, coaches should recognize the importance of athlete satisfaction as a mediator in the relationship between transformational

leadership and team cohesion. By understanding and addressing the factors that influence athlete satisfaction, coaches can more effectively leverage their leadership style to build a cohesive and high-performing team. Additionally, the study suggests that coaches should pay attention to the individual differences among athletes and tailor their leadership approach accordingly. By acknowledging and respecting the unique needs and preferences of each athlete, coaches can create a more inclusive and engaging team culture. Finally, the study highlights the need for ongoing evaluation and feedback mechanisms to monitor the effectiveness of coaching strategies and make necessary adjustments. Regular assessments of athlete satisfaction and team cohesion can provide valuable insights into the impact of coaching practices and guide future improvements.

#### **4.3 Limitations and Future Research**

While this study provides valuable insights into the relationship between athlete satisfaction, transformational leadership, and team cohesion in college football, there are limitations that should be addressed in future research. Firstly, the study was conducted in a specific region and may not be generalizable to other contexts. Future research should explore these relationships in diverse cultural and organizational settings. Secondly, the study relied on self-reported data, which may be subject to biases. Future research could benefit from using objective measures and multiple data sources to validate the findings. Additionally, future research could investigate the long-term effects of transformational leadership and athlete satisfaction on team cohesion and performance. By examining the sustainability of these relationships over time, researchers can provide a more comprehensive understanding of the factors that contribute to successful college football teams.

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