

RESEARCH ON THE IMPACT OF COACH BEHAVIOR AND COACHING MANAGEMENT PRACTICES ON THE SUSTAINABLE DEVELOPMENT CAPACITY OF YOUTH ATHLETES

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Abstract

The cultivation of young athletes is the cornerstone of sports expansion, and the capacity of young athletes to progress in a sustainable way has attracted significant attention from governments worldwide. The guidance provided by coaches is crucial for the development of these attributes. Currently, there is a lack of methods to regulate coach conduct, and it is crucial to examine which elements will impact coach behaviour. Furthermore, it is crucial to assess the degree to which enhancing coaching management techniques will enhance the abilities of young athletes to develop in a sustainable way. Data for this inquiry was collected using a questionnaire sent to 312 adolescent athletes. The data analysis in AMOS included the use of the structural equation model (SEM). The research findings indicate that coaches' conduct significantly influences both the coaching practices and the development of environmentally responsible abilities in adolescent athletes. The statistical importance of the mediating influence conducted by coach management approaches is shown. The findings of this research provide useful insights into how the conduct of coaches might be standardized to enhance the sustainable development of adolescent athletes.

Keywords: coach behaviour; coaching management practices; the sustainable development capacity of youth athletes

Introduction

The excellent performance of young athletes in sports is an important factor driving the continuous prosperity of the global sports industry [1]. Youth sports programs not only have a positive impact on the development of the sports industry but also contribute to the physical and mental health of young people. At a national level, cultivating high-level young athletes can showcase comprehensive national strength on the international sports stage. On an individual level, young athletes can gain more opportunities and challenges through training, which helps them achieve their career aspirations in sports [2]. Although youth sports programs have gained numerous fans worldwide and contributed to the development of the sports industry, the establishment of a scientific model and approach for nurturing the abilities of young athletes is often overlooked. The focus tends to be on team training and performance, with insufficient attention given to personalized management for individual athletes. This may result in untapped potential among

young athletes, thereby affecting their personal sustainable development as well as overall team achievements. Insufficient personal sustainable development capabilities among youth athletes can have various impacts on their growth. Firstly, it may hinder their ability to design future career plans. Taking football as an example, deficiencies in football skills and tactics could limit opportunities for young athletes in this field. Secondly, the insufficient individual technical and tactical level of young athletes may result in poor performance during competitions, thereby lowering the overall team's competitiveness [5]. Thirdly, inadequate personal sustainable development capabilities can lead to a lack of confidence among young athletes, diminishing their interest and enthusiasm for sports and causing them to miss out on professional development opportunities [6]. Additionally, due to their limited sustainable development abilities, young athletes are more prone to injuries during competitions, which can impact their physical health and ability to sustain participation in sports [7]. In conclusion, enhancing individual sustainable development capabilities in team sports is a key factor in improving the level of youth sports. In the training of guiding young people in sports, some coaches lack high teaching levels and professional qualities, as well as leadership and management experience. They fail to maintain stable emotions during the training process and lack sufficient attention to individual young athletes, resulting in a lack of communication with them. This hinders the maintenance and improvement of the abilities of young athletes. Therefore, it is crucial to establish a comprehensive coach management system for youth sports in order to optimize coaches' behavior, standardize their training and certification, assess their continuous possession of relevant professional knowledge and skills, and enhance their professional identity and coaching qualities [10]. Simultaneously, by studying the coach management system in youth sports, we can also provide more career development opportunities and promotion paths for coaches, attracting more outstanding talents to engage in the field of sports [11]. Therefore, it can be seen that enhancing the sustainable development capabilities of young athletes is of great significance to the country, society, and individuals. At the same time, establishing an effective coaching management system to regulate coach behavior is an effective approach to addressing the personal sustainable development capabilities of young athletes.

Literature review and hypotheses

Coach Behaviour

Coach behaviors encompass a range of actions and verbal expressions employed by coaches to exert influence on athletes during the training process. Petrovska proposes that coach behaviors encompass instructional, physical, feedback, emotional expression, non-verbal, question-and-answer, and organizational management behaviors [12]. Chelladurai argues that coach behaviors can be categorized into five dimensions, namely training and instructional behaviors, democratic and authoritarian behaviors, socially supportive behaviors, and positive feedback behaviors [13]. The breakdown of coach behaviors by Ma into five dimensions - leadership, teaching proficiency, emotional regulation, athlete focus, and communication - is appropriately employed for measuring coach behaviors [14]. All of these behaviors exert a substantial impact on athletes. Lopez et al.

proposed that the coach's coach proficiency and leadership play a pivotal role in determining the team's athletic performance, emphasizing the necessity of implementing a scientific management evaluation system to consistently enhance these abilities [15]. Therefore, the establishment of a scientific coach management system is conducive to enhancing athletes' competence and team performance. Coach management practices encompass a range of managerial and operational mechanisms designed for the training and development of youth athletes, comprising diverse training programs, curricula, instructional methods, and evaluation systems with the ultimate goal of ensuring their holistic growth [16]. McCarthy and Milner have demonstrated the influence of coach management practices, coach learning experiences, and sporting backgrounds on the future development of youth athletes [17]. The study conducted by Van Kleef et al. revealed that coaches' frequent displays of anger are associated with increased player tension, which in turn negatively impacts athletic performance and strains the coach-player relationship, impeding player development [18]. Laishuang et al. proposed that the level of attention a coach devotes to an athlete exerts influence on the athlete's behavior. As individuals strive for praise and recognition from others, commendation generates allure and consequently enhances training motivation [19]. Davis et al. discovered that effective communication enables coaches to gain a deeper understanding of their athletes' needs and desires, facilitate targeted training programs, and enhance their athletes' skills and abilities [20]. This paper examines the correlation between coach management practices and coach behaviors in order to enhance the skill development of youth campus football players, elucidates the underlying mechanisms linking coach behaviors with sport management, and establishes a theoretical foundation for elevating the level of ability management among youth campus football players. The following hypotheses were formulated for this study based on the aforementioned information.

H1: A significant positive correlation exists between coach behavior and coach management practices.

Coach Management Practices

The objective of coach management practices is to optimize the sustainable development of athletes. The management practices of coaches have a profound impact on the development and performance of athletes' sustainability skills. Effective coaches facilitate the realization of athletes' unique potential through personalized guidance, motivation, and support, while also setting clear goals and guiding them towards common objectives [21]. Simultaneously, real-time feedback and comprehensive skills training provided through coach can enhance athletes' competitiveness across all domains. Coaches also prioritize the development of leadership and teamwork, enabling athletes to exhibit heightened responsibility and team leadership on the field. Simultaneously, the coach prioritizes the holistic development of the athlete encompassing physical fitness, mental acuity, and character advancement to foster a well-rounded and exceptional athlete [22]. Digirolamo & Tkach propose that an effective coach should employ a diverse range of strategies to effectively manage the team and provide guidance to athletes, with the aim of enhancing individual sustainability and overall team performance [23]. Coach management practices

dynamically adapt to changes in the competitive environment and cater to the evolving needs of youth athletes, establishing a robust foundation for enhanced performance and holistic development of emerging talents. The following hypotheses were formulated for this study based on the aforementioned information.

H2: Coach management practices exhibit a significant positive correlation with the sustainability of youth athletes.

Sustainable Development Capacity of Youth Athletes

Several factors influence the sustainable development of youth athletes, with coach behaviors exerting the most significant impact. Jowett & Arthur argue that coach leadership encompasses not only technical expertise, but also the ability to inspire athletes' potential and passion, while shaping a successful team and fostering a thriving sporting culture [24]. According to Bissett et al., the level of coach competence not only facilitates athletes' performance improvement through constructive feedback and personalized attention, but also contributes to a more professional and academic expression in research papers, aligning with the requirements of journals like Nature [25]. Willson et al. contend that coach employing negative or punitive approaches, failing to demonstrate respect towards their athletes and neglecting to foster a positive learning environment, often exert an adverse influence on the abilities of youth athletes. Foulds et al. proposed that proficient coach possess the ability to comprehensively comprehend and grasp the specific needs of athletes, thereby offering them tailored guidance and support. This heightened level of attentiveness can foster trust and respect among athletes, augment their sense of coach identification, as well as stimulate their motivation to exert greater effort in training and competition, leading to improved performance outcomes [27]. Davis et al. discovered that effective and ongoing communication between coach and athletes is a collaborative process, necessitating mutual effort. By fostering open communication channels, establishing trust, exchanging information, and aligning goals, teams can foster cohesion in their pursuit of excellence, enhanced performance, and holistic development [20].

H3: A significant positive correlation exists between coach behaviors and the sustainability of adolescent athletes.

The Relationship Between Coach Management Practices, Coach Behaviours and He Sustainable Development Capacity of Youth Athletes

The study conducted by Heelis et al. demonstrated that the implementation of effective coach management practices can enhance athletes' satisfaction with training and competition, leading to improved athletic performance. Simultaneously, this study underscores the imperative of exceptional leadership and collaborative teamwork for achieving coach success [28]. Atrizka & Pratama discovered that instructional management practices play a mediating role in enhancing athletes' competence, whereby coach management practices can enhance athletes' competence by influencing their satisfaction and improving their overall proficiency [29]. This means that school

football needs to continually improve coach and management practices to increase the level of athletes' training experience and game performance, thus improving their ability to develop sustainably. The following hypotheses were formulated for this study based on the aforementioned information.

H4: Coach management practices showed a significant mediating effect between coach behaviours and youth athletes' sustainability.

In conclusion, the specific conceptual framework of the study is illustrated in Figure 1.

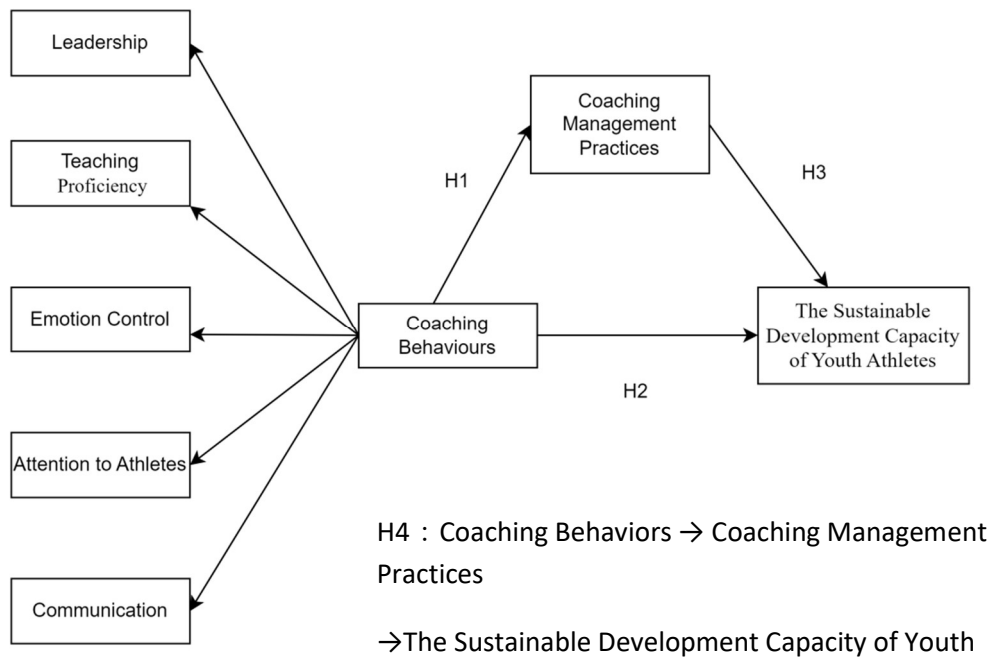


Figure 1: Conceptual Framework (Source: Authors)

Methodology and sample description

This study takes campus football in Liaoning Province, China as an example. Data is collected through a questionnaire survey, and a structural equation modeling approach is used to construct the model. SPSS and AMOS are employed for data analysis and hypothesis testing, aiming to explore the impact of coach behavior on coach management practices and sustainable development capabilities of young athletes.

Sample and data collection.

According to statistical data, in 2023, there were a total of 1,200 campus football players distributed among 44 schools in Liaoning Province, China. This study used the method proposed by Yamane (1967) to determine the sample size, which resulted in a sample of 300 individuals.

Typically, questionnaire response rates are lower than 100%. A response rate of 60% is considered good, while reaching 70% is excellent [30]. In this study, an estimated response rate of 70% was assumed, requiring the distribution of 429 questionnaires. The survey was conducted through face-to-face interviews and distributing questionnaires via email. After excluding questionnaires with excessive duplicate options and incomplete responses, a total of 312 valid questionnaires were obtained. Therefore, the effective questionnaire response rate for this study was calculated as 72.73%.

Questionnaire design and measurement

The aim of this study is to analyze the relationship between coach behavior, coach management practices, and the sustainable development capabilities of adolescent athletes. The questionnaire design was based on existing research and conceptual models. All questions were formulated as closed-ended items. The questionnaire consists of two main parts. The first part includes basic information about the respondents, which are demographic variables such as age, gender, school, and residential area. The second part comprises measurement items for various variables. Specifically, coach behavior is measured across five modules: leadership, teaching proficiency, emotional control, athlete attention level, and communication. These behaviors are assessed using a composite measurement approach based on the Creative Leadership Scale proposed by Wen et al., the FFT Teaching Evaluation scale developed by Zhang & Yang, the Emotion Concern Scale introduced by Quinn, and the Communication Positioning Scale presented by Ward [31-34]. Coach management practices are measured using Shaw's Human Resource Management Practices scale with adjustments made based on input from industry experts [35]. Sustainable development capabilities of adolescent athletes are measured using Ng & Lucianetti's Self-Efficacy Scale [36]. Additionally, three campus football experts were selected to conduct interviews regarding the validity of the measurement variables covered in this questionnaire. Based on these interview results, revisions were made to finalize a questionnaire suitable for research purposes. A Likert 5-point scale was employed for measuring responses in which 1 represents "strongly disagree" and 5 represents "strongly agree".

Results

Validity And Reliability Testing

This research used SPSS 26.0 to perform reliability and validity testing. Based on the findings shown in Table 1, the sample's KMO value was 0.965, above the essential threshold of 0.7. The Bartlett's sphericity test yielded statistically significant findings. Based on the findings presented in Table 2, Cronbach's α exceeded the threshold of 0.7, indicating strong reliability for the sample. Additionally, all composite reliability (CR) values surpassed the critical value of 0.7, suggesting high internal consistency within the sample. Furthermore, the standard factor loadings were all above the critical value of 0.7, with Z-values exceeding 3.29 and P-values indicating significance at a level of .001. This indicates that each measurement item effectively explains the latent

variables. Moreover, all AVE values exceeded the critical threshold of .5, demonstrating robust convergent validity in our sample.

Table 1 KMO test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.965
Bartlett's Test of Sphericity	Approx. Chi-Square	16805.573
	df	402
	Sig.	0

Source: Authors

Table 2 Reliability and convergence validity examination

Code	Unstd.	SD	Z	P	Std.	CR	AVE	Cronbach's α
LS1	0.98	0.035	28.23	***	0.894			
LS2	1.005	0.03	33.264	***	0.935			
LS3	1.005	0.029	34.49	***	0.942	0.965	0.841	0.965
LS4	1.011	0.031	32.479	***	0.927			
LS5	0.98	0.035	28.23	***	0.94			
TP1	1.008	0.035	28.619		0.921			
TP2	0.987	0.035	28.174	***	0.916	0.942	0.861	0.938
TP3	0.994	0.036	27.284	***	0.905			
TP4	1			***	0.914			
EC1	1.008	0.031	32.31	***	0.936			
EC2	1.012	0.031	33.07		0.942	0.972	0.851	0.972
EC3	1.016	0.031	33.145	***	0.942			

EC4	1			***	0.931			
ATA								
1	0.974	0.034	28.545		0.903			
ATA								
2	1.023	0.03	33.807	***	0.947	0.966	0.86	0.966
ATA							3	
3	0.98	0.032	31.046	***	0.924			
ATA								
4	1			***	0.933			
CC1	1				0.95			
CC2	1.034	0.028	36.929	***	0.927	0.977	0.83	0.977
CC3	1.038	0.027	38.444	***	0.94		6	
CC4	1.012	0.029	34.897	***	0.938			
CPM								
1	1				0.953			
CPM								
2	0.959	0.027	35.519	***	0.954			
CPM								
3	1.005	0.025	40.2	***	0.925	0.966	0.86	0.966
CPM							9	
4	0.971	0.028	34.679	***	0.938			
CPM								
5	1				0.945			
AA1	0.993	0.028	35.398	***	0.949			
AA2	0.986	0.031	31.942	***	0.93	0.946	0.83	0.947
AA3	0.985	0.029	33.862	***	0.934		5	

Source: Authors

Measurement Model

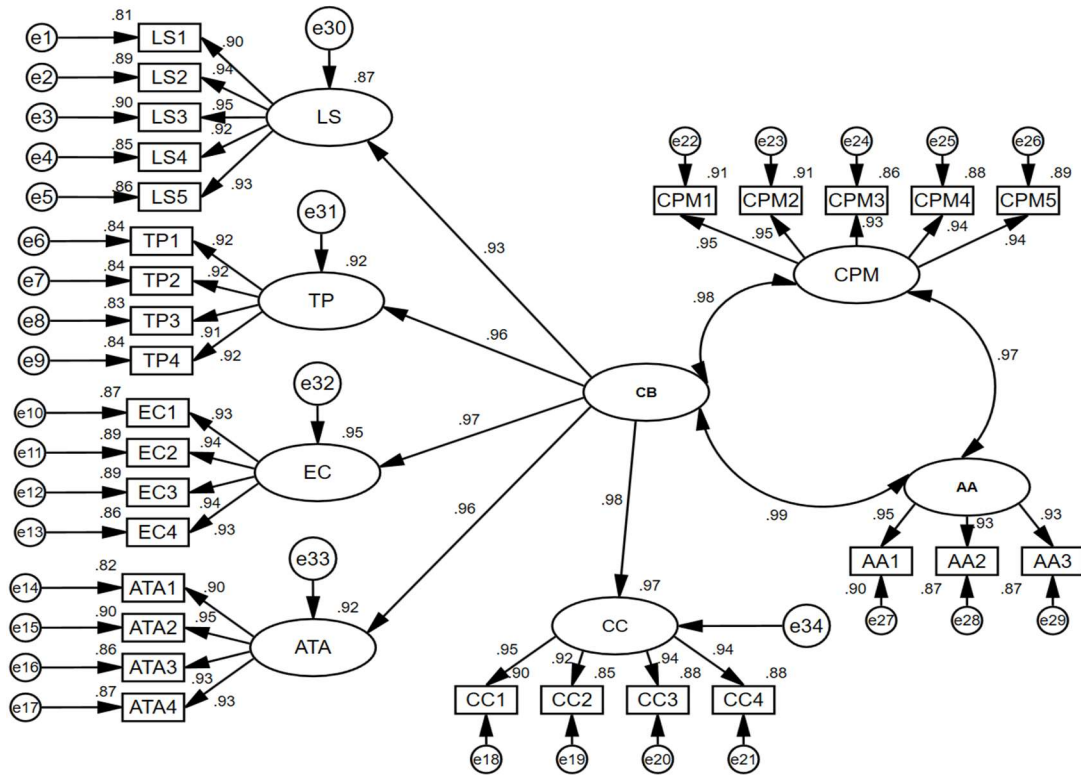


Figure 2 Measurement Models of Latent Variables (Source:

In order to simplify the model and reduce the estimation parameters of structural equation modeling, a second-order model was constructed as shown in Figure 2 [37]. The five dimensions of coach behavior were considered as first-order factors, with the second-order factor being coach behavior. The fit indices for this model are as follows: $\chi^2/df = 2.645$, GFI = 0.853, AGFI = 0.826, TLI = 0.958, CFI = 0.974, RMSEA = 0.073, SRMR = 0.0154. All indices meet the standard range criteria.

Furthermore, a chi-square ratio of 88.6% was obtained between the first-order seven-factor correlated model and the second-order factor model; indicating that the target coefficient is at 0.886%. A higher target coefficient closer to one suggests that the second-order model can represent the first-order model more effectively and make it more concise [38]. Therefore, based on these fit indices' tests, our constructed model demonstrates good fit.

Table 3 Comparison of Goodness-of-Fit Indicators for Two-Factor Authentication Models

Two-factor authentication factor model	χ^2/df	GFI	AGFI	TLI	CFI	RMS EA	SRMR
One-factor seven-variable model (with intercorrelations among factors)	2.966	0.847	0.773	0.945	0.980	0.074	0.0158
Second-order factor model	2.645	0.853	0.826	0.958	0.974	0.073	0.0154
Reference value	<3	>0.800	>0.800	>0.900	>0.900	<0.08	<0.05

Source: Authors

Structural Model and Hypothesis Testing

The assumptions between the various constructs in this study were tested using a structural model. The results showed that the fit of the structural model was good, with the assumptions between the various constructs in this study being tested using a structural model. The results showed that the fit of the structural model was good, with $\chi^2 /df=2.675$, $GFI=0.879$, $AGFI=0.806$, $TLI=0.972$, $CFI=0.988$, $RMSEA=0.075$, and $SRMR=0.0167$. Therefore, the hypothesized model fits well with the empirical data. The three assumed relationships that constitute the structural model are significant in the expected direction (Table 4). The standardized path coefficients for hypotheses H1, H2, and H3 are 0.971, 0.983 and 0.786 respectively; all p-values are less than 0.001. Thus, it can be concluded that there is a positive correlation between coaching behavior and coaching management practices; there is a positive correlation between coaching behavior and sustainable development capabilities of young athletes; and there is a positive correlation between coaching management practices and sustainable development capabilities of young athletes.

Table 4 Path Relationship Verification Results

Hypotheses	路径关系	Unstd.	S. E.	Z	P	Std.	Result
H1	CB → CPM	1.082	0.037	28.902	***	0.971	Support
H2	CPM → AA	1.097	0.144	7.618	***	0.983	Support
H3	CB → AA	0.896	0.124	6.222	0.025	0.786	Support

Source: Authors

Mediating Effect

This study employed Bootstrap method to conduct a mediation analysis on the sample. The analysis was set with a 95% confidence interval and 1000 samples were extracted. Bias-corrected and Percentile confidence intervals were used for judgment in this research. According to the results shown in Table 5, none of the confidence intervals for all paths included zero. There is a significant presence of mediation effect in coach management practices. The mediation effect of coach management practices accounts for 17.1% of the total effect between coach behavior and athlete ability.

Table 5 Bootstrap mediated effects test

pathway relationship	point estimate	Derivative coefficients	value of Z	Bootstrapping inspects			
				bias-corrected 95%		Percentile 95%	
				SE	Lower	Upper	Lower
Indirect Effect							
C□□CPM□□□□	0.183	0.108	0.002	0.022	0.387	0.027	0.391
Direct Effect							
CB□CPM	0.831	0.109	0.002	0.623	1.028	0.636	1.044
Total Effect							
CB□AA	1.014	0.012	0.000	0.99	1.04	0.982	1.042
Percentage							
P1	0.171	0.107	6.145	0.023	0.089	0.028	0.384

Source: Authors

Discussion

The purpose of this study is to investigate how to enhance the sustainable development capability of adolescent athletes. Through research, it has been found that implementing coaching management practices can standardize coach behavior and thereby improve the sustainable

development capability of young athletes. The correlation between coach behavior and coaching management practices has been confirmed as proposed by Hypothesis 1. The strong association between management tactics and coach conduct is a crucial aspect that significantly impacts team performance and player progress in the dynamic area of sports coaching. This connection highlights the need of maintaining a careful equilibrium between strategic organization and leadership style to foster success in both on-field and off-field endeavours. The essential characteristics of a coach, including their behaviour, gestures, and interpersonal communication, which have an impact on both the team's culture and the individual players' experiences, are central to this relationship. Coaches that exhibit positivity, compassion, and respect establish a foundation of trust with their players and foster their resilience and motivation. They create a conducive environment for learning and personal growth by embracing blunders as opportunities for advancement, offering constructive feedback, and acting as mentors. Conversely, an unfriendly or authoritarian coaching style may have a detrimental impact on player performance and team unity [43]. The act of excessively controlling, finding faults, or showing favouritism all result in discontent and diminished motivation, thereby compromising the overall efficiency of the team. These detrimental actions not only erode player self-assurance but also foster a climate of apprehension and unease, impeding creativity and hindering players' optimal performance. Efficient managerial strategies facilitate coach conduct by establishing the structure for favourable team interactions [39]. Skilled management improves organisational clarity and operational efficiency in all elements of the firm, from strategy formulation and resource allocation to conflict resolution and decision-making. Coaches that set well defined training programmes, clearly stated performance targets, and accountability mechanisms empower their teams to confront hurdles with confidence and determination [40]. In addition, efficient communication channels are facilitated by effective management practices, ensuring that instructions are conveyed clearly and comprehensively. Coaches foster a sense of collective responsibility and ownership within the team by soliciting players' input and promoting a collaborative decision-making process. Furthermore, this participatory approach not only enhances player engagement but also fosters a culture characterised by mutual respect and trust, all of which are necessary for achieving sustained success. The effectiveness of coaching is shown by the harmonisation of management approaches and coach conduct, which encompasses several aspects [42]. The coach's conduct influences the emotional atmosphere and interpersonal relationships within a team, while management processes provide the framework for both strategic guidance and operational effectiveness. Collectively, they constitute the fundamental basis of a comprehensive coaching ideology that nurtures the development of personal qualities and enduring abilities that extend far beyond the confines of sports and beyond mere physical achievement [41].

The positive correlation between coaching management practices proposed by H2 and the sustainable development capabilities of young athletes has been confirmed. Coach management techniques include a variety of strategies and behaviours aimed at facilitating the growth of young athletes in the domains of social, emotional, and physical development. Effective management approaches serve as the basis for sustained athletic development, including aspects such as training

programs, injury prevention, psychological assistance, and mentorship [49]. Coaches who prioritize skill acquisition, balanced training regimens, and age-appropriate growth not only improve performance but also decrease the risk of burnout and overuse injuries, safeguarding the long-term health and lifespan of their players. In addition, effective management extends beyond the confines of the specific domain to include a nurturing and supportive environment that fosters holistic development. Coaches who prioritise open communication, empathy, and positive reinforcement create a culture of trust and psychological safety [46]. This empowers young athletes to confront challenges with assurance and resilience. Cultivating a lifelong passion for sports and physical activity by fostering a sense of belonging and internal drive establishes the foundation for long-term involvement and personal satisfaction [48]. Furthermore, the manner in which coaches oversee their teams has a substantial influence on the psychological well-being of young athletes, extending beyond basic athletic achievements to foster individual development and impart valuable life lessons. Coaches prioritise inclusivity, teamwork, and sportsmanship to promote values of respect, honesty, and tenacity. These values extend beyond the limits of competitiveness. Through their mentorship and role modelling, they impart invaluable teachings on resilience, leadership, and communication, equipping young athletes with the necessary skills for success in all facets of life. The sustainability of young athletes and coach management strategies exhibit a favorable correlation, emphasizing the transformative influence of effective mentorship and leadership in fostering the development of future champions. Coaches may cultivate a lasting legacy of excellence by prioritizing the comprehensive growth and welfare of athletes above short-term success, therefore emphasizing integrity, resilience, and a lifelong passion for sports. By doing so, they promote the development of individual athletes as well as the overall vitality and dynamism of the sports community for future generations [47]. The positive correlation between coaching behavior and the sustainable development ability of young athletes has been confirmed as proposed by Hypothesis 3. The coach's behavior has a positive impact on enhancing the sustainable development ability of young athletes. Coaches are not only instructors in tactics and techniques, but also need to possess the abilities to inspire, encourage, guide, and support young athletes. Positive coaching behavior can stimulate young athletes to better unleash their potential [46]. Through positive coaching behavior, the performance and development of young athletes can be improved, thereby helping them achieve personal and team goals. Therefore, coach's positively correlated behaviors can better serve the growth and success of young athletes [47].

The mediating role of coaching management practices between coach behavior and sustainable development capabilities of young athletes prove has a significant relationship. Coach management techniques include a variety of strategies and behaviors aimed at facilitating the growth of young athletes in the domains of social, emotional, and physical development [10]. Effective management approaches serve as the basis for sustained athletic development, including aspects such as training programs, injury prevention, psychological assistance, and mentorship. Coaches who prioritize skill acquisition, balanced training regimens, and age-appropriate growth not only improve performance but also decrease the risk of burnout and overuse injuries,

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Conclusions

The impact of coaching conduct and management tactics on the development of young athletes cannot be overstated. Coaches play a crucial role in fostering sustained development among young athletes via their leadership, guidance, and strategic planning. They shape the character, resilience, and lifelong passion for sports of athletes, in addition to their physical prowess. The foundation of a complete approach for the development of young athletes lies in the mutually advantageous interplay between coaching behaviour and coaching management strategies. Empathy, respect, and constructive communication are qualities shown by positive coaches that provide a nurturing environment in which young athletes feel valued, motivated, and empowered to achieve their maximum capabilities. Conversely, negative conduct may erode one's sense of value, hinder progress, and ultimately deter athletes from participating in sports for a prolonged duration. Effective coaching management strategies provide the basis for structured teaching, skill development, and comprehensive support, therefore improving coach conduct. Skilled management strategies effectively address the intricate needs of young athletes, promoting their physical, emotional, and social growth. The demands include a wide variety of areas, including injury prevention, physical fitness, mental health, and teaching essential life skills. Coaches provide the foundation for enduring athletic careers and lifelong involvement in sports by prioritising sustainable development over immediate achievements. Ultimately, the impact of coaching conduct and management tactics on the long-term development of young athletes

underscores the transformative power of effective mentorship and leadership. Coaches can encourage young athletes to excel in both sports and life by fostering an atmosphere that prioritises positivity, inclusivity, and comprehensive support. Coaches have the opportunity and responsibility to establish an extraordinary heritage that extends far beyond the realm of sports, exerting influence on both the athletic domain and society in the future as they care for the next cohort of champions.

Limitations and future research

While the correlation between the sustainable development capacity of young athletes and the conduct of coaches and coaching management strategies is well recognised, there are a few limitations and areas for additional investigation that need attention. One restriction of studying the impact of coach conduct and coaching management strategies on the sustainability of young athletes is the challenge of accurately identifying and quantifying this relationship. While previous research has highlighted the importance of complete assistance and effective leadership, it would be beneficial to conduct more investigations to explore specific metrics and evaluation methods for assessing the lasting impacts of different coaching approaches. Factors such as socioeconomic position, cultural norms, and organisational structures may also influence the behaviour and management of coaches in their activities. Further research may delve into these contextual aspects with more scrutiny in order to get a more comprehensive comprehension of their impact on the development and long-term viability of young athletes across various settings and populations. Longitudinal studies, which track players over an extended period, may provide valuable insights into the lasting effects of coaching behaviour and management strategies on the physical and mental well-being, performance, and commitment of athletes in sports. By monitoring trends and patterns over time, researchers may identify crucial elements that contribute to the long-term development of athletes and provide evidence-based coaching strategies. Moreover, a compelling avenue for future research is to investigate the potential of innovation and technology in enhancing the efficacy of coaches and promoting the long-term well-being of athletes. The advancements in sports science provide unprecedented opportunities to optimise athlete development and support, including wearable technologies, customised training programmes, virtual coaching platforms, and performance data analysis. Finally, collaborative research alliances including psychologists, educators, sports scientists, and policymakers have the potential to enhance our understanding of the complex connections between coaching management tactics, coach behaviour, and the long-term well-being of young athletes. Researchers may establish comprehensive frameworks and methods to promote positive youth development via sports by integrating information from several disciplines. Ultimately, although the existing corpus of research provides insights into the impact of coaching conduct and management strategies on the long-term viability of young athletes, there are unresolved inquiries. To enhance our understanding and support the sustainable growth of athletes, future research endeavours should prioritise the development of precise measurement tools, exploration of contextual factors, implementation of long-term studies, utilisation of advanced technologies, and promotion of collaborative collaborations across several disciplines.

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