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Coach Competences and Their Impact on Athlete Performance in Discus and Shot Put

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Abstract: This study investigated the relationship between coach competencies and athlete performance in discus and shot put, focusing on technical skills, communication, and training principles. It aimed to assess differences based on athlete profiles and develop a coach development program based on the findings. The methodology for this study uses a descriptive, comparison, and correlational method and used 325 respondents from Bengbu Medical University, Anhui University, Bengbu University, Anhui University of Science and Technology, and Anhui Normal University. The study found that coach competencies in Chinese universities' discus and shot-put programs moderately influence athlete performance, with no significant differences based on athlete profiles. A strong positive relationship between coach competencies and athlete success highlights the need for an enhanced coach development program to optimize performance. The recommendations focus on enhancing coach development programs by improving key competencies such as technical expertise, biomechanics, communication, and personalized coaching strategies. By providing targeted training and fostering collaboration across universities, the aim is to improve athlete performance in discus and shot put, ensuring equal support for all athletes.

Keywords: Coach Competencies; Discus; Shoy Put; Athlete Performance.

1. Introduction

Coaching is crucial for athletic growth, having a key part in influencing athletes' performance and accomplishments (Lyle, 2018). Discus and shot put are prominent events in track and field athletics, requiring physical strength, technical skill, and mental concentration (Jukic et al., 2020). Discus and shot put in China has evolved from traditional to contemporary ways, showcasing the country's dedication to sports greatness (Yu, 2019). Despite improvements in training methods and facilities, coaches still encounter complex problems in developing athletes and maximizing their performance (Wu & Yang, 2021). It is crucial to comprehend the competencies of coaches and how they influence athlete performance in discus and shot put to improve athletic results and promote a culture of excellence in Chinese sports.

Discus and shot put has long been important parts of track and field sports in China, having a significant history extending back to ancient times (Wu & Yang, 2021). In the past, these fields were mostly developed for military instruction and physical fitness, focusing on strength, power, and agility (Yu, 2019). Over time, discus and shot throw has become popular competitive events in contemporary sports culture, drawing athletes from many backgrounds and age groups (Jukic et al., 2020). China's investment in sports science, talent identification, and athlete development programs has contributed to the rise of discus and shot throw, establishing China as a strong presence in these fields (Wu & Yang, 2021). Despite the successes and recognition, coaches have many hurdles in developing players' potential and maximizing their performance in discus and shot throw.

Coaching in discus and shot put involves several hurdles, including technical complexities and psychological obstacles (Lyle, 2018). Coaches need to have a profound grasp of biomechanics, physiology, and training concepts due to the technical difficulties of these disciplines (Jukic et al., 2020). Coaching in discus and shot throw involves teaching technical skills and developing athletes' physical qualities such strength, power, and agility (Wu & Yang, 2021). Coaches must adjust training regimens to accommodate the specific demands and goals of each athlete due to their individual characteristics (Yu, 2019).

Coaching in discus and shot put also requires strong communication skills to properly provide technical instructions, feedback, and motivation to athletes (Lyle, 2018). Effective communication promotes mutual understanding and trust between coaches and athletes, establishing the basis for good coaching partnerships (Jukic et al., 2020). Coaches need to show skill in problem-solving and flexibility while facing challenges throughout the training process (Wu & Yang, 2021).

Poor coaching may have many and significant effects on athletes' performance in discus and shot throw (Lyle, 2018). Insufficient coaching may lead to technical shortcomings, physical asymmetries, and psychological obstacles, impeding athletes' development and limiting their capabilities (Jukic et al., 2020). Athletes may have challenges in developing basic skills, improving methods, and attaining competitive success without adequate coaching assistance (Yu, 2019). Poor coaching may also increase the likelihood of injuries and setbacks by leading athletes to use training techniques that are unsuitable or hinder their progress (Wu & Yang, 2021). Athletes may face dissatisfaction, disillusionment, and reduced motivation when there is a lack of adequate communication and feedback systems, leading to decreased dedication to training and competition (Lyle, 2018). Poor coaching has repercussions that go beyond individual athletes and affect the entire performance and reputation of Chinese athletics in discus and shot throw (Jukic et al., 2020).

Against the backdrop of China's burgeoning sports industry and its aspirations for global athletic dominance, the significance of understanding coach competencies and their impact on athlete performance in discus and shot put cannot be overstated (Wu & Yang, 2021). This research has the

potential to provide valuable insights into the key characteristics that impact coaching efficacy and athlete development, which might be used to guide legislative efforts, coaching programs, and athlete support systems in China (Yu, 2019).

This study's results may help shape the professional growth and certification of coaches, ensuring they have the necessary knowledge, skills, and abilities to create top-tier talent in discus and shot put (Lyle, 2018). China can boost its competitiveness in track and field sports on the global stage by promoting a culture of excellence and continual development in coaching procedures.

Research on coach competences and their influence on athlete performance in discus and shot put, especially in the setting of China, is lacking despite the importance of coaching in athlete development (Wu & Yang, 2021). Previous research has mostly concentrated on Western sports environments, neglecting the distinct problems and dynamics present in Chinese sports, as noted by Yu (2019). Empirical research on the individual competences and methods of coaches in discus and shot put is limited, despite anecdotal evidence pointing to the significant impact of coaching on athlete success (Lyle, 2018). Therefore, there is an urgent need for thorough empirical research to fill this vacuum and provide evidence-based perspectives on the coaching environment in Chinese track and field sports (Jukic et al., 2020).

The research on coach competences and their impact on athlete performance in discus and shot put is crucial and relevant, having the potential to bring about good changes in China's sports system (Wu & Yang, 2021). This project intends to enhance Chinese athletics and build a new generation of top discus and shot-put athletes by exploring coaching techniques and their impact on athlete development.

2. Statement of the Problem

This study aims to determine the coach competencies and their impact on athlete performance in discus and shot put. Specifically, this study dealt with the following questions:

(1)What is the profile of the respondents in terms of:

1)sex

2)school affiliation

3)Years of Involvement

(2)What is the assessment of the respondents as to the coach competencies in terms of:

1)Technical Expertise

2)Training Principles

3)Biomechanical Analysis

4)Communication Skills

5)Athlete Assessment and Monitoring

6)Problem-Solving

(3)Is there a significant difference in the assessment of the respondents when they are grouped according to profile?

(4)What is the assessment of the respondents of the impact of the coach competencies on the athlete's performance in discus and shot put in terms of:

1)Physical Strength and Power

2)Technique and Mechanics

3)Balance and Coordination

4)Flexibility and Mobility

5)Mental Focus and Concentration

6)Confidence and Self-Belief

(5)Is there a significant difference in the assessment of respondents of the impact of coach competencies on the athlete's performance when they are grouped according to profile?

(6)Is there a significant relationship between coach competencies and athletes' performance in discus and shot put?

(7)Based on the results of the study, what enhanced coach development program can be designed?

3. Hypotheses

The following hypotheses are tested at .05 Level of Significance:

(1)There is no significant difference in the assessment of the respondents when they are grouped according to profile.

(2)There is no significant difference in the assessment of the respondents of the impact of coach competencies on athletes' performance when they are grouped according to profile.

(3)There is no significant relationship between coach competencies and athletes' performance in discus and shot put.

4. Scope and Delimitation of Study

This study investigates the impact of coach competences on athlete performance in discus and shot put at five Chinese institutions. Key subjects include participant characteristics, coaching skills assessment, differences in athlete evaluations based on profiles, and the complex relationship between coach capabilities and performance. The research analyzed factors such as gender, academic field, and sports experience. Participants will be assessed for their coach's abilities in technical skills, training methods, biomechanics understanding, communication skills, athlete evaluation techniques, and problem-solvingabilities.

Athletes were examined for their perceptions of coach skills' influence on their performance in discus and shot put. The study also examined aspects like physical strength, technical expertise, balance, flexibility, mental sharpness, and self-confidence. The goal was to determine if there are significant differences in athlete assessments based on individual profiles and examine the relationship between coach competences and athlete performance.

However, the study has limitations, including limited generalizability due to its focus on a small group of institutions in China, potential self-report bias, predetermined categories for coach competences, cross-sectional design, and linguistic and cultural obstacles. Further longitudinal research is needed to provide more detailed insights. Despite these limitations, the study aims to provide valuable insights into the complex relationship between coach competencies and athlete performance in discus and shot put, contributing to the improvement of coaching effectiveness and athlete development within the defined research framework.

5. Research Design

The methodology for this study used a descriptive, comparison, and correlational method to look into how teacher skills affect player success in shot put and discus. At first, data was gathered through polls and tests given to teachers and players at certain Chinese colleges as part of the description phase. These tests checked how good a coach is at many things, such as technical knowledge, training principles, biomechanical analysis, communication skills, evaluating athletes, and solving problems. They also checked how well athletes do by looking at their physical traits, technique, mental skills, and performance outcomes. After that, the comparison part looked at how teacher skills and player

success vary based on things like gender, course of study, and years of experience, using inferential statistics to find big differences. The goal of this part is to find trends that could affect how well coaches do their jobs and how well athletes grow. In the next step, the correlational phase, statistical methods will be used to find out the size and direction of the link between teacher skills and player success across different variables. This study carefully collects, analyzes, and thinks about ethical issues in order to show the complex relationships between coach skills and athlete performance. The results will help improve coaching methods and help athletes improve their discus and shot-put skills in the research setting.

6. Results and Discussion

1) Profile of the Respondents

Table 1. Profile of the Respondents as to Sex, School, Years of Involment and Classification

SEX	FREQUENCY	PERCENTAGE
Male	171	52.6
Female	154	47.4
Total	325	100.0
SCHOOL AFFILIATION	FREQUENCY	PERCENTAGE
Bengbu Medical University	65	20.0
Anhui University	65	20.0
Bengbu University	65	20.0
Anhui University of Science and Technology	65	20.0
Anhui Normal University	65	20.0
Total	325	100.0
YEARS OF INVOLVEMENT	FREQUENCY	PERCENTAGE
Less than 1 Year	88	27.1
1-2 Years	83	25.5
3-5 Years	79	24.3
6-10 Years	33	10.2
More than 10 Years	42	12.9
Total	325	100.0
CLASSIFICATION	FREQUENCY	PERCENTAGE
Student Player/Athlete	250	76.9
Sport Teacher/Coach	75	23.1
Total	325	100.0

Table 1 shows the Profile of the Respondents as to sex, school affiliation, years of involvement and classification.

As to Sex. Data illustrates that out of 325 respondents from selected Chinese universities, 171, or 52.6% are male, while 154, or 47.4% are female. This distribution shows male dominance in the respondent group with a 5.2% gap to be exact. This means that the difference between male and female participants is small, showing that both sexes are well-represented. This ensures a balanced view of the study's results.

As indicated in the data, there is a near-equal participation of both sexes, which may provide valuable insights into gender dynamics within discus and shot-put coaching and performance. Moreover, the male dominance could reflect traditional perceptions in strength-based sports like discus and shot put, where male athletes often outnumber female respondents due to societal expectations and historical trends in athletics (Jukic et al., 2020). However, the significant female presence challenges these norms and highlights women's growing inclusion and interest in track and field events. According to Mokhtar et al. (2021), such gender balance in coach competencies studies ensures that gender-specific coaching needs or athlete development strategies can be better understood and addressed. Wu and Yang (2021) also emphasized that gender balance in athletic programs can promote diversity in coaching methods and athlete performance, making the results more inclusive and reflective of modern trends.

The near-equal representation of male and female respondents across Bengbu Medical University, Anhui University, Bengbu University, Anhui University of Science and Technology, and Anhui Normal University indicates a strong culture of gender inclusivity in discus and shot-put training in these institutions. Coaches should pay attention to the different needs of both male and female athletes, and make sure that training programs are designed to help everyone develop equally. This balance provides a solid foundation for improving coaching strategies and maximizing athletic performance for all participants.

As to School Affiliation. It is noted that each of the five universities, Bengbu Medical University, Anhui University, Bengbu University, Anhui University of Science and Technology, and Anhui Normal University, contributed equally to the study, with 65 respondents from each institution, representing 20.0% of the total sample. This equal distribution ensures that data from each university is equally represented, which allows for a balanced understanding of how coach competencies influence athlete performance in discus and shot put.

The equal representation of respondents across the universities highlights a uniform commitment to athlete development in discus and shot put within these institutions. This balanced representation strengthens the study and ensures that no single university's athletes have more influence on the results. This helps create a fairer and more widely applicable understanding of coaching skills. Each university has an equal voice in the study's findings, ensuring that the evaluation of coach competencies and their impact on performance reflects a variety of coaching styles and training environments. According to Halpin (2024), equal representation in sports study is crucial for identifying common coaching challenges and opportunities, while Expert (2024) emphasizes that diversity in athlete backgrounds helps ensure that findings are relevant across multiple settings. This distribution also implies that the coaches at these institutions are likely to face similar challenges in fostering athlete performance, making the study's results applicable to a wide range of coaching contexts.

The even distribution of respondents across the five universities aligns with the study's goal of evaluating coach

competencies and their impact on athlete performance in discus and shot put. This balanced representation is essential for ensuring that the study's findings can be applied across institutions. Universities may consider facilitating cross-institutional collaboration among coaches to share best practices and further enhance the development of athletes in these events.

As to Years of Involvement. Data exhibits that out of 325 respondents, the largest group has less than 1 year of involvement with 88 individuals or 27.1% of the total respondents. The second-largest group, with 83 respondents or 25.5%, has been involved for 1-2 years, followed by 79 respondents, or 24.3% of the total with 3-5 years of experience, while 42 respondents, or 12.9% have more than 10 years of involvement. Hence, the lowest frequency of respondents is found in the 6-10-year range, with 33 frequency or 10.2% of 325. This shows a significant concentration of respondents with less than 5 years of involvement, while those with longer experience represent a smaller portion of the group.

The high frequency of respondents with less than 1 year of involvement could indicate that many athletes are just starting their athletic journey in discus and shot put. This could be attributed to increased recruitment efforts, better awareness of these sports, or the growing popularity of track and field events in the universities involved in the study. Similarly, Anusha (2023) found in her study on collegiate shotput athletes that there is a surge of younger athletes, indicating that modern coaching methods and recruitment strategies are successfully drawing newcomers to the sport. In addition, the large number of respondents with less than one year of experience implies that many athletes are just starting their training. This means that most of them are still learning the basic skills they need. Because of this, coaches may need to focus on teaching the fundamentals, like proper technique and understanding body movement. These newer athletes might also need extra encouragement to stay motivated and continue improving. According to Serpell et al., (2023), effective coaching must be tailored to the athletes' experience level, ensuring that beginners receive foundational guidance. On one hand, the low number of athletes with 6-10 years of experience could point to an issue with athlete retention. This drop-off might indicate that athletes lose interest or face challenges in continuing their involvement beyond the initial years. A study by Agortey, (2023) highlighted that athletes often face challenges in balancing academic and athletic demands, which could be a factor in the low retention rate seen in the mid-experience group.

Data indicates that most athletes are new to discus and shot put, while those with mid-range experience are the fewest. This implies the need for coaching programs to focus on both onboarding new athletes effectively and creating strategies to retain those with several years of experience. Enhancing support systems, providing motivation, and addressing the challenges faced by mid-experience athletes could help maintain their involvement and further develop their skills, ensuring long-term growth in the sport.

As to Classification. Data exhibits that of the respondents, 250, or 76.9% are student players or athletes, while 75, or 23.1% are sport teachers or coaches. This distribution reflects the higher number of students participating as athletes in discus and shot put, while teachers, likely serving as coaches or mentors, form a smaller portion of the respondent group. The large number of student respondents is important, as they are the primary focus when evaluating the impact of coaching practices.

The predominance of student respondents aligns with the study's focus on understanding how coaching competencies influence athlete performance. Since students are the direct beneficiaries of coaching strategies, their participation offers valuable insights into how effective coaches are in developing skills, motivation, and overall performance. Carvalho and Gonçalves (2020) study support this focus, emphasizing that when athletes perceive their coaches as supportive and autonomy-promoting, they are more motivated and confident, which has a positive impact on their performance Hence, the lower number of teacher respondents underscores their important yet secondary role in this study. Coaches, though fewer in number, have a significant impact on athletes, as coaching quality directly affects performance outcomes (White & Rezania, 2019). The smaller percentage of teacher respondents may highlight a coach-to-athlete ratio that could benefit from further improvement. In addition, according to Albuquerque et al., (2021), coach-to-athlete ratios help in delivering more personalized feedback and training, which is essential for both beginner and advanced athletes.

The higher number of student respondents, combined with a smaller but significant teacher group, reflects the study's focus on how coaching impacts athlete performance in discus and shot put. Universities could enhance athlete performance by providing additional resources and support to teachers, particularly in training and development programs. This could lead to improved coach competencies and better athletic outcomes for students.

2) Assessment of the Respondents as to the Coach Competencies

Table 2 shows the Assessment of the Respondents as to the Coach Competencies as to Technical Expertise. Data shows that all indicators have an "Agree/ Moderately Observed" interpretation. It is also noted that among the 10 indicators, the "The coach has a well-documented history of successfully enhancing the technical skills of athletes in discus and shot put" indicator has the highest combined mean of 2.79 with 1.05 SD and is ranked 1 of the data. This is followed by "The coach shows expertise in teaching advanced throwing methods" with a mean of 2.78 (rank 2). On the other hand, the lowest-rated competency is "My coach has a high level of expertise in recognizing and rectifying technical imperfections in players' throwing mechanics," with a mean of 2.65, with a 1.08 SD, and is ranked 10. The overall composite mean across all indicators is 2.72 with a 0.74 SD, interpreted as "Moderately Observed," indicating that the respondents agree with their coaches' technical expertise, though there is room for improvement in several areas. The student players and sports teachers/coaches responses are highly aligned, with mean scores of 2.72 and 2.73, respectively, both also interpreted as "Agree/Moderately Observed."

Table 2. Assessment of the Respondents as to the Coach Competencies as to Technical Expertise

INDICATORS	CLASSIFICATION	MEAN	SD	INTERPRETATION	RANK
1. The coach exhibits a profound comprehension of the technical intricacies of discus and shot put.	Student Player	2.73	1.05	Agree / Moderately Observed	3.5
	SportTeacher/Coach	2.73	1.08	Agree / Moderately Observed	
	Combined	2.73	1.06	Agree / Moderately Observed	
2. The coach adeptly conveys technical instructions and corrections during training sessions.	Student Player	2.69	1.08	Agree / Moderately Observed	6
	SportTeacher/Coach	2.79	1.07	Agree / Moderately Observed	
	Combined	2.71	1.08	Agree / Moderately Observed	
3. The coach has a profound understanding of correct throwing mechanics and form.	Student Player	2.74	1.08	Agree/ Moderately Observed	3.5
	SportTeacher/Coach	2.72	0.95	Agree / Moderately Observed	
	Combined	2.73	1.05	Agree / Moderately Observed	
4. My coach remains well-informed about the most recent advancements and methodologies in discus and shot put.	Student Player	2.70	1.07	Agree / Moderately Observed	7.5
	SportTeacher/Coach	2.71	0.98	Agree / Moderately Observed	
	Combined	2.70	1.05	Agree / Moderately Observed	
5. My coach offers unique perspectives and tactics to enhance performance in discus and shot put.	Student Player	2.72	1.08	Agree / Moderately Observed	7.5
	SportTeacher/Coach	2.64	1.09	Agree / Moderately Observed	
	Combined	2.70	1.08	Agree / Moderately Observed	
6. The coach adeptly converts complex technical principles into practical training routines.	Student Player	2.69	1.09	Agree / Moderately Observed	5
	SportTeacher/Coach	2.83	1.11	Agree / Moderately Observed	
	Combined	2.72	1.10	Agree / Moderately Observed	
7. The coach shows expertise in teaching advanced throwing methods.	Student Player	2.75	1.07	Agree / Moderately Observed	2
	SportTeacher/Coach	2.88	0.97	Agree / Moderately Observed	
	Combined	2.78	1.05	Agree / Moderately Observed	
8. The coach has extensive expertise in the field of biomechanics and its practical use in discus and shot put.	Student Player	2.67	1.04	Agree / Moderately Observed	9
	SportTeacher/Coach	2.75	1.01	Agree / Moderately Observed	
	Combined	2.69	1.04	Agree / Moderately Observed	
9. My coach has a high level of expertise in recognizing and rectifying technical imperfections in players' throwing mechanics.	Student Player	2.68	1.09	Agree / Moderately Observed	10
	SportTeacher/Coach	2.55	1.04	Agree / Moderately Observed	
	Combined	2.65	1.08	Agree / Moderately Observed	
10. The coach I have has a well-documented history of successfully enhancing the technical skills of athletes in the disciplines of discus and shot put.	Student Player	2.80	1.06	Agree / Moderately Observed	1
	SportTeacher/Coach	2.76	1.04	Agree / Moderately Observed	
	Combined	2.79	1.05	Agree / Moderately Observed	
Overall Mean	Student Player	2.72	0.75	Agree / Moderately Observed	
	SportTeacher/Coach	2.73	0.72	Agree / Moderately Observed	
	Combined	2.72	0.74	Agree / Moderately Observed	

LEGEND: STRONGLY AGREE/HIGHLY OBSERVED (4) =3.51-4.0); AGREE/MODERATELY OBSERVED (3) =2.51-3.50); DISAGREE/MINIMALLY OBSERVED (2) =1.51-2.50); STRONGLY DISAGREE/NOT OBSERVED (1) =1.0-1.50).

As stipulated in the data, the highest combined mean competency was observed in the "The coach has a well-documented history of successfully enhancing the technical skills of the respondents in the discus and shot put" indicator, which is interpreted as agree/moderately observed. This implies that respondents perceive the coaches' competencies and historical successes as a factor in their technical skill development. Such recognition aligns with Metrifit (2020) emphasis on the value of a coach's proven track record in building trust and motivating the players and coaches. Effective coaching is indeed rooted in utilizing past experiences to enhance performance. Moodie (2023) supports this by highlighting the importance of applying domain-specific knowledge. The positive perception of past successes reinforces the importance of continuing to build on proven coaching strategies to maintain and boost athlete confidence. On the other hand, the " Agree/ Moderately Observed" rating, reflected by the lowest-rated competency "My coach has a high level of expertise in recognizing and rectifying technical imperfections in players' throwing mechanics," indicates that while technical expertise is recognized, it is perceived as needing improvement. This rating highlights a shortcoming in coaches' ability to provide precise technical feedback and correct biomechanical flaws, which are essential for sports like discus and shot put. (Wu & Yang, 2021). In addition, Aalberg et al. (2022) illustrate that expertise development is context-dependent, emphasizing that coaches in technical sports must not only have domain knowledge but also excel in applying it to address specific athlete needs. Thus, the overall "Agree/ Moderately Observed" rating across all indicators implies that coaches have a good level of technical skill, but there is room for improvement.

The result reveals that coaches have a solid foundation in technical skills, but there are areas that need further improvement, particularly in identifying and correcting errors in athletes' throwing techniques. To enhance athlete performance coaches may consider receiving further training in biomechanical analysis and provide more effective feedback. By building on their past successes and improving in these areas, coaches can help athletes perform even better. This approach aligns with the insights provided by Connor et al. (2020) and Moodie (2023), underscoring the need for comprehensive development in coaching practices.

Table 3 presents the Assessment of the Respondents as to the Coach Competencies as to Training Principles. It is noted that all indicators have "Agree/ Moderately Observed" interpretation. The highest-rated competency, "My coach promotes the practice of engaging in several types of training and additional workouts to improve overall athletic performance," has a combined mean of 2.78 with a 1.08 SD, ranked first. This is followed by two indicators: "The significance of following appropriate warm-up and cool-down protocols in training sessions is strongly emphasized by my coach" and "The significance of maintaining appropriate diet and hydration for achieving optimum performance is emphasized by my coach," both with a combined mean of 2.77.

In contrast, the lowest-rated competency is "My coach utilizes periodization methodologies to maximize training advancement and mitigate the risk of overexertion," with a combined mean of 2.66 with 1.08 SD, ranked 10th. The overall composite mean is 2.72, with a 0.74 SD, indicating that the respondents agree that their coaches apply training principles, though improvements are needed in certain areas. Both student players and sports teachers/coaches provided aligned ratings, with mean scores of 2.71 and 2.74, respectively.

This means that coaches' competencies are recognized in implementing diverse training methods, as evidenced by the highest mean score related to promoting various types of workouts.

As indicated in the data, the highest-ranked indicator reflects that coaches emphasize the promotion of diverse training approaches, which underscores their understanding of comprehensive athletic development. This observation aligns with Zhao (2023), who highlighted the significance of cross-training in improving performance in throwing events such as discus and shot put. Coaches who incorporate various training methods, including strength and plyometric workouts, are viewed as supporting enhanced performance outcomes, a point reinforced by Rusli et al. (2023). The focus on maintaining proper nutrition and hydration further demonstrates coaches' dedication to ensuring athletes' physical readiness, a crucial element in holistic training programs as advocated by Sinulingga et al. (2020). On one hand, the lowest-ranked indicator pertains to periodization, highlighting an area of improvement in how coaches manage long-term training plans. This is important because periodization helps in reducing injury risks and maximizing performance potential (Thaqi et al., 2020). The data implies that while fundamental training practices are in place, more attention might be needed on optimizing the balance between training intensity, recovery, and individual needs. Moreover, the overall composite mean score of 2.72 for respondents, which falls under the "moderately observed" category, indicates that while training principles are followed, there is substantial room for growth. This means that while coaches are applying basic training strategies, further refinement is needed in personalizing training regimens and implementing advanced techniques such as periodization and goal-setting. The agree/moderate overall rating also aligns with Sinulingga et al.'s (2020) argument that effective coaching must blend technical, psychological, and motivational aspects. The focus on these components is necessary to help student players and sports teachers/coaches reach better performance.

The assessment of respondents regarding their coaches' competencies in training principles implies that coaches are moderately effective in implementing foundational training practices. While coaches demonstrate a good understanding of promoting diverse training methods, such as strength and plyometric workouts, they may need to enhance their use of periodization strategies to ensure more balanced training and recovery cycles. This concern in periodization points to an opportunity for coaches to better individualize training plans to maximize athlete development and performance. To further improve, coaches should focus on refining their ability to tailor training regimens, manage training loads, and establish clear objectives for each training cycle, which may lead to more effective outcomes in discus and shot put.

Table 3. Assessment of the Respondents as to the Coach Competencies as to Training Principles

INDICATORS	CLASSIFICATION	MEAN	SD	INTERPRETATION	RANK
1. The training regimens devised by my coach are customized to address my specific talents and shortcomings.	Student Player	2.70	1.05	Agree / Moderately Observed	8
	SportTeacher/Coach	2.60	1.10	Agree / Moderately Observed	
	Combined	2.68	1.06	Agree / Moderately Observed	
2. The significance of following appropriate warm-up and cool-down protocols in training sessions is strongly emphasized by my coach.	Student Player	2.73	1.06	Agree / Moderately Observed	2.5
	SportTeacher/Coach	2.91	0.92	Agree / Moderately Observed	
	Combined	2.77	1.03	Agree / Moderately Observed	
3. My coach utilizes periodization methodologies to maximize training advancement and mitigate the risk of overexertion.	Student Player	2.69	1.09	Agree / Moderately Observed	10
	SportTeacher/Coach	2.55	1.08	Agree / Moderately Observed	
	Combined	2.66	1.08	Agree / Moderately Observed	
4. The coach skillfully manages the combination of training volume and intensity to optimize improvements.	Student Player	2.72	1.07	Agree / Moderately Observed	4
	SportTeacher/Coach	2.76	1.01	Agree / Moderately Observed	
	Combined	2.73	1.05	Agree / Moderately Observed	
5. The coach establishes explicit goals and objectives for every training cycle.	Student Player	2.67	1.03	Agree / Moderately Observed	6
	SportTeacher/Coach	2.76	0.94	Agree / Moderately Observed	
	Combined	2.69	1.01	Agree / Moderately Observed	
6. The significance of rest and recuperation in the training process is emphasized by my coach.	Student Player	2.69	1.02	Agree / Moderately Observed	5
	SportTeacher/Coach	2.81	1.06	Agree / Moderately Observed	
	Combined	2.72	1.03	Agree / Moderately Observed	
7. My coach promotes the practice of engaging in several types of training and additional workouts to improve overall athletic performance.	Student Player	2.78	1.08	Agree / Moderately Observed	1
	SportTeacher/Coach	2.80	1.05	Agree / Moderately Observed	
	Combined	2.78	1.08	Agree / Moderately Observed	
8. The training plan designed by my coach includes both plyometric and strength training workouts.	Student Player	2.63	1.06	Agree / Moderately Observed	8
	SportTeacher/Coach	2.83	1.11	Agree / Moderately Observed	
	Combined	2.68	1.07	Agree / Moderately Observed	
9. The significance of maintaining appropriate diet and hydration for achieving optimum performance is emphasized by my coach.	Student Player	2.78	1.09	Agree / Moderately Observed	2.5
	SportTeacher/Coach	2.73	1.00	Agree / Moderately Observed	
	Combined	2.77	1.07	Agree / Moderately Observed	
10. The coach closely analyzes the intensity of training and makes necessary adjustments to the programs in order to limit the likelihood of injuries.	Student Player	2.68	1.09	Agree / Moderately Observed	8
	SportTeacher/Coach	2.68	1.13	Agree / Moderately Observed	
	Combined	2.68	1.10	Agree / Moderately Observed	
Overall Mean	Student Player	2.71	0.74	Agree / Moderately Observed	
	SportTeacher/Coach	2.74	0.73	Agree / Moderately Observed	
	Combined	2.72	0.74	Agree / Moderately Observed	

LEGEND: STRONGLY AGREE/HIGHLY OBSERVED (4) =3.51-4.0); AGREE/MODERATELY OBSERVED (3) =2.51-3.50); DISAGREE/MINIMALLY OBSERVED (2) =1.51-2.50); STRONGLY DISAGREE/NOT OBSERVED (1) =1.0-1.50).

7. Conclusion

Based on the significant findings of the study, the following conclusions were established:

1) Data reveals that the majority of respondents are students with a near-equal distribution between male and female participants, which are new in discus and shot put from five universities, Bengbu Medical University, Anhui University, Bengbu University, Anhui University of Science and Technology, and Anhui Normal University, each contributing an equal number of participants. This distribution highlights a solid foundation for assessing coaching competencies and their influence on athletes across universities.

2) The competencies of coaches in Chinese universities' discus and shot put programs are effective/moderately observed across key areas: Technical Expertise, Training Principles, Biomechanical Analysis, Communication, Athlete Assessment, and Problem-Solving. This indicates that coaches are proficient in core coaching skills, but there is room for improvement in utilizing biomechanical tools and advanced training techniques. These findings align with the study's goal of identifying areas for enhancement in coaching methods to optimize athlete performance.

3) There are no significant differences in the assessment of coaches' competencies across all tested variables, including sex, school, years of involvement, and classification. This means the coaching practices are well-balanced and equally effective for everyone involved.

4) It is evident from the respondents' assessment that the coaches' competencies are recognized across key competencies such as physical strength and power, technique and mechanics, balance and coordination, flexibility and mobility, mental focus and concentration, and confidence and self-belief but have a moderate impact on their performance in Discus and Shot Put. This indicates a need to further improve training programs to help athletes perform at their best and reach their full potential in both events.

5) There are no significant differences in the assessment of coach competencies based on athletes' sex, school, years of involvement, or classification (students vs. teachers). This implies that male and female athletes, as well as athletes from different schools, evaluate their coaches' competencies similarly.

6) The finding reveals a very strong positive relationship between coach competencies and athlete performance in Discus and Shot Put. With all variables with high R-values and significant results, it is clear that the more competent a coach is across key areas like technical expertise, training principles, biomechanical analysis, and communication skills, the more likely athletes are to perform better. This finding reinforces the critical role that effective coaching plays in enhancing athletes' physical, technical, and mental capabilities, driving their overall success in both events.

7) There is a need to design an enhanced coach development program that focuses on improving key coaching competencies. This program should equip coaches with the necessary skills to support athletes' physical, technical, and mental development, ultimately leading to improved performance in Discus and Shot Put events.

8. RECOMMENDATIONS

In the light of the findings of the study and conclusions drawn, the following recommendations are advanced:

1) To University Sports Administrators and Coaching Staff: Create a coaching program with specific strategies for male and female athletes who are new to discus and shot put. Focus on building basic skills, ensuring they understand the techniques and foundations of the sport. Encourage collaboration between universities to share coaching techniques and improve training methods across the board.

2) To Coaching Administrators and Program Developers in Chinese Universities: Design and implement a development program aimed at enhancing coaching competencies. Focus on integrating advanced biomechanical tools and techniques into the training process by offering professional development workshops and investing in modern equipment. Facilitate collaboration between coaches and specialists through joint training sessions and consultations. In addition, include training modules to improve communication skills and problem-solving strategies. Regularly evaluate the program's effectiveness and gather feedback to ensure continuous improvement. This approach will address the identified areas for enhancement, optimize coaching methods, and improve athlete performance in discus and shot put events.

3) To Sports Administrators and Coaching Staff: Enhance the consistency of coaching practices by providing further professional development opportunities. Focus on areas like personalized coaching strategies and biomechanics to maintain high standards across different athlete groups. Encourage coaches to attend workshops on individualized training techniques, ensuring that their methods will continue to be uniform and effective. In addition, consider incorporating feedback systems to regularly assess the effectiveness of these consistent coaching approaches, promoting continued growth and improvement in coach-athlete relationships across various contexts.

4) To the coaches and athletic program directors: Enhance and refine training programs by focusing on areas where athletes show moderate improvement, such as physical strength and power, technique and mechanics, balance and coordination, flexibility and mobility, mental focus and concentration, and confidence and self-belief. Implement more advanced techniques, offer personalized feedback, and create specific training plans to help athletes do their best in discus and shot put. Also, include mental training and work on building athletes' confidence to improve their performance and help them reach their full potential in these events.

5) To the Coaching Staff And Program Administrators: Develop a standardized coaching approach that caters to all athletes equally, regardless of their sex, school, or years of involvement. Ensure that coaching methods are inclusive and effective for everyone, while also considering individual needs to improve further the athlete's performance.

6) Recommendation to Sports Administrators and Coaching Development Programs: Enhance coaching development initiatives by prioritizing key competencies such as technical expertise, training principles, biomechanical analysis, and communication skills. Given the strong positive relationship between coach competencies and athlete performance in discus and shot put, it is essential to provide targeted training programs, workshops, and resources that equip coaches with advanced skills in these areas. Furthermore, encourage continuous professional development and certification processes for coaches to ensure they stay updated on best practices, particularly in

biomechanics and athlete communication. This approach will significantly contribute to the athletes' physical, technical, and mental development, which would improve their performance in both events. Promote gender equality in coaching roles to ensure diverse perspectives in athlete training, as highlighted by the study's objective to represent both male and female athletes equally.

7) To Coaches, Sports Organizations, and Athletes: Design and enhance coach development program that strengthens key coaching competencies. This program should equip coaches with the necessary skills to support athletes' physical, technical, and mental development. Alongside this, athletes are encouraged to actively engage in self-assessment, mental conditioning, and supplementary training to maximize their progress and fully benefit from the improved coaching methods, ultimately leading to improved performance in Discus and ShotPut events.

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