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Comparative Analysis of Techniques and Tactics between the Chinese and Turkish Women's Volleyball Teams in the Quarterfinals of the Paris Olympics

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Abstract: *This paper conducts a comparative analysis of the techniques and tactics employed by the Chinese and Turkish women's volleyball teams in the quarterfinals of the 33rd Paris Olympics using methods such as literature review, video observation, statistical analysis, and comparative analysis. The results indicate that the Chinese team's serves were less threatening,Lack of destructive power against the opponent's first pass. The Chinese team also made more reception errors, leading to fewer offensive opportunities. While the spike error rate was low, the offensive points were singular and lacked aggressiveness. Although there were highlights in blocking, the coordination in blocking was not seamless. Recommendations include increasing the diversity of serves, improving the ability to receive jump serves, enriching offensive methods, enhancing blocking coordination, and diversifying offensive organization during counterattacks.*

Keywords: *Paris Olympics; Chinese Women's Volleyball Team; Technical and Tactical Analysis; Comparative Analysis*

1. Introduction

The quarterfinal match between the Chinese and Turkish women's volleyball teams at the 2024 Paris Olympics was undoubtedly a focal point. This match was not only a contest of skills and willpower between the two teams but also a direct clash of their volleyball spirits. As two powerhouses in the world of volleyball, both teams have left countless classic moments in their past encounters. This meeting in Paris was a direct test of their technical and tactical levels. The Chinese team is known for its fast and versatile playing style, with high levels of coordination and technical proficiency among its players. The Turkish team, on the other hand, is characterized by its tall stature, excellent physical conditioning, and strong offensive desire, with a fierce and impactful playing style. In this match, both teams performed well, but ultimately, the Turkish team narrowly defeated the Chinese team 3-2, advancing to the semifinals of the Olympics. This paper aims to provide a comparative analysis of the technical and tactical performances of the Chinese and Turkish teams in the quarterfinals of the Paris Olympics, exploring the strengths and weaknesses of both teams, and offering references for the training and matches of the Chinese team.

1.1. Research Object and Methods

1.1.1. Research Object

This paper focuses on the technical and tactical performances of the Chinese and Turkish women's volleyball teams in the quarterfinals of the 2024 Paris Olympics.

1.2. Research Methods

1.2.1. Literature Review

This paper collects match data from the official websites of the 2024 Paris Olympics and FIVB. It also retrieves and analyzes literature from databases such as CNKI, VIP, and Wanfang using keywords like "volleyball" and "techniques and tactics." Additionally, relevant books were consulted at the Guangxi Normal University Library to establish the theoretical foundation for this paper by researcher.

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1.2.2. Video Observation

Match videos were downloaded from platforms such as Tencent Video and CCTV Video for observation. Data from the official FIVB website were also referenced to record detailed match data for both teams.

1.2.3. Statistical Analysis

Excel software was used to organize and analyze the match data of both teams.

1.2.4. Comparative Analysis

By comparing the match data of the Chinese and Turkish teams, this paper reveals the differences and performances of both teams across various technical statistical indicators.

2. Results and Analysis

2.1. Comparison of Non-Technical Indicators between the Chinese and Turkish Teams

In volleyball matches, non-technical indicators such as age, height, weight, and the Quetelet Index (body mass index) are also crucial to the outcome of the match. Teams with favorable non-technical indicators often perform better in matches. A comparative analysis of non-technical factors can reveal the physical advantages and disadvantages of each team, providing support for the implementation of techniques and tactics.

2.1.1. Age Comparison

In high-level international volleyball competitions, age, to some extent, reflects the experience and maturity of the players. As shown in Table 1, the average age of the Chinese team is 27.92 years, with the oldest player being Ding Xia (34 years old) and the youngest being Wu Mengjie (22 years old). The average age of the starters is 27.67 years, with a relatively concentrated age distribution and minimal overall differences (see Table 1).

Table 1: Statistics of physical indicators of the Chinese team

Name	Age/y	Height/cm	Weight/kg	Spike Heigh/cm	Block Height /cm	Quetelet Index / ($g \cdot cm^{-1}$)
Yuan X Y	28	202	78	330	315	386.14
Zhu T	30	198	75	327	300	378.79
Diao L Y	30	183	69	311	300	377.05
Gong X Y	27	189	72	322	313	380.95
Wang Y Y	27	196	70	323	312	357.14
Li Y Y	24	195	78	318	305	400.00
Starting Avg	27.67	193.83	73.67	321.83	307.50	380.01
Wang M J	29	173	60	294	280	346.82
Gao Y	26	195	76	328	310	389.74
Zhang C N	29	195	72	315	303	369.23
Zheng Y X	29	189	69	318	308	365.08
Ding X	34	180	65	310	300	361.11
Wu M J	22	195	65	329	311	333.33
Team Avg.	27.92	190.83	69.67	318.75	304.75	370.45

As can be seen from Table 2, the average age of the Turkish team is 27.33 years old. Among them, the oldest is ERDEM (37 years old), and the youngest is E.SAHIN (23 years old). The average age of the starting lineup is 27.67 years old, and it is almost the same as the average age of the whole team (see Table 2).

Table 2: Statistics of physical indicators of the Turkish Team

Name	Age/y	Height/cm	Weight/kg	Spike Heigh/cm	Block Height /cm	Quetelet Index / ($g \cdot cm^{-1}$)
OZBAY	28	179	84	299	294	469.27
VARGAS	25	194	76	326	315	391.75

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BALADIN	27	187	71	310	304	379.68
ERDEM	37	188	75	313	304	398.94
GUNES	25	198	88	318	312	444.44
KARAKURT	24	195	76	325	315	389.74
Initial average	27.67	190.17	78.33	315.17	307.33	412.30
ORGE	31	172	77	270	263	447.67
DIKEN	31	182	66	305	298	362.64
CEBECIOGLU	24	181	71	308	303	392.27
E.SAHIN	23	184	72	306	302	391.30
KALAC	29	185	74	309	302	400.00
Aydin	24	179	71	304	298	396.65
Team average	27.33	185.33	75.08	307.75	300.83	405.36

By comparing the ages of the Chinese and Turkish teams, it is evident that the average age of the Chinese team is slightly higher than that of the Turkish team by 0.59 years. However, the average age of the starters is the same. The age difference between the oldest and youngest players in the Chinese starters is 6 years, while the age difference is 13 years for the Turkish team. The overall age range for the Chinese team is 12 years, compared to 14 years for the Turkish team. The average starting age of Team 2 and the average age of the entire team are not significantly different. These data reflect that both teams have diversified team compositions with relatively dispersed age distributions. Both teams have balanced experience and youthful energy in their selections, but the starters differ. The Turkish starters combine experienced and young players, while the Chinese starters are predominantly experienced.

2.1.2. Comparison of Quetelet Index between the Chinese and Turkish Teams

As shown in Table 1, the average Quetelet Index for the Chinese team is 370.45 g/cm, with the starters averaging 380.01 g/cm. Players like Li Yingying (400.00 g/cm) and Gao Yi (389.74 g/cm) significantly exceed the team average. From Table 2, the Turkish team's average Quetelet Index is 405.36 g/cm, with the starters averaging 412.30 g/cm, which is higher than the Chinese team's average. This difference is primarily due to the Turkish team's higher average weight, which increases the overall average.

2.1.3. Comparison of Spike and Block Heights between the Chinese and Turkish Teams

Block height is a key indicator of a team's net strength and plays a crucial role in matches. Spike height is a critical factor in determining a player's spiking ability, with higher spike heights allowing players to better avoid opponent blocks, thereby increasing spike success rates[1]. As shown in Tables 1 and 2, the Chinese team's average height is 190.83 cm, with an average spike height of 318.75 cm and an average block height of 304.75 cm. The starting lineup's average height is 193.83 cm, with an average spike height of 321.83 cm and an average block height of 307.50 cm. The Turkish team's average height is 185.33 cm, with an average spike height of 307.75 cm and an average block height of 300.83 cm. The starters ' average height is 190.17 cm, with an average spike height of 315.17 cm and an average block height of 307.33 cm. The Chinese team has an overall height advantage of 5.5 cm, a spike height advantage of 11 cm, and a block height advantage of 3.92 cm over the Turkish team. Despite these physical advantages in Chines team, the Turkish team's fast and powerful offense led to a narrow defeat for the Chinese team.

2.2. Technical Comparison between the Chinese and Turkish Teams in the Quarterfinals of the Paris Olympics

2.2.1. Comparison of Serving Effectiveness

Table 3: Serving Effectiveness Statistics

Serving Effectiveness	Chinese Team			Turkish Team	
	Frequency	Percentage/%		Frequency	Percentage/%
Points	7	6.48%		9	8.26%
Disruptive Serves	7	6.48%		7	6.42%
Regular Serves	88	81.48%		83	76.15%
Errors	6	5.56%		10	9.17%
Total Serves	108	100%		109	100%

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Serving is an important scoring method in volleyball. Powerful serves can effectively reduce the opponent's first-attack success rate, disrupt their reception, and directly score points, boosting team morale and disrupting the opponent's offensive rhythm, significantly influencing the match outcome. As shown in Table 3, the Chinese team's serving point rate is 6.48%, with a disruptive serve rate of 6.48%, a regular serve rate of 81.48%, and an error rate of 5.56%. The Turkish team's serving point rate is 8.26%, with a disruptive serve rate of 6.42%, a regular serve rate of 76.15%, and an error rate of 9.17%. Turkish player Vargas (aid setter) used jump serves during the match, which are powerful and fast, causing more disruption to reception but are prone to errors. Most other Turkish players used jump float serves, except for Vargas. The Chinese team primarily used jump float serves and overhand float serves, which are less powerful and slower, resulting in weaker offensive pressure. From the match video and serving statistics, it is evident that the Chinese team's serves were less threatening, allowing the Turkish team to receive serves more comfortably. The lack of serve power was a significant factor in the Chinese team's loss[2](see Table 3).

2.2.2. Comparison of Reception Effectiveness

Table 4: Reception Effectiveness Statistics

Reception Effectiveness	Chinese Team			Turkish Team	
	Frequency	Percentage/%		Frequency	Percentage/%
Perfect Reception	43	44.79%		45	44.55%
Good Reception	30	31.25%		39	38.61%
Poor Reception	14	14.58%		10	9.90%
Errors	9	9.38%		7	6.93%
Total Receptions	96	100%		101	100%

Reception is the foundation of offensive organization. Perfect and good receptions allow for more offensive options and higher-quality attacks, increasing the opponent's blocking and defensive pressure. Poor receptions often limit offensive options to the front-row players in positions 2 and 4, reducing the opponent's blocking and defensive pressure. As shown in Table 4, the Chinese team's perfect reception rate is 44.79%, with a good reception rate of 31.25%, a poor reception rate of 14.58%, and an error rate of 9.38%. The Turkish team's perfect reception rate is 44.55%, with a good reception rate of 38.61%, a poor reception rate of 9.90%, and an error rate of 6.93%. This indicates that the Turkish team's serves were more threatening, putting more pressure on the Chinese team's reception, especially during Vargas's serve rotation, where the Chinese team's poor reception reduced offensive options and hindered their attack. The Chinese team should adapt their reception techniques based on their own characteristics and the opponent's serve types to maximize overall reception effectiveness[3-4](see Table 4).

2.2.3. Comparison of Blocking Effectiveness

Table 5: Blocking Effectiveness Statistics

Blocking Effectiveness	Chinese Team			Turkish Team	
	Frequency	Percentage/%		Frequency	Percentage/%
Block Kills	12	18.75%		8	11.43%
Block Touches	28	43.75%		39	55.71%
Block Errors	24	37.50%		23	32.86%
Total Blocks	64	100%		70	100%

Blocking is the first line of defense in volleyball and an important scoring method. Blocks can be single, double, or triple, aimed at hindering the opponent's attack and reducing defensive pressure. Effective blocking can not only disrupt the opponent's attack but also create direct scoring opportunities for the team. As shown in Table 5, the Chinese team's block kill rate is 18.75%, with a block touch rate of 43.75% and a block error rate of 37.50%. The Turkish team's block kill rate is 11.43%, with a block touch rate of 55.71% and a block error rate of 32.86%. Blocking performance is a crucial factor in match outcomes. The Chinese team's blocking advantage was not fully utilized, especially against Vargas's attacks, primarily due to the middle blockers' slower reaction times and inconsistent timing with the outside hitters, leaving gaps in the block. Therefore, while improving individual blocking skills and movement speed, the Chinese team should also focus on coordinated double and triple blocks to better contain the opponent's attacks[5](see Table 5).

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2.2.4. Comparison of Spiking Effectiveness

Table 6: Spiking Effectiveness Statistics

Blocking Effectiveness	Chinese Team			Turkish Team	
	Frequency	Percentage/%		Frequency	Percentage/%
Kill	66	42.58%		78	46.71%
Hit	35	22.58%		38	22.75%
Blocked	39	25.16%		28	16.77%
Block Kill	8	5.16%		12	7.19%
Errors	7	4.52%		11	6.59%
Total Spikes	155	100%		167	100%

Spiking is the most aggressive technique in volleyball and plays a vital role in matches. Effective spikes can boost team morale and intimidate the opponent[4]. As shown in Table 6, the Chinese team's kill rate is 42.58%, with a hit rate of 22.58%, a blocked rate of 25.16%, a block kill rate of 5.16%, and an error rate of 4.52%. The Turkish team's kill rate is 46.71%, with a hit rate of 22.75%, a blocked rate of 16.77%, a block kill rate of 7.19%, and an error rate of 6.59%. Except for a lower error rate, the Chinese team's overall spiking performance was inferior to the Turkish team. Turkish player Vargas scored 42 points in the match, with a high success rate in attacks. While the Chinese team's overall offensive level is superior to most teams, it falls short against teams like Turkey with absolute offensive strengths, leading to the eventual loss (see Table 6).

3. Conclusions and Recommendations

3.1. Conclusions

Weaknesses in Serving and Reception: The Chinese team's serves were less powerful, making it difficult to disrupt the opponent's reception, thereby increasing the threat of the opponent's first attack and putting more pressure on the team's blocking and defense.

Lack of Coordination in Blocking and Defense:The middle blockers and outside hitters were not well-coordinated in blocking, leaving gaps that increased the difficulty for the back-row defenders.

Singular Offensive Points and Inadequate Tactical Coordination: The offensive points were mainly concentrated on the wing spiker and opposite, increasing the difficulty of spiking and reducing the opponent's blocking pressure. The adjustment attacks were primarily strong attacks from position 4, resulting in low success rates.

3.2. Recommendations

The Chinese women volleyball team should enhance serving and reception training: they are expected to increase the diversity of serving techniques, practice jump serves in daily training and matches, and improve individual reception skills. Additionally, they also should use male players to serve during training to increase reception difficulty and improve first-pass accuracy.

The Chinese women volleyball team should improve coordination between middle blockers and outside hitters: they are expected to ensure consistent timing and no gaps in blocking between middle blockers and outside hitters.

The Chinese women volleyball team should increase middle blocker attacks: they are expected to increase the number of attacks.

References

[1] Zhou W, Li L M. Comparative analysis of the offensive and defensive capabilities of the Chinese team VS Poland in the semifinals of the 2023 World Women's Volleyball League [J]. Bulletin of Sport Science & Technology,2024,32(11):35-38+50.

[2] Alimujan Yimiti Talken. Technical and tactical analysis of the Chinese women's volleyball team and the women's volleyball team of the United States, Brazil, Turkey, and Japan[J]. Journal of Xinjiang Normal University (Natural Sciences Edition),2024,43(04):90-96.

[3] Chu X L , Wang S X , Jiang Y C，et al. Hangzhou Asian Games women's volleyball match Chinese team knockout technical and tactical research[J]. Journal of Anhui Sports Science,2024,45(04):57-61.

ISSN 2618-1576 Vol. 7, Issue 1: 54-59, DOI: 10.25236/FSR.2025.070108

[4] Jiao C W. Analysis of the reasons for the defeat of the Chinese women's volleyball team in the 32nd Tokyo Olympics - the effect of the use of techniques and tactics in the first three group games as an example[J]. Contemporary Sports Technology,2022,12(04):75-77.
[5] Yuan R. Preparing for the Paris Olympics: Analysis of the effect of the Chinese women's volleyball team in the 2023 Paris Olympics Women's Volleyball Qualifying Tournament in China[J]. Sichuan Sports Science,2024,43(02):76-81.