

Analysis of Playing Style Characteristics of Chen Meng, Women's Singles Champion of Paris Olympic Games

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Abstract: As an outstanding representative of Chinese women's table tennis, Chen Meng not only successfully defended her women's singles titles at the 2020 Tokyo Olympics and the 2024 Paris Olympics but also repeatedly achieved excellent results on the international stage, making significant contributions to consolidating the Chinese national team's world-leading position. This study takes the women's singles competition at the Paris Olympics as the observation object, utilizing literature review, video observation, three-stage technical evaluation, and statistical methods. It focuses on analyzing the characteristics of Chen Meng's technical application during matches, systematically and in-depth from three dimensions: serve and offensive attack, receive-and-serve techniques, and rally confrontation. Based on a detailed analysis of her technical advantages and shortcomings, combined with trends in her competitive status, and grounded in sports training theory, the study provides theoretical references for her scientific training in preparation for the Los Angeles Olympic cycle. Moreover, specific improvement suggestions are proposed for her technical weaknesses to help the athlete maintain her optimal competitive level and sustain the outstanding performance of Chinese women's table tennis in international competitions. This research holds significant theoretical and practical value for improving the technical and tactical analysis system for high-level table tennis athletes and guiding the training and preparation of Olympic champion athletes.

Key words: Paris Olympics; Women's Singles Champion; Chen Meng; Techniques and Tactics

1. Preface

Table tennis, known as China's "national sport," is often a consistent champion on the

international stage. The Paris Olympics is the pinnacle stage where the world's top athletes compete. Chinese women's table tennis main player Chen Meng, with her outstanding performance, successfully defended the women's singles title, continuing the glorious achievements of Chinese table tennis. Chen Meng plays with a right-handed shakehand grip and uses inverted rubber on both sides. Her technique is comprehensive, her serves are of high quality with strong spin, her ability to switch between offense and defense is remarkable, and her tactics are without obvious weaknesses. Although Chen Meng has achieved significant success, systematic analysis of her playing style and tactics remains relatively limited. This paper delves into her technical performance during the Paris Olympics, which not only helps Chen Meng gain a deep understanding of her own playing characteristics but also provides reference for other Chinese teammates and coaches, contributing valuable insights for the future development of table tennis. This study aims to systematically analyze Chen Meng's tactical use in key matches, summarize her strengths and weaknesses, and provide a basis for designing her future training and competition strategies.

2. Research Subjects and Research Methods

2.1 Research Subject:

This study focuses on the technical and tactical performance of Chinese national table tennis team female athlete Chen Meng at the 2024 Paris Olympics. It selects the match footage of her three games against three top world-class female players in this Olympic event, totaling 14 sets. Using the 'three-stage analysis method,' the study primarily aims to count and analyze Chen Meng's scoring and conceding points at each stage. These three games, comprising 14 sets, serve as the main basis for this research.

2.2 Research Methods

2.1.1 Literature Review Method

This study uses resources from the library of Guangxi Normal University and academic databases such as CNKI, searching for keywords like 'table tennis,' 'techniques and tactics,' and 'Chen Meng.' It extensively reviews relevant journal articles, theses, and monographs. Through the research and analysis of the literature, it provides theoretical support and a research framework for this study, ensuring the scientific rigor and thoroughness of the entire research process.

2.2.2 Video Observation Method

By watching the match videos of Chen Meng against three top female players in the Paris Olympics repeatedly on apps such as Douyin and Youku. Using replay and slow-motion functions, combined with the "three-stage analysis method" to record and analyze the application of techniques and tactics in each stage of the match. All data must be reviewed repeatedly and carefully recorded to ensure the accuracy and reliability of the statistics.

Table 1. Statistical Table of Chen Meng's Match Performance

Competition Name	Competition results	Exact score
2024 Paris Olympic Games Quarterfinals	4:0	11:5, 11:3, 11:0, 11:8
2024 Paris Olympics semifinals	4:0	11:7, 11:6, 11:7, 11:7
The 2024 Paris Olympics Finals	4:2	4:11, 11:7, 11:4, 9:11, 11:9, 11:6

2.2.3 Three-Stage Indicator Evaluation Method

The 'Three-Phase Indicator Evaluation Method' is the most classic method for technical and tactical analysis in table tennis, and it also serves as the basic analytical approach for other methods. This method divides the match process into three phases: serve-attack phase (shots 1 and 3), receive-attack phase (shots 2 and 4), and rally

phase (from the 5th shot onward). The following are the calculation methods and indicator analyses for each phase of the three-phase analysis method: Scoring Rate = Phase Points Scored / (Phase Points Scored + Phase Points Lost) × 100% Usage Rate = (Phase Points Scored + Phase Points Lost) / (Total Points Scored + Total Points Lost) × 100%^[9].

Table 2. Three-Stage Indicator Assessment Standard Table

Level	Scoring with a serve and aggressive attack		Scoring by quickly attacking after receiving the serve		Counter score	
	Scoring Rate %	Usage Rate %	Scoring Rate %	Usage Rate %	Scoring Rate %	Usage Rate %
Excellent	70	30	50	25	55	55
Good	65	25-30	40	15-25	50	45-55
Pass	60	25	30	15	45	45

3. Research Results and Analysis

3.1 Technical Indicator Analysis

Table 3. Chen Meng's Statistics for all Three Matches in all Three Segments

	Polka Nava			Shen Yubin			Sun Yingsha		
	score	Lose points	amount to	score	Lose points	amount to	score	Lose points	amount to
Grab clip	11	6	17	17	7	24	15	13	28
Intercepted the steal	11	5	16	11	11	22	11	13	24
be locked in a stalemate	22	5	27	16	9	25	31	22	53
amount to	44	16	60	44	27	71	57	48	105

3.1.1 Scoring with a serve and aggressive attack
Both the scoring rate and usage rate are rated as "excellent". This analysis reveals Chen Meng's diverse receiving techniques, tactical flexibility, and ability to score crucial points through backhand spin drives or create opportunities for fourth-serve attacks, effectively disrupting the opponent's offensive rhythm.

3.1.2 Scoring by quickly attacking after receiving the serve

The scoring rate and usage rate both performed as 'excellent.' This result indicates that Chen

Statistics from Chen Meng's three matches show that her overall scoring rate is 61.44%. Using the three-phase indicator method to analyze each stage, the results are as follows:

Meng has a wide variety of serves and returns, employs diverse tactics flexibly, and can use backhand flicks to score on crucial points or create excellent opportunities for a fourth-ball attack, disrupting and breaking the opponent's offensive rhythm.^[6]

3.1.3 Counter score

The scoring rate is rated as 'excellent', but the usage rate is 'failing'. This indicates that Chen Meng has extremely strong rallying ability, with strong forehand skills and good awareness of variation during rallies, as well as diverse shot

placements. However, her tactical intention to proactively engage in rallies during matches is not sufficiently evident.

3.2 Technical Feature Analysis

3.2.1 Receive and grab segment features

Chen Meng demonstrated consistent and aggressive performance during this phase. Her highest scoring efficiency came from receiving serves (75%), with the most frequent tactic being aggressive counterattacks (31.1%). Through precise control and decisive counterattacks, she effectively neutralized her opponents' serving advantages, thereby creating offensive opportunities for herself.

3.2.2 Fragment characteristics

Chen Meng's signature scoring strategy is her aggressive follow-up attacks after serving, boasting an impressive 96.2% success rate and 39.1% usage frequency. This demonstrates her exceptional scoring efficiency when executing third-serve attacks. However, her frequent 21-

point losses during "attack-prone serves" reveal weaknesses in serving variation and spin quality. Consequently, opponents often leave her vulnerable to counterattacks after initiating attacks during matches.

3.2.3 Matchup Phase Features

The scoring rate in active rallies (75%) significantly outperforms passive rallies (56.6%). Chen Meng demonstrates exceptional scoring efficiency in rallies, primarily due to her dominant forehand skills that often leave opponents struggling to counter, combined with powerful backhand spin and strategic backhand positioning to set up forehand opportunities. However, her rally phase utilization rate is rated as 'unsatisfactory,' indicating the need for Chen Meng to enhance her use of rallies during matches.

3.3 Match Analysis

3.3.1 vs Polka Nava

Table 4. Paris Olympics Quarterfinals-Chen Meng vs. Polkanova (4-0) -Three-Stage Indicator Analysis

Number of pages	score	Grab clip		make use of rate %	score	Reclaim		make use of rate %	score	Draw		make use of rate %
		no	score rate %			no	Score rate %			no	Score rate %	
1	3	0	100.0	18.8	3	4	42.9	43.8	5	1	83.3	37.5
2	4	1	80.0	35.7	3	1	75.0	28.6	4	1	80.0	35.7
3	2	0	100.0	18.2	3	0	100.0	27.3	6	0	100.0	54.5
4	2	5	25.6	36.8	2	0	100.0	10.0	7	3	70.0	52.6
amount to	11	6	64.7	28.3	11	5	68.8	26.7	22	5	81.5	45.0

Throughout the match, Chen Meng dominated Polonova with a decisive 44-16 total score, showcasing overwhelming prowess. During rallies, her scoring rate soared to 81.5%, demonstrating comprehensive technical and tactical superiority. However, her rally usage rate of 45% in the three-phase analysis method only reached a qualified level, indicating room for improvement in tactical choices—such as reducing the quality of first three shots, increasing opportunities for rallies, and guiding opponents into fifth-board or higher exchanges to boost win probability. In serving and receiving serves, Chen Meng excelled in the

receiving phase, achieving both "excellent" scoring rate and usage rate. This was primarily due to her versatile receiving techniques, flexible tactical applications, varied placement variations, and fast ball speed when responding to Polonova's serves. Particularly, her backhand spin followed by fourth-board backhand line changes posed significant threats. Across the four sets, Polonova failed to develop effective scoring tactics against Chen Meng, with limited scoring opportunities. Ultimately, Chen Meng secured a 4-0 victory with ease.

3.3.2 VS Shen Yubin

Table 5. Paris Olympics Semifinals – Chen Meng vs. Shen Yubin (4-0) – Three-Stage Indicator Analysis

Number of pages	score	Grab clip		make use of rate %	score	Reclaim		make use of rate %	score	Draw		make use of rate %
		no	score rate %			no	score rate %			no	score rate %	
1	6	1	85.7	38.9	0	3	0.0	17.6	5	3	62.5	44.4
2	3	1	75.0	23.5	4	3	57.1	41.1	4	2	66.6	33.3
3	4	3	57.1	38.9	4	2	66.7	33.3	3	2	60.0	29.4
4	4	2	66.7	33.3	3	3	50.0	33.3	4	2	66.6	33.3
amount to	17	7	70.8	33.8	11	11	50.0	31.0	16	9	64.0	35.2

In this crucial Olympic semifinal, Chen Meng defeated Shen Yubin 44-27 to advance to the women's singles final. Her tactical adjustments demonstrated sharper focus compared to her previous match. The most notable improvement came in the previously underutilized serve-and-attack phase, where her scoring rate soared to 70.8% with a 33.8% usage rate. By refining the quality and spin of her third shots after serves, Chen effectively disrupted Shen's strategy and

minimized rallies. While Chen maintained strong returns, Shen's aggressive long serves continued to pressure her. Despite Shen's relentless long-ball attacks attempting to break through, Chen kept her rhythm, weathered consecutive assaults, and secured a decisive 4-0 victory. This performance showcased the adaptability and match control expected of an Olympic champion.

3.3.3 VS Sun Yingsha

Table 6. Three-Part Indicator Analysis of Chen Meng vs. Sun Yingsha in the Paris Olympics

Final (4-2)

Number of pages	score	Grab clip		make use		Reclaim		make use		score	Draw		make use	
		no	score rate %	of rate %	score	no	score rate %	of rate %	score		no	score rate %	of rate %	score
1	6	1	85.7	38.9	0	3	0.0	17.6	5	3	62.5	44.4		
2	3	1	75.0	23.5	4	3	57.1	41.1	4	2	66.6	33.3		
3	4	3	57.1	38.9	4	2	66.7	33.3	3	2	60.0	29.4		
4	4	2	66.7	33.3	3	3	50.0	33.3	4	2	66.6	33.3		
amount to	17	7	70.8	33.8	11	11	50.0	31.0	16	9	64.0	35.2		

In the women's singles final of this Olympic Games, Chen Meng defeated Sun Yingsha with a total score of 57:48 to claim the championship. As the world's top two-ranked players, this match epitomized the pinnacle of women's table tennis. After six intense games, Chen Meng ultimately won by a 9-point margin. The score analysis reveals that the two athletes were evenly matched in skill level. Technical statistics showed a 50.5% rally period ratio throughout the match, highlighting their mutual familiarity and the rarity of direct scoring through the first three shots. In serving and receiving phases, both players showed fluctuations in performance. Chen Meng dominated rallies with her height advantage, high-quality forehand, and versatile techniques. Her backhand slow tear transitioned into powerful forehand loops, becoming the decisive factor in victory. This elite showdown showcased the world's most advanced women's table tennis strategies. Ultimately, Chen Meng relied on stronger mental fortitude and an intense desire for victory to defeat Sun Yingsha 4:2, securing the gold medal in women's singles at the Paris Olympics.

4. Conclusion and suggestion

4.1 Research Conclusion

Chen Meng demonstrated exceptional forehand control during rallies, consistently scoring points through precise placement and spin. Her backhand technique showcased remarkable stability and proactive power generation, with high-quality spin that allowed her to maintain

dominance in sustained exchanges. In serve-and-attack phases, she handled critical shots with composure, disrupting opponents' rhythm through tactical variations and tempo adjustments while establishing effective pressure on the fourth return. However, her limited serve-and-attack variations and third-serve threats resulted in relatively low scoring efficiency in this phase. When facing slightly weaker opponents, Chen Meng effectively utilized tactical combinations to contain their performance. After taking the lead, she implemented aggressive tactics to widen the score gap, securing a stable victory. In the final, Chen Meng primarily relied on finding breakthroughs during rallies, frequently using backhand slow smashes to force opponents into line changes and combining them with powerful forehand topspin shots. Her consistent forehand execution during rallies became a key factor in maintaining her lead and ultimately clinching the championship.

4.2 Propose

Recommendation: Chen Meng should diversify her serving variations and proactively adapt her return strategies to better control match tempo and point progression. During serve-and-attack phases, she needs to enhance tactical flexibility. Against tall European players with expansive defensive zones, she should aim to establish dominance in the first three shots and improve direct scoring efficiency. As the cornerstone of Chen Meng's scoring system, rallies require strategic creation. Her returns should prioritize

stability while transitioning to rallies through controlled placement and rhythm. Serving quality must be prioritized to prevent opponents from initiating aggressive attacks. During rallies, she should maximize her forehand advantages – powerful strokes, strong spin, and speed – increasing forehand usage, particularly in critical points to solidify her dominance. While Chen Meng excels in serve-and-attack phases, her tendency to overexert during tight rallies reduces accuracy. Improving shot execution rationality in such scenarios would enhance her reliability. Chen Meng should strengthen physical conditioning. Observations show she frequently relies on mid-set energy replenishment. Training should incorporate higher-intensity drills to maintain peak performance in high-pressure matches.

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