

Analysis of Players' Table Tennis Skills and Strategies

--Taking Ma Long as an Example

Yuyang Zhu^{1,a,*}

¹Shanghai World Foreign Language Academy, Shanghai, 200233, China

a. 13501950398@163.com

*corresponding author

Abstract: China has recently been the winner in a world table tennis competition. Since the 2008 Olympics in Beijing, China has consistently secured the first or second prize. Ma Long, for example, won two Olympic championships in 2016 and 2020. He is considered the most representative player in the history of table tennis and has significantly influenced the sport's development. Taking Ma Long as an example, this paper studies his table tennis skills and strategies based on his recent match against Lin Gaoyuan in the World Cup final. This research mainly focuses on identifying the techniques Ma Long employed in various situations and how he managed to win after losing the first three games. The results show that (1) Ma Long utilizes a variety of serving and hitting techniques when falling behind. For instance, after losing the first three games, he switched to using his backhand serve, a technique rarely used in his previous matches. (2) Due to age and early deficits, Ma Long did not aggressively attack with his forehand as he did when he was younger. Instead, he capitalized on his opponent's errors. The opponent would become increasingly flustered and continue making mistakes. (3) Ma Long is adept at observing his opponents. He used backhand flicks and reverse rotations when serving, as seen in his semifinal match against Wang Chuqin. He also varied his opponent's positions to create more opportunities, avoiding prolonged exchanges due to age and injuries. Ma Long is a player with diverse skills to handle different opponents. This paper may offer some references in tactics and effective strategies for other athletes when falling behind.

Keywords: Ma Long, table tennis, techniques, strategies.

1. Introduction

The Chinese table tennis team has long held a leading position in the world, consistently driving the sport's advanced development. This dominance is due to a deep understanding and exploration of the essence and rules of table tennis, systematically analyzing the reasons for victories and failures, and implementing a series of technological and theoretical innovations. As a player who has won all major championships twice, Ma Long exemplifies excellent technical skills, willpower, and strong psychological qualities. He has an impressive record of three years without losing to foreign opponents and won the singles championship at the 2020 Olympic Games. Over the years, he has matured into the only male table tennis player in the world to achieve a Grand Slam and a double Grand Slam. However, after the Olympics, he rarely won championships and often lost to players

like Fan Zhendong and Wang Chuqin. Recently, he even lost to foreign players. The World Cup championship was an opportunity to explore how a 36-year-old player competes at a high level. This research is based on Ma Long's recent matches in the World Cup, analyzing how he won the finals. The study uses video analysis of these matches to provide insights into effective playing strategies and handling different situations in a game. It also aims to help players identify their weaknesses and offer scientific suggestions for future preparations [1,2].

2. Methods and Strategy Introduction in Playing Table Tennis

Table tennis is a sport that requires a combination of physical agility, mental acuity, and strategic planning. The techniques and strategies used in table tennis can be broadly categorized into several key areas:

(1) Serving techniques: Serving is the only time in a match where a player has complete control over the ball. Effective serves can set the tone for the entire point. Common serving techniques include the topspin serve, backspin serve, sidespin serve, and no-spin serve. Each serve type can be varied in terms of speed, spin, and placement to confuse the opponent and create scoring opportunities.

(2) Forehands and backhands: The forehand and backhand are the primary strokes used to return the ball during rallies. Forehand strokes are typically more powerful and are used for offensive plays, while backhand strokes provide better control and are often used in defensive situations. Mastery of both strokes is essential for maintaining balance and adaptability during a match.

(3) Footwork and positioning: Efficient footwork and proper positioning are crucial for executing strokes effectively. Players must be able to move quickly and fluidly to reach the ball, maintaining a balanced stance that allows for quick transitions between offensive and defensive plays. Key footwork techniques include the side-step, cross-step, and in-and-out movements.

(4) Spin and speed variation: Spin and speed variations are used to disrupt the opponent's rhythm and create opportunities for winning points. Players can apply topspin, backspin, and combinations of these spins to their shots. Varying the speed of the ball, from fast drives to slow loops, also helps to keep the opponent off balance.

(5) Tactical Play: Tactical play involves using strategic thinking to outmaneuver the opponent. This includes varying the placement of shots, targeting the opponent's weaknesses, and employing deception techniques such as disguising serves and strokes. Players must also be able to adapt their tactics based on the opponent's playing style and the match situation.

(6) Mental strength: Mental strength and focus are critical components of table tennis. Players must maintain concentration, manage stress, and stay composed under pressure. Mental toughness allows players to execute their strategies effectively and recover quickly from setbacks during a match [3,4].

By mastering these techniques and strategies, players can enhance their performance and increase their chances of success in competitive table tennis. In the following section, we will analyze how Ma Long utilizes these methods in his matches to maintain his position as one of the top players in the world.

3. Analysis of the Skills and Strategies

3.1. Serving the Ball

As Ma Long aged, he continuously sought the most effective ways to secure victories. In table tennis, serving is the only technique not controlled by the opponent, and the tactical use of serves can significantly influence the outcome of a match. Throughout his career, Ma Long has developed a diverse arsenal of serves, each tailored to exploit the weaknesses of different opponents.

In the second game of the final against Lin Gaoyuan, Ma Long employed his forehand serves predominantly to Lin's forehand side. This strategy was aimed at taking advantage of Lin's tendency to prefer backhand shots. By serving to Lin's forehand, Ma Long forced Lin to use his less dominant stroke, potentially increasing the likelihood of errors. Ma Long then followed up these serves with backhand shots directed to various parts of the table, aiming to create angles and avoid prolonged rallies that could fatigue him. Despite these efforts, Ma Long lost the second game, winning only 50% of his serves. This consistency, while commendable, was insufficient to secure the game, indicating the need for a more varied approach.

In the third game, Ma Long decided to shift his serving strategy by employing reverse rotation serves. This technique, which involves imparting a reverse spin on the ball, had previously been effective in his semifinal match against Wang Chuqin. Ma Long served to Lin's forehand side six times and to his backhand side twice. However, Lin's adeptness at handling these serves, particularly with his backhand flips, allowed him to score directly off several of Ma Long's serves. As a result, Ma Long lost the third game with a score of 5-11, and a winning percentage on serve of only 12.5%. This low success rate underscored the necessity for further strategic adjustments.

Recognizing the need for a more drastic change, Ma Long radically altered his serving technique in the fourth game by utilizing backhand serves, a rare tactic in his extensive career. This surprise move aimed to disrupt Lin's rhythm and create uncertainty. Ma Long served ten times to Lin's forehand side, winning eight of these points. This significant shift in strategy marked a turning point in the match, highlighting Ma Long's confidence in his ability to adapt and his willingness to employ unconventional tactics. The winning percentage of 80% for this game was a clear indicator of the effectiveness of this new approach.

Building on this momentum, Ma Long continued with backhand serves in the fifth game but made further refinements after losing the first two points. He began varying the serve distances, mixing short and long serves to prevent Lin from settling into a comfortable rhythm and leveraging his backhand strength. This adjustment proved successful, as Ma Long secured a winning percentage of 62.5% in this game. By constantly altering the serve placement and distance, Ma Long was able to keep Lin guessing and off balance.

In the sixth game, Ma Long combined backhand serves with aggressive follow-up backhand shots, catching Lin off guard and securing a commanding win with a score of 11-4. His winning percentage in this game was an impressive 75%, with only two losses occurring when he followed up his serves with forehand shots. This game exemplified Ma Long's strategic evolution and adaptability, as he effectively integrated his serving strategy with his overall gameplay to dominate the match.

In the final and deciding game, Ma Long's strategic brilliance shone through as he served predominantly to Lin's backhand side. By varying the serve placements and incorporating subtle changes in spin and speed, he managed to confuse Lin and disrupt his timing. Ma Long served to the backhand side four times and won all four points, achieving a winning percentage of 56%. This calculated approach ensured that he maintained the upper hand and secured the victory.

Ma Long's serving strategies throughout the match demonstrate his deep understanding of the game and his ability to adapt under pressure. His switch from traditional forehand serves to more unpredictable backhand serves created new angles and opportunities, disrupting his opponent's rhythm. This tactical versatility extended beyond serving, as he effectively mixed offensive and defensive play. His blend of aggression and patience allowed him to capitalize on his opponent's mistakes while minimizing his own.

Moreover, Ma Long's keen observational skills were evident as he carefully studied his opponents' tendencies and adapted his strategy accordingly. This adaptability is a testament to his deep understanding of the game and his ability to execute complex tactics under pressure. His

mental fortitude and strategic thinking enabled him to overcome physical limitations and remain competitive at the highest level of the sport. Ma Long's strategic use of serves, combined with his ability to read the game and his opponent, underscores his status as one of the most intelligent and adaptive players in table tennis history [5,6].

3.2. Forehands and Backhands

Stroke recognition in table tennis is a challenging task, due to the variety of the movements. Mastering both forehand and backhand strokes allows players to maintain balance and adaptability during a match. The seamless transition between these strokes is crucial for maintaining offensive pressure and defensive stability. Players like Ma Long are known for their ability to switch effortlessly between forehand and backhand shots, creating a dynamic and unpredictable style of play that is difficult for opponents to counter.

Moreover, the ability to use both strokes interchangeably enhances a player's tactical options. For instance, a player might use a forehand loop to apply topspin pressure, followed by a quick backhand drive to exploit an opening. This versatility keeps opponents on their toes and prevents them from settling into a comfortable rhythm.

In conclusion, forehand and backhand strokes are essential components of a table tennis player's skill set. The topspin forehand is the most frequent and effective shot in top-level table tennis matches. Mastery of these techniques, along with the ability to integrate them seamlessly, is critical for achieving success at the highest levels of the sport. Through rigorous practice and strategic application, players can leverage these strokes to dominate rallies, exploit opponents' weaknesses, and secure victories [7,8].

4. Conclusion

Ma Long is a remarkable player, not only for his professional skills but also for his confidence and adaptability in different situations. Throughout the match, he continually changed his tactics, especially in serving. These strategic adjustments often caught his opponents off guard. In the fourth game, he began using backhand serves and varied the serve placements, allowing him to anticipate the ball's trajectory and respond effectively. He increased his use of backhands, aiming to mobilize his opponent while conserving his energy. Due to recent injuries, Ma Long's speed has declined, but he compensated by avoiding prolonged rallies and continually adapting his strategy, demonstrating his extensive skill set.

Ma Long's ability to alter his serving techniques played a pivotal role in his victories. By shifting from traditional forehand serves to more unpredictable backhand serves, he created new angles and opportunities, disrupting his opponent's rhythm. His tactical versatility extended beyond serving, as he effectively mixed offensive and defensive play. This blend of aggression and patience allowed him to capitalize on his opponent's mistakes while minimizing his own.

Additionally, Ma Long's keen observational skills were evident as he carefully studied his opponents' tendencies and adapted his strategy accordingly. This adaptability is a testament to his deep understanding of the game and his ability to execute complex tactics under pressure. His mental fortitude and strategic thinking enabled him to overcome physical limitations and remain competitive at the highest level of the sport.

In summary, Ma Long's success is not solely attributed to his technical prowess but also to his strategic intelligence and psychological resilience. His ability to read the game, anticipate his opponent's moves, and adjust his tactics on the fly highlights the comprehensive nature of his skills. As he continues to compete, Ma Long serves as a model for aspiring table tennis players,

demonstrating that success in the sport requires a combination of technical excellence, strategic innovation, and mental toughness [9,10].

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