

## Analysis on Technique and Tactics of Lin Ma and Hao Wang in the Men's Single Table Tennis Final in the 29<sup>th</sup> Olympic Games

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**Abstract:** The competition for the most important gold medal of the men's single table tennis final in the 29<sup>th</sup> Olympic Games in Beijing, was between two players with pen-hold grip of China, Lin Ma and Hao Wang. During the competition, the two of them both took fully advantage of the characteristic of pen-hold grip, which made the game a very classic example. In order to prove up the characteristics of the tactics and technique of Lin Ma and Hao Wang and to supply some references for the players with pen-hold grip. With the methods of three-phase indexes, documentary review, video observation, and taking Lin Ma and Hao Wang as the research target, the characteristics of Lin Ma and Hao Wang's tactics and technique in the men's single table tennis final of the 29<sup>th</sup> Olympic Games in Beijing were systematically analysed and done some research. The analysis and statistical results were that Lin Ma's score rate was 64.7%, the applied rate 17.9% in phase of attack after service; the score rate was 56.3%, the applied rate 33.7% in phase of attack after receiving; the score rate was 45.7%, the applied rate 48.4% in phase of be locked in stalemate. Hao Wang's score rate was 52.2%, the applied rate 24.2% in phase of attack after service; the score rate was 50%, the applied rate 27.4% in phase of attack after receiving; the score rate was 43.5%, the applied rate 48.4% in phase of be locked in stalemate. The data indicate the score rates and applied rates of both the players are all excellent in phase of attack after receiving, which efficiently shows that the two players with pen-hold grip have very good ability in dealing with receiving and attack after receiving. During the competition, the two players all took fully advantage of pen-hold grip, they are fast attack in close-table, wrist is agility, and they are good at dealing with pick-hitting in short court. Lin Ma's consciousness of tactics was correct and clear, he weakened and restrained from Hao Wang's attack after receiving by some change of service , took the initiative of the competition. And Hao Wang's service failed to restrain the attack after receiving of Lin. Ma.

**Keywords:** Table tennis; Lin Ma; Hao Wang; Analysis on techniques and tactics.

### 1. INTRODUCTION

Pen-hold grip has always been the mainstream of table tennis in Asia. In recent years, the representative of playing with pen-hold grip inverted rubber racket adhibited inward pimples rubber, Chinese players Lin Ma and Hao Wang, have taken new techniques on the basis of strengthening their own abilities, they have solved some problems of pen-hold grip and have opened a wider field of progressing the technique. The competition for the most important gold medal of the men's single table tennis final in the 29<sup>th</sup> Olympic Games in Beijing, was between two players with pen-hold grip of China, Lin Ma and Hao Wang. Both of them had defeated their separate opponents , Swedish veteran Persson and Chinese competitor Liqin Wang in the semifinal. During the competition, the two of them both took fully advantage of the characteristic of pen-hold grip, which made the game a very classic example. In order to prove up the characteristics of the tactics and techniques of Lin Ma and Hao Wang and to supply some references for the players with pen-hold grip inverted rubber racket adhibited inward pimples rubber. This article has systematically made some analysis and done some research on the five games between Hao Wang and Lin Ma in the men's single table tennis final in the 29<sup>th</sup> Olympic Games in Beijing by the methods of documentary review , video observation and three-phase indexes. Now, made report as follows:

### 2. MATERIAL AND METHODS

#### 2.1 research subjects

The article has taken the five rounds between Hao Wang and Lin Ma in the men's single table tennis final in the 29<sup>th</sup> Olympic Games in Beijing as research object and has made some analysis on the techniques and tactics of Lin Ma and Hao Wang. Lin Ma, male, 28 years old, is a Chinese table tennis player of pen-hold grip, the second place in the world in the year of 2008. Hao Wang male, 25years old, is a Chinese table tennis player of pen-hold grip, the first place in the world in the year of 2008.

#### 2.2 Methods

Documents review: search and consult some papers in Journal of Beijing Sport University, Journal of Sport, Journal of Shanghai Sport College, ect<sup>[1-12]</sup>.

Three-phase indexes<sup>[1-3]</sup>: the 5 rounds between Lin Ma and Hao Wang in the final game of men's single of table tennis in the 29<sup>th</sup> Olympic Games in Beijing were systematically analyzed by the methods of three-phase indexes. The three-phase indexes meant that the subjects' features of techniques and tactics were analyzed by calculating the scoring rate and using rate in the phase of attack after service(PAS), the phase of attack after receiving(PAR) and the phase of be locked in a stalemate(PLS). The calculating formulas were as follow:

Scoring rate of a phase=[scoring points of the phase

$\div$  (scoring points of the phase + losing points of the phase)]  $\times 100\%$

Applied rate of a phase = [(scoring points of the phase + losing points of the phase)  $\div$  (total scoring points + total losing points)]  $\times 100\%$

Score rate was divided into 4 grades: excellent, good,

pass and fail to pass. Applied rate was a reference standard in general. The evaluating criteria is in table 1.

Video observation: Lin Ma and Hao Wang's characteristics of technique and tactics were studied by video observation and statistics.

Table 1 Evaluating standard of three-phase indexes analysis method

| Grades       | PAS           |                 | PAR           |                 | PLS           |                 |
|--------------|---------------|-----------------|---------------|-----------------|---------------|-----------------|
|              | score rate(%) | applied rate(%) | score rate(%) | applied rate(%) | score rate(%) | applied rate(%) |
| excellent    | 70            |                 | 50            |                 | 55            |                 |
| good         | 65            | 25-30           | 40            | 15-25           | 50            | 45-55           |
| pass         | 60            |                 | 30            |                 | 45            |                 |
| fail to pass | $\leq 59$     |                 | $\leq 29$     |                 | $\leq 44$     |                 |

Notes: PAS= phase of attack after service; PAR =phase of attack after receiving; PLS= phase of be locked in a stalemate.

### 3. RESULTS AND ANALYSIS

#### 3.1 Analysis on the characteristics of the technique and tactics of Lin Ma

The analysis results of Lin Ma by the three- phase indexes is in table 2.

Phase of Attack after Service(PAS): Lin Ma's scoring rate in PAS is 64.7% and is quite near to good. The applied rate (17.9%) is low, which indicates that Lin Ma's way of getting points in PAS wasn't showed enough, and that he was not active enough in attacking after service and was too smooth. It also showed that

Hao Wang knew well about Lin Ma's service and had controlled Lin Ma's attack after service. Lin Ma's scoring rate in the second round is 100%, which means the rate of his successful attack after service is remarkably high, however his applied rate is low(15%). Lin Ma's service was mostly short, bias and center , combining with using long angle shot to opponent's body, suppressed or weakened opponent's attack. Attacking after service, was mostly by backhand position sideways angle loop drive and forehand position angle loop drive.

Table 2 Analysis results of Lin Ma by three-phase indexes \*

| Games  | PAS |    |      |      | PAR |    |      |      | PLS |    |      |      |
|--------|-----|----|------|------|-----|----|------|------|-----|----|------|------|
|        | SP  | LP | SR%  | AR%  | SP  | LP | SR%  | AR%  | SP  | LP | SR%  | AR%  |
| 1      | 3   | 2  | 60   | 25   | 4   | 3  | 57.1 | 35   | 4   | 4  | 50   | 40   |
| 2      | 3   | 0  | 100  | 15   | 3   | 4  | 42.9 | 35   | 5   | 5  | 50   | 40   |
| 3      | 1   | 1  | 50   | 11.8 | 4   | 2  | 66.7 | 35.3 | 1   | 8  | 11.1 | 52.9 |
| 4      | 3   | 1  | 75   | 22.2 | 2   | 3  | 40   | 27.8 | 6   | 3  | 66.7 | 50   |
| 5      | 1   | 2  | 33.3 | 15   | 5   | 2  | 71.4 | 35   | 5   | 5  | 50   | 50   |
| Add up | 11  | 6  | 64.7 | 17.9 | 18  | 14 | 56.3 | 33.7 | 21  | 25 | 45.7 | 48.4 |

\* The men's single table tennis final in the 29<sup>th</sup> Olympic Games in Beijing

Notes: score point = SP; losing point = LP; core rate = SR; applied rate = AR

Phase of Attack after Receiving(PAR): Lin Ma's scoring rate (56.3%) in PAR was excellent and the applied rate (33.7%) was also the maximum of excellent level, which means Lin Ma knew the service of Hao Wang well and was initiative to response and attack after receiving with a higher rate of success. It can initiative made score straight by some opportunities and combining with changes of spin , long or short , point of fall . It also showed that Hao Wang's service was not good enough, he failed to control the attack after receiving of Lin Ma.

Phase of be Locked in a Stalemate(PLS):The scoring rate (45.7%) of Lin Ma in PLS was pass, applied rate (48.4%) was good in PLS. Lin Ma took the advantage of

attack in PAR to be initiative in PLS, Lin Ma initiative made score by controlling Hao Wang by forehand position straight loop drive, backhand position sideways angle loop drive in big angle, and combining with backhand position angle or straight block.

#### 3.2 Analysis on the characteristics of the technique and tactics of Hao Wang

The analysis results of Hao Wang by the three- phase indexes is in table 3.

Phase of Attack after Service(PAS): Wang Hao's scoring rate in PAS was 52.2% and failed to pass. The using rate (24.2%) was nearly good, which showed that Wang Hao was initiative in PAS but the success rate was

low. It also showed that Wang Hao's service was well controlled by Lin Ma which had made it difficult for Hao Wang to attack or fail to do so. Lin Ma can made score straight by attacking Hao Wang's ball off court mostly . which was an important reason of Hao Wang's high rate of failing in PAS. Hao Wang's service had less change, was mostly servicing forehand underspin service, side underspin , short bias and center , combining with servicing topspin straight and side underspin straight.

Phase of Attack after Receiving(PAR): the scoring

rate (50%) of Wang Hao in PAR was excellent, his using rate (27.4%) was also the maximum of excellent level. It showed that Hao Wang was initiative in PAS and the success rate was high. It also had showed that Hao Wang knew the characteristics of Lin Ma's service well, attack initiatively by the back-of-racket penhold backhand loop horizontally. Wang Hao's means of scoring was mostly backhand position straight or angle loop drive horizontally, forehand in short court angle smash, combining with backhand position sideways straight loop drive.

Table 3 Analysis results of Hao Wang by three-phase indexes \*

| Games  | PAS |    |       |       | PAR |    |       |       | PLS |    |       |       |
|--------|-----|----|-------|-------|-----|----|-------|-------|-----|----|-------|-------|
|        | SP  | LP | SR(%) | AR(%) | SP  | LP | SR(%) | AR(%) | SP  | LP | SR(%) | AR(%) |
| 1      | 2   | 2  | 50    | 20    | 4   | 3  | 57.1  | 35    | 3   | 6  | 33.3  | 45    |
| 2      | 4   | 2  | 66.7  | 30    | 1   | 3  | 25    | 20    | 4   | 6  | 40    | 50    |
| 3      | 2   | 2  | 50    | 23.5  | 3   | 1  | 75    | 23.5  | 6   | 3  | 66.7  | 52.9  |
| 4      | 2   | 2  | 50    | 22.2  | 2   | 4  | 33.3  | 33.3  | 3   | 5  | 37.5  | 44.4  |
| 5      | 2   | 3  | 40    | 25    | 3   | 2  | 60    | 25    | 4   | 6  | 40    | 50    |
| Add up | 12  | 11 | 52.2  | 24.2  | 13  | 13 | 50    | 27.4  | 20  | 26 | 43.5  | 48.4  |

\* The men's single table tennis final in the 29<sup>th</sup> Olympic Games in Beijing

Notes: score point = SP; losing point = LP; score rate = SR; applied rate = AR

Phase of be Locked in a Stalemate(PLS): The scoring rate (43.5%) of Wang Hao in PLS was failed to pass, but the using rate (48.4%) was high, which showed that Wang Hao was quite positive in attacking after receiving in PLS although the success rate was low. There were many bouts ball in PLS . Hao Wang's fault was mostly backhand position return loop drive, and rush at forehand position loop drive.

#### 4. DISCUSSION

##### 4.1 The characteristic of Lin Ma's technique and tactics

Lin Ma suppressed or weakened opponent's attack after receiving by changes of spin , long or short and point of fall , was mostly servicing left side underspin , underspin straight short ,combining with left side underspin long service. because the route of the ball was changeable, he was able to make his opponent passive to receive, and made the chance for himself to attack. After service, controlled opponent to try for next initiative by forehand position angle loop drive and combining with straight loop drive, was mostly using backhand position sideways loop drive, backhand position straight loop drive horizontally and adding loop, which was mostly used backhand position long ball returned by opponent push. but it use rate was less. On the receiving, was mostly drop shot at center line or deflection backhand position, look for opportunity during drop shot. In the Phase of being locked in a stalemate after 5 time bouts, Lin Ma's score means was mostly by point of fall of loop drive and cadence of block in backhand position, during counter-loop drive, became suddenly into block, would control opponent's cadence

of counter-loop.

##### 4.2 The characteristic of Hao Wang's technique and tactics

Hao Wang's service was mostly forehand position underspin center service or angle short service, combining with sideways underspin and side topspin angle short service, to cooperate with the attack after service, but his service was always controlled, which made the chance for him to attack quite little or made him passivity attacked. So the scoring rate of Hao Wang in PAS failed to pass, the initiative mistakes were of large quantity. while receiving opponent's service, was mostly attack, combining with backhand loop drive in short court, to suppress or weaken opponent's attack. But the Hao Wang's faults in backhand position were not less during the Phase of being locked in a stalemate. Faults were not less in the backhand position horizontally loop drive and forehand position defending

##### 4.3 The characteristic of tactical consciousness of Lin Ma and Hao Wang

Consciousness is the reflection of the extension world in human brain. The awareness of tactics refers to the stratagems, activities and approaches which are formed in the player's brain on the basis of a series of knowing, observing and the analysis on the characteristics of the techniques and tactics of the opponent in order to fight against them. As a result of the fact that activities are dominated by the consciousness of the brain, only if we have correct awareness of tactics, can we carry out the correct tactical activities<sup>[4,5]</sup>. As the two top table tennis players in the world, Lin Ma and Hao Wang are more or less the

same in technique, the competition between them turned out to be the contest of wisdom, the use of tactics and courage. Lin Ma restrained the attacks after receiving of Hao Wang with the use of the spin of the ball and the various lengths and falling point of the ball. Although the scoring rate and using rate of both players in PAR were excellent, Lin Ma did a little better. Hao Wang's technique of serving off and the use of tactics were not good enough, though the changeable falling point of the ball and spin had restrained Lin Ma's attack after receiving to some extent. But he failed to reduce Lin Ma's rate of successful attack after receiving which turned out to be excellent (56.3%). In the PLS, both of the players were active in attacking, however, taking the advantage of falling point of the returned ball and spin, Lin Ma restrained Wang Hao's exertion of the pen-hold backside hit which he was best at. Lin Ma's awareness of tactics and the use of it were correct and clear and he took the initiative of the competition. Finally, Lin Ma defeated Hao Wang and won the champion at a score of 4:1.

There are similarities between table tennis competitions and wars. During the whole history, there were a lot of examples of the small defeating the big, and the weak defeating the strong. In a table tennis competition, in order to win, one must firstly have an extension opinion of the characteristic of technique and tactic of the opponent and be clear about advantages and shortcomings of it, and the advantages and disadvantages of his/her own characteristic at the same time. And make the idiographic tactic on the basis of that in PAS and PAR. That is to say you should avoid, dispel, control or weaken the opponents' advantage, and use your advantage to attack the opponents' shortcomings, and only through doing this can you win. Lin Ma's winning the game efficiently showed that his awareness of tactics and the use of it accorded with the inherent law of winning table tennis games. That is, dispelling or weakening the opponent's advantage and attacking his shortcomings with your own advantages<sup>[6]</sup>.

Only when a table tennis player qualified with a strong mind, a good character and mental quality and unique techniques, tactics, physical force and capacity, can he reach the top peak of table tennis in the world<sup>[7]</sup>. The table tennis is small, light and quick, its technique is various, it's changeable during the competition, at the same time, the differences of the physical strength and tactics of top players from different countries are little. In this situation, the key of winning the game have turned into how to fully bring into the positive aspects of intelligence, characteristics and mental factors of players<sup>[8]</sup>. Innovation is the exhaustless impetus of table tennis<sup>[9]</sup>. We should encourage and advocate the technical innovation cooperated by scientific researchers, coaches and players<sup>[10]</sup>. Beside the practiced techniques, the players should also have consummate consciousness. Only when the technique armed with consummate awareness of tactics, can it bring into a greater effect<sup>[11]</sup>. The correct understanding of the law of winning table tennis games is the precondition of the

scientific training. It is the unceasing innovation that endues table tennis with new impetus<sup>[12]</sup>.

## 5. CONCLUSION

Lin Ma's consciousness of tactics was correct and clear, he took the initiative of the competition. His consciousness of tactics and use of it tallied with the law of winning the games of table tennis, which was the fundament of his winning the game. Through changing table tennis' spin, point of fall and long or short, Lin Ma restrained or weakened Hao Wang's attack after receive. Although the scoring rate and use rate of both players in the phase of attack after receiving were excellent, but Lin Ma did better.

The technique of service and the use of the tactics of Hao Wang was not good enough, although the point of fall, spin had weakened Lin Ma's attack after receive to some extent, he failed to restrain Lin Ma's attack after receiving thoroughly, which resulted in his passivity. During the phase of be locked in a stalemate, both of the players were initiative and active to attack, the bouts was of great quantity, but Lin Ma's return was better, and it had restrained Hao Wang's technique of playing horizontally table tennis with pen-hold grip which he was most accomplished in.

The two players with pen-hold grip have very good ability in dealing with receiving and attack after receiving. They all took fully advantage of pen-hold grip, they were fast attack in close-table, wrist was agility, and they were good at dealing with table tennis in short court.

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