

## **ANALYSIS OF THE INDIVIDUAL CHAMPIONSHIP IN TABLE TENNIS IN THE PROGRAM OF XXX SUMMER OLYMPICS**

*Preliminary communication*

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### **Abstract**

*An analysis of the meetings of the individual championship in table tennis program XXX Summer Olympics. We analyzed the XXX Summer Olympics from individual championship for men and women - London, England, from July 27th to August 12th, 2012. Previous London Olympic games were in 1908 and in 1948. The aim of the research is to analyze the basic laws and trends in the table tennis game. The analysis shows the results from the matches and sets in all stages of the competition, the duration of the matches and the game. There were revealed the total points and rallies. According to the analysis the men's championship which ends with a match and 14 points less than women's championship, which leads us to believe that the man's championship was more disputed. But the women's competition determines the rally of 102 hits from the 30th Olympics. 60% of the matches in the tournament for men and women ended with the score 4:0 and 4:1. In the final stage (Quarterfinals, semifinals and final) the individual championship of the Olympics, we found that of the 16 matches played, 7 ended with a score of 4:1, 5 with a score of 4:0, 3 with a score of 4:2 and 1 match with the score 4:3. In conclusion it can be said that the psychological factor played the fundamental role.*

**Keywords:** *table tennis, psychological factors, London Summer Olympic Games*

### **INTRODUCTION**

XXX Summer Olympic Games took place in London, England from 27<sup>th</sup> of July until 12<sup>th</sup> of August 2012. Olympics taking place in London for the third time. Previous Olympic Games in London were in 1908 and in 1948.

The aim of this study is to analyze the main patterns and trends in the development of the table tennis in XXX Summer Olympic Games.

Tasks of the study:

1. To analyze the results of individual matches of games and in all stages of the competition for men and women.
2. To analyze the duration of the Games, and individual matches for men and women.
3. To reveal the total number of points and rallies.

Used mathematical and statistical methods for data processing – there the results of the study were subjected to mathematical and statistical treatment program Microsoft Excel 2007. Alternative analysis is applied to identify percentages of studied parameters and to determine the average.

### **RESULTS**

In Table 1. are shown the results of the analysis of all 139 matches in the individual championship in table tennis - men and women. We note that in the women's championship with a score of 4-0 have been completed most matches of the first round, qualifying round and the third round. The most common is winning with a score of 4:1 - 30% of the matches ended with that result, the highest percentage are in the second round.

In the men's tournament the most common victory is 4:0 (32%) and is highly expressed in the third round. With a

score of 4:1 were won the 30 % of the matches, especially in the first, second and third round.

On Table 2. are summarized the data from whole individual championship. The most matches are won with the result of 4:0 (30%) and 4:1 (30 %).

The difference of points in sets shows how controversial are the matches. Not surprisingly, 32% of games are ended with two points difference in the first, second and third round. In the women's championship, this result is most often in the second round (37 %), third round (33 %) and the first round (26%). In men's championship the data is similar. Winning with two points deficit was most strongly evident in the first round (40%).

We note that in both leagues have not lost nor a single game with 11 points deficit, which means losing with the assets of 0 points.

We note that in both leagues have not lost a single game with 11 points deficit, it means losing with the assets of 0 points.

In Table 3. are shown the results from the length of the rounds, matches and sets. The greatest length is second round in women's championship (12:06 h) and in men's championship (11:46 h). Summarized, 96 hour and 14 minutes is played all the matches played in the individual championship.

Longest match is 1 hour and 23 minutes (2nd Round), while the shortest is 14 minutes in the preliminary round of women's championship. The average duration of a matches is 42 minutes. This information is extremely important for organizing a program for competition in table tennis, elimination scheme best 4 of 7 games.

While analyzing duration of the Games, we notice that the shortest game is 2 minutes, the longest - 13 minutes, and the average value is 6 minutes.

In Table 4 are shown the results of data processing for the number of points earned and number of strokes in a rally.

Men's Championship ends with a game less and 14 points more earned than women's championship. It means that it was more controversial. But women's race determines the maximum strokes in a rally – 102.

Table 1. Percentage of the result of games and matches in individual championship – men and women in the 30<sup>th</sup> Summer Olympics

Result/ round	Preliminary				Round 1				Round 2				Round 3				Round 4			
Number matches in a round	6		<u>5</u>		16		<u>16</u>		16		<u>16</u>		16		<u>16</u>		8		<u>8</u>	
Result	w	%	<u>m</u>	<u>%</u>	w	%	<u>m</u>	<u>%</u>	w	%	<u>m</u>	<u>%</u>	w	%	<u>m</u>	<u>%</u>	w	%	<u>m</u>	<u>%</u>
4:0	4	67	<u>2</u>	<u>40</u>	6	38	<u>4</u>	<u>25</u>	1	6	<u>5</u>	<u>31</u>	6	38	<u>7</u>	<u>44</u>	0	0	<u>2</u>	<u>25</u>
4:1	0	0	<u>1</u>	<u>20</u>	4	25	<u>5</u>	<u>31</u>	7	44	<u>4</u>	<u>25</u>	3	19	<u>4</u>	<u>25</u>	4	50	<u>3</u>	<u>38</u>
4:2	1	17	<u>2</u>	<u>40</u>	2	13	<u>2</u>	<u>13</u>	3	19	<u>3</u>	<u>19</u>	7	44	<u>2</u>	<u>13</u>	2	25	<u>1</u>	<u>13</u>
4:3	1	17	<u>0</u>	<u>0</u>	4	25	<u>5</u>	<u>31</u>	5	31	<u>4</u>	<u>25</u>	0	0	<u>3</u>	<u>19</u>	2	25	<u>2</u>	<u>25</u>
Number of games in a round	29		<u>25</u>		84		<u>88</u>		92		<u>86</u>		81		<u>81</u>		46		<u>43</u>	
Deficit overcome	w	%	<u>m</u>	<u>%</u>	w	%	<u>m</u>	<u>%</u>	w	%	<u>m</u>	<u>%</u>	w	%	<u>m</u>	<u>%</u>	w	%	<u>m</u>	<u>%</u>
11	1	3	<u>0</u>	<u>0</u>	0	0	<u>0</u>	<u>0</u>	0	0	<u>1</u>	<u>1</u>	0	0	<u>0</u>	<u>0</u>	0	0	<u>0</u>	<u>0</u>
10	0	0	<u>1</u>	<u>4</u>	3	4	<u>0</u>	<u>0</u>	0	0	<u>0</u>	<u>0</u>	0	0	<u>0</u>	<u>0</u>	0	0	<u>0</u>	<u>0</u>
9	5	17	<u>2</u>	<u>8</u>	4	5	<u>1</u>	<u>1</u>	5	5	<u>2</u>	<u>2</u>	1	1	<u>1</u>	<u>1</u>	1	2	<u>0</u>	<u>0</u>
8	5	17	<u>3</u>	<u>12</u>	3	4	<u>5</u>	<u>6</u>	3	3	<u>4</u>	<u>5</u>	6	7	<u>3</u>	<u>4</u>	0	0	<u>2</u>	<u>5</u>
7	3	10	<u>2</u>	<u>8</u>	4	5	<u>5</u>	<u>6</u>	7	8	<u>3</u>	<u>3</u>	7	9	<u>2</u>	<u>2</u>	2	4	<u>3</u>	<u>7</u>
6	3	10	<u>3</u>	<u>12</u>	7	8	<u>5</u>	<u>6</u>	8	9	<u>13</u>	<u>15</u>	8	10	<u>9</u>	<u>11</u>	6	13	<u>4</u>	<u>9</u>
5	4	14	<u>3</u>	<u>12</u>	9	11	<u>10</u>	<u>11</u>	12	13	<u>9</u>	<u>10</u>	10	12	<u>8</u>	<u>10</u>	11	24	<u>6</u>	<u>14</u>
4	2	7	<u>3</u>	<u>12</u>	14	17	<u>13</u>	<u>15</u>	14	15	<u>12</u>	<u>14</u>	9	11	<u>9</u>	<u>11</u>	6	13	<u>9</u>	<u>21</u>
3	2	7	<u>3</u>	<u>12</u>	14	17	<u>14</u>	<u>16</u>	9	10	<u>12</u>	<u>14</u>	13	16	<u>23</u>	<u>28</u>	8	17	<u>9</u>	<u>21</u>
2	4	14	<u>5</u>	<u>20</u>	26	31	<u>35</u>	<u>40</u>	34	37	<u>30</u>	<u>35</u>	27	33	<u>26</u>	<u>32</u>	12	26	<u>10</u>	<u>23</u>

Table 1. (continued)

Result/ round	Quarterfinal				Semifinal				Final				SUM			
Number matches in a round	4		<u>4</u>		2		<u>2</u>		2		<u>2</u>		70		<u>69</u>	
Result	w	%	<u>m</u>	<u>%</u>	w	%	<u>m</u>	<u>%</u>	w	%	<u>m</u>	<u>%</u>	w	%	<u>m</u>	<u>%</u>
4:0	2	50	<u>2</u>	<u>50</u>	0	0	<u>0</u>	<u>0</u>	1	50	<u>0</u>	<u>0</u>	20	29	<u>22</u>	<u>32</u>
4:1	1	25	<u>1</u>	<u>25</u>	1	50	<u>2</u>	<u>100</u>	1	50	<u>1</u>	<u>50</u>	21	30	<u>21</u>	<u>30</u>
4:2	1	25	<u>0</u>	<u>0</u>	1	50	<u>0</u>	<u>0</u>	0	0	<u>1</u>	<u>50</u>	17	24	<u>11</u>	<u>16</u>
4:3	0	0	<u>1</u>	<u>25</u>	0	0	<u>0</u>	<u>0</u>	0	0	<u>0</u>	<u>0</u>	12	17	<u>15</u>	<u>22</u>
Number of games in a round	19		<u>20</u>		11		<u>10</u>		9		<u>11</u>		371		<u>364</u>	
Deficit overcome	w	%	<u>m</u>	<u>%</u>	w	%	<u>m</u>	<u>%</u>	w	%	<u>m</u>	<u>%</u>	w	%	<u>m</u>	<u>%</u>
11	0	0	<u>0</u>	<u>0</u>	0	0	<u>0</u>	<u>0</u>	0	0	<u>0</u>	<u>0</u>	1	0	<u>1</u>	<u>0</u>
10	0	0	<u>1</u>	<u>5</u>	0	0	<u>0</u>	<u>0</u>	0	0	<u>0</u>	<u>0</u>	3	1	<u>2</u>	<u>1</u>
9	0	0	<u>0</u>	<u>0</u>	0	0	<u>1</u>	<u>10</u>	0	0	<u>0</u>	<u>0</u>	16	4	<u>7</u>	<u>2</u>
8	0	0	<u>2</u>	<u>10</u>	0	0	<u>1</u>	<u>10</u>	0	0	<u>0</u>	<u>0</u>	17	5	<u>20</u>	<u>5</u>
7	4	21	<u>5</u>	<u>25</u>	2	18	<u>0</u>	<u>0</u>	1	11	<u>0</u>	<u>0</u>	30	8	<u>20</u>	<u>5</u>
6	2	11	<u>3</u>	<u>15</u>	1	9	<u>1</u>	<u>10</u>	1	11	<u>2</u>	<u>18</u>	36	10	<u>40</u>	<u>11</u>
5	3	16	<u>2</u>	<u>10</u>	3	27	<u>1</u>	<u>10</u>	3	33	<u>1</u>	<u>9</u>	55	15	<u>40</u>	<u>11</u>
4	2	11	<u>0</u>	<u>0</u>	2	18	<u>0</u>	<u>0</u>	0	0	<u>0</u>	<u>0</u>	49	13	<u>46</u>	<u>13</u>
3	2	11	<u>2</u>	<u>10</u>	0	0	<u>2</u>	<u>20</u>	2	22	<u>1</u>	<u>9</u>	50	13	<u>66</u>	<u>18</u>
2	6	32	<u>5</u>	<u>25</u>	3	27	<u>4</u>	<u>40</u>	2	22	<u>7</u>	<u>64</u>	114	31	<u>122</u>	<u>34</u>

Table 2. Summarized the data from all the individual championsh

Result/round	Preliminary		Round 1		Round 2		Round 3		Round 4		Quarter finals		Semifinals		Fnals		SUM	
Matches in round	11		32		32		32		16		8		4		4		139	
Result	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
4:0	6	55	10	31	6	19	13	41	2	13	4	50	0	0	1	25	42	30
4:1	1	9	9	28	11	34	7	22	7	44	2	25	3	75	2	50	42	30
4:2	3	27	4	13	6	19	9	28	3	19	1	13	1	25	1	25	28	20
4:3	1	9	9	28	9	28	3	9	4	25	1	13	0	0	0	0	27	19
Games in round	54		172		178		162		89		39		21		20		735	
Deficit overcome	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
11	1	2	0	0	1	1	0	0	0	0	0	0	0	0	0	0	2	0
10	1	2	3	2	0	0	0	0	0	0	1	3	0	0	0	0	5	1
9	7	13	5	3	7	4	2	1	1	1	0	0	1	5	0	0	23	3
8	8	15	8	5	7	4	9	6	2	2	2	5	1	5	0	0	37	5
7	5	9	9	5	10	6	9	6	5	6	9	23	2	10	1	5	50	7
6	6	11	12	7	21	12	17	10	10	11	5	13	2	10	3	15	76	10
5	7	13	19	11	21	12	18	11	17	19	5	13	4	19	4	20	95	13
4	5	9	27	16	26	15	18	11	15	17	2	5	2	10	0	0	95	13
3	5	9	28	16	21	12	36	22	17	19	4	10	2	10	3	15	116	16
2	9	17	61	35	64	36	53	33	22	25	11	28	7	33	9	45	236	32

Table 3. Duration of rounds, matches and game

Round	Preliminary		Round 1		Round 2		Round 3		Round 4						
Match	w	m	w	m	w	m	w	m	w	m					
Dation (h)	2:21	<u>2:27</u>	4:48	9:41	<u>11:19</u>	21:00	12:06	<u>11:46</u>	23:52	10:57	<u>11:09</u>	22:06	6:33	<u>5:57</u>	12:30
Longest	0:40	<u>0:41</u>	0:41	1:01	<u>1:10</u>	1:10	1:05	<u>1:23</u>	1:23	1:10	<u>1:09</u>	1:10	1:08	<u>1:07</u>	1:08
Shortest	0:14	<u>0:15</u>	0:14	0:23	<u>0:22</u>	0:22	0:27	<u>0:28</u>	0:27	0:26	<u>0:23</u>	<u>0:23</u>	0:36	<u>0:35</u>	0:35
Average	0:24	<u>0:29</u>	0:26	0:36	<u>0:42</u>	0:39	0:45	<u>0:44</u>	0:45	0:41	<u>0:42</u>	0:41	0:49	<u>0:45</u>	0:47
Game	-		-		-		-		-						
Duration (min)	1:57	<u>1:56</u>	3:53	8:08	<u>8:52</u>	17:00	9:55	<u>8:47</u>	18:42	8:52	<u>8:55</u>	17:47	5:24	<u>4:49</u>	10:13
Longest	0:06	<u>0:07</u>	0:07	0:13	<u>0:14</u>	0:14	0:13	<u>0:11</u>	0:13	0:11	<u>0:12</u>	0:12	0:10	<u>0:12</u>	0:12
Shortest	0:02	<u>0:02</u>	0:02	0:04	<u>0:03</u>	0:03	0:03	<u>0:03</u>	0:03	0:04	<u>0:04</u>	0:04	0:03	<u>0:05</u>	0:03
Average	0:04	<u>0:05</u>	0:04	0:06	<u>0:06</u>	0:06	0:06	<u>0:06</u>	0:06	0:07	<u>0:07</u>	0:07	0:07	<u>0:07</u>	0:07

Table 3 (continued)

Round	Quarterfinal		Semifinal		Final		SUM					
Match	w	m	w	m	w	m	w	m				
Duration (h)	2:54	<u>2:35</u>	5:29	1:38	<u>1:34</u>	3:12	1:20	<u>1:57</u>	3:17	47:30	<u>48:44</u>	96:14
Longest	1:07	<u>1:11</u>	1:11	0:55	<u>0:48</u>	0:55	0:51	<u>0:59</u>	0:59	1:10	<u>1:23</u>	1:23
Shortest	0:32	<u>0:20</u>	0:20	0:43	<u>0:46</u>	0:43	0:29	<u>0:58</u>	0:29	0:14	<u>0:15</u>	0:14
Average	0:44	<u>0:39</u>	0:41	0:49	<u>0:47</u>	0:48	0:40	<u>0:59</u>	0:49	0:41	<u>0:42</u>	0:42
Game	-		-		-		-					
Duration (min)	2:26	<u>2:03</u>	4:29	1:15	<u>1:15</u>	2:30	1:11	<u>1:30</u>	2:41	39:08	<u>38:07</u>	77:15
Longest	0:12	<u>0:11</u>	0:12	0:11	<u>0:09</u>	0:11	0:13	<u>0:12</u>	0:13	0:13	<u>0:14</u>	0:13
Shortest	0:04	<u>0:03</u>	0:03	0:04	<u>0:05</u>	0:04	0:06	<u>0:05</u>	0:05	0:02	<u>0:02</u>	0:02
Average	0:08	<u>0:06</u>	0:07	0:07	<u>0:08</u>	0:07	0:08	<u>0:08</u>	0:08	0:06	<u>0:06</u>	0:06

Table 4. Data processing for the number of points earned and number of strokes in a rally

Results	Women	Men
Points win	6772	6786
Points win in a set	18.25	18.64
Rally (number of strokes)	102	38
Rally (average)	6	5

## CONCLUSION

60% of the matches in the men's and women's tournament ended with a score of 4:0 and 4:1 and the lowest percentage (19%) completed a controversial result of 4:3. This is explained by the fact that the first 8 player in rankings are arranged in a pattern and begin to play in the third round. In a preliminary first (Scheme 128) and second

round (scheme 64) competitors are equivalent and it has not shown much difference between their technical and tactical level, and 33-35% of games end with two points deficit overcome. A prime indicator is the duration of the matches - from 1 hour and 1 minute to 1 hour and 23 minutes and duration of games - from 11 minutes to 14 minutes.

In the final stage (quarterfinals, semifinals and the finals) of the individual championship of the Olympics, we found that of the 16 matches played, 7 ended with the result of 4:1 (44%), 5 with a score of 4:0 (31%), 3 with result 4:2 (19%) and 1 match with a score of 4:3 (6%). The sets ended with two points overcome the deficit and were between 28% - 45%.

In conclusion it can be said that the main role played the psychological factors.

#### REFERENCES

- Дамянова, Р., & Гигова, В. (2005). *Статистически методи в спорта* [Statistical methods in sport. In Bulgarian.] София: Типтоп прес.
- Бачев, В. (2011). *Основи на научните изследвания в спорта* [Bases of research in sport. In Bulgarian.] София: Ес-принт.
- Барчукова, Г. В. (1982). Анализ соревновательной деятельности в настольном теннисе [Analysis of competitive activity in table tennis. In Russian.] *Теория и практика физической культуры*, (5), 18-21.
- London 2012 singles men - Olympic Table Tennis - Olympics. *Access official results for the Table Tennis event singles men at the London 2012 Summer Games Olympics, plus view video highlights of top performances*. Retrieved September 28, 2012

from: <https://www.olympic.org/london-2012/table-tennis/singles-men>

- London 2012 singles women - Olympic Table Tennis - Olympics. *Access official results for the Table Tennis event singles women at the London 2012 Summer Games Olympics, plus view video highlights of top performances*. Retrieved April 27, 2012 from: <https://www.olympic.org/london-2012/table-tennis/singles-women>
- Nobuo Yuza, Kiyoshi Sasaoka, Nobuyuki Nishioka, Yasuhiro Matsui, Noriko Yamanaka, Ichiro Ogimura, Mitsumasa Miyashita. (1992). Game Analysis of Table Tennis in Top Japanese Players of Different Playing Styles. *Journal of Table Tennis Sciences*, (1), 79-91.
- Table tennis at the 2012 Summer Olympics – Men's singles - Wikipedia. *International Table Tennis Federation (ITTF) · Official site of the London 2012 Olympic and Paralympic Games*. Retrieved October 17, 2012 from: [https://en.wikipedia.org/.../Table\\_tennis\\_at\\_the\\_2012\\_Summer\\_Olympics\\_-\\_Men's\\_s...The\\_men's\\_singles\\_table\\_tennis\\_event\\_was\\_part\\_of\\_the\\_table\\_tennis\\_programme\\_at\\_the\\_2012\\_.....\\_External\\_links\[edit\].](https://en.wikipedia.org/.../Table_tennis_at_the_2012_Summer_Olympics_-_Men's_s...The_men's_singles_table_tennis_event_was_part_of_the_table_tennis_programme_at_the_2012_....._External_links[edit].)
- Table tennis at the 2012 Summer Olympics – Women's singles *International Table Tennis Federation (ITTF) · Official site of the London 2012 Olympic and Paralympic Games*. Retrieved July 20, from: [https://en.wikipedia.org/.../Table\\_tennis\\_at\\_the\\_2012\\_Summer\\_Olympics\\_-\\_Women's...The\\_women's\\_singles\\_table\\_tennis\\_event\\_was\\_a\\_part\\_of\\_the\\_table\\_tennis\\_programme\\_at\\_the\\_2012\\_.....\\_External\\_links\[edit\].](https://en.wikipedia.org/.../Table_tennis_at_the_2012_Summer_Olympics_-_Women's...The_women's_singles_table_tennis_event_was_a_part_of_the_table_tennis_programme_at_the_2012_....._External_links[edit].)

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