

Correlation between Men's Individual Rope Skipping Speed Results and Trick Results

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Keywords: Rope skipping; Men's personal speed performance; Trick performance; Relevance

Abstract: Rope skipping originated in China. As a folk traditional sport, figure skipping is an emerging sport that integrates the promotion of tradition, leisure and entertainment, and advanced innovation. In addition to basic racing items, there are also various tricks in figure skipping. This kind of action combines sports elements such as gymnastics, martial arts, and dance, and has strong ornamental and competitive qualities. This article uses the literature method, comparative analysis method, and statistical method to apply to individual men in the national rope skipping league in recent years. A correlation study comparing the top three skipping speeds with trick performance. The results show that the three items of 30-second single shake, 30-second interval cross single shake, and 3-minute single shake have significant correlations, and There is no significant correlation between the minute single shake and the correlation coefficient of the personal pattern (advanced).

1. Introduction

Rope skipping is a simple, easy-to-fit, healthy, and popular sports event that has gradually changed from the original folk sports to competitive sports. The State General Administration of Sport has also established a national rope skipping promotion center in each province. There are also their own skipping associations. The skipping sport has entered a high-speed development stage. Large-scale events are held every year. In order to train skipping talents, coach training courses are also held regularly, covering the whole country, which further improves the level of skipping in China.

Among them, the national rope skipping league is divided into three sections: speed competition (individual speed and group speed), trick competition (individual and collective style), and exhibition competition. The individual speed competition includes 30-second single shake, 30-second double shake, 30 Second interval cross single shake and 3 minute single shake and other items; tricks include personal tricks (beginner, intermediate, advanced), two-person synchronized tricks (beginner, intermediate, advanced); performance competitions are divided into small performances and large performances. In the past few years, the rope skipping competition has continued to develop, and the technical skills are continually developed and innovated with the improvement of the competition rules. This article uses the method of literature, comparative analysis, data statistics, etc. for the individual men in the national rope skipping league in recent years. A correlation between the top three in skipping speed and the performance of the pattern is studied.

In the rope skipping competition, there are many correlations between the various items, and the correlation between different items and items will affect the performance of the results. This article will carry out research on it and analyze the experimental results to find out Projects that promote each other and can be used as a reference for personal tricks (advanced), and develop scientific training methods for the relevance of different projects.

2. Research objects and methods

2.1 Research objects

This article takes the top three men's individual speed events and individual tricks (advanced) results in the 2015-2018 national rope skipping league and the finals as the research object.

2.2 Research methods

2.2.1 Literature method

Check out the relevant documents of rope skipping through China HowNet and the Library of Jiangxi Normal University to learn more about the correlation between the rope skipping speed project and trick performance.

2.2.2 Comparative analysis method

After data comparison and comparison of the results of the 2015-2018 National Rope Skipping League, it was found that most of the top three athletes in the 30-second single-shot and 3-minute single-shot in the men's speed competition participated in the personal figure skipping (advanced) event.

2.2.3 Data Statistics Method

Using excel and spss (21) software, the speed results and trick performance data of each race in the 2015-2018 National Rope Skipping League were sorted out and statistically analyzed.

3 Research results and analysis

According to the rules, the scoring standard of "personal tricks" for figure skipping is 100 points, including 50 points for difficulty of movement, 40 points for creative choreography, and 10 points for prescribed actions.

3.1 Men's Individual Speed Results and Trick Results in the 2015-2016 National Rope Skipping League

Table 1 Statistics of Taixing Station in the 2015-2016 National Rope Skipping League

project Name	30 seconds single shake		30 second double shake		30 second interval Cross shake		3 minutes single shake		Personal tricks (advanced)	
	Grade	Rankin g	Grade	Rankin g	Grade	Rankin g	Grade	Rankin g	Grade	Ranking
Xu x	79	1							80	2
Huang xx	74	2							60.67	4
Yan x	73	3			20	3			65.83	3
Wang xx			71	1						
Liu x			65	2	48	1				
Li xx			60	3						
Qiu xx					45	2				
Li xx							323	1		
Li xx							307	2		
Chen xx							298	3		
Wang xx									87.17	1

Table 2 Libo Station Statistics of the National Rope Skipping League 2015-2016

project Name	30 seconds single shake		30 second double shake		30 second interval Cross shake		3 minutes single shake		Personal tricks (advanced)	
	Grade	Rankin g	Grade	Rankin g	Grade	Rankin g	Grade	Rankin g	Grade	Ranking
Zhao xx	83	1					407.5	1	67.94	2
Xu xx	82	2								
Xiang xx	67	3								
Hu x			72.5	1						
Wu xx			71	2						
Wu xx			65	3					30.22	4
Li xx					55	1			36.11	3
Yang xx					50	2				
Zheng xx					49	3				
Li xx							383	2	74.95	1
Li xx							350	3		
Ji xx									19.78	5

Table 3 Statistics of the 2015-2016 National Rope Skipping Finals

project Name	30 seconds single shake		30 second double shake		30 second interval Cross shake		3 minutes single shake		Personal tricks (advanced)	
Wang xx	83	1					387.5	1	83.61	1
Sun x	75	2			66	1				
Wang xx	74	3	70	2						
Lu xx			70.5	1						
Wang xx			70	2						
Qin xx					55	2				
Wang x					54	3	383	2		
Gu x							369	3		
Zhang xx									83	2
Lu xx									75.94	3
Ding xx									54.28	4

Tables 1, 2, and 3 are the results of the two races and the finals drawn in the 2015-2016 national rope skipping competition. From the above three tables, you can see that you participated in the 30-second single shake and were in the top three. Famous athletes generally choose to participate in personal tricks (advanced). However, the rankings and scores obtained by participating in personal tricks (advanced) will still have a certain gap. When reaching a certain degree of difficulty, due to the different psychological qualities of each person, Mistakes of different levels are also prone to occur during the competition. The higher the level of personal tricks, the higher the points deducted from the mistakes, and the lower the final score. If you do not reach the required action difficulty, you cannot participate in the ranking.

3.2 Comparison of Men's Individual Speed Results and Trick Results in the 2016-2017 National Rope Skipping League

Table 4 Statistics of Taizhou Station in the 2016-2017 National Rope Skipping League

Name	30 seconds single shake		30 second double shake		30 second interval Cross shake		3 minutes single shake		Personal tricks (advanced)	
	Grade	Ranking	Grade	Ranking	Grade	Ranking	Grade	Ranking	Grade	Ranking
Wang xx	80	1							57.5	2
Hu xx	79	2								
Chen x	77	3							52.915	4
Li xx			74	1						
Zou xx			73	2						
Zhao xx			73	3						
Chen xx					61	1				
Yang xx					60	2			57.335	3
Ding xx					60	2				
Tan xx							413	1		
Li xx							365	2		
Lu xx							362	3		
Wang xx									68.335	1
Zhao x									38	5
You xx									18.665	6
Han xx									18.5	7

Table 5 Statistics of Zoucheng Station in the 2016-2017 National Rope Skipping League

Name	30 seconds single shake		30 second double shake		30 second interval Cross shake		3 minutes single shake		Personal tricks (advanced)	
	Grade	Ranking	Grade	Ranking	Grade	Ranking	Grade	Ranking	Grade	Ranking
Wu xx	84	1					405	2	44.5	4
Huang xx	79	2							80.5	1
Gu x	77	3								
Zheng xx			63	1	63	1				
Zheng xx			54	2	54	2				
Yang x			53.5	3	53.5	3				
Tian xx							408	1		
Wu xx							368	3		
Lv xx									57.83	2
Zong xx									45.17	3
Ma xx									32.085	5

Name	project	30 seconds single shake		30 second double shake		30 second interval Cross shake		3 minutes single shake		Personal tricks (advanced)	
		Grade	Ranking	Grade	Ranking	Grade	Ranking	Grade	Ranking	Grade	Ranking
Wang x		92	1					437	2		
Wang xx		90	2	79	2			450.5	1		
Li xx		88	3					436	3	88	1
Gan xx				86.5	1						
Liu xx				77	3						
Yuan xx						68	1				
Tang xx						67	2				
Xu xx						61.5	3				
Lu xx										85.84	2
Long xx										85.16	3
Wang xx										77.67	4
Lin xx										76.5	5
Xie xx										72.33	6
Chen xx										70.5	7
Zhou xx										51.5	8

According to the above three tables, it can be seen that compared with the 2015-2016 league, the number of participants in this year has increased significantly, and the performance of the speed competition has also greatly improved, especially in the 30-second interval cross-single shake project. Obviously, in the Taizhou race, the athletes participating in personal tricks (advanced) are more of the top three members of the 30-second single-swing, 30-second interval cross-single and 3-minute single-swing. High-level tricks. In addition to the top three contestants who reported personal tricks (advanced), there are also athletes who only directly report tricks, and they have also won good positions, but this does not mean that their speed events are not good.

3.3 Comparison of men's individual speed performance and trick performance in the 2017-2018 National Rope Skipping League

Table 7 Statistics of Luzhou Station in the 2017-2018 National Rope Skipping League

Name	project	30 seconds single shake		30 second double shake		30 second interval Cross shake		3 minutes single shake		Personal tricks (advanced)	
		Grade	Ranking	Grade	Ranking	Grade	Ranking	Grade	Ranking	Grade	Ranking
Li xx		94	1					450	1	83.67	1
Lao x		89	2					418	2		
Li xx		83	3					412	3	39.69	4
Pan xx				81	1						
You xx				78	2						
Huang xx				78	2						
Jiang xx						63	1				
Xue xx						63	1				
Zhu xx						53	3				
Li x										66.12	2
Lu xx										60.64	3

Table 8 Statistics of Shizhu Station in the 2017-2018 National Rope Skipping League

project	30 seconds single shake		30 second double shake		30 second interval Cross shake		3 minutes single shake		Personal tricks (advanced)	
Name	Grade	Ranking	Grade	Ranking	Grade	Ranking	Grade	Ranking	Grade	Ranking
Li xx	96	1					446.5	1	48.15	2
Wu xx	87	2							71.07	1
Liang x	87	2	81	1			415	2		
Wang x			81	1						
Ma xx			79	3						
Xiao xx					70	1				
Xu xx					63	2				
Xie x					59	3	414	3		
Wu xx									41.22	4
Liang xx									43.07	3
Bu xx									26.32	5

Table 9 Statistics of the 2017-2018 National Rope Skipping Finals

project	30 seconds single shake		30 second double shake		30 second interval Cross shake		3 minutes single shake		Personal tricks (advanced)	
Name	Grade	Ranking	Grade	Ranking	Grade	Ranking	Grade	Ranking	Grade	Ranking
Li xx	95	1					483	1	78.6667	1
Lao x	94	2					437	3		
Chen xx	88.5	3	76	3					63.36	5
Liang x			84	1						
Tan x			77	2			440	2		
Xu xx					62	1				
Huang x					56	2				
You xx					55	3			69.4567	4
Qin xx									77.0267	2
Lu xx									74.5	3
Chen xx									54.8333	6
Zhou xx									50.29	7
Li xx									36.14	8

According to Table 7, Table 8, and Table 9, the results of 2017-2018 national rope skipping competitions have generally improved. The 30-second single-shot performance has reached more than 90, and the 3-minute single-shot has been more than 300 in the past. Break through to more than 400 or even close to 500 results. At the same time, athletes participating in a 30-second single shake will inevitably participate in a 3-minute single shake, and those participating

in personal tricks (advanced) will participate in one of these two or It is two people together. It can be seen that a 30-second single shake requires more speed, and a 3-minute single shake requires not only speed but also a certain amount of endurance and rhythm; this also shows that advanced personal tricks need to jump well. It must have fast speed, stable rhythm and certain endurance, and strong psychological quality, so as to reduce mistakes in order to achieve good results.

3.4 Correlation analysis of men's individual speed results and trick performances in the 2015-2018 national rope skipping competition

Table 10 Correlation analysis table of men's individual speed performance and trick performance in 2015-2018 national rope skipping competition

		30 seconds single shake	30 second double shake	30 second interval Cross shake	3 minutes single shake	Personal tricks (advanced)
30 seconds single shake	Pearson correlation	1	.426	.306	.925**	.290
	Saliency (bilateral)		.113	.617	.000	.159
	N	51	15	5	22	25
30 second double shake	Pearson correlation	.426	1	.361	.715	.119
	Saliency (bilateral)	.113		.340	.111	.760
	N	15	51	9	6	9
30 second interval Cross shake	Pearson correlation	.306	.361	1	.848*	-.436
	Saliency (bilateral)	.617	.340		.016	.463
	N	5	9	51	7	5
3 minutes single shake	Pearson correlation	.925**	.715	.848*	1	.439
	Saliency (bilateral)	.000	.111	.016		.089
	N	22	6	7	51	16
Personal tricks (advanced)	Pearson correlation	.290	.119	-.436	.439	1
	Saliency (bilateral)	.159	.760	.463	.089	
	N	25	9	5	16	70

**. Significant correlation at .01 level (both sides).

*. Significant correlation at 0.05 level (both sides).

From Table 10, it can be seen that the correlation coefficient between the 30-second single shake and the 3-minute single shake reached 0.925, which has a very significant correlation; the 30-second interval cross single shake and the 3-minute single shake have a correlation coefficient of 0.848, which also has Obvious correlation. However, no obvious correlation with personal patterns (advanced) has been found in speed projects, but the correlation coefficient between 3 minute single shake and personal patterns (advanced) is slightly higher than several other speed projects. From the above data analysis, it can be seen that if a person with a good 3 minute single shake score, his 30-second single shake and 30-second interval cross will not be bad. These three items are closely related.

4 Conclusion

From the data of the 2015-2018 National Rope Skipping League, it can be found that as the development of rope skipping becomes more and more mature, competition pressure is increasing for both speed and trick projects. 30 can be

seen from the correlation analysis. The second single shake, the 30-second interval cross single shake, and the 3 minute single shake have a significant correlation, so they can be replaced in training, and the training methods can learn from each other. The correlation between the 30 second double shake and the 3 minute single shake is slightly It is higher than several other speed items, and the 30-second double shake has little correlation with personal patterns (advanced). In the data analysis results, no speed items have been found to have a significant correlation with personal patterns (advanced), but It is not excluded that there is no correlation between them. A 3-minute single-swing project requires speed, endurance, rhythm, and strength. A 30-second single-swing event is more about speed and stable rhythm, and personal tricks (advanced) exactly need these.

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