

# Choose Test Assessment Effectiveness of Left - Hand Cup Technique for Male Hanoi Shuttlecock Athletes

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## Abstract

Using routine methods, 8 tests were selected to evaluate the attack efficiency with the left-hand cup technique for male Hanoi shuttlecock athlete with sufficient reliability after 2 tests, and at the same time determined that there was a relationship between the two. strongly correlated with the performance of Hanoi shuttlecock athlete  $r > 0.789$  (probability threshold  $P < 0.05$ ).

**Keywords—** test, evaluation, effectiveness, shuttlecock kick, left cup technique, shuttlecock athlete, Hanoi.

## ARTICLE SOURCE

The article is excerpted from the research thesis of the same author "Research on exercises to evaluate the attack efficiency with the left-hand cup technique for male Hanoi shuttlecock athlete".

## I. QUESTION

In professional shuttlecock training, people often focus on developing basic techniques, especially the group of attacking techniques, typically the attacking kick technique. To perform this task, coaches often use competitive exercises, mobility exercises combined with specialized technical movements, in addition, it is necessary to use appropriate methods and a system of techniques. Correctly selected exercises will bring high training efficiency. In order to assess the level and capacity of athletes, assessment tests must be used. With the above urgency, we conducted "Select test to evaluate the

effectiveness of attack with left-hand cup technique for male Hanoi shuttlecock athlete".

## II. RESEARCH METHODS

The research process uses the following research methods: Method of analysis and synthesis of documents; Method of pedagogical observation; Interview method; Statistical Mathematical Methods.

## III. RESEARCH RESULTS AND DISCUSSION

### 3.1. Synthesis and selection of tests to evaluate the effectiveness of attacking with left-hand cup technique for male Hanoi shuttlecock athlete

On the basis of reference and synthesis of documents and practice of shuttlecock training, the thesis synthesizes tests to evaluate the effectiveness of attacking with left-hand cup technique for Hanoi male shuttlecock athletes, as follows:

Table 1. Summary of tests to evaluate the effectiveness of attacking with left-hand cup technique for male Hanoi shuttlecock athletes

No	Code convention	Test
1.	T1	10 consecutive left shuttlecocks into the 1m box along the left sideline. (fruit in the box)
2.	T2	10 consecutive left shuttlecock cup into the 1m box along the right sideline. (fruit in the box)
3.	T3	10 consecutive left shuttlecocks into the 1m box running along the middle of the field. (fruit in the box)
4.	T4	From the position of the antenna column, move the right foot to the center of the net to perform 10 consecutive left-hand cups into the 1m box running along the middle of the field. (fruit in the box)

5.	T5	From the middle position of the net, move towards the right foot to near the vertical line to perform 10 consecutive left-hand cups into the 1m box running along the middle of the field. (fruit in the box)
6.	T6	From the position of the antenna column, move the right foot to near the border along the opposite side to perform 10 consecutive left-ball cups into the 1m box running along the middle of the field. (fruit in the box)
7.	T7	Move forward with the right foot 1 step to perform 10 consecutive left bridge cups into the 1m box running along the middle of the field. (fruit in the box).
8.	T8	Move forward 1 step to perform 10 consecutive left-hand cups into the 1m box running along the middle of the field. (fruit in the box).

***Intrinsic reliability testing and selection of tests to evaluate the effectiveness of attacking with left-hand cup technique for male Hanoi shuttlecock athletes***

From the built-in interview form (Appendix 1), the thesis conducts a pilot survey through interviews with

experts, scientists, and coaches (n = 27) on a 5-level Liker scale. and determine the internal reliability (Internal Consistent Reliability Analysis). The results of testing the intrinsic reliability of 8 tests to evaluate the effectiveness of attacking with the left-hand cup technique for male Hanoi shuttlecock athletes are presented in Table 2.

*Table 2. Results of testing the intrinsic reliability of the tests to evaluate the effectiveness of attacks with the left-hand cup technique for male Hanoi shuttlecock athletes*

<b>Cronbach's Alpha value</b>				
Cronbach's Alpha			N of Items	
<b>0,878</b>			<b>8</b>	
<b>Item-Total Statistics</b>				
Observed variables	Scale average if variable type	Scale variance if variable type	Coefficient of correlation of total variables	Cronbach's Alpha coefficient if variable type
T1	436.36	441.97	.378	0.862
T2	457.15	465.65	.335	0.832
T3	398.46	401.21	.356	0.824
T4	412.64	432.45	.372	0.853
T5	415.36	425.44	.351	0.814
T6	422.42	436.54	.365	0.843
T7	419.16	474.02	.358	0.824
T8	419.35	441.32	.377	0.838

Table 2 results show that Cronbach's Alpha of the scale is 0.878, greater than 0.6; the correlation coefficients of the total variables of the observed variables in the scale are all > 0.3 and there is no case of removing the observed variables that can make Cronbach's Alpha of this scale > 0.878, specifically the 8 variables are: T1, T2, T3, T4, T5, T6, T7, T8. From the above selection, there are 8 observed variables (tests) that are accepted and will be used in the next research steps of the thesis.

***Evaluation of the correlation through 2 tests of tests to evaluate the effectiveness of attacks with the left cup technique for male Hanoi shuttlecock athletes***

The thesis tests the correlation of each test through 2 tests to determine the stability during 2 weeks through the pair correlation coefficient. The results are presented in Table 3:

Table 3. Correlation through 2 tests of tests to evaluate the effectiveness of attacking with left-hand cup technique for male Hanoi shuttlecock athletes (n = 10)

No	Encode	Test	Test results (1st time)		Test results (2nd time)		CORREL
			$\bar{x}$	$\sigma$	$\bar{x}$	$\sigma$	
1.	T1	10 consecutive left shuttlecocks into the 1m box along the left sideline. (fruit in the box)	7.1	0.876	6.9	0.738	0.877
2.	T2	10 consecutive left shuttlecock cup into the 1m box along the right sideline. (fruit in the box)	7.2	0.632	7.1	0.568	0.867
3.	T3	10 consecutive left shuttlecocks into the 1m box running along the middle of the field. (fruit in the box)	6.8	0.789	7	0.667	0.845
4.	T4	From the position of the antenna column, move the right foot to the center of the net to perform 10 consecutive left-hand cups into the 1m square running along the middle of the field. (fruit in the box)	6.6	0.699	6.8	0.789	0.846
5.	T5	From the middle position of the net, move towards the right foot to near the vertical line to perform 10 consecutive left-hand cups into the 1m box running along the middle of the field. (fruit in the box)	7.1	0.738	6.9	0.568	0.822
6.	T6	From the position of the antenna column, move the right foot to near the edge along the opposite side to perform 10 consecutive left-hand cups into the 1m box running along the middle of the field. (fruit in the box)	7.3	0.675	7.4	0.516	0.893
7.	T7	Move forward with the right foot 1 step to perform 10 consecutive left bridge cups into the 1m box running along the middle of the field. (fruit in the box).	7.1	0.876	7.3	0.675	0.884
8.	T8	Move forward 1 step to perform 10 consecutive left-hand cups into the 1m box running along the middle of the field. (fruit in the box).	6.9	0.876	7.1	0.738	0.877

Table 3 shows that the test to evaluate the attack efficiency with the left-hand cup technique for the male Hanoi shuttlecock athletes through 2 tests has  $r > 0.800$  (probability threshold  $P < 0.05$ ). This shows that the retested tests have stability and reliability when used in assessing the effectiveness of attacking with the left-hand cup technique for male Ha Noi shuttlecock athletes.

*The results of the interview on the appropriateness of the tests to evaluate the effectiveness of*

*the left-hand cup technique for male Hanoi shuttlecock athletes:*

The thesis conducted interviews with 26 experts and scientists with a 2-level scale of "Suitable" and "Not suitable" and the convention of selecting tests through 2 interviews 2 weeks apart, reaching over 80%. from the number of interview samples; The results of Wilcoxon's test 2 times of the overall interview show stability, little variation with the probability threshold  $P < 0.05$ . The results are presented in Table 4:

Table 4. Results of 2 interviews (frequency distribution - \$T1\$ Frequencies) of the tests to evaluate the effectiveness of attacking with left-hand cup technique for male Hanoi shuttlecock athletes.

No	Encode	Results of the first interview (n = 26)		Matching percentage	Results of the second interview (n = 26)		Matching percentage
		1	0		1	0	
1	T1	23	3	88.5	24	2	92.3
2	T2	26	0	100.0	26	0	100.0
3	T3	21	5	80.8	22	4	84.6
4	T4	25	1	96.2	25	1	96.2
5	T5	22	4	84.6	22	4	84.6
6	T6	23	3	88.5	24	2	92.3
7	T7	26	0	100.0	26	0	100.0
8	T8	21	5	80.8	21	5	80.8

Note: Convention on rating level: 1 - appropriate; 0 - not suitable.

Table 4 shows that, there are 8/8 tests through 2 interviews that experts, scientists and coaches think are reasonable with the results of selecting each indicator from 80.8% > 80.0%) the level of regulation. determined and judged not to be highly relevant in the practice of assessing

the effectiveness of attacking with left-hand cup technique for male Hanoi shuttlecock athletes.

Next, the thesis conducts Wilcoxon test to ensure the consensus between the two interviews. The test results are presented in Table 5:

Table 5. Wilcoxon test results between 2 interviews to evaluate the effectiveness of attacking with left-hand cup technique for male Hanoi shuttlecock athletes

Test Statistics <sup>b</sup>	2nd Test Interview - 1st Test Interview
Z	-1,732 <sup>b</sup>
Asymp. Sig. (2-tailed)	,083

a. Wilcoxon Signed Ranks Test

b. Based on negative ranks

Assumption H0: The mean values of the two populations are the same.

From the above results, we see that the observed significance level of the test between the two test interviews is sig. = 0.083 > 0.05 (threshold of statistical significance at P = 0.05). Therefore, we accept the hypothesis H0. Conclusion: According to Wilcoxon test, there is a coincidence and stability between the two interviews.

**Evaluation of the correlation between competition performance and tests to evaluate the effectiveness of attack by left-hand cup technique for male Hanoi shuttlecock athletes**

Testing the correlation between competition performance and attacking efficiency tests using the left-hand cup technique for male Hanoi shuttlecock athletes has an important role to play in determining the relationship between the tests and the success. performance of male Hanoi shuttlecock athletes. The results of the 10 Hanoi shuttlecocks are ranked from 1 to 10, and the test results of the 10 athletes are also ranked from 1 to 10. Spearman's hierarchical correlation coefficient is used. to calculate the correlation between competition performance and each test to evaluate the effectiveness of attack with left-hand cup technique for male Hanoi shuttlecock athletes.

Table 6. Correlation between competition performance and tests to assess the effectiveness of attack by left-hand cup technique for male Hanoi shuttlecock athletes (n = 10)

No	Encode	Test	Spearman Correlation	Sig. (2-tailed)
1	T1	10 consecutive left shuttlecocks into the 1m box along the left sideline. (fruit in the box)	.857	.021
2	T2	10 consecutive left shuttlecock cup into the 1m box along the right sideline. (fruit in the box)	.812	.024
3	T3	10 consecutive left shuttlecocks into the 1m box running along the middle of the field. (fruit in the box)	.818	.016
4	T4	From the position of the antenna column, move the right foot to the center of the net to perform 10 consecutive left-hand cups into the 1m box running along the middle of the field. (fruit in the box)	.803	.018
5	T5	From the middle position of the net, move towards the right foot to near the vertical line to perform 10 consecutive left-hand cups into the 1m box running along the middle of the field. (fruit in the box)	.852	.016
6	T6	From the position of the antenna column, move the right foot to near the border along the opposite side to perform 10 consecutive left-ball cups into the 1m box running along the middle of the field. (fruit in the box)	.821	.022
7	T7	Move forward with the right foot 1 step to perform 10 consecutive left bridge cups into the 1m box running along the middle of the field. (fruit in the box).	.821	.024
8	T8	Move forward 1 step to perform 10 consecutive left-hand cups into the 1m box running along the middle of the field. (fruit in the box).	.789	.032

Table 6 shows that the tests to evaluate the effectiveness of attacking with the left-hand cup technique for male Hanoi shuttlecock athletes have a strong correlation with the performance of Hanoi shuttlecock athletes.  $r > 0.789$  (probability threshold  $P < 0.05$ ).

**Developing a standard classification and rating scale for attacking efficiency with the left cup technique for male Hanoi shuttlecock athletes.**

Normally, building a standard classification and rating scale are conducted on the value  $\bar{x}$  and  $\delta$  according

to the  $2\delta$  rule for tests whose units are time and number of times. However, in 8 tests to evaluate the effectiveness of attacking with the left-hand cup technique of the male Hanoi shuttlecock athlete of the thesis, 10 results were required in 1 evaluation test, so the thesis did not proceed to build a rating scale according to the value and that constructs according to 5 classification levels corresponding to 10 results performed in 1 test test. The evaluation scale is still conducted on a 10-point scale, according to the regulations, each result (according to the requirements) is counted as 1 point. The results are presented in Tables 7 and 8:

Table 7. Classification of criteria to evaluate the effectiveness of attacking with left-hand cup technique for male Hanoi shuttlecock athletes

Classify	Good	Rather	Medium	Feebleness	Least
Number of results achieved in 1 test (10 results)	9-10	7-8	5-6	3-4	1-2

Table 8. Scoring scale to evaluate the effectiveness of attacking with left-hand cup technique for male Hanoi shuttlecock athletes

Test	The point									
	10	9	8	7	6	5	4	3	2	1
Number of results achieved in 1 test (10 results)	10	9	8	7	6	5	4	3	2	1

The results of Tables 7 and 8 are very convenient for evaluating the effectiveness of the attack with the left-hand cup technique for the Hanoi men's shuttlecock. In order to classify the attacking level with left-hand cup technique for male Hanoi shuttlecock athletes it is necessary to perform the following steps: Test the effectiveness of the attack with the left-hand cup technique by the prescribed tests ( pay attention to ensure the correct test standards); Compare the athlete's test results with the standard section

corresponding to the level of attack with the left-hand cup technique.

To evaluate the overall effectiveness of attacking with left-hand cup technique for male Hanoi shuttlecock athletes. The maximum score for each test is 10 points. So the Good is 9-10 points; Fair from 7 to close to 9 points; Average is from 5 to close to 7 points, weak from 3 to close to 5 points and poor gets less than 3 points. The summary score is presented in Table 9:

Table 9. Summary scoreboard to evaluate the effectiveness of attacking with left-hand cup technique for male Hanoi shuttlecock athletes

Classify	Good	Rather	Medium	Feebleness	Least
Maximum total score = 80 points	72-80	56-71	40-55	24-39	<24

### 3.2. Assessing the actual situation of attacking with the left-hand cup technique for male Hanoi shuttlecock athletes

Assessing the actual situation of attacking with the left-hand cup technique for male Hanoi shuttlecock athletes, the thesis conducts examination and evaluation according to the prescribed scorecard classification. The results are presented in Table 10.

Table 10. Evaluation of the actual situation of attacking with the left-hand cup technique for male Hanoi shuttlecock athletes

Test	Good		Rather		Medium		Feebleness		Least	
	m <sub>i</sub>	%	m <sub>i</sub>	%	m <sub>i</sub>	%	m <sub>i</sub>	%	m <sub>i</sub>	%
10 consecutive left shuttlecocks into the 1m box along the left sideline. (fruit in the box)	0	0.0	2	20.0	6	60.0	2	20.0	0	0.0
10 consecutive left shuttlecock cup into the 1m box along the right sideline. (fruit in the box)	0	0.0	1	10.0	7	70.0	2	20.0	0	0.0
10 consecutive left shuttlecocks into the 1m box running along the middle of the field. (fruit in the box)	0	0.0	2	20.0	6	60.0	2	20.0	0	0.0
From the position of the antenna column, move the right foot to the center of the net to perform 10 consecutive left-hand cups into the 1m box running along the middle of the field. (fruit in the box)	0	0.0	3	30.0	6	60.0	1	10.0	0	0.0
From the middle position of the net, move towards the right foot to near the vertical line to perform 10 consecutive left-hand cups into the	0	0.0	1	10.0	7	70.0	2	20.0	0	0.0

1m box running along the middle of the field. (fruit in the box)										
From the position of the antenna column, move the right foot to near the border along the opposite side to perform 10 consecutive left-ball cups into the 1m box running along the middle of the field. (fruit in the box)	0	0.0	2	20.0	6	60.0	2	20.0	0	0.0
Move forward with the right foot 1 step to perform 10 consecutive left bridge cups into the 1m box running along the middle of the field. (fruit in the box).	0	0.0	1	10.0	6	60.0	3	30.0	0	0.0
Move forward 1 step to perform 10 consecutive left-hand cups into the 1m box running along the middle of the field. (fruit in the box).	0	0.0	1	10.0	7	70.0	2	20.0	0	0.0

Table 10 shows that the actual situation of attacking with the left-hand cup technique for male Hanoi shuttlecock athletes is concentrated mainly on the average level (with 60-70% of average athletes), while some athletes with weak test results (with 10-30% of low-level athletes). Therefore, it is necessary to have exercises to develop and improve the attacking efficiency of the male Hanoi shuttlecock.

In order to have an objective assessment of the actual situation of attacking with the left-hand cup technique for male Ha Noi shuttlecock athletes, the thesis uses the criteria to assess the actual situation of attacking with the left-hand cup technique for shuttlecock athletes of Hanoi, Bac Giang, Hai Phong, Thanh Hoa and Phu Tho units. The results are presented in Table 11:

Table 11. Actual situation of attacking efficiency with left-hand cup technique for male Hanoi shuttlecock athletes with some other units

Unit name	Classify										Compare			
	Good		Rather		Medium		Feebleness		Least		$\chi^2$ bảng 9,488			
	m <sub>i</sub>	%	m <sub>i</sub>	%	m <sub>i</sub>	%	m <sub>i</sub>	%	m <sub>i</sub>	%	(1-2)	(1-3)	(1-4)	(1-5)
Ha Noi (n=10) (1)	0	0.0	2	20.0	6	60.0	2	20.0	0	0.0				
Bac Giang (n=8) (2)	1	12.5	2	25.0	5	62.5	0	0.00	0	0.0	3.09			
Hai Phong (n=11) (3)	1	9.09	3	27.27	6	54.55	1	9.09	0	0.0		1.53		
Thanh Hoa (n=7) (4)	0	0.00	2	28.58	5	71.43	0	0.0	0	0.0			1.76	
Phu Tho (n=7) (5)	0	0.00	1	14.29	6	85.71	0	0.00	0	0.0				2.33
<b>Compare</b>											<b>P&gt;0.05</b>			

Table 11 shows that compared with Bac Giang, Hai Phong, Thanh Hoa, Phu Tho, the test results of male Hanoi shuttlecock athletes are low in both good, good and average levels. However, when comparing the difference between the evaluation results between the units and Hanoi, there is no

statistically significant difference, shows  $\chi^2_{\text{calculated}} < \chi^2_{\text{tables}}$  at the probability threshold P>0.05.

#### IV. CONCLUSION

Through the interview steps, 8 tests were selected to evaluate the effectiveness of attacking with the left-hand cup

technique for male Hanoi shuttlecock athletes with sufficient reliability after 2 tests, and at the same time determined to have a correlation. closely related to the performance of Hanoi shuttlecock athletes  $r > 0.789$  (probability threshold  $P < 0.05$ ). In which, a summary scoreboard was built for each athlete after testing. On that basis, assessing the actual situation of attacking with left-hand cup technique for male Hanoi shuttlecock athletes is still limited, mainly focusing on the average level.

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