

Research Paper :

## Construction of combined backhand low and flick service test in badminton

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### ABSTRACT

The purpose of the study was to construct and standardize a combined backhand low and flick service test for doubles play in badminton. The subjects were sixty state level male badminton players of Madhya Pradesh, who participated in 36th Madhya Pradesh Inter - District Badminton Tournament and 50th Madhya Pradesh Senior State Badminton Championship held at Indore from 29th August to 3rd September, 1999. The criterion measure was the ranking of the players based on round the year performance assigned unanimously by three badminton experts. The findings of the study indicated that the constructed combined backhand low and flick service test in badminton was found to be reliable, ( $r=0.977$ ) and objective ( $r=0.9341$ ). The constructed combined backhand low and flick service test was found to be valid ( $r=0.931$ ) as the test scores correlated significantly with the ranking of the players based on round the year performance assigned unanimously by three badminton experts. Further the differential validity was found when the scores of National, State and District level badminton players were compared with the test and the F value of 39.21 was found to be significant.

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**Key words :** Flick service, Backhand low service, Differential validity

A beginning badminton player needs to learn the basic shots that are useful in a game of singles or doubles, as well as the stroking techniques employed to produce these shots. In preparation for this, it is also necessary to acquire some associated skills that accompany a good stroking technique. Before attempting stroking techniques, one must learn prerequisite skills of effective stroke production.

The purpose of the study was to construct and standardize a combined backhand low and flick service test for doubles play in badminton.

### METHODOLOGY

The subjects were sixty state level male badminton players of Madhya Pradesh, who participated in 36th Madhya Pradesh Inter - District Badminton Tournament and 50th Madhya Pradesh Senior State Badminton Championship held at Indore from 29th August to 3rd September, 1999. The criterion measure was the ranking of the players based on round the year performance assigned unanimously by three badminton experts.

The purpose of the proposed test was to evaluate a player's ability to successfully execute combined backhand low and flick service for doubles play in badminton.

The equipments required for this test included a regulation court, 10 new shuttlecocks, score sheet, a racket

and a wooden stand 10 feet and 7 ½ inches high with a wooden bar 6.10 meters in length parallel to the floor and attached on top of it 3.05 meters on either sides. Two green and red bulbs of 100 watts fixed to the stand at a height of 5 feet and 7 ½ inches. The wooden stand was placed on the centerline at a distance of 6 inches from the short service line. Two cords were strung tightly, first 1 foot above and parallel to the net and second 1 foot above and parallel to the first cord. A restraining line 4 feet in length and 2 feet from the short service line towards the back boundary line and parallel to it was marked as shown. In addition, four lines were drawn across the court, 6 inches apart from each other, from the short service line towards the back boundary line, and four more lines, 6 inches apart from each other, from the long service line for doubles towards the short service line.

Sufficient practice trials were given to the subjects before administering the test. Three trials of 10 services (05 from each right and left service court) were given to each subject. Subjects served seven (7) backhand low and three (3) backhand flick serves. If red bulb glows, subject served backhand low service and if green, subject served backhand flick service. Subject served within 3 seconds after glowing of the bulb. Scorers stood in the non-playing court.

A backhand low or flick service passing between the net and the first cord scored as 5 points; between

first and second cord 3 points; over the top cord 1 point. A backhand low or flick service passing over the net and landing in the area A, B, C, D or E was awarded 5, 4, 3, 2 or 1 points respectively.

Any shuttle falling on the base of the wooden stand was given the point value, which is marked, on the floor. The score for each service was the sum of the net and floor scores. The score was awarded according to the point where the base of the shuttle struck the floor. Illegal serves were counted and were awarded zero (0) points. Any shuttle deflected by any of the cords above the net was considered a let. The score was the number of legal services falling on or within the target in three trials. Higher points were awarded if the shuttle landed on the line. The backhand flick service was awarded zero points if the shuttle passed below the 10 feet 7 inches wooden stand. Any service was awarded zero points if it landed out, short or back of the court. The best of the three trials constituted the score of the subject.

## OBSERVATIONS AND DISCUSSION

Test - retest method was used to establish the reliability and objectivity of the test. All the subjects were given five trials and inter class correlation coefficients by analysis of variance method was employed to compute the reliability of the combined backhand low and flick service test. Analysis of data pertaining to this has been presented in Table 1 and 2.

It is evident from Table 1 that the F - ratio for trials by the same tester was insignificant, as the calculated F-value of 2.354 is less than the tabulated F-value required to be significant as 2.41, so the variance for trials was included with the error variance and Reliability was computed to be 0.977, which is significant at 0.05 level, because the required value of significance with 58

degrees of freedom is 0.250.

It is evident from Table 2, that the F-Ratio for five trials separately by different testers or experts was insignificant, as the calculated F-value of 2.147 is less than the tabulated F-value required to be significant as 2.41, so the variance for trials was included with the error variance and objectivity was computed to be 0.934, which is significant at 0.05 level, because the required value of significance with 58 degrees of freedom is 0.250.

The correlation of the test and the criterion variable has been presented in Table 3.

Table 3 indicates that there is significant relationship between independent variables and the criterion. Therefore, it is evident that combined backhand low and flick service test scores were highly related to the criterion.

The second purpose of the study was to develop norms to measure the combined backhand low and flick service test in badminton. The T - scale norms, on the basis of raw scores for the felicitation of coaches and physical education teachers has been presented in Table 4.

The findings of the study indicated that the constructed combined backhand low and flick service test in badminton was found to be reliable, ( $r = 0.977$ ) and objective ( $r = 0.934$ ). The significant values showed that the directions for the administration of the test *i.e.* combined backhand low and flick service test were specific and clear for the performance as well as evaluation.

The constructed combined backhand low and flick service test was found to be valid ( $r = 0.931$ ) as the test scores correlated significantly with the ranking of the players based on round the year performance assigned unanimously by three badminton experts.

**Table 1 : Analysis of variance for reliability of combined backhand low and flick service test**

Source of variation	Sum of squares	Degree of freedom	Mean square	F-ratio	R
Subjects	35144.597	59	595.671		
Trials	128.747	4	32.187	2.354*	0.977**
Interaction	3227.253	236	13.675		

\*Insignificant at .05 level  $F_{0.05}(236, 4) = 2.41$

\*\*Significant at 0.05 Level  $r_{0.05}(58) = 0.250$

**Table 2 : Analysis of variance for objectivity of combined backhand low and flick service test**

Source of variation	Sum of squares	Degree of freedom	Mean square	F-ratio	R
Subjects	22957.797	59	389.115		
Trials	220.380	4	55.095	2.147*	0.934**
Interaction	6055.220	236	25.658		

\*Insignificant at .05 level  $F_{0.05}(236, 4) = 2.41$

\*\*Significant at 0.05 Level  $r_{0.05}(58) = 0.250$

**Table 3 : Relationship of the test to the criterion**

Sr. No.	Variables correlated	Correlation coefficient 'r'
1.	Combined backhand low and flick service test scores v/s ranking of the players	-0.931*

\*significant at 0.5 level

 $r_{0.05}(58) = 0.250$ **Table 4 : T-scale norms for combined backhand low and flick service test in Badminton**

T scale	Value	Score
100	70.77	71
90	64.72	65
80	58.367	59
70	52.62	53
60	46.57	47
50	40.52	41
40	34.47	34
30	28.42	28
20	22.37	22
10	16.32	16

N = 500  $\mu = 40.52$   $\sigma = 6.05$  Min = 30.0 Max = 67.0

Further the differential validity was found when the scores of National, State and District level badminton players were compared with the test and the F value of 39.21 was found to be significant.

Hence the combined backhand low and flick service test was found to be reliable, objective and valid for the evaluation of the badminton players.

### Conclusion:

– The prepared combined backhand low and flick service test was significantly related to the ranking of the players based on round the year performance assigned unanimously by three badminton experts.

– The developed combined backhand low and flick service test met the criterion of scientific authenticity *i.e.* the test was reliable, objective and valid.

– The combined backhand low and flick service test developed by the researcher has the ability to assess badminton players.

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### REFERENCES

- Bloss, Margaret Varner and Hales, R. (1987).** *Stanton Badminton* 5th Ed. IOWA: Wm. C. Brown Publishers.
- Hashman, Judy and Jones, C. M. (1977).** *Beginning Badminton* New York: Arco Publishing Company, Inc.
- Roper, Peter (1987).** *Badminton: The Skills of the Game* Wiltshire: The Crowood Press.
- Rogers, Wynn (1970).** *Advanced Badminton* IOWA: Wm. C. Brown Publishers.

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