INVESTIGATION OF SPEED OF MOVEMENT BETWEEN WICKET-KEEPER, BOWLER AND BATSMAN

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Abstract

Purpose of this study was to find out the difference of Speed of Movement between Wicket-Keeper, Bowler and Batsman. The sample (viz., N=33) for the contemporary study is categorized into the following groups: Group-A: Wicket-Keeper (n_1=11); Group-B: Bowler (n_2=11) and Group-C: Batsman (n_3=11). The Nelson Speed of Movement Test was used to measure Speed of Movement. Convenience sampling were utilized for the purpose of this study. To compare the sample on the basis of "Speed of Movement", Analysis of Variance (ANOVA) was employed. The results states that the f-ratio value is 0.44065. The p-value is .647718. The result is not significant at $p < .05$.

Keywords: *Wicket-Keeper, Bowler, Batsman, Speed of Movement.*

INTRODUCTION

Technical mastery of skills is essential to achieving the necessary aesthetic competence during dance performance. Since the body is the instrument of the dancer's expression, it has been suggested that aspects of performance could benefit from enhanced physiological capabilities, such as muscular strength and power.[1,2] This is the case in other aesthetics-based activities, where the artistic qualities and performance efficiency improve with enhanced physiological capabilities.[3,4] In elite rhythmic gymnasts, for example, basic aspects of performance (such as jumps and leaps) are influenced by strength, power, endurance, and flexibility,4 while general performance efficiency is associated with rhythmic coordination.[5,6] Studies have revealed that in gymnastics specific adaptations, such as dynamic and static balance, are attained with training [7]. This, in turn, can significantly affect the overall performance.

SAMPLE

The sample (viz., N=33) for the contemporary study is categorized into the following groups: -

- Group-A: Wicket-Keeper (n_1=11)
- Group-B: Bowler (n_2=11)
- Group-C: Batsman (n_3=11)

INCLUSION AND EXCLUSION CRITERIA

Inclusion Criteria	Exclusion Criteria
Cricketers between the age group of 18-25.	Cricketers > 17 and < 26
Only male Cricketers were included.	Any acute or chronic physical disease that would limit the ability of the players to participate in the study.
Speed of Movement	

MATERIAL AND METHODS

Speed of Movement (The Nelson Speed of Movement Test)

The subject sits at a table with his hands resting on the edge of the table. The palms are facing one another with the inside border of the little fingers along two lines which are marked on the edge of the table 12 inches apart the tester holds the timer near its top so that it hangs midway between the subject's palms. The score for the combined response movement is read from the timer at the point just above the upper edge of the

hand after the catch. The average of the middle ten trials, after the slowest and fastest five trials have been discarded, is recorded.

STATISTICS

To compare the sample (viz., N=33; Group-A: Wicket-Keeper (n_1=11); Group-B: Bowler (n_2=11) and Group-C: Batsman (n_3=11) on the basis of "Speed of Movement", Analysis of Variance (ANOVA) was employed.

RESULTS

Table-1: Summary of Data and Result Details of One-Way ANOVA with respect to factor "Speed of Movement" between "Wicket-Keeper", "Bowler" and "Batsman".

	Wicket-Keeper		Bowler	Batsman	Total
N	11		11	11	33
$\sum X$	59		67	64	190
Mean	5.3636		6.0909	5.8182	5.758
$\sum X^2$	349		433	416	1198
Std.Dev.	1.804		1.5783	2.0889	1.8033
Source	**SS**	**df**	**MS**		
Between-treatments	2.9697	2	1.4848	$F = 0.44065$	
Within-treatments	101.0909	30	3.3697		
Total	104.0606	32			

The Summary of Data and Result Details of One-Way ANOVA with respect to factor "**Speed of Movement**" Wicket-Keeper", "Bowler" and "Batsman" are cited above. Further, the results states that the f-ratio value is 0.44065. The p-value is .647718. The result is not significant at $p < .05$.
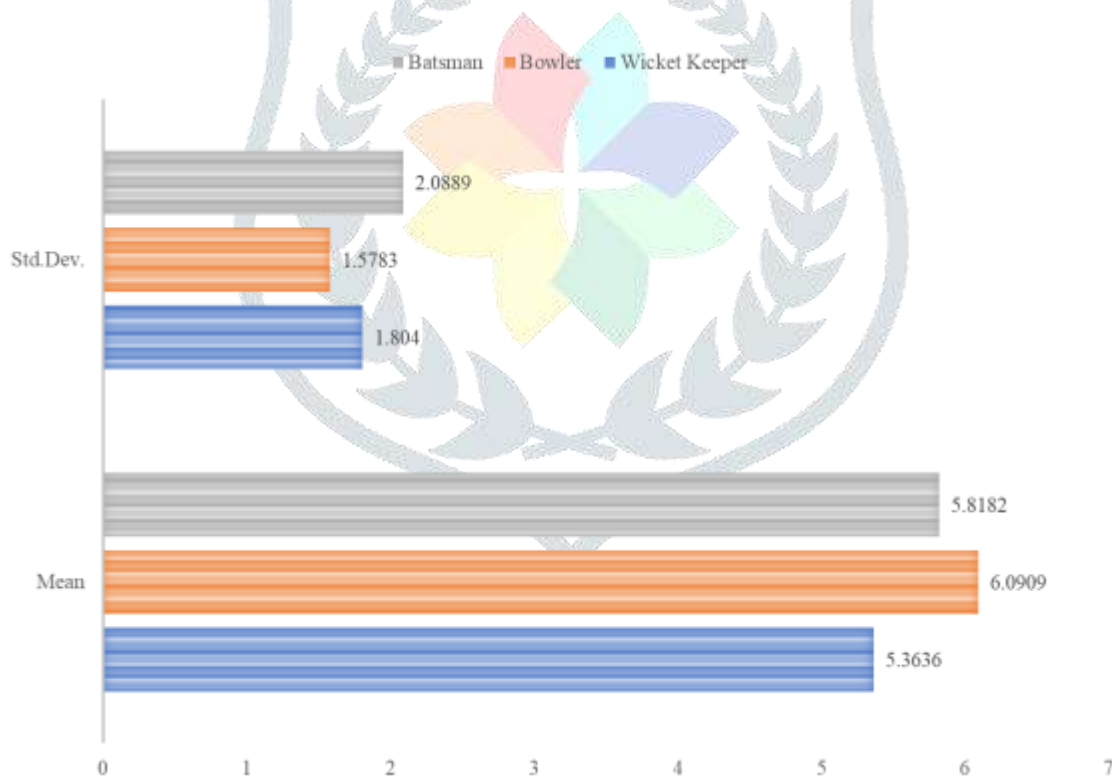

Figure-1: The comparison of "Wicket-Keeper", "Bowler" and "Batsman" with respect to factor "Speed of Movement".

Table-2: Summary of Data and Result Details of The Tukey's HSD (honestly significant difference) with respect to factor "Speed of Movement" between "Wicket-Keeper", "Bowler" and "Batsman".

Pairwise Comparisons		$HSD_{.05} = 1.9296$ $HSD_{.01} = 2.4657$	$Q_{.05} = 3.4864$ $\quad Q_{.01} = 4.4549$
$T_1:T_2$	$M_1 = 5.36$ $M_2 = 6.09$	0.73	$T_1:T_2$
$T_1:T_3$	$M_1 = 5.36$ $M_3 = 5.82$	0.45	$T_1:T_3$
$T_2:T_3$	$M_2 = 6.09$ $M_3 = 5.82$	0.27	$T_2:T_3$

CONCLUSIONS

- **Speed of Movement:** The f-ratio value is 0.44065. The p-value is .647718. The result is not significant at $p < .05$.

References:

1. Koutedakis Y, Hukam H, Metsios G. (2007). The effects of three months of aerobic and strength training on selected performance and fitness related parameters in modern dance students. *J Strength Cond Res*, 21(3), 808-12.
2. Brown AC, Wells TJ, Schade ML. (2007). The effects of plyometric training versus traditional weight training on strength, power and aesthetic jumping ability in female collegiate dancers. *J Dance Med Sci*, 11(2), 38-44.
3. Alexander MJL. (1989). The physiological characteristics of elite rhythmic sportive gymnasts. *J Hum Movement Studies*, 17, 49-69
4. Hume PA, Hopkins WG, Robinson DM (1993). The predictor of attainment in rhythmic sportive gymnastics. *J Sports Med Phys Fitness*, 33(5), 367-77.
5. Kiourmourtzoglou E, Derri V, Mertzanidou O, Tzetzis G. (1997) Experience with perceptual and motor skills in rhythmic gymnastics. *Percept Mot Skills*, 84(6), 1363-72.
6. Miletic D, Shroj LJ, Bonacin D. (1998). Influence of initial status of motor abilities on learning rhythmic gymnastics routines. *Kinesiology*, 30(2), 66-75.
7. Bressel E, Yonker JC, Kras J, Heath EM. (2007). Comparison of static and dynamic balance in female collegiate soccer, basketball, and gymnastics athletes. *J Athl Train*, 42(1), 42- 6.