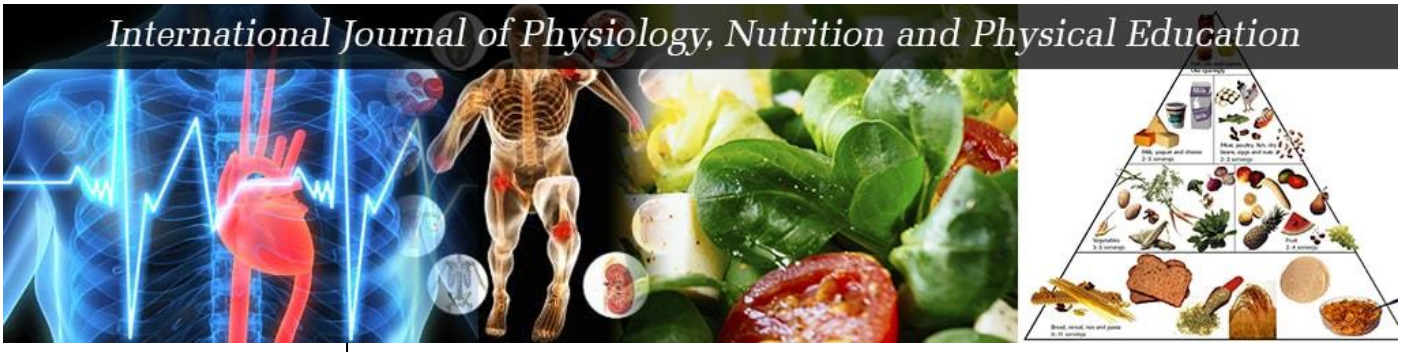

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Study of agility and speed of wicket-keeper, bowler and batsman

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Abstract
Purpose of this study was to find out the difference of Agility and Speed between Wicket-Keeper, Bowler and Batsman. The sample (*viz*., N=66) for the current study is branded into the subsequent groups: Group-A: Wicket-Keeper (n_1=22), Group-B: Bowler (n_2=22) and Group-C: Batsman (n_3=22). An independent samples t test was used to analyze. In all the analyses, the 5% critical level ($p \leq 0.05$) was considered to indicate statistical significance. The factor "Agility" between "Wicket-Keeper", "Bowler" and "Batsman" test statistic F equals 1.162639, is in the 95% critical value accepted range: [-∞: 3.1428]. There is no significant difference between the means of any pair and the factor "Speed" between "Wicket-Keeper", "Bowler" and "Batsman" test statistic F equals 2.415490, is in the 95% critical value accepted range: [∞: 3.1428]. There is no significant difference between the means of any pair.

Keywords: wicket-keeper, bowler, batsman, speed, agility

Introduction
Engagement in physical activity and being physically fit, defined as aerobic capacity (VO2max), have been inversely associated with morbidity and premature mortality. Diseases that exhibit this relationship include, but are not limited to, coronary heart disease [1, 2, 3, 4] some cancers [5, 6] non-insulin-dependent diabetes, osteoporosis and risk of fractures, and mental health problems such as depression [4, 2]. In addition to the inverse relationship shown between physical activity and the risk for the diseases listed above, physical activity and exercise have been shown to have protective effects against common risk factors. High blood pressure, high cholesterol, and cigarette smoking are the most commonly known risk factors; however, physical inactivity is now recognized as an equally important modifiable risk factor [4, 5] and physical fitness is shown to be protective even in the face of common risk factors [1].

Material and Methods
Agility (20 Yard Agility Run Test)
- **Purpose:** To measure an athlete's ability to accelerate, decelerate and change direction.
- **Equipment Required:** Stopwatch, Tape Measure, Non-Slip Running Surface, Cone Markers.
- **Procedure:** Set up three marker cones in a straight line, exactly five yards apart - cones B, A (center) and C. At each cone place a line across using marking tape. The timer is positioned at the level of the center A cone, facing the athlete. The athlete straddles the center cone A with feet an equal distance apart and parallel to the line of cones. When ready, the athlete runs to cone B (touching the line with either foot), turns and accelerates to cone C (touching the line), and finishes by accelerating through the line at cone A. The stopwatch is started on the first movement of the athlete and stops the watch when the athlete's torso crosses the center line.
- **Scoring**: Record the best time of two trials.

Speed (50 Meter Dash)
- **Purpose:** The aim of this test is to determine acceleration and speed.
- **Equipment Required:** Measuring tape or marked track, stopwatch, cone markers, flat and clear surface of at least 70 meters.

- **Procedure:** The test involves running a single maximum sprint over 50 meters, with the time recorded. A thorough warm up should be given, including some practice starts and accelerations. Start from a stationary standing position (hands cannot touch the ground), with one foot in front of the other.
- **Scoring**: Two trials are allowed, and the best time is recorded to the nearest two decimal places.

Sample

The sample (*viz*., N=66) for the current study is branded into the subsequent groups:

- Group-A: Wicket-Keeper (n_1=22)
- Group-B: Bowler (n_2=22)
- Group-C: Batsman (n_3=22)

Statistics

The researcher used Statistical Package for the Social Sciences (SPSS) to compute the data of this study. An independent samples *t* test was used to analyze. In all the analyses, the 5% critical level ($p \leq 0.05$) was considered to indicate statistical significance.

Results

Agility

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

	Wicket-Keeper	Bowler	Batsman	Total	
N	22	22	22	66	
∑X	156.6	157.32	160.72	474.64	
Mean	7.1182	7.1509	7.3055	7.192	
$\sum X^2$	1116.5118	1127.0704	1182.1652	3425.7474	
Std. Dev.	0.2931	0.3154	0.6185	0.4362	
Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Groups (between groups)	2	0.440196	0.220098	1.162639	0.319277
Error (within groups)	63	11.926462	0.189309		
Total	65	12.366657	0.190256		

Table-1 indicates the test statistic F equals 1.162639, is in the 95% critical value accepted range: [-∞: 3.1428]. There is no significant difference between the means of any pair.

Speed

Table 2: Summary of Data and Result Details of One-Way ANOVA with respect to factor "Speed" between "Wicket-Keeper", "Bowler" and "Batsman"

	Wicket-Keeper	Bowler	Batsman	Total	
N	22	22	22	66	
∑X	212.44	211.47	219.2	643.11	
Mean	9.6564	9.6123	9.9636	9.744	
$\sum X^2$	2053.9032	2035.7099	2199.5428	6289.1559	
Std. Dev.	0.3454	0.3781	0.8595	0.5901	
Source	DF	Sum of Square	Mean Square	F Statistic	P-value
Groups (between groups)	2	1.611984	0.805992	2.415490	0.0975534
Error (within groups)	63	21.021616	0.333676		
Total	65	22.633601	0.348209		

Table-2 indicates the test statistic F equals 2.415490, is in the 95% critical value accepted range: [∞: 3.1428]. There is no significant difference between the means of any pair.

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