

To Investigate the Performance Difference of Leg Playing Ability on Two Different Playing Surfaces among Men Intercollegiate Kabaddi Players of Jammu University

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ABSTRACT

This study investigates the performance difference of leg playing ability on two different playing surfaces mat and ground among men intercollegiate Kabaddi players of Jammu University. Using a sample of 15 players, the study employed a descriptive research design and used an on-the-spot bonus test to assess performance. Results indicated no significant difference in leg playing ability across the two surfaces with only a small effect size. These findings suggest that surface type does not substantially affect performance. The study emphasizes the importance of further research with larger sample sizes and controlled variables to explore underlying factors.

Keywords: Leg Playing Ability, Jammu University, Kabaddi Etc.

INTRODUCTION

The word **KABADDI** is established from the word **KAUNBADA** which means a challenge to the opponent who is more powerful. Kabaddi is a traditional indigenous game which is originated from country India. Game kabaddi covers in combative sports which included direct physical contacts in it between opponents while playing this. It is a historical contact sports which plays in different ways and types. The famous type of kabaddi is national style kabaddi also known as Suranjeevi. Suranjeevi style of kabaddi is the most famous at national and international level especially in regions of south Asia. Kabaddi grows day to day in this period; it also plays in some regions of Africa. Kabaddi is not just a sport it is also a cultural event in many regions which is correlated with rural traditions and community forums. The national sports are governed by AKFI (armature kabaddi federation of India) established in 1973 and internationally sport is governed by international kabaddi federation (IKF) established in 2004.

Fundamental Skills:

Offensive Skills: Hand touch, Toe touch, Kicking, Cross the bonus line, etc.

Defensive skill: Ankle holds, Blocking, Wrist hold, Thigh hold, Back hold, Dive and catch, Chain Catch etc.

Leg playing ability: Leg playing ability is an ability of the leg to perform different kind of raiding skills by players in kabaddi. As per the R. JAGATHESAN, leg playing ability is a name of the factor of a kabaddi skill test under which two skill test batteries are comes under i.e. ON THE SPOT BONUS and ANKLE HOLD.

Playing surface and sports performance: Athletes performance can be significantly influenced by the surfaces they run on. Therefore, improving athletic performance is one of the key considerations while building sports surfaces. It has been shown that a great deal of practice is necessary to acquire skills on various playing surfaces. The subjects perform sports on a variety of surfaces, including asphalt, hardwood parquet, and natural grass. In addition, artificial surfaces for sports and leisure have been produced. It has been proposed that a sport surface's primary ability to store and return energy is what influences athletic performance. An athlete may execute the same exercise more effectively if they can reuse some of the energy, they need for every step, stride, jump, landing, etc. through return of energy from the surface. To put it another way, one may accomplish a certain physical task with less energy, allowing him to continue for a longer amount of time. The ability to execute different game-specific motor skills or fundamental abilities depends on the characteristics of the playing surface. The dynamics and mechanics of movement are affected differently by various surface characteristics. Sports performance is influenced by these surfaces' characteristics. Despite being the hardest on the body and more likely to cause damage, the hard surface is better for getting the best outcomes. As the foot hits the ground generates strong ground reaction forces that send shockwaves through the body. On hard surfaces, the heel area experienced higher maximum force, peak, and mean pressure as well as a higher frictional coefficient, which increased speed but increased the

risk of injury. PVC, soft clay, and turf are examples of soft surfaces that are easy on contact and allow for more fluid foot rolling, which results in more evenly distributed force and pressure readings. Longer sliding motion or contact duration on the soft surface is correlated with a lower frictional coefficient.

Objectives of the study

To find out the performance difference of leg playing ability on ground and mat among men intercollegiate kabaddi team of Jammu university.

Hypothesis of the Study

H₀: There is no significant difference in the performance of leg playing ability on two different playing surfaces, mat and ground.

Method and Procedure

The procedure will be adopted by investigator include the design of the study, selection of subjects, selection of variables, criterion measure, collection of data, procedure for administration of the tests and statistical procedure to be employed are described.

Design of the Study

The present study is descriptive research design will be used to measure the various objectives of the study. The main objective of the study is to investigate the performance difference of leg playing ability on playing surface ground and mat among men intercollegiate kabaddi team of Jammu university. Test item named as **on the spot bonus** to check the leg playing ability is selected from the R. JAGATHESAN skill test battery for kabaddi players to conduct the study and the reliability of test is 0.92 at 0.05 significant level.

Selection of Subjects

The subjects selected for study consisted of 15 students having kabaddi game specialization and age between 20 to 25 (>25). Out of which 08 students from b.p. ed 1st and 07 students from b.p. ed 2nd year pursuing their degrees under the pg. department of physical education and sports of Jammu university. These students were selected randomly for sample in the trials of intercollegiate kabaddi tournament of Jammu university.

Selection of Variables

For this study, following variable is selected
Leg playing ability

CRITERION MEASURES

The criterion measure selected for examine the leg playing ability is: Leg playing ability will be measured with on-the-spot bonus and score will be recorded as the total number of the touches by the player within 30 seconds.

ADMINISTRATION OF TEST ITEMS

On the spot bonus

Purpose: The test was designed to assess a kabaddi player's proficiency in executing the spot bonus.

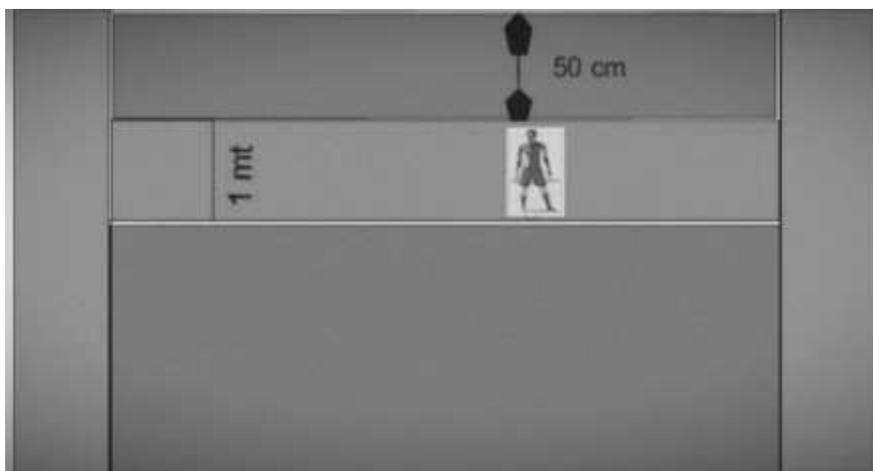
Facility Required: A half kabaddi court both on mat and ground.

Equipment Required: Measuring tape, stop watch, marking powder, marking tape, whistle and score sheet

Marking: A half size kabaddi court was essential. A foot mark near inside the bulk line was marked. Two-foot marks were marked in bonus area at 50cms gap between two marks. One mark is marked near the bonus line and another one is marked away from the bonus line.

Procedure: The player was asked to stand on the marking on the bulk line. On the signal player was asked to move the leg as per their choice i.e. left/right and touch the marked area in the bonus line alternatively up to 30 seconds.

Scoring: The total number of the touches by the player was considered as score. Three chances are given to each subject to perform the test. The best score out of three trials was considered as final score.



RESULT, DATA INTERPRETATION, AND DISCUSSION

Table 1: Group Statistics

	Playing surface	No. of students	Mean	Standard deviation	Std. error mean
Performance	1	15	55.60	10.927	2.821
	2	15	53.27	11.517	2.974

Table 1 presents the descriptive statistics for student performance on two different playing surfaces: Ground and mat **where, surface (1) = mat surface, surface (2) = ground surface**. Each group consisted of 15 students. The mean performance score for the mat surface was 55.60 with standard deviation of 10.927, while the ground surface had a mean of 53.27 and a standard deviation of 11.517. The standard error of the mean was 2.821 and 2.974 respectively. The graphical representation of the above table has been given below in figure 1.

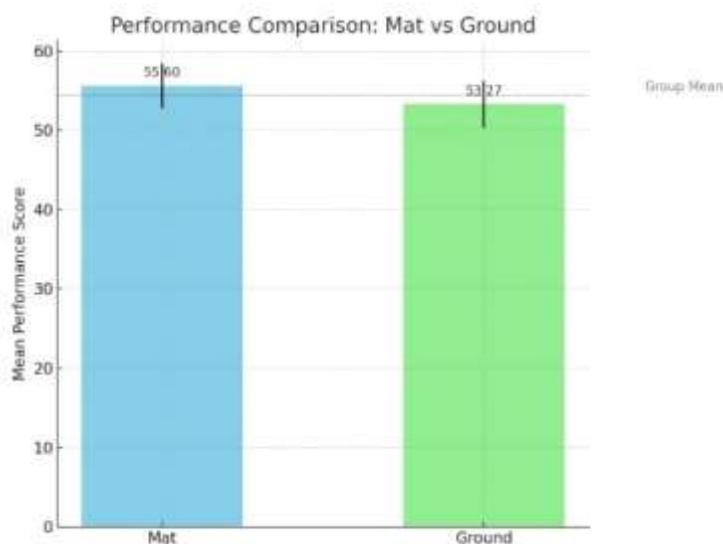


Figure 1: Bar Chart Comparing The Performance Means Of The Two Playing Surfaces, With Error Bars Representing Standard Deviations

Table 2: Independent sample test

		Levene's test for equality of variance		T – test for equality of means				
		f	Sig.	t	df	Sig. (2 tailed)	Mean difference	Std. error difference
Performance	Equal variance assumed	.220	.643	.569	28	.574	2.333	4.099
	Equal variance not assumed			.569	27.923	.574	2.333	4.099

Table 2 presents an independent sample t-test was conducted to determine if there was a significant difference in performance between the two surfaces. Levene's test for equality of variance indicated no significant difference $f = .220$, $p = .643$ suggesting equal variance can be assumed. The t-test results showed no statistically significant difference in performance between mat and ground. Where, $t\text{-value} = .569$ and degree of freedom = 28 which represents $p = .574 (> 0.05)$.

DISCUSSION OF FINDINGS AND CONCLUSION

Although the mean performance score was slightly higher on the mat surface compare to the ground, the difference was not statistically significant. Effect size is small, indicating that any observed difference is minimal. The result suggested that while there is some variation in mean scores, they do not reach statistical significance. Therefore, H_0 Hypothesis is accepted, as no significant difference was found in performance between playing surfaces.

CONCLUSION

The study suggests that playing surface does not significantly impact performance. The observed differences were minor, and the effect sizes suggest that any practical impact would be limited. Future research could focus on a larger sample size or additional variables that may influence performance. However, the playing surface does not significantly influence performance in this study.

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