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Video analysis on skill performance of selected national Pro Kabaddi matches

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Abstract

Sport plays a very prominent role in the modern society. It is important to individuals, a group, a nation and indeed the world. Throughout the world, sport has a popular appeal among people of all ages and both sexes. The Pro Kabaddi League was first held in 2014; its founder, Charu Sharma, in pro-Kabaddi Indian and foreign player are played together in a team and 25 players and featured in a squad. Since its inception in 2014, the Pro Kabaddi League has essayed its role as a feeder for Indian Kabaddi and has laid out a platform for some of the best talent all across the country to showcase their talent and even carve out a career for them "Video Analysis on Skill Performance of Selected National Pro Kabaddi Matches". One forty four National level Pro Kabaddi male players were selected as subject for this study the subjects were selected from U Mumba, Jaipur Pink Panthers, Bangluru Bulls, Puneri Paltan, Dabang Delhi, Telugu Titans, Bengal Warriors, Patna Pirates, Haryana Steelers, U.P. Yodha, Tamil Thalaivas and Gujarat Fortune giantsteams. The captured video was uploaded in a desktop computer to measure the selected variables. The desktop computer with Windows 8 OS, i5 processor, 2 GB RAM and 500 GB hard disk was used to analyze the data. The KINOVEA software version 0.8.15 was installed and the captured videos were analyzed by frame using tools available in the software. Kabaddi offensive and Defensive skills variables namely Hand Touch, Toe Touch, Squat thrust, Dubki, Lain Jump, Side Kick, Rolling, Back Kick and Bonus (offensive skills) and Defensive skills are Tackle, Block, Chain Tackle, Waist Hold, Ankle Hold, and Thigh hold, Diving Ankle Hold and Dash. Hypothesis is proved that the different skills are used by the players to score the points, all techniques are its own importance and have a highly dominant in the game.

Keywords: Skill performance, selected national Pro Kabaddi matches

Introduction

Kabaddi is basically an Indian game, which requires both skill and power, and combines the characteristics of wrestling and rugby. Kabaddi is aptly known as the "Game of the Masses" due to its popularity, simple, easy to comprehend rules, and public appeal. The game calls for no sophisticated equipment what so ever, which makes it a very popular sport in the developing countries. Though it is basically an outdoor sport played on clay court, of late the game is being played on synthetic surface indoors with great success. The duration of the game is 45 minutes for men & junior boys with a 5 minute break in between for the teams to change sides. In the case of women & sub junior boys, the duration is 35 minutes with a 5 minute break in between.

The Pro Kabaddi League was first held in 2014; its founder, Charu Sharma, was influenced by the popularity of the Kabaddi tournament at the 2006 Asian Games, which utilized an indoor version of the game played on a court. Sharma cited the Indian Premier League as an influence on the overall formatting of the competition, noting that "mere sport works well [in India], but if you package it better, it works better." The PKL uses a franchise-based model; the league began with eight teams, each of which having paid fees of up to US\$250,000 to join. There were doubts over whether the PKL would be successful, noting that there were many leagues attempting to emulate the IPL's business model and success, and that unlike cricket, there were relatively fewer well-known players in Kabaddi. However, it was also noted that Kabaddi was widely played in grassroots community settings, and could thus attract a wide variety of rural and metropolitan viewers for advertisers to target if the league gained significant traction. The inaugural season was seen by a total of 435 million viewers, placing it just behind the total-

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season viewership of the 2014 Indian Premier League season, while the inaugural championship was seen by 86.4 million viewers. Star Sports, the PKL's broadcaster, subsequently announced in 2015 that it would acquire a 74% stake in the league's parent company Marshal Sports. For the 2017 season, the PKL added four new teams, and changed its format to split the teams into two divisions known as "zones."

Statement of the Problem

The purpose of the study was to find out the "Video Analysis on Skill Performance of Selected Pro Kabaddi Matches".

Hypothesis.

1. It was hypothesis that there is significant difference in the Video Analysis on skill Performance of Selected Pro Kabaddi Matches.
2. It was hypothesis that there is significant difference in the offensive and defensive Skills Performance among Pro Kabaddi players of various teams.

Review of related literature

Daniel J. M. Buck, Jasmin C. Hutchinson, Christa R. Winter & Brian A. Thompson (2016) designed to assess the effectiveness of mental imagery supplemented with video-modeling on self-efficacy and front squat strength (three repetition maximum; 3RM). Subjects (13 male, 7 female) who had at least 6 months of front squat experience were assigned to either an experimental (n = 10) or a control (n = 10) group. Subjects' 3RM and self-efficacy for the 3RM were measured at baseline.

Majdi Bouazizi¹, Fairouz Azaiez & Driss Boudhiba. (May-June, 2014) analyzed the effects of learning through video modeling combined of sessions of physical education on gymnastic performance among Tunisian students in the second year of secondary level. Our study was conducted on a sample of 103 subjects (16, 95 0, 9 years) divided into two independent groups (experimental and control). The experimental group was subjected to a cycle of video modeling with explanations and verbal representations of gymnastic skills combined with sessions of physical education gymnastics, while the second group was practiced gymnastics with the usual conditions in the physical education sessions. Measures of performances were taken before and after the experiment.

Cetin, Ozdemir, and Ozdol (2014) conducted a study to examine the last four strides of athlete's who had two different long jump performances. Twenty male long jumpers long jump performances were recorded two video cameras (50 Hz). Differences the lengths of last four strides, velocity of centre of gravity (CG) which was formed during the last four strides in two groups were investigated. It was determine significant differences the lengths of last four strides; the height of the athlete's CG during the last four step (except the last step); the fourth to last stride velocity between two group-I and group-II ($p < .05$).

Methodology

Selection of subjects

The purpose of the study was to find out the "Video Analysis on Skill Performance of Selected National Pro Kabaddi Matches". One forty four National level Pro Kabaddi male players were selected as subject for this study the subjects were selected from U Mumba, Jaipur Pink Panthers, Bengaluru Bulls, Puneri Paltan, Dabang Delhi, Telugu Titans,

Bengal Warriors, Patna Pirates, Haryana Steelers, U.P. Yodha, Tamil Thalaivas and Gujarat Fortune giantsteams The age level of the subjects ranged from 20 to 40 years.

Selection of variables

The research scholar went through the scientific literature pertaining to the Video analysis of skill Performance of Selected National Pro Kabaddi Matches different sources and also consulted the experts in these areas. Along with the said literature and expert opinion, the administrative feasibility in terms of availability of instruments and expertise measuring and recording of data was also given due consideration while selecting Kabaddi offensive and Defensive Skills and season wise matches Performance, Hence, the following variables were selected for this study:

Independent Variables

Offensive Skills

Hand Touch, Toe Touch, Squat thrust, Dubki. Lain Jump, Side Kick, Rolling. Back Kick and Bonus (offensive skills) and

Defensive skills

Are Tackle, Block, Chain Tackle, Waist Hold, Ankle Hold, and Thigh hold, Diving Ankle Hold and Dash.

Dependent Variable

Pro Kabaddi season wise Selected Matches Skill Performance

Seasons one to Sixth Seasons Selected teams

U Mumba, Jaipur Pink Panthers, Bangluru Bulls, Puneri Paltan, Dabang Delhi, Telugu Titans, Bengal Warriors, Patna Pirates, Haryana Steelers, U.P. Yodha, Tamil Thalaivas and Gujarat Fortune giants.

Collection of data

The captured video was uploaded in a desktop computer to measure the selected variables. The desktop computer with Windows 8 OS, i5 processor, 2 GB RAM and 500 GB hard disk was used to analyze the data. The KINOVEA software version 0.8.15 was installed and the captured videos were analyzed by frame using tools available in the software.

Administration Procedure

Subjective rating of each team player is performance involves a panel of two expert Coaches and Research Scholar in the game of Kabaddi. Evaluated the player's ability for whole match Scores. The average of the two expert Coaches and Research Scholar rating was taken as a score. The number of total score from each team and each selected matches Kabaddi Offensive and Defensive Skills Uses total scores was measured.

Statistical Technique

To Analysis the data of selected Video Analysis on Skill Performance of Selected National Pro Kabaddi Matches among National Pro Kabaddi Players, Descriptive statistics to find out the mean and standard deviation, Frequency and Percentages was applied. The Statistical Package for Social Sciences (SPSS, Version 16.0. for Windows XP) was used to analyze the data. An alpha level of 0.05 was used to determine statistical significance.

Table 1: Shows in Offensive Skills, Mean score, Standard Deviation and Total

Offensive Skills	Total 60 Match All Skills Score	Mean score	Standard Deviation	Total
Hand Touch		10.3666667	2.277127738	622
Toe Touch		8	2.232274815	480
Squat thrust		8.35	2.065249195	501
Dubki		1.583333333	0.671241366	95
Lain Jump		1.283333333	0.715249551	77
side Kick		4.35	1.964300022	261
Roll Kick		7.46666667	2.0458032	448
Back Kick		3.9	1.258193486	234
Bonus		8.4	2.80556348	504
Defensive Skills				
Hold		9.25	2.856007644	555
Block		7.483333333	2.119255279	449
Chain Hold		8.183333333	2.807324963	491
Waist Hold		4.25	2.063607176	255
Ankle Hold		9.46666667	2.937003354	568
Thigh hold		3.933333333	2.253935666	236
Diving Ankle Hold		1.6	0.693798193	96
Dash		7.983333333	2.473532208	479

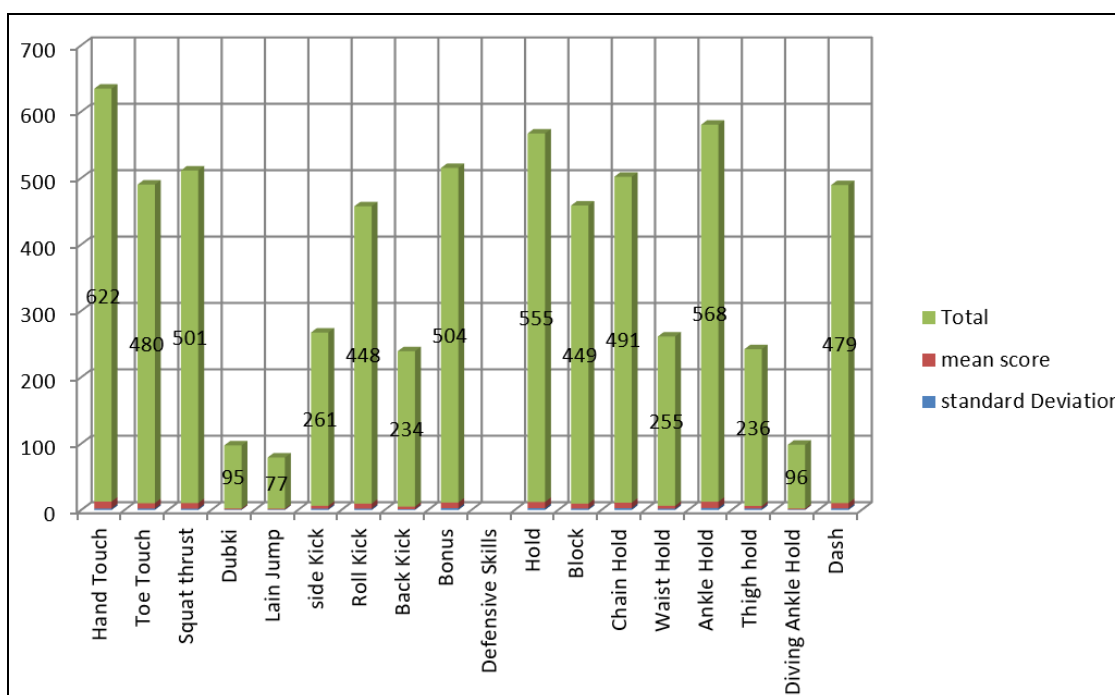


Fig 1: Shows in total mean and standard deviation

Analysis and Interpretation of the Data

The aim of the research work was to find out the “Video Analysis on Skill Performance of Selected National Pro Kabaddi Matches”. For the purpose of the research study (N=144) one hundred forty four Players in the age groups of 20 to 40 years belonging to the Pro Kabaddi Male National Players forms various teams of India were selected as subjects for the present study.

The findings related to Season one selected matches revealed significance between the Pro Kabaddi National meal Players of Different matches significant differences in season one were observed between offensive and defensive Skills of Pro Kabaddi Players.

It was found that there is a significant difference in Season one selected matches of match are (First Match) U Mumba V/S Jaipur Pink Panthers, (Third Match) Bangluru Bulls V/S Puneri Paltan, (Fifth Match) Puneri Paltan V/S Dabang Delhi, (Sixth Match) U Mumba V/S Telugu Titans, (Eighth Match) Bengal Warriors V/S Bengaluru Bulls, (Ninth Match) Jaipur Pink Panthers V/S Telugu Titans, (Eleventh Match) Telugu

Titans V/S Patna Pirates, (Thirteenth Match) Patna Pirates V/S Jaipur Pink Panthers, (Fourteenth Match) Bengal Warriors V/S U Mumba and (Seventeenth Match) U Mumba V/S Puneri Paltan. The Pro Kabaddi Season one Matches offensive Hand Touch Skill Performances are more uses in Season one selected matches of Lain Jump offensive Skill Performances has less uses in Season one selected matches Skill Performances of Pro Kabaddi National men Players. The Pro Kabaddi Season one Matches Defensive Ankle Hold Skill Performances are more uses in Season one selected matches of Diving Ankle Hold Defensive Skill Performances has less uses in Season one selected matches Skill Performances of Pro Kabaddi National men Players.

The Season Second Selected matches are (First Match) U Mumba V/S Jaipur Pink Panthers, (Second Match) Bangluru Bulls V/S Bengal Warriors, (Fourth Match) U Mumba V/S Bangluru (Sixth Match) Bulls, U Mumba V/S Patna Pirates, (Seventh Match) U Mumba V/S Puneri Paltan, (Ninth Match) Bangluru Bulls V/S Patna Pirates, (Twenty First Match) Jaipur Pink Panthers V/S Dabang Delhi, (Twenty fourth

Match) Puneri Paltan V/S Dabang Delhi, (Twenty Sixth Match) Patna Pirates V/S Puneri Paltan and (Twenty Eighth Match) Patna Pirates V/S Bengal Warriors. The Pro Kabaddi Season second matches' offensive Hand Touch Skill Performances has more uses in Season second selected matches and Lain Jump offensive Skill Performances has less uses in Season one selected matches Skill Performances of Pro Kabaddi National men Players. The Pro Kabaddi Season second matches Defensive Ankle Hold Skill Performances are more uses in Season second selected matches and Lain Jump Defensive Skill Performances has less uses in Season one selected matches Skill Performances.

The Season Third Selected matches are (First Match) Telugu Titans V/S U Mumba, (Third Match) Jaipur Pink Panthers V/S U Mumba, (Fourth Match) Telugu Titans V/S Puneri Paltan, (Sixth Match) Telugu Titans V/S Dabang Delhi, (Seventh Match) Telugu Titans V/S Dabang Delhi, (Ninth Match) Dabang Delhi V/S Puneri Paltan, (Tenth Match) Bengaluru Bulls V/S Bengal Warriors, (Twelfth Match) Bengaluru Bulls V/S Jaipur Pink Panthers, (Thirteenth Match) U Mumba V/S Patna Pirates, and (Fifteenth Match) Bengal Warriors V/S Puneri Paltan. The Pro Kabaddi Season three matches offensive Hand Touch Skill Performances are more uses in Season three selected matches and Lain Jump offensive Skill Performances has less uses in Season three selected matches Skill Performances of Pro Kabaddi National men Players. The Pro Kabaddi Season three matches Defensive tackle Skill Performances are more uses in Season three selected matches and Diving Ankle Hold Defensive Skill Performances has less uses in Season three selected matches Skill Performances of Pro Kabaddi National men Players.

The Season Fourth Selected matches are (Second Match) U Mumba V/S Jaipur Pink Panthers, (Fourth Match) Puneri Paltan V/S U Mumba, (Seventh Match) Puneri Paltan V/S Dabang Delhi, (Ninth Match) U Mumba V/S Patna Pirates, (Twelfth Match) Jaipur Pink Panthers V/S Bengal Warriors, (Fifteenth Match) Telugu Titans V/S Patna Pirates, (Nineteenth Match) Telugu Titans V/S Bengaluru Bulls, (Twentieth Match) Dabang Delhi V/S Jaipur Pink Panthers, (Twenty first Match) Telugu Titans V/S U Mumba and (Twenty third Match) Bengaluru Bulls V/S U Mumba. The Pro Kabaddi Season fourth matches offensive Hand Touch Skill Performances are more uses in Season fourth selected matches and Lain Jump offensive Skill Performances has less uses in Season fourth selected matches Skill Performances of Pro Kabaddi National men Players. The Pro Kabaddi Season fourth matches Defensive Ankle Hold Skill Performances are more uses in Season fourth selected matches and Diving Ankle Hold Defensive Skill Performances has less uses in Season fourth selected matches Skill Performances of Pro Kabaddi National men Players.

The Season Fifth Selected matches are (First Match) Telugu Titans V/S Patna Pirates, (Sixteenth Match) Bengal Warriors V/S U.P Yoddha, (Nineteenth Match) Bengaluru Bulls V/S Telugu Titans, (Twenty second Match) Gujarat Fortune giants V/S U Mumba, (Twenty fifth Match) Patna Pirates V/S U.P Yoddha, (Thirty first Match) Gujarat Fortune giants V/S Bengal Warriors, (Thirty six Match) Patna Pirates V/S Puneri Paltan, (Forty Match) U.P Yoddha V/S Tamil Thalaivas, (Forty two Match) U Mumba V/S Jaipur Pink Panthers and (Forty seventh Match) U Mumba V/S Haryana Steelers. The Pro Kabaddi Season Fifth matches offensive Hand Touch Skill Performances are more uses in Season Fifth selected matches and Lain Jump offensive Skill Performances has less

uses in Season Fifth selected matches Skill Performances of Pro Kabaddi National men Players. The Pro Kabaddi Season Fifth matches Defensive tackle Skill Performances are more uses in Season Fifth selected matches and Diving Ankle Hold Defensive Skill Performances has less uses in Season Fifth selected matches Skill Performances of Pro Kabaddi National men Players.

The Season Sixth Selected matches are (First Match) Tamil Thalaivas V/S Patna Pirates, (Seventh Match) U Mumba V/S Jaipur Pink Panthers, (Nineteenth Match) U.P Yoddha V/S Patna Pirates, (Twelfth Match) Puneri Paltan V/S Dabang Delhi, (Fifteenth Match) Patna Pirates V/S U.P Yoddha, (Nineteenth Match) Bengaluru Bulls V/S Tamil Thalaivas, (Twenty fourth Match) Puneri Paltan V/S Jaipur Pink Panthers, (Twenty fifth Match) U.P Yoddha V/S Bengal Warriors, (Twenty ninth Match) U Mumba V/S Telugu Titans, and (Thirty first Match) Bengaluru Bulls V/S Haryana Steelers. The Pro Kabaddi Season sixth matches offensive Hand Touch and Bonus Skill Performances are more uses in Season sixth selected matches and Dubki and Lain jump offensive Skill Performances has less uses in Season sixth selected matches Skill Performances of Pro Kabaddi National men Players. The Pro Kabaddi Season sixth matches Defensive tackle Skill Performances has more uses in Season sixth selected matches and Diving Ankle Hold Skill Performances has less uses in Season sixth selected matches Skill Performances of Pro Kabaddi National Players.

Among the all Pro Kabaddi National Male pyears significant differences in Pro Kabaddi offensive and defensive Skills and Season one to sixth selected matches in Video analysis were noted. The result of the present study was also supported by Barris & Button (2008), Palraj, *et al.* (2012), Amritashish Bagchi, Shiny Raizada, Aniket Mhatre and Anthony Augustine (2018), Rajpal Singh (2018) and Vandana Arak (2020) which has indicated that certain genes responsible for the difference in the Pro Kabaddi National Male pyears performance.

Conclusions

Kabaddi offensive and Defensive skills variables namely Hand Touch, Toe Touch, Squat thrust, Dubki. Lain Jump, Side Kick, Rolling. Back Kick and Bonus (offensive skills) and Defensive skills are Tackling, Block, Chain Tackle, Waist Hold, Ankle Hold, and Thigh hold, Diving Ankle Hold and Dash Pro Kabaddi season wise matches Skills Performance. Offensive skills performances are more uses in all Season matches in comparison with Defensive Skills Performances.

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