



Comparison of speed and reaction ability Level between the Circle Style Male Kabaddi Players of Panjab University Chandigarh and Guru Nank Dev University Amritsar.

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Abstract- The purpose of this study was to compare the speed and reaction ability Level between the Circle Style Male Kabaddi Players of Panjab University Chandigarh and Guru Nank Dev University Amritsar. A total one hundred twelve (N=112) circle style male kabaddi players of eight teams of both universities were selected. In this study the 50 Meters Run Race Test and Ball Reaction Ex. Test were used to measure the speed and reaction ability Level of the players. The study had been analyzed with the help of mean, SD, SE_D and the comparison between groups was done with the help of 't' ratio. For Statistical Description the Statistical Package for Social Sciences (SPSS), version 21.0 was used. The study revealed that on the basis of the finding both the teams were possessing same degree of reaction ability. The male players of Circle Style Kabaddi of Guru Nank Dev University Amritsar were better in speed ability than the players of Panjab University Chandigarh.

Key words- Speed, Reaction ability, Circle Style Kabaddi.

Introduction- There is a need of a constant attempt to achieve higher standard of performance in the sports. Technology has covered every aspect of human life. Now sports activities have also become highly scientific. In order to give the best possible performance at any of the competitions the assistance of scientific disciplines is sought. Induction of the basic principles of science, physical education and sports has become a subject of scientific research.

This game is becoming a popular game in many parts of the world and there is an increasing demand with regard to fitness skill and related capabilities of the circle style kabaddi players. The promotion and evaluation of the level of physical fitness is considered essential in Circle Style Kabaddi.(Singh T. 2018)

The "circle kabaddi" or Punjab style, for which the World Cup was organized, is quite different from the "national style". As the name suggests, it is played in a circular ground instead of the rectangular one as is the case in the "national style". After a raider and a defender tag, it is the display of strength and skill of the two players from the opposite sides.(The Hindu, 2012).

Circle Style Kabaddi has developed to become faster, with more intensity and aggressive play in the World Kabaddi League and Kabaddi World Cups than seen in the past. Circle Style Kabaddi is a combative sport, and performance depends on a number of factors, such as physical fitness, psychological factors, player's technique, tactics. Injuries and squeal from previous injury can also affect the player's ability to perform. (Singh T. 2019)

So many studies has been completed on physical fitness or comparative study of physical fitness components between the players of many games.

Singh T. Dr. (2021). Conducted a Comparative Study of Muscular Power and Speed between the Circle Style Male Kabaddi Players of Punjabi University Patiala and Panjab University Chandigarh; Singh T. Dr. (2020). Conducted a Comparative analysis of Cardio-vascular endurance between the male raiders and stoppers of circle style kabaddi; Singh, T. (2019). Conducted a Comparative analysis of Speed and Muscular Power between the male raiders and stoppers of circle style kabaddi, Singh, T. (2018). Constructed and standardized a specific physical fitness test battery for circle style kabaddi players, Suman Rani (2018) conducted a comparative study of flexibility between kabaddi and kho-kho games players, Singh, T. (2018) conducted a comparative study of cardio-vascular endurance, agility and flexibility level between the circle style male

kabaddi players of PU Chandigarh and KU Kurukshetra, Singh, S. Dr. (2017) conducted a comparative study of selected motor fitness components between inter-university and inter-college male Kabaddi players, Guta .(2017) conducted a comparative study on Physical Fitness Components between physical and non-physical education male students in Nekemte College of Teacher Education, Mandrekar (2017) conducted a comparative study on selected physical fitness variables of inter collegiate cricket and football players of Goa, Rani, D. and Dr. Kumar, V. (2016) conducted a comparative study of physical fitness components between kabaddi and kho-kho girls players of Haryana.

Speed and Reaction ability are also play a very important role for the players of circle style kabaddi. Fast reaction and fast running are common actions in this game. So in this study only these abilities are focused. **Speed-** Speed may be defined as the capacity of the individual to perform successive movements of the same pattern at a faster rate. This is the ability to move from one place to another in shortest possible time. (**Barrow and McGee, 1979**).

Reaction ability- “Reaction ability is the ability to initiate quickly to perform following the signal”. (Singh, 1991).

The players of Circle Style Kabaddi should have the higher rate of Speed for nearly 50 meters. The radius of the circle (playfield) of this game is 22 meters. So the players run approximately more than forty meters during a raid. The selected physical fitness test Item is 50 Meters Run Test that is a test of speed with better reaction ability to quick start.

Objective of the study: To assess the significance difference in speed and reaction ability Level between the Circle Style Male Kabaddi Players of Panjab University Chandigarh and Guru Nank Dev University Amritsar.

DELIMITATIONS OF THE STUDY

1. The Study was delimited to the male players of Circle style Kabaddi.
2. The Study was delimited to the players of 18 to 25 years.
3. The Study was delimited to only two selected universities namely Panjab University Chandigarh and Guru Nank Dev University Amritsar. The players of 8 teams which were in the last four teams of the inter-college completion of Circle style Kabaddi in their respective Universities.
4. The Study was further delimited to the following Physical Fitness Components: Muscular Power and Speed.

LIMITATIONS OF THE STUDY

1. Some factors like diet, rest, sleep etc. were beyond the control of the investigator. These factors were considered as limitations of the study.
2. During the tests, the aptitude of the players might had influenced the results of the study, this was considered as the limitation of the study.
3. No Motivational (psychological) technique was applying during the tests. Due to lack of motivation, therefore the difference that might have occurred in performance which can be considered as the limitation of the study.
4. The players were from different socio-economic groups, their life style, dietary habits, routine of study and play were different which were considered as limitations of the study.

METHOD AND PROCEDURE:

Sample- one hundred twelve (N=112) subjects for this study were selected with the purposive sampling technique from eight teams which were qualified for the league stage of the inter college tournament of selected universities i.e. Panjab University Chandigarh (N=56) and Guru Nank Dev University Amritsar (N=56).

Hypothesis- Null hypothesis for both tests.

METHOD -All participant were informed of the procedure and purpose the experiment and were required to sign and important consent to participate in the study. Keeping in view the research criteria of availability, reliability and validity the following tools were used to collect the data. The selected physical fitness components- muscular power of upper body, muscular strength endurance of arms and speed were measured by different means and methods. Muscular power was measured by medicine ball throw test and speed was measured by 50 meters run test. The tests were selected from the short specific physical fitness test battery for circle style kabaddi players (Singh T. 2018). For Statistical Description the Statistical Package for Social Sciences (SPSS), version 21.0 was used.

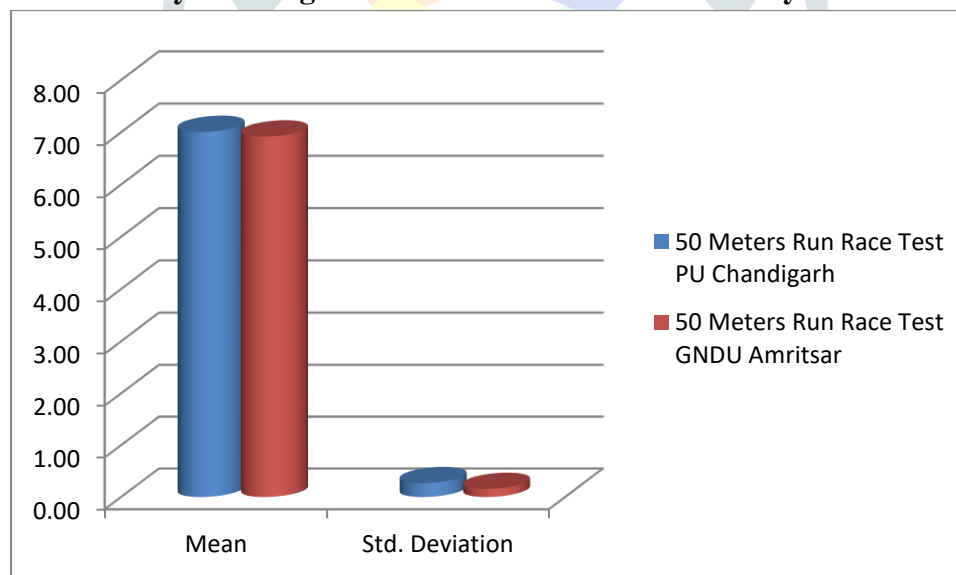
Analysis of data- In the present study analysis and interpretation of the data and result obtained through the application of statistics. This part is devoted to the comparative result of selected physical fitness components of Circle Style Male Kabaddi Players of Punjabi University Patiala and Panjab University Chandigarh. The results had been discussed in two sections. Section-I deal with the statistical description of means and Std. Deviation of the scores of the players of both Universities and comparative result of the players of both Universities of **speed and reaction ability Level** have been discussed with the help of t-ratio in section II.

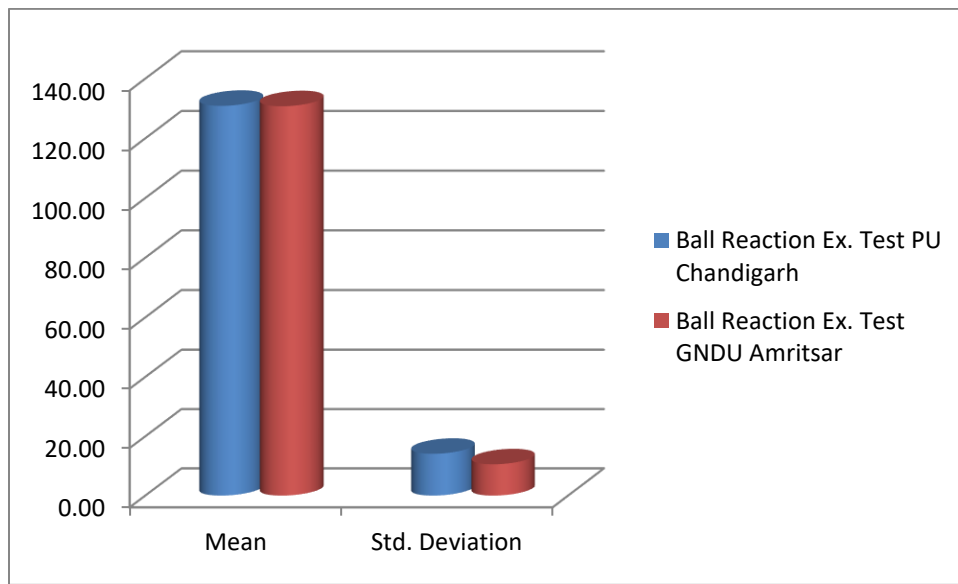
Section:- I**Statistical Description of Mean and Std. Deviation of the tests of Circle Style Male Kabbadi Players of Panjab University Chandigarh and Guru Nank Dev University Amritsar****Table:-1**

Group Statistics					
		N	Mean	Std. Deviation	Std. Error Mean
50 Meters Run Race Test	PU Chandigarh	56	7.01	0.27	0.04
	GNDU Amritsar	56	6.92	0.16	0.02
Ball Reaction Ex. Test	PU Chandigarh	56	130.89	14.11	1.89
	GNDU Amritsar	56	130.76	10.55	1.41

For speed (50 Meters Run Test) the mean of the performance of the Players of Panjab University Chandigarh was 7.01 seconds and the mean of the performance of Guru Nank Dev University Amritsar was 6.92 seconds. So simple Players difference between means of the players of both universities was 0.09 second. Std. Deviation of the score of the of Panjab University Chandigarh was 0.27 and the Std. Deviation of the score of Guru Nank Dev University Amritsar was 0.16.

For reaction ability (Ball Reaction Exercise Test) the mean of the performance of the Players of Panjab University Chandigarh was 130.89 centimeters and the mean of the performance of Guru Nank Dev University Amritsar was 130.76 centimeters. So simple difference between means of the players of both universities was 0.71 centimeter. Std. Deviation of the score of the Players of Panjab University Chandigarh was 14.11 and the Std. Deviation of the score of Guru Nank Dev University Amritsar was 10.55.

Graphical presentation of Mean and SD of the tests of the Circle Style Male Kabbadi Players of Panjab University Chandigarh and Guru Nank Dev University Amritsar



Section:- 2

This section presents the comparison of the Circle Style Male Kabaddi Players of Panjab University Chandigarh and Guru Nank Dev University Amritsar on the selected physical fitness components. The comparisons with the significance of difference between means score of the players of both universities on selected variables are presented in Table No. 2.

Statistical Description- Significance of difference between means score with ‘t’ value of the Circle Style Male Kabaddi Players of Panjab University Chandigarh and Guru Nank Dev University Amritsar:-

Table -2

		Independent Samples Test								
		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
50 Meters Run Race Test	Equal variances assumed	23.19	.000	2.123	110	.036	0.09	0.04	0.01	0.17
	Equal variances not assumed			2.123	88.68	.037	0.09	0.04	0.01	0.17
Ball Reaction Ex. Test	Equal variances assumed	7.05	.009	.055	110	.957	0.13	2.35	-4.54	4.79
	Equal variances not assumed			.055	101.88	.957	0.13	2.35	-4.54	4.80

The sig. of “Levene’s Test for Equality of Variances was less than 0.05 for the 50 Meters Run Race Test and Ball Reaction Ex. Test. So the first rows (Equal variances not assumed) were selected for the both tests.

Interpretation of the t-test results- t-test was employed to find out the significance difference between the mean. The significance level was set at 0.05 levels. The t value for the 50 Meters Run Race Test was 2.123 and for the Ball Reaction Ex. Test was .055. The p-value for the 50 Meters Run Race Test was 0.037 and for the Ball Reaction Ex. Test was 0.957. The p-value given by SPSS is 2-tailed, but according to hypothesis there was a need to divide it in half for a 1-tailed test. According to the table-2 the 1-tailed p-value for 50 Meters Run Race Test is $0.037/2=0.019$ and for Ball Reaction Ex. Test is $0.957/2=0.479$.

Findings:

1. As per the results depicted in Table-2 shows that the p-value for 50 Meters Run Race Test was less than 0.05. So, there was a statistical significance difference between the male players of circle style kabaddi of Panjab University Chandigarh and Guru Nank Dev University Amritsar in speed ability.
2. The hypothesis for speed ability was rejected.
3. As per the results depicted in Table-2 shows that the p-value for Ball Reaction Ex. Test was more than 0.05. So, there was not a statistical significance difference between the players of circle style kabaddi of Panjab University Chandigarh and Guru Nank Dev University Amritsar in reaction ability.
4. The hypothesis for reaction ability was accepted.

Conclusion: The findings of the study can be concluded as under: On the basis of t -test applied the finding of the study concluded that there was a statistical significance difference on 50 Meters Run Race Test with p-value 0.019. So the players of Panjab University Chandigarh and Guru Nank Dev University Amritsar have not the same speed ability. But there was not a statistical significance difference in Ball Reaction Ex. Test with with p-value 0.479. So the players of Panjab University Chandigarh and Guru Nank Dev University Amritsar have the same reaction ability. The male players of Circle Style Kabaddi of Guru Nank Dev University Amritsar were better in speed ability than the players of Panjab University Chandigarh.

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Raw data of the players of Panjab Uni. Chandigarh
and Guru Nank Dev University Amritsar

Panjab Uni. Chandigarh				Guru Nank Dev University Amritsar			
Sr. No.	Name	50 m Run in seconds	Ball Reaction Ex. Test in cm	Sr. No.	Name	50 m Run in seconds	Ball Reaction Ex. Test in cm
1	Sapinder Singh	6.73	115.2	1	Saranpreet Singh	6.85	122.3
2	Manjinder Singh	6.81	110.6	2	Ravandeep Singh	6.91	144.8
3	Vizen Kumar	6.87	120.4	3	Manjobanjeet Singh	6.76	132.7
4	Amritpal Singh	6.7	121	4	Pawandeep Singh	6.74	117.6
5	Punjab Singh	7.49	154.7	5	Jaspal Singh	6.89	129.5
6	Kamalpreet Singh	7.34	139.1	6	Sukhwinder Singh	6.77	135.1
7	Parminder Singh	7.15	129.4	7	Hardeep Singh	7.05	121.9
8	Gurdeep Singh	7.45	136.8	8	Pargat Singh	6.72	109.3
9	Sheetal Singh	7.35	149.9	9	Gurwinder Singh	6.79	132.3
10	Ramandeep Singh	6.82	135	10	Amritpal Singh	6.93	138.6
11	Gurwinder Singh	7.56	146.2	11	Angrej Singh	6.83	124.1
12	Kulwinder Singh	6.79	131.8	12	Mandeep Singh	6.94	129.2
13	Devinder Singh	6.78	134.5	13	Amritveer Singh	6.96	139.4
14	Kulwinder Singh	7.13	128.4	14	Amansud	6.77	136
15	Rajwant Singh	6.81	109.6	15	Sulinder Singh	6.88	108.3
16	Kulwinder Singh	6.75	115.4	16	Harmanpreet Singh	6.95	134.9
17	Rajwinder Singh	6.87	124.7	17	Gurpreet Singh	7.02	127.8
18	Hardavinder Singh	6.8	111.8	18	Honey Deol	6.71	136.5
19	Sukhjeet Singh	7.49	149.7	19	Gurpinderjit Singh	7.13	146.6
20	Mandeep Singh	7.01	129.4	20	Satpal Singh	6.73	123.1
21	Chand Singh	6.94	124.1	21	Karanpreet Singh	6.82	131.7
22	Harman Singh	6.88	113.2	22	Jaskiranjit Singh	6.86	129.7
23	Lakhveer Singh	6.85	139.4	23	Manjinder Singh	6.74	118.4
24	Sukhveer Singh	6.5	118.5	24	Ravinderpal Singh	6.81	126.8
25	Gurik Singh	7.18	136.4	25	Mandeep Singh	7.15	137.8
26	Amarpreet Singh	7.08	135.2	26	Manpreet Singh	6.86	127.7
27	Harmandeep Singh	6.78	114.9	27	Mandeep Singh	6.9	130
28	Jagpal Singh	7.52	154.3	28	Sarbjit Singh	6.83	129.4
29	Gurtej Singh	7.06	143.5	29	Arabdeep Singh	7.32	139.9
30	Inderjeet Singh	6.82	128.6	30	Nirmal Singh	6.81	133.7

31	Rupinder Singh	7.13	149		31	Dilsher Singh	6.98	148.5
32	Sukhpreet Singh	6.82	108.5		32	Karamjit Singh	6.93	143.2
33	Amritpal Singh	6.86	110.2		33	Balraj Singh	6.99	134.3
34	Satnam Singh	7.03	126.3		34	Jaspal Singh	7.07	148.3
35	Parminder Singh	6.88	127.4		35	Gurpreet Singh	7.38	139.4
36	Sukhchain Singh	6.82	125.8		36	Gurlal Singh	7.19	147.1
37	Gurwinder Singh	7.35	149.7		37	Jugraj Singh	6.98	135.5
38	Harjaspreet Singh	7.28	144.8		38	Lovepreet Singh	7.23	141.6
39	Sukhpreet Singh	6.84	112.9		39	Maninder Singh	6.89	124.2
40	Randhir Singh	6.84	126.4		40	Jaimal Singh	7	136.3
41	Amanjot Singh	6.86	126.5		41	Paramjit Singh	6.85	111.8
42	Pawanvir Singh	6.73	116.1		42	Gursajjan Singh	6.9	131.4
43	Harjinder Singh	7.27	152.8		43	Amritpal Singh	6.97	129.5
44	Gurkarpal Singh	7.61	157.4		44	Malkit Singh	6.72	109.4
45	Bhupinder Singh	6.72	113.6		45	Gurdas Singh	6.86	136.1
46	Gurmeet Singh	6.72	115.1		46	Jasbir Singh	6.84	116.7
47	Ramandeep Singh	6.75	114.6		47	Manpreet Singh	7.11	142
48	Iqbal Singh	6.84	135.2		48	Arjun Singh	6.69	107.2
49	Manpreet Singh	6.85	134.8		49	Kulwinder Singh	6.95	145.3
50	Jaspreet Singh	6.92	129.4		50	Sandeep Singh	7.18	135.6
51	Surinder Singh	7.31	145.3		51	Lovejinder Singh	6.81	120.4
52	Gurlamber Singh	6.94	129.7		52	Kawaljit Singh	6.97	139.2
53	Gurparkash Singh	6.9	128.5		53	Jugraj Singh	7.06	132.2
54	Jashandeep Singh	7.35	150		54	Manpreet Singh	6.8	128.4
55	Amandeep Singh	7.18	146.7		55	Robinpreet singh	6.71	116.3
56	Jaspreet Singh	7.26	151.2		56	khusdeep Singh	6.94	127.4