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RESEARCH ARTICLE

COMPARATIVE STUDY ON KINESTHETIC PERCEPTION AND REACTION TIME OF 14-16 YEARS FOOTBALL AND CRICKETPLAYERS

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Abstract

In the world man's life is a continuous flow of activity. Every movement he is doing something. His every activity is the result of the joint effort of his body and mind. The activity may be throwing, kicking, running, jumping, hitting etc. In the joint working, mind guides and control the activity and body performs it. When a footballer kicked a ball or cricketer hits a sixer, had perceived the position or aim and then reacts accordingly by coordinating the total movement pattern. In the present study the researcher intended to study the kinesthetic perception and reaction time of footballer and cricketer. A total number of 60 subjects from 14 to 16 years' players were divided into two groups as footballers and cricketers on the basis of their sports participation were considered as the subject of the present study. The kinesthetic perception was measured by distance perception jump and reaction time was measured by Nelson hand reaction test. To find out the difference between components of the Football and Cricket players the 't' test was computed and the following conclusions were drawn - i) There was significance difference was existing in kinesthetic perception and reaction time between footballer and cricket players. ii) Football players were better in kinesthetic perception and reaction time than cricket players.

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Introduction:-

All living beings are naturally active. It is through his body that man performs activities. Movement is born with living being and life is characterized by movement. To perform the physical activities in general and to play football and cricket in particular require movement, co-ordination, flexibility, peripheral awareness, anticipation and well as gain knowledge about their motor response. Perception and movement are two sides of the same coin and are difficult to separate. (H.M. Barrow, 1983). Perception itself may be defined as the total pattern arising from many sensations and results in a meaning which is more than the sum of parts' (Brayant, J. Cratty, 1973).

Kinesthetic perception is the ability to perceive the position, effort and movement of the body parts or entire body during muscular action, is sometime referred to as the sixth sense.

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Reaction time is the interval of time between the presentation of the stimulus and the initiation response. Therefore, when a footballer kicked a ball to the goal or cricketer hits a sixer, had perceive the position or aim and then react accordingly by co-coordinating the total movement pattern. This total process involves every part of the central nervous system involved in visions, eye movement, touch and control of the body part.

Purpose Of the Study

The main purpose of the study were-

1. To find out the Kinesthetic Perception and Reaction time of 14 to 16 years Football and Cricket players.
2. To observe the mean difference between 14-16 years Football and Cricket players in Kinesthetic Perception.
3. To observe the mean difference between 14-16 years Football and Cricket players in Reaction Time.

Methodology:-

100 Female players, among which 50 football players and 50 cricket players were selected from Nadia and Murshidabad districts. The age of the subjects were ranged between 14-16 years. Both Football and Cricket players were selected on there level of participation and minimum participation level district level. All the subjects were taken from reputed coaching camp of Nadia and Murshidabad districts. The Age, Height and weight of subjects were taken as personal data, depth perception jump was taken for Kinesthetic jump and Hand-Eye coordination was taken as criterion measures in this study. After collecting the data, a standard statistical procedure was taken for analysis of results.

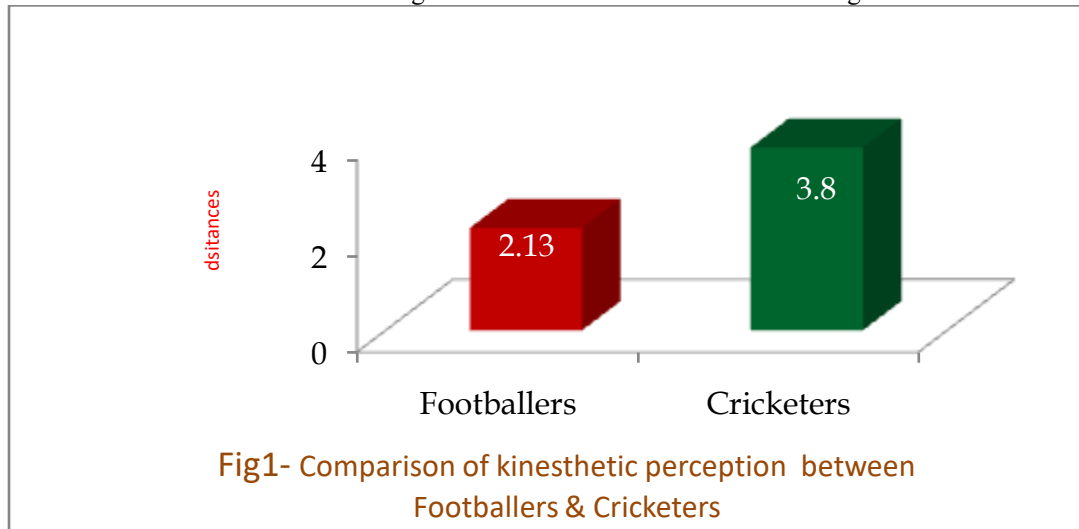
Results and Discussion:-

Table 1:- Comparison of kinesthetic perception between footballers and cricketers.

Variables	Group	N	Mean	Sd	SEd.	't'
Kinesthetic perception	Football players	50	2.12	±1.75	0.52	3.28*
	Crickets players	50	3.79	±2.20		

Table value of t for df 58 is 2.01 at 0.05 level of significance.

Table 1 and Fig-1 showed that the mean value in respect of kinesthetic perception of footballers was 2.13 with a variation of ± 1.76 . In case of cricketer the mean value was 3.8 with a variation of ± 2.21 . The mean difference of footballer and cricketer showed a statistical significance where 't' was 3.27 which was greater than the table value.



Discussion of Kinesthetic Perception:-

The present investigation showed that there was significant difference of kinesthetic perception where footballers were better than the cricketers. Because in case of distance perception jump lower the distance higher was the performance. The kinesthetic perception may differ due to exercise, age, different training programme. Regular exercise improves perceptual condition, physical executing, brain activation, including motor-related regions and the

inferior and superior parietal lobules, (Louise, 1951; cratty, 1956; Guillot, 2009; Strunicks, 2012). K. Hakkinonet. al (2010) conduct a study on adolescent male's soccer player to measure the perceptual motor skills. He suggested that general perceptual motor skill improve with age, blood testosterone concentration. S. Sarkar (2013) stated that ten-week chronic exercise programme improve kinesthetic perception.

Table 2:- Comparison of reaction time between footballers and cricketers.

Variables	Group	N	Mean	Sd	SE _D	't'
Reaction Time	Footballers	30	0.163	±0.015	0.003	4.33*
	Cricketers	30	0.176	±0.014		

Table value of t for df 58 is 2.01 at 0.5 level of significance ≤ 0.05 indicates significant at 5% level. * Significant. It appeared from the table -2 and fig-2 that the mean value in respect of reaction time of footballers was 0.163 with a variation of ± 0.015 . In case of cricketer the mean value was 0.176 with a variation of ± 0.014 . The mean difference of footballers and cricketers showed a statistical significance where 't' value 4.33 was greater than the table value.

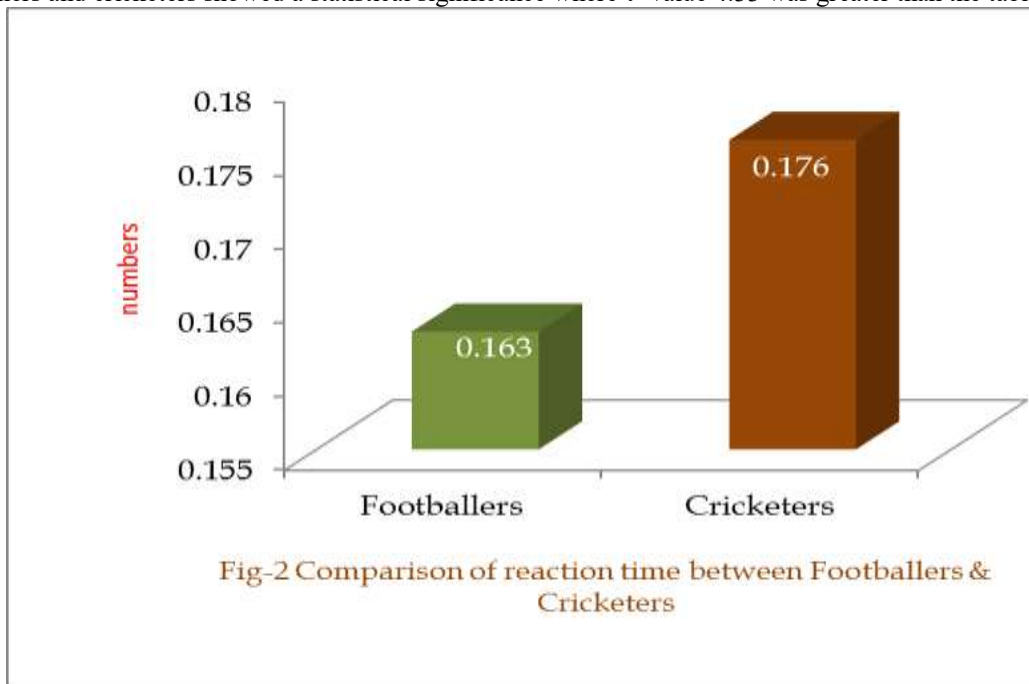


Fig-2 Comparison of reaction time between Footballers & Cricketers

Discussion of Reaction Time:-

The present investigation stated that there was significance difference of reaction time where footballers were better than cricketers. Because where the timing is a performance variable lower the time greater the performance. The possible causes for the difference may be the training programme, nervous system, effect of hormone or so on. Patrick. J. Smith et.al (2000) found in his study that participants who completed a six months aerobic exercise programme exhibited improvements in reaction time. Serbian Journal on sports science (2008) showed that regular motor practice could improve player's reactivity. Dr. Mahesh Bhaboret.al. found that the quicker reaction time in Badminton players compared to controls is due to improved concentration, alertness, better muscular co-ordination and improved performance in speed and accuracy task. Further research is need to understanding the reaction time.

Conclusions:-

- i) Kinesthetic perception of footballers and cricketer were different from each other. Footballers were better them cricketers in kinesthetic perception.
- ii) Footballers were better than cricketers in reaction time.

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