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Influence of Positional Play on Intelligence Ability of Mysuru University Inter-Collegiate Male Hockey Players

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ABSTRACT
The purpose of the study was to explore the Influence of positional play on the intelligence ability of University Inter-collegiate male hockey players. The researcher selected 165 male field hockey players who represented Mysore city inter collegiate and Chamundi zone championships. The player were selected by positional play, such as forwards (N=75), midfielders (N=45), fullbacks (N=30) and goal keepers (N=15) and they were assessed for intelligence ability. The subjects were assembled and explained the procedure and purpose of the tests before the administration of the tests. They were administered Raven's progressive matrices Intelligence test for intelligence. To find out the influence of positional play, One-way ANOVA and Scheffe's post hoc tests for multiple comparisons between mean scores of players in different positions was applied for intelligence scores. The results revealed that, the Goal keepers had the maximum scores in Intelligence compared to other players playing in other positions and Positional play did not influence extent of errors both in ascending and descending series. Goal keepers were found to be better in intelligence, than the players in other playing positions. Goal keepers had the maximum intelligence scores, followed by Centre midfielder, Right defender, Left defender, others are placed in between and Left midfielder having the least intelligence scores.

Keywords: Positional play, Intelligence, Hockey players

Introduction:

The term 'sports' comes from the old French "disport" meaning leisure. This also means diversion from routine activities, and people participate in any form of sport or game during leisure. Now -a- days the term sport is used to describe multiple activities that include many sports and games. People participate in sports and games for fun, health, adventure, physical fitness, overcome stresses of modern living and for recreation, entertainment, and also competition and monetary benefits linked with high degree of prestige and popularity. The field hockey as a major sport is played from the school level to international level, the field Hockey as mentioned earlier has become a very popular sport, in the modern society. As a major spot in sport, it has become highly competitive and competitions are being organized regularly. As mentioned, the sport field hockey, as it has become highly competitive and undergone many changes from the earliest to the till, the game demands positional play pattern, the game of field Hockey played in four

lines of positions: Forward, midfield, defence, and goalie. According to the article published in Gohockeynews.com with the article named as "Choosing the right hockey system to play", hockey teams follow a basic formation strategy similar to the sport of soccer, wherein players play in strategic formations, such as 5-3-2-1. In these formations, the first line is made up of the attackers, the second line of the midfielders, and the third line has the defenders followed by the goal keeper. Already conducted research on field hockey usually focuses on physical abilities, motor abilities and few cognitive abilities. The role of positional play on intelligence and of field hockey players is important in performance Machado (2019) conducted a study to assess the effects of positional role in tactical behaviour of U-17 youth soccer players based on core tactical principles in a four-aside small-sided and conditioned game, the results showed that the four-aside format allows U-17 players to perform a similar quantity of tactical actions regardless of their positional role, but the player's positional role influenced quality of their tactical behaviour. According to Johann Cruyff, today most players have good technique and physical preparation so what separates the very best players is their level on game intelligence (Rainbow, 2012). The strongest, fastest player, without game intelligence will waste most of his potential, but the smallest intelligent player can overcome any opponent. Game Intelligence is that ability to "read the game" and make good decisions as quickly as possible. Maintaining and focus is vital in field hockey. As pointed out by Akimova, 2003; G.Yu. Eysenck, 1995, et.al, intelligence is the key quality of personal development that determines the area of activity and mental attitude of an individual; it forms a system of his values. In this regard, we consider intelligence as a set of important parameters of the cognitive area, which are manifested in its various forms. According to Guilford (1967), Opportunities to make sound judgments and decisions, based on evidences and variables involved, require unassisted intelligence and logical thinking by the students. Thus, intellectually supported program and its effects are indisputably essential for the improvement of effective sportsmanship.

As the game has become very fast, the players playing in different positions having different responsibilities are required to have an acme of physical, motor, physiological and psychological qualities for good performance in a competitive hockey game. They need intelligence ability in the game and moves for a considerable stipulated period of time, perceive the environment, possess sport intelligence to anticipate and take a quick and right decision during the course of the game or competitive match. Very fewer studies have been conducted on the influence of positional play on intelligence. Above said literature and information reveals and clue that, to testify Influence of positional play on intelligence of Mysore University Inter-collegiate male hockey players. This study attempts to understand the Influence of positional play on intelligence of field hockey players. The outcome research allows the coaches, players, sports administrators to identify Influence of positional play on intelligence variables, the Influence that can differentiate the best and lead to improve the results.

Methodology:

Sample

The first author has selected male field hockey players who represented Mysore city inter collegiate and Chamundi zone championship conducted during the year 2022. One hundred and Sixty Five (N = 165) male field hockey players of different colleges of Mysore city and Chamundi Zone jurisdiction colleges, who participated in Mysuru city intercollege and Chamundi Zone field hockey tournaments. The players were selected by positional play, such as forwards (N=75), midfielders (N=45), fullbacks(N=30) and goal keepers (N=15).

Tools Employed:

Raven's progressive matrices Intelligent test: The researcher arranges comfortable in a well-ventilated place or room, and then RPM booklet (adult form) is handed over to him, He instructs thus, "this booklet carry five sets of problem as A, B, C, D & E, each set contain 12 problems, altogether 60 problems in a booklet each problem has a large and well bolded design equal to the size of the portion missing. Under the large design, six small cutout designs are placed, equal to the size of missing portion, each cutout design has a numerical number, out of six cutout designs only one can perfectly fit into the missing place and complete the large designs, select one, which is best fitted and complete the large design and write the serial number of that cutout against the serial number of the problem in the data score sheet". With the above said instruction the researcher shows him the first problem in the booklet and confirms whether subject has understood, what he has to do. With the command signal "start" start the stopwatch and allows the player to complete the RPM and notes down the time taken by the subject.

Once the data were collected, they were scrutinized, scored, fed to the compute for further analysis. One-Way ANOVA followed by Scheffe's post hoc test were applied to find out the influence of positional paly on and intelligence. Tables 1,2,3 and 4 present the results with descriptive statistics.

Intelligence (RPM):-

Table Mean and descriptive statistics for intelligence scores for players in different positions.

Positions	N	Mean	Std. Deviation	Std. Error
Right Forward	15	31.93 [a]	5.351	1.382
Forward Right In	15	32.00 [a]	5.720	1.477
Centre Forward	15	32.27 [a]	4.935	1.274
Left Forward	15	31.73 [a]	4.301	1.110
Forward Left In	15	31.93 [a]	3.807	.983
Right Midfielder	15	30.33 [a]	4.593	1.186
Centre Midfielder	15	32.60 [a]	4.205	1.086
Left Midfielder	15	29.53 [a]	5.383	1.390
Left Defender	15	32.33 [a]	4.065	1.050
Right Defender	15	32.47 [a]	5.951	1.536
Goal Keeper	15	45.80 [b]	2.597	.670
Total	165	32.99	6.184	.481

Table Results of One-way ANOVA for Mean intelligence scores of players in different positions.

Variable	Source of variation	Sum of Squares	Df	Mean Square	F	Sig.
Intelligence	Between Groups	2839.127	10	283.913	12.740	.001
	Within Groups	3431.867	154	22.285		
	Total	6270.994	164			

Intelligence: The mean, standard deviation and standard error of the players, who plays the position of Right Forward, are 31.93, 5.351 and 1.382 respectively. The mean, standard deviation and standard error of the players, who plays the position of Right In, are 32.00, 5.720 and 1.477 respectively. The mean, standard deviation and standard error of the players, who plays the position of centre Forward, are 32.27,

4.935 and 1.274 respectively. The mean, standard deviation and standard error of the players, who plays the position of Left Forward, are 31.73, 4.301 and 1.110 respectively. The mean, standard deviation and standard error of the players, who plays the position of Left In are 31.93, 3.807 and 0.983 respectively. The mean, standard deviation and standard error of the players, who plays the position of Right Midfielder, are 30.33, 4.593 and 1.186 respectively. The mean, standard deviation and standard error of the players, who plays the position of Centre Midfielder, are 32.60, 4.205 and 1.086 respectively. The mean, standard deviation and standard error of the players, who plays the position of Left Midfielder, are 29.53, 5.383 and 1.390 respectively. The mean, standard deviation and standard error of the players, who plays the position of Left Defender, are 32.47, 5.951 and 1.536 respectively. The mean, standard deviation and standard error of the players, who plays the position of Right Defender, are 32.47, 5.951 and 1.536 respectively. The mean, standard deviation and standard error of the players, who plays the position of Goal Keeper are 45.80, 2.597 and .670 respectively. The One-way ANOVA revealed a significant mean difference (F=12.740, p= .001) which indicates that the pattern of mean intelligence scores of players in different positions are different. The Scheffe's Post hoc test revealed the mean scores of positions Left Midfielder, Right Midfielder, Left Forward, Right Forward, Left In, Right In, Centre Forward, Left Defender, Right Defender and Centre Midfielder are different from mean scores of the goal keepers having highest scores..

Discussion:

Major findings of the study

This research paper tries to highlight the influence of positional play on Intelligence ability of Mysore University Inter Collegiate Male Hockey Players. Results of the study demonstrated with major limitations of the study were the participant's attitude, the test efforts as challenges the researcher. This study reveals that, Positional play had significant influence over the intelligence scorers measured through Raven's progressive matrices intelligent test. The Goal keepers had the maximum scores in Intelligence compared to other players playing in other positions and Positional play did not influence extent of errors both in ascending and descending series. Goal keepers had the maximum intelligence scores, followed by Centre midfielder, Right defender, Left defender, others are placed in between and Left midfielder having the least intelligence scores. Goal keepers had positional play role of tracking the ball direction within the "D" circle, directional communication to defenders, to defend the attackers at " D" circle, ready for shooter cues to understand body position, stick angle and feet position of penalty shooter and read the opposition penalty corner strike ,for all these reason and rational thinking, the goal keeper had highest intelligence score than others positional players. Centre midfielders are team's engine; their role is to link the attackers and the defenders and also over all great awareness of game, the right defender and left defender are responsible for feeding the ball to mid fielders, forward players, defend the opponent attack and also defend the attackers along with goal keepers in " D" area, for all these reason, obviously centre midfielder, right defender and left defender are placed second highest intelligence score after goal keeper, forwards are moves in between midfield and the opponent's goalie, move quickly, create spacing and ball movement to help their forward teammates to score goal, compare to goal keepers and defenders, their intelligence scores placed in between defenders and right and left mid fielder. right mid fielder and left mid fielders play both defense and offense as they are considered to be multi-taskers on the field, their intelligence score is very less compare other play position, because their role is restricted to feed the ball to forwards and earliest defend the attackers for that reason their intelligence score is least compare to other field

position, till this day few research are conducted on field hockey with respect to intelligence ability, but few research clues are encouraged the researcher to conduct this particular study. According to the study conducted by the Researchers at the University of Illinois in the year 2023 which was published in the journal, the Intelligence found that, the children who participated in sports had higher scores on cognitive tests than children who did not participate in sports. The researchers also found that the relationship between sport and intelligence was stronger for children who participated in team sports than for children who participated in individual sport According to Guilford (Guilford, 1967), one of the varieties of intelligence measured by psychometric tests is kinesthetic perception and according to Piaget (1972) sensory motor activities are a form of practical intelligence. These indicate the importance of physical activity towards the growth of overall intelligence and to overall intellectual functioning. According to Nazarenko (2013), sports activity has specific requirements for intelligence ability. Hence, this study revealed the fact based result, which is strengthening the results of the previous studies.

Conclusion:

The results revealed that, the Goal keepers had the maximum scores in Intelligence compared to other players playing in other positions and Positional play did not influence extent of errors both in ascending and descending series. Goal keepers were found to be better in intelligence, than the players in other playing positions. Goal keepers had the maximum intelligence scores, followed by Centre midfielder, Right defender, Left defender, others are placed in between and Left midfielder having the least intelligence scores.

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