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Shamsher Kasnia
Asst. Professor, Dept. of
Physical Education C.D.L.U
Sirsa, Haryana, India

Ravinder Pal Ahlawat
Professor, Dept. of Physical
Education C.D.L.U, Sirsa,
Haryana, India.

A comparative study of sports anxiety and aggression of attacker and defender hockey players

Shamsher Kasnia and Ravinder Pal Ahlawat

Abstract

An attempt has been made to study the impact of level of Anxiety and Aggression of National/Inter-University Hockey players with respect to their playing positions. The subjects of the study were classified into Attackers and Defenders and a total of 150 subjects were selected, out of which 75 were attacker female hockey players and 75 were defender female hockey players. The age of the subjects ranged from 18 to 24 years. To measure the level of Anxiety the standardized test of Sports Competition Anxiety Test constructed by Marten *et al.* 1990 and for the psychological variable of Aggression the standardized test of Sports Aggression Inventory developed and prepared by Prof. Anand Kumar Shrivastava and Perm Shankar Shukla was used. The independent samples t-test was applied to assess the significance of difference among the attacker and defender playing positions of national level female hockey players. After analyzing the results of the study, it was concluded that there was no significant difference on the psychological variable of Anxiety but there was significant difference between the aggression level of attacker and defender female hockey players.

Keywords: Sports competition anxiety, sports aggression, attacker and defenders

Introduction

Field hockey is one of the most skillful game among modern sports. It requires high level of technical and tactical knowledge. There are 11 different playing positions in hockey and each player has to master a different technical and tactical skill and therefore the psychological capabilities also vary according to the playing position of the players. The different playing positions are (Strikers and Wingers) as attackers and (Mid-fielders, full back and goalkeeper) as defenders. The role of Attackers is to create maximum goal scoring opportunities for the team while penetrating into the striking circle of the opponents. The attacking players mainly include Centre forward, Right Inner, Left Inner, Right Winger and Left Winger. These players should possess excellent shooting skills with either foot being dominant and explosive speed to quickly penetrate the opponents. Attacker players require explosive sprints and outstanding stick skill work. The mid-fielders which consist of Centre half, right half and the left half are the fittest or requires high amount of stamina because they are the link between the last defense and the attack line. The mid-fielders have to ensure that the ball possession with them is maximum and a lot of running is required by them. They are versatile as well as flexible. In short, they are the ones who control the game. The left and right full backs role is most prominently to safe guard their territories by ensuring that the opponents don't enter their defending striking circle and diminishing their goal scoring opportunities. They have to possess clean defense skills with accuracy because their one mistake may lead to blunders. The last line of defenders is the goal keeper who sole purpose is to stop the ball from entering the goal post. With each player, having different playing position and different role in the team their psychological skills also vary. Anxiety and Aggression having the most prominent impact on the performance of the sportsperson are considered as the negative emotional state and some form of arousal or provocation is mostly perceived. Researches have revealed that the level of aggression differs significantly with different individuals at competition. The athletes exhibit high level of aggression and psychological preparation is required to enhance their capabilities. Various studies have been conducted on different levels of athletes to study their aggressive behavior which is common in sports such as football, boxing and hockey and may lead to decrease in performance.

Correspondence
Shamsher Kasnia
Asst. Professor, Dept. of
Physical Education C.D.L.U
Sirsa, Haryana, India

Objectives of the Study

1. To study the level of Anxiety between the Attacker and Defender female hockey players.
2. To Study the level of Aggression between the Attacker and Defender female hockey players.

Hypothesis of the Study

1. Their will be significant difference in Anxiety between the Attackers and Defender female hockey players.
2. Their will be significant difference in Aggression between the Attacker and Defender female hockey players.

Research Methodology

The present study was conduct to assess and analyze the level of Anxiety and Aggression between the Attackers and Defender female hockey players of Haryana. The subjects were those who have participated in the National Level or Inter-University Tournaments from the State of Haryana. The subject age group ranged from 18 to 24 years. The present study was conducted on 75 attackers and 75 defender female hockey players.

Data Collection Tools Used: The data was collected using the standardized tests of Sports Competition Anxiety developed by Rainer Martin *et al.* 1990 for Anxiety and for the psychological variable of Aggression the test of Sports Aggression Inventory was developed by Prof. Anand Kumar Srivastava and Perm Shankar Shukla.

Statistical Procedure: For the purpose of analysis of data the measure of central tendency i.e. mean and Standard Deviation was used and for descriptive statistical analysis independent t-test was applied.

Data Analysis: The data was collected and arranged sequentially. It was also checked that no question was left unmarked. Average and standard deviation was calculated. Mean and Standard Deviation statistics of both the category of players is given in the below table.

Table 1: Analysis of Attacker and Defender Girls on Anxiety Scale

Category	No.	Mean	Standard Deviation
Attacker Girls	75	18.71	3.12
Defender Girls	75	19.7	3.81

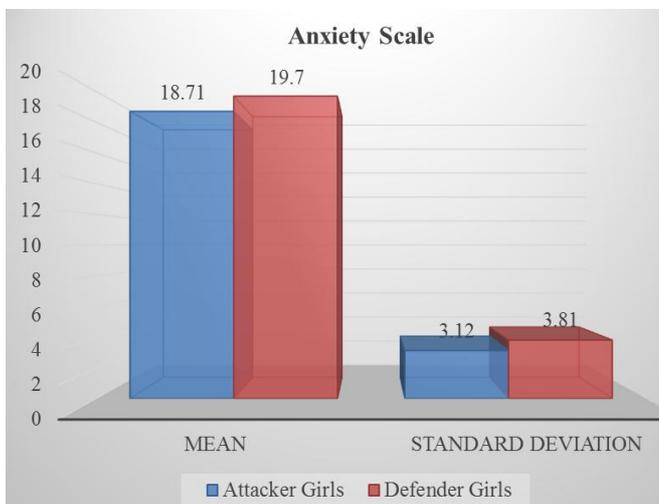


Fig 1: Analysis of Attacker and Defender female players on Anxiety Scale

From the above Tab. and Fig. 1 the data shows that the Mean score of the female Attacker players is 18.71, whereas the mean score of the female defender players is 19.7 and the Standard deviation of female attackers is 3.12 and the group is more homogenous when compared with Defender girls the standard deviation is 3.81.

Table 2: Comparison of Attacker and Defender females on Anxiety Scale

Group	Mean	S.D	S.E.M	Standard error of difference	t-value	Remarks
Attackers	18.71	3.12	0.3603	0.569	1.741	Not Significant
Defenders	19.7	3.81	0.4399			

Level of Significance = 0.05, DF= 148
Tabulated 't' value 0.05 (148) = 1.98

The analysis of the data shows that the calculated t-value is 1.741 and the tabulated t-value 1.98, which is higher than the calculated value. Therefore, the results are not statistically significant with 0.05 level of significance. Hence, the Hypothesis we fail to accept the hypothesis on Anxiety Scale.

Aggression: After carefully arranging the data sequentially, mean and standard deviation of the scores were calculated to find out the variance in data. The data of attackers and defenders in given below.

Table 3: Analysis of Attacker and Defender females on Aggression Scale

Category	No.	Mean	Standard Deviation
Attacker Girls	75	12.57	3.15
Defender Girls	75	14.5	2.84

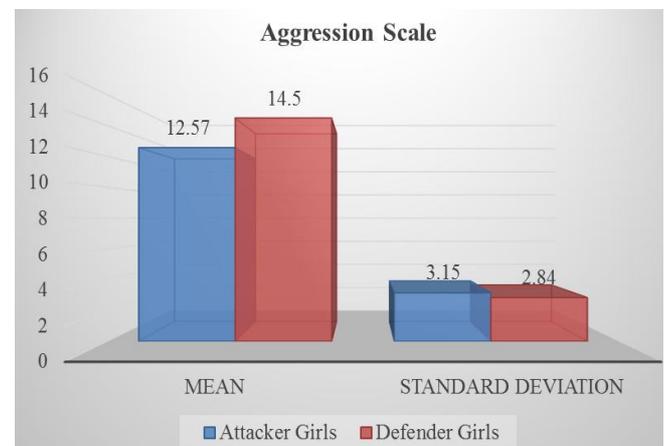


Fig 2: Analysis of Attacker and Defender females on Aggression Scale

As illustrated in the above tab. 1.3 and fig. 2 the mean of the attacker female players on aggression scale is 12.57 and the mean of defender female players is 14.5. The average of the defender players is much higher when compared to their counterparts. When the standard deviation of the players was compared it was found that the attacker player had a higher variance of 3.15 and the scores of defender players was more homogenous with the value of 2.84.

For testing the hypothesis, t-test was applied to the calculated mean and standard deviation.

Table 4: Comparison of Attacker and Defender female players on Aggression Scale

Group	Mean	S.D.	S.E.M	Standard Error of difference	t-value	Remarks
Attackers	12.57	3.15	0.3637	0.49	3.94	Extremely Significant
Defenders	14.5	2.84	0.3279			

Level of Significance = 0.05, DF= 148

Tabulated 't' value 0.05 (148) = 1.98

T-test was calculated using mean and standard deviation from the scores. The standard error of difference is 0.49. The t-value is 3.94. The degree of freedom is 148. From the above table it is clear that calculated t-value of 3.94 is much higher than the tabulated t-value of 1.98. Therefore, we can say that data is extremely significant at 95% level of confidence.

Discussion of Results: After carefully analyzing the data it was found that there is no difference in the level of anxiety between the attacker and defender female hockey players with 95% confidence level. Hence, we fail to accept the first hypothesis of the study. On aggression scale there was found to be statistically significant difference between the aggression of attacker and defender hockey players and hence we retain the second hypothesis. Several reasons could be attributed to the results as the defender are mainly responsible to foil the attacking team efforts their slightly aggressive nature is considered to be a part of the sport and while both the category of players were national representatives the level of anxiety was controlled because of their experience. The results of the study also supported by the study conducted by Raj Kumar on the level of aggression between attacker and defender football players where defenders were found to be more aggressive.

Conclusion

On the basis of the findings of the study following conclusion can be drawn:

There was an insignificant difference between the attacker and defender female hockey players on Anxiety scale and there was a significant difference between the attacker and defender female hockey players on Aggression scale.

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