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**REVIEW ARTICLE**

**A STUDY OF PHYSIOLOGICAL CONDITIONS OF  
SPORTSMEN**

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# A Study of Physiological Conditions of Sportsmen

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## **INTRODUCTION:-**

Games and Sports are becoming important day by day. Now – a- days, these are taking the shape of a profession. So, it has become necessary to investigate the factors that affect the sports performance. There are many factors which enhance the learning in the field of sports and there are many other such factors which slow down the process of learning. These factors are generally involved in the physiological or mental conditions of the individuals like anxiety, time of day, temperature, effect of drugs etc. If these factors are not properly controlled, these can affect the performance in a negative way. But , if these are properly managed then they become helpful elements in learning. So, it is necessary to understand their effect on the performance and learning process.

Anxiety is considered as a block to sports activities. A person who suffers from anxiety may not be able to devote his full energy in the performance of sports. It is, therefore, considered by means scholars that anxiety interferes in sports performance. This notion is however, based on an erroneous understanding of the role of anxiety. In fact, anxiety might deter learning or performance or might also stimulate it.

Anxiety has been defined in a variety of ways, such as “A distributed state of the body” (Johnson, 1951) ; “Emotional reactivity” (Hardman and Johnson, 1952) ; “Unrealistic and unpleasant state of body and mind” (Pikunar , 1969) ; “Nervousness” (Ekegami, 1970).

In medical terminology, anxiety is defined as “appreciation of danger accompanied by restlessness and a family of appression in the epigastrium”.

Some physiological reactions such as sweating, drying of the mouth , rapid shallow breathing and dizziness , increased heart- beat and mental tension are associated with anxiety .

## **OBJECTIVES OF THE STUDY:**

The following are the objectives of the study:

1. To study the pre competitive anxiety level between individual games players of Judo and, Athletics games.
2. To compare the pre competitive anxiety level between Handball and Baseball players. .

## **RESEARCH METHODOLOGY:**

To make comparative study of anxiety level of sportsmen of individual and team games who participated in inter-college a tournaments.

60 players fewer than 25 years age – group were taken as sample. This sample consists of players of two team games, namely Baseball (15 players) and Handball (15 players) and two individual games namely Athletics (15 players) and judo (15 players) for the collection of the primary data. The investigator used the sports competition anxiety test of (adult form) of Rainer martens (1977) to measure trait anxiety. This test consists of 15 statements which ask players to respond how usually they feel when they are competing in sports and games. The inventory has no time – limit, normally, 5 minutes is required for its completion. Primary data was collected. The data was collected 1 hour before each competition. They were asked to sit for 3 minutes to cool down.

Then necessary instructions were given before presenting the questionnaire to subjects. Same procedure was followed every time. The schedule of competition is as follows:

## **SCORING:**

In a form of SCAT, all the 15 test items are rated on 3 points scale by the subjects, viz 1. Never 2. Sometimes 3. Always.

The 10 test items (2,3,5,6,8,9,11,12,14,15) are scored according to the following directions, whereas the spurious items (1,4,7,10,13) are not scored. 1 point for never, 2 points for sometimes, 3 points for always. Scoring for items 6 and 11 is reversed

according to the following keys 1 point for always; 2 points for sometimes, 3 points for never.

Thus, the range of possible SCAT score extends from 10 to 30.

**SCAT – A Norms**

SCORES	GROUPING
25 – 30	Highly Anxious
18 – 24	Above Average
12 - 17	Average
LESS THAN 12	Less than Normal

**Statistical Techniques Used:**

The obtained data were analyzed by applying the statistical techniques mean standard deviation and T-ratio.

**RESULTS AND FINDINGS OF ANXIETY DIFFERENCES**

**Table**

**Highlight of the level of anxiety of the players of different individual and team games**

Name of games	mean anxiety	SD
Athletics	17.80	2.40
Judo	18.70	3.20
Handball	16.97	2.30
Baseball	20.25	3.12

It can be observed from Table mean pre- competition anxiety scores of Athletics (individual event) is 17.80 and SD is 2.40 which generally show the anxiety level is average in Athletics of individual games. Mean score of Judo (individual event) is 18.70 with SD 3.20. In general, players of this individual event have little above to average anxiety level.

In case of Handball (team games) mean score of anxiety is 16.97 with the SD of 2.30, which again shows that level of anxiety is average. Mean anxiety of Baseball (team games) is 20.25 with SD of 3.12; which shows that these players have above average anxiety level.

In general, it can be concluded that players of Judo and Baseball have above average anxiety level and the players of Athletics and handball have average anxiety level. But, the mean value of anxiety level in the case of Baseball and Judo is very little above average.

**Table**

**Means, SD and t-ratio between Handball players and Athletics players**

GAMES	MEAN	SD	NO	SE <sub>D</sub>	t-ratio
Athletics	17.80	2.40	15		
				0.845	0.501
Handball	16.97	2.30	15		

It is clear from the table that means scores of Athletics (individual event) and Handball (Team Game) players are found to be 17.80 and 16.97 respectively with SD of 2.40 and 2.30.

So , we can say that Athletics and handball players do not differ significantly in their level of anxiety. So the hypothesis that there does it.

Since the t- ratio is less than the table value against 0.98 degrees of freedom at 0.5 level of significance. The difference between mean scores is not significant.

**Table**

**Means; SD and t-ratio between Handball Players and Judo players.**

GAMES	MEAN	SD	NO.	SE <sub>D</sub>	t-ratio
Handball	16.97	2.30	15		
				1.019	1.73
Judo	18.70	3.20	15		

It can be observed from the table that mean scores of handball (team game) and cycling (individual games) are 16.97 and 18.7 with standard deviation of 2.30

and 3.20 respectively. The t-ratio comes out to be 1.73.

Since the t-ratio is less than the table value at 0.5 level of significance, the difference between mean scores is insignificant. Hence, the hypothesis that there does not exist a significance difference. Handball players and Judo players in the level of pre- competition anxiety is again selected.

**Table**

**Means; SD and t-ratio between Baseball Players and Judo players**

GAMES	MEAN	SD	NO.	SE <sub>D</sub>	t-ratio
Judo	18.7	3.20	15		
				1.43	0.60
Baseball	20.00	3.12	15		

From the table , it can be seen that the mean scores of Judo (team game) and handball (individual games) are 18.7 and 20.25 with standard deviation of 3.20 and 3.12 respectively. It has standard error value of 1.43 and t-ratio comes out to be 0.60.

As the t-ratio is less than the table value at 0.5 level of significance (1.96), the difference in mean scores of Judo and Baseball players are not significant or it can not be said that Judo and Baseball players do not differ in respect of their pre-competition anxiety level.

Hence, the hypothesis that there does not exist a significance difference in anxiety level of Baseball players and Judo players is retained. The players irrespective of their different games have same level of anxiety level.

**Table**

**Means; SD and t-ratio between Baseball Players and Athletics players.**

GAMES	MEAN	SD	NO.	SE <sub>D</sub>	t-ratio
Baseball	20.25	3.12	15		
				0.988	1.93
Athletics	17.80	2.40	15		

It can be observed from the table that mean scores of anxiety of Baseball (team game) and Athletics (individual games) players came out to be 20.25 and 17.80 with standard deviation of 3.02 and 2.41 respectively. The t-value came out to be 1.93.

Since the t-value is less than the table value at 0.05 level of significance (1.96) , the difference in the mean anxiety is not significant. The hypothesis that Baseball players and Athletics players do not differ from the level of their mean anxiety is retained.

**Table**

**Means; SD and t-ratio between Handball Players and Baseball players**

GAMES	MEAN	SD	NO.	SE <sub>D</sub>	t-ratio
Handball	16.97	2.30	15		
				0.98	2.48
Baseball	20.00	3.12	15		

It can be found from the table that the mean scores of pre-competition anxiety of handball (team game) and Baseball (individual games) players are 16.97 and 20.00 with standard deviation of 2.30 and 3.12 respectively.

The t-ratio for handball and Baseball players comes out to be 2.48. Since t-value is more than the table value of significance at 0.5 level of significance. The difference between the mean scores is significant. In other words, we can say that handball and Baseball players differ in respect of their pre-competition anxiety level. Hence our hypothesis that the players of both the team games do not differ in respect of their anxiety is rejected.

**Table**

**Means; SD and t-ratio between Athletics players and Judo Players.**

GAMES	MEAN	SD	NO.	SE <sub>D</sub>	t-ratio
Judo	18.10	3.20	15		
				1.02	1.32
Athletics	17.80	2.40	15		

It can be seen from the table that mean scores of cycling (individual game) and swimming (individual games) players are 18.70 and 17.80 with standard deviation of 3.20 and 2.40 respectively. The t-value is 1.32.

Since the t-value is less than the table value at 0.05 level of significance, the difference in the mean scores is insignificant. Hence, the hypothesis that there does not exist a significance difference between Judo and Baseball players in the level of their pre-competition anxiety is retained.

### ANALYSIS:

These can be summed up as under:-

1. In general, players of different games do not differ in the level of pre-competition anxiety.
2. There is not found significant difference in the level of pre-competition anxiety level between Handball and Athletics Players.
3. Handball and Judo players do not differ in the level of their pre-competition anxiety.
4. There does not exist significant difference in level of the pre-competition anxiety between Baseball and Athletics players.
5. Baseball players and Judo players do not differ in the level of their pre-competition anxiety.
6. Handball and Baseball Players differ significantly in the level of pre-competition anxiety.
7. Judo Players and Athletics of individual games also do not differ in the level of pre-competition anxiety undertaken.

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