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A Study of the Anxiety Level and its Effect on the Performance of Kho-Kho Players

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Abstract

Objectives of this study were to analyze the anxiety level and performance of kho-kho players and to compare the status of anxiety level of player’s pre and post match. Methodology used was a descriptive & the co relational research. Samples were 48 kho-kho players selected from the population of 144 kho-kho players from P.C.M.C. area. (Male and Female). Tools used were Paper Pencil Test (SCAT) and Match Performance Evaluation sheet. Procedure was as follows. A paper pencil test was taken of kho-kho players (sample) pre and post match. For this, the researcher used the Sports Competitive Anxiety Test (SCAT) inventory. During the match, their performance was observed by three experts. Results and Discussion stated that after analyzing the anxiety level and performance of kho-kho players, there was no significant difference found between the pre match anxiety level and the match performance of kho-kho players of the age between 12 to 16 years and of both the genders. The research hypothesis was rejected at significance level at 0.05% for these subjects. Thus the researcher concludes that there was no significant relationship between the anxiety level and performance of kho-kho players. The researcher compared the status of anxiety level of players' pre and post match and the null hypothesis was also rejected at significance level at 0.05%. There was significant relationship between pre and post match anxiety level of these subjects.

Key words: - anxiety level, sports performance, kho-kho game.
Introduction

The scientific approach in sports training and coaching is very essential for high performance. Theiss and Schnabel defined it as, “**Sports performance is the unity of execution and result of a sports action or a complex sequence measured or evaluated according to socially determined and agreed norms.**” There are various performance factors affecting the success of players in competition. E.g. physical fitness, techniques, tactics, past records, environmental factors, psychological makeup, emotions, etc. From the methodical point of view, Schnabel (1987) differentiates competitive performance and training performance. Competitive performance is the performance during the competition. Training performance is the performance during the training.

Physical performance or the performance in sports is no longer dependent on the physiological well being of the athlete. Besides fitness factors there are psychological factors, which contribute a great deal to the Competitive Performance. The point where physiological response potential reaches dead end, the psychological preparation seems to make the athlete click, by providing boost or energy to achieve the goal, which physiologically seems to be impossible. Psychological preparation includes emotions, attention, motivation, attitude, anxiety, fear and other factors. Competition can cause athletes to react both physically (somatic) and mentally (cognitive) in a manner, which can negatively affect their performance abilities. Stress, arousal and anxiety are the terms used to describe this condition.

“**Anxiety means an emotional reaction to the stimulus perceived.**” Speilberger C. (1966) suggests that there are two types of anxiety. Anxiety States (A-state) are the subject’s response to a particular situation. Anxiety Traits (A-trait) are the characteristics of the subject’s personality, which are our general permanent traits.

Anxiety and Performance relationship is propounded by various theories such as Drive Theory, Optimum Arousal Theory, Catastrophe Theory, and the Inverted-U Hypothesis. Among all these theories, the Inverted-U Hypothesis, known as the Yerkes’s and Dodson’s Law predicts that the relationship between arousal and performance approximates to an inverted U shape. The theory propounds that as arousal is increased the performance improves, but only to a certain point (top of the inverted U.) If the athlete’s anxiety is increased beyond this point then the performance diminishes.
Today, in the modern world, information and knowledge of all these factors is needed to achieve success in competition. All countries which are front-runners in International level competitions are so due to these reasons. In India, work done in all these aspects is inadequate. In this relevance, adequate information is not available about Indian games like Kho-kho, Kabaddi, etc. with this in mind, the researcher chose this problem.

The game of Kho-Kho is a game of run and chase. Kho-kho is an Indian game played by twelve players where nine players (attackers) chase three players (defenders) within the marked playfield and well-defined rules.

**Statement of the Problem**

Various attempts have been made to measure Anxiety level in most of the sports. But there appears to be very less work done in the game of Kho-Kho. Therefore, the researcher has decided to study the effect of anxiety level on the performance of kho-kho players.

**Background of the Study**

The researcher works in the Sports school and has been coaching the Kho-Kho teams for the last ten years. The researcher is extremely interested in applying scientific coaching methods to the game of Kho-kho. Experience has shown that a player having the optimum anxiety level performs well in competition, this observation had to be verified scientifically and hence this lead to the background for this study.
Need and Significance of the Study
Coaches should be knowledgeable about the anxiety level of players of all games. As players with high anxiety level are likely to be more anxious in stressful situations\textsuperscript{14}. It thus becomes important to analyze the relationship between the anxiety level and the match performance of kho-kho players. The data thus collected would help coaches to use anxiety management techniques like relaxation, imagery, and visualization to improve performance. It was with this in mind that the researcher has proposed to assess the status of the players’ pre and post match anxiety level at zonal level.

Objectives
1) To compare the status of anxiety level of players pre and post match.
2) To analyze the anxiety level and performance of kho-kho players.

Hypothesis
\( H_0 \) - There will be no significant relationship between pre and post match anxiety levels of kho-kho players.
\( H_1 \) - There will be significant relationship between the anxiety level and the match performance of kho-kho players.

Assumptions
1. All the subjects would have played competitive kho-kho for at least two years.
2. The teams would be winners at district level school competition.
3. The subjects are used to perform before spectators.
4. Subjects have not received any psychological training for enhancing the performance.

Delimitations of the Study
1) Subject — Players from school teams of district level winner kho-kho teams from Pimpri Chinchwad Municipal Corporation (P.C.M.C.) area.
2) Class — Subjects studying in the VII to X standard.
3) Age — Chronological age is twelve + to fifteen +. Sex — both male and female.

Limitations
1) There would be no control on heredity aspects with respect to the psychological makeup of the individual.
2) There would be no control on the subject’s practicing in other competitive games.
3) There would be no control on the psychological environment of the family of the subjects.
Method
This study is a descriptive type of research. It provides a method of investigation to study, describe and interpret what exists at present. This descriptive research involves a comparison of the anxiety level of kho-kho players and attempts to discover relationship between these existing non manipulated variables. It is the correlational research.

Nature of the Design.
The researcher included the players of team game and their anxiety level was tested. The study included both the genders i.e. male and female. Age groups are under 14 and 17. Thus the design becomes Pearson’s product movement correlation.

Population and Sample
The population of this study was 144 kho-kho players from twelve teams from P.C.M.C. area. Three teams (36 players) of each male and female subject from under 14 and 17 age group participated in the zonal level competition. The sample chosen for this study were 48 kho-kho players from the population (30 %). One team (twelve players) from each group. (Male and female).

Tools of the research
1) Paper Pencil Test (SCAT) — it is the standardized test.
2) Performance Measurement Sheet — it is the teacher made test.

Procedure of the study
A paper pencil test was taken of kho-kho players (sample) pre and post match. For this, the researcher found the Sports Competitive Anxiety Test (SCAT) inventory from the reference material and internet. As the language of the inventory was English, it was converted to Marathi. For this conversion two experts from Marathi and English translation helped the researcher. Then a pilot study was done. A pilot study was done on 10 subjects of the same age group but from different disciplines. Again the reliability and validity was tested. Test retest reliability was found and it was .96 which was acceptable. The version of SCAT was C. It was useful for 10 to 16 years old players.

This test was taken on the day of the kho-kho match. Subjects were asked to solve the inventory 30 minutes before their first match of the Zonal level tournament. The subjects were gathered and taken to the classroom where the instructions for the test were given. They were briefed about the SCAT test and its purpose. The purpose of
the test could found the coping up techniques. Also they were asked to honestly answer the test. Again, after that match the subjects were asked to solve the test. During the match, their performance was observed by three experts. Their match performance was taken from score sheet. Analysis of the match performance has been done using a teacher made performance analysis sheet. Performance sheet contains points scored by the subject at the time of offence, way of scoring that point and also his time of defense at the time of that match. Measuring match performance of the subjects was very crucial task. For this task a teacher made performance sheet is used and scored by three experts. The experts were posed behind the end line of the playfield. This sheet was analyzed and average percentage was calculated. On the basis of that percentage, rank was given to each subject from the respective group.

Results
The data was collected and analyzed using statistical techniques such as mean, standard deviation and correlation coefficient and interpreted under two heads, viz.

1. Analysis and interpretation of relation between pre and post match anxiety level.

Of the total eight teams which participated in the Zonal School level kho-kho competition, the researcher chose two teams by purposive sample technique. Two teams are of boys and two of girls which represent the Pimpri Chinchwad district. From these four teams, 47 subjects were tested. They included 24 boys and 23 girls. Their scores in the pre-competitive state anxiety and performance were analyzed using descriptive statistics. Then normality of the data was established. After this step scores of the two subjects was omitted from the study as they were too outlier cases. This analysis has been shown in the table 1.
Table 1
The Means and Standard Deviation related to SCAT Pre match and Post match score of Boys and Girls of under 14 and 17 years age group.

<table>
<thead>
<tr>
<th>Gender- Age group</th>
<th>N</th>
<th>Mean</th>
<th>Std. deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys under 14 SCAT Pre</td>
<td>12</td>
<td>19.08</td>
<td>3.97</td>
</tr>
<tr>
<td>Boys under 14 SCAT Post</td>
<td>12</td>
<td>16.17</td>
<td>2.86</td>
</tr>
<tr>
<td>Boys under 17 SCAT Pre</td>
<td>12</td>
<td>18.58</td>
<td>4.27</td>
</tr>
<tr>
<td>Boys under 17 SCAT Post</td>
<td>12</td>
<td>19.00</td>
<td>4.09</td>
</tr>
<tr>
<td>Girls under 14 SCAT Pre</td>
<td>10</td>
<td>16.3</td>
<td>3.16</td>
</tr>
<tr>
<td>Girls under 14 SCAT Post</td>
<td>10</td>
<td>18.8</td>
<td>2.44</td>
</tr>
<tr>
<td>Girls under 17 SCAT Pre</td>
<td>11</td>
<td>16.73</td>
<td>1.90</td>
</tr>
<tr>
<td>Girls under 17 SCAT Post</td>
<td>11</td>
<td>16.45</td>
<td>2.46</td>
</tr>
</tbody>
</table>

Interpretation
Mean and standard deviation of Pre match SCAT score for the boys under 14 is 19.08 and 3.97 respectively. It suggests that anxiety level of the group is average and deviation of the score is big. Mean and standard deviation of Post match SCAT score for the boys under 14 is 16.17 and 2.86 respectively. It suggests that post match anxiety level of the group becomes low and deviation of the score remains wide.

Mean and standard deviation of Pre match SCAT score for the boys under 17 is 18.58 and 4.27 respectively. It suggests that the anxiety level of the group is average and deviation of the score is wide. Mean and standard deviation of Post match SCAT score for that group is 19 and 4.09 respectively. It suggests that anxiety level of the group remains average and deviation of the score remains wide.

The Mean and standard deviation of Pre match SCAT score for the girls under 14 is 16.3 and 3.16 respectively. It suggests that the anxiety level of the group is low and deviation of the score is moderate. The Mean and standard deviation of Post match SCAT score for the boys under 14 is 18.8 and 2.44 respectively. It suggests that the post match anxiety level of the group becomes average and deviation of the score remains moderate.

Mean and standard deviation of Pre match SCAT score for the girls under 17 is 16.73 and 1.90 respectively. It suggests that the anxiety level of the group is average and deviation of the score is small. Mean and standard deviation of Post match SCAT score for the boys under 17 is 18.8 and 4.09 respectively. It suggests that the post match anxiety level of the group becomes average and deviation of the score remains wide.
score for that group is 16.45 and 2.46 respectively. It suggests that anxiety level of the group becomes low and deviation of the score becomes moderate.

**Table 2**

The Correlation and t values related to SCAT Pre match and Post match score of Boys and Girls of under 14 and 17 years age group.

<table>
<thead>
<tr>
<th>Gender- Age group</th>
<th>t Values</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys under 14 SCAT Pre –Post</td>
<td>3.514*</td>
<td>H.S.</td>
</tr>
<tr>
<td>Boys under 17 SCAT Pre –Post</td>
<td>-0.443*</td>
<td>H.S.</td>
</tr>
<tr>
<td>Girls under 14 SCAT Pre –Post</td>
<td>-3.873*</td>
<td>H.S.</td>
</tr>
<tr>
<td>Girls under 17 SCAT Pre –Post</td>
<td>0.430*</td>
<td>H.S.</td>
</tr>
</tbody>
</table>

* P < 0.05

**Interpretation**

The above table suggests that there is no significant correlation between the Subject’s Pre and Post anxiety level. (t value)

2. **Analysis and interpretation of relation between anxiety level and match performance.**

**Table 3**

The Means, Standard Deviation and r values related to Pre match SCAT score and Match Performance of Boys and Girls of under 14 and 17 years age group.

<table>
<thead>
<tr>
<th></th>
<th>Means</th>
<th>S. D.’s</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys under 14 SCAT Pre</td>
<td>19.08</td>
<td>3.97</td>
<td>-0.49</td>
</tr>
<tr>
<td>Match Performance</td>
<td>50</td>
<td>0.83</td>
<td></td>
</tr>
<tr>
<td>Boys under 17 SCAT Pre</td>
<td>18.58</td>
<td>4.27</td>
<td>0.53</td>
</tr>
<tr>
<td>Match Performance</td>
<td>50</td>
<td>0.89</td>
<td></td>
</tr>
<tr>
<td>Girls under 14 SCAT Pre</td>
<td>16.3</td>
<td>3.16</td>
<td>-0.19</td>
</tr>
<tr>
<td>Match Performance</td>
<td>50</td>
<td>0.67</td>
<td></td>
</tr>
<tr>
<td>Girls under 17 SCAT Pre</td>
<td>16.73</td>
<td>1.90</td>
<td>-0.13</td>
</tr>
<tr>
<td>Match Performance</td>
<td>50</td>
<td>0.91</td>
<td></td>
</tr>
</tbody>
</table>

* P < 0.05
Interpretation
The correlation coefficient (r) for the entire group’s Pre match SCAT and match Performance were very low. Therefore the Pre match SCAT score is not significantly correlated with the match performance.

Conclusions and Findings
After conducting the study, following conclusions were drawn.
♦ The researcher compared the status of anxiety level of players pre and post match. After the comparison, the other hypothesis which was the null hypothesis $H_0$ was also rejected at significance level at 0.05%. The study concludes that there was significant relationship between pre and post match anxiety level of these subjects. (Table Number 4.2)
♦ The researcher analyzed the anxiety level and performance of kho-kho players. There was no significant difference found between the pre match anxiety level and the match performance of kho-kho players of the age between 12 to 16 years and of both the genders. Thus the research hypothesis $H_1$ was rejected at significance level at 0.05% for these subjects. (Table Number 4.3) Therefore for this study the researcher concludes that there was no significant relationship between the anxiety level and performance of kho-kho players.

The research findings are somewhat contradictory. The Null hypothesis was rejected, but the research hypothesis was based on the universal law of the Inverted U hypothesis. It was expert’s opinion that there might be Type II error in the study, as the study found that there was no significant relationship between anxiety level and match performance.

The researcher proposes some points for consideration in this regard.
♦ More observations and trials should be conducted and with more judges.
♦ A standardized performance measurement tool should be developed.
♦ Standardized norms for measuring skill performance of kho-kho players should be developed.
♦ Physiological parameters need to be considered to give correct reading of the anxiety level.
♦ Discussions with the expert’s supports that since kho-kho are a position specific game, anxiety levels would also be position specific-, which needs consideration in the study.
Discussions and Suggestions

With the related review and this study, the researcher wants to discuss that, though the universal U hypothesis suggests the relationship between the anxiety level and match performance, this relationship was not founded in this study group. After conducting the study, suggestions to the coaches that, they should not consider the player’s anxiety level before the match.

Recommendations for the further studies

1) The study could be done on different levels of kho-kho players like beginners or advanced level and with older age group players like 15 to 18 years.
2) The study could be done on different competitive levels of kho-kho players like state or national level.
3) The study could be done for standardized performance measurement tool and standardized norms for measuring skill performance of kho-kho players.

References


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