Effect of Mental Imagery Training on Mood States among Hockey Players

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Abstract

The purpose of the study was to investigate the effect of mental imagery training on mood states among hockey players. To achieve the purpose of this study, thirty college level hockey players from Sholapur were randomly selected as subjects. As per the records, their age ranged from 18 to 25 years. The investigator selected the following variables for the present investigation. True randomized experimental group design has been employed with two groups, namely mental imagery group and control group with 15 subjects each. Group I participated their treatments for a period of twelve weeks and no training were given to the control group. The three groups were statistically analysed by using analysis of covariance (ANCOVA). The findings of the present study have strongly indicates that mental imagery training of twelve weeks have significant effect on mood states i.e. tension, depression, anger, vigor, fatigue and confusion of hockey players. Hence the hypothesis earlier set that mental imagery training programme would have been significant effect on mood states in light of the same the hypothesis was accepted. The result of the study reveals that there was a significant improvement in the experimental groups on selected variables when compared to the control group after the completion of twelve weeks of mental imagery training.

Keywords: Mental Imagery, Mood States, Hockey.

Introduction

Earlier sports were recreation, than becomes competition, now in the present world sports have become extremely professionals. Experts in the field of sports have put their mind into it and made tremendous efforts to find out ways and means to achieve top level performance. To achieve top level performance in the international arena, one must excel in psychological aspects. Psychological skills have long been considered an integral part of what makes an athlete successful at elite levels. Perhaps one of the most widely researched and popular intervention strategies to date has been the use of mental imagery, which has been defined as a psychological activity that evokes physical characteristics of any object, person, or place that is absent from our perception (Denis, 1985). To explain the functions that imagery can serve in sport (i.e., why athletes use imagery), Paivio (1985) developed a simple analytical framework of imagery use. Within this framework, imagery is thought to serve both cognitive and motivational functions, and that each operate at either a specific or general level. The cognitive function of imagery revolves around imaging sport skills (e.g.,

cognitive specific imagery) or imaging game plans and strategies (e.g., cognitive general).

Imagery involves the mental visualization of a task prior to or while engaging in the task. Before beginning the imagery exercises, it was important to provide the subjects with information on the imagery process. The players were told that there are different classifications of imagery. First, imagery can be classified as internal or external. When using internal imagery, players imagine their surroundings and behaviors from their own vantage point. Conversely, when players imagine the situation from the perspective of someone else and see themselves in the image, they are using external imagery. Because both internal and external imagery may facilitate performance, the players were encouraged to use each type.

The aim of hockey is quite simple – to use sticks to dribble, pass, and shoot the ball along the pitch in an effort to score goals. The rules are very similar to those of football except that players use sticks instead of their feet to move the ball. A goal counts as one point and it scored when the ball, having been hit by a player inside the 'striking circle', completely crosses the opposing goal line. The 11 players on a team include: a goalkeeper, defenders, midfielders and attackers. The only player that is allowed to kick the ball with their feet or touch it with their hands is the goalkeeper. Hockey (or field hockey) is played on a 91.4m x 55m pitch and each

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player has a stick which is about a meter long, has a rounded head, and weighs about 340 to 790 grams. A hockey match usually lasts 70 minutes – two halves of 35 minutes each. In Olympic competition, any match that ends in a draw goes to extra time (15 minutes in total if required). In extra time the first side to score a 'golden goal' wins, but if there is no goal within the extra 15 minutes, a penalty shoot-out results (Dureha and Mehrotra, 2003). To find out whether the mental imagery training has a positive outcome on mood states the investigator formulated the study to meet in this direction.

Methodology

The purpose of the study was to investigate the effect of mental imagery training on mood states among hockey players. To achieve the purpose of this study, thirty college level hockey players from Sholapur were randomly selected as subjects. As per the records, their age ranged from 18 to 25 years. The investigator selected the following variables for the present investigation. True randomized experimental group design has been employed with two groups, namely mental imagery group and control group with 15 subjects each. Group I participated their treatments for a period of twelve weeks and no training were given to the control group. The three groups were statistically analysed by using analysis of covariance (ANCOVA).

Results and Discussion

The detailed procedure of analysis of data and interpretation were given below,

Results

Table I. Test Items

S.NO.	VARIABLES	TEST ITEMS	UNITS
1	Tension		
2	Depression		
3	Anger	Brunel University Mood Scale (BRUMS)	In Scores
4	Vigor		
5	Fatigue		
6	Confusion		

Table II. Summary of Descriptive Statistics on Mood States among Hockey Players

S.No	Variables	MIG					CG				
		Pre	SD (±)	Post	SD (±)	Adjusted Mean	Pre	SD (±)	Post	SD (±)	Adjusted Mean
1	Tension	70.06	6.41	49.20	3.42	48.95	68.06	6.00	69.60	5.17	69.84
2	Depression	80.80	5.63	54.93	4.31	54.46	85.00	7.81	84.53	8.62	85.00
3	Anger	80.20	5.94	58.80	6.42	59.17	83.93	4.83	82.86	5.87	82.49
4	Vigor	39.20	2.27	80.20	5.94	80.16	40.06	13.13	39.53	2.77	39.57
5	Fatigue	71.66	2.43	51.00	3.94	50.94	73.20	3.23	72.20	3.18	72.25
6	Confusion	84.80	6.94	61.86	9.11	61.82	83.80	5.38	85.40	6.60	85.43

MIG   = Mental Imagery Group   CG   = Control Group

The table II shows that the pre and post test means and standard deviation of two groups on mood states of hockey players.

Table III. Analysis of Variance of Pre Test Scores on Mood States among Hockey Players

Sl. No	Variables	Source of Variance	Sum of Squares	df	Mean Squares	F-Value
1	Tension	BG	30.00	1	30.00	0.77
		WG	1081.86	28	38.63	
2	Depression	BG	132.30	1	132.30	2.85
		WG	1298.40	28	46.37	
3	Anger	BG	104.53	1	104.53	3.56

		WG	821.33	28	29.33	
4	Vigor	BG	5.63	1	5.63	0.06
		WG	2487.33	28	88.83	
5	Fatigue	BG	17.63	1	17.63	2.14
		WG	229.73	28	8.20	
6	Confusion	BG	7.50	1	7.50	0.19
		WG	1080.80	28	38.60	

* P < 0.05 Table F, df (1,28) (0.05) = 4.19

In table III, the results of analysis of variance of pre test scores on tension (0.77), depression (2.85), anger (3.56), vigor (0.06), fatigue (2.14) and confusion (0.19) were lesser than the table value of 4.19 indicating that it was not significant for the degrees of freedom (1,28) at 0.05 level of confidence indicating that the random sampling was successful.

Table IV. Analysis of Variance of Post Test Scores on Mood States among Hockey Players

Sl. No	Variables	Source of Variance	Sum of Squares	df	Mean Squares	F-Value
1	Tension	BG	3121.20	1	3121.20	161.84*
		WG	540.00	28	19.28	
2	Depression	BG	6571.20	1	6571.20	141.24*
		WG	1302.66	28	46.52	
3	Anger	BG	4344.03	1	4344.03	114.51*
		WG	1062.13	28	37.93	
4	Vigor	BG	12403.33	1	12403.33	576.77*
		WG	602.13	28	21.50	
5	Fatigue	BG	3370.80	1	3370.80	261.88*
		WG	360.40	28	12.87	
6	Confusion	BG	4153.63	1	4153.63	65.51*
		WG	1775.33	28	63.40	

* P < 0.05 Table F, df (1,28) (0.05) = 4.19

In table IV, the results of analysis of variance of post test scores on tension (161.84), depression (141.24), anger (114.51), vigor (576.77), fatigue (261.88) and confusion (65.51) were greater than the table value of 4.19 indicating that it was not significant for the degrees of freedom (1,28) at 0.05 level of confidence.

Table V. Analysis of Covariance of Adjusted post test scores on Mood States among Hockey Players

Sl. No	Variables	Source of Variance	Sum of Squares	df	Mean Squares	F-Value
1	Tension	BG	3181.89	1	3181.89	179.94*
		WG	477.41	27	17.68	
2	Depression	BG	6349.14	1	6349.14	138.54*
		WG	1237.35	27	45.82	
3	Anger	BG	3619.30	1	3619.30	94.91*
		WG	1029.59	27	38.13	
4	Vigor	BG	12326.55	1	12326.55	572.99*
		WG	580.84	27	21.51	
5	Fatigue	BG	3165.30	1	3165.30	238.02*
		WG	359.05	27	13.29	
6	Confusion	BG	4152.23	1	4152.23	63.38*
		WG	1768.83	27	65.51	

* P < 0.05 Table F, df (1,27) (0.05) = 4.21

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In table V, the results of analysis of covariance of adjusted post test scores tension (179.94), depression (138.54), anger (94.91), vigor (572.99), fatigue (238.02) and confusion (63.38) were greater than the table value of 4.21 indicating that it was not significant for the degrees of freedom (1,27) at 0.05 level of confidence.

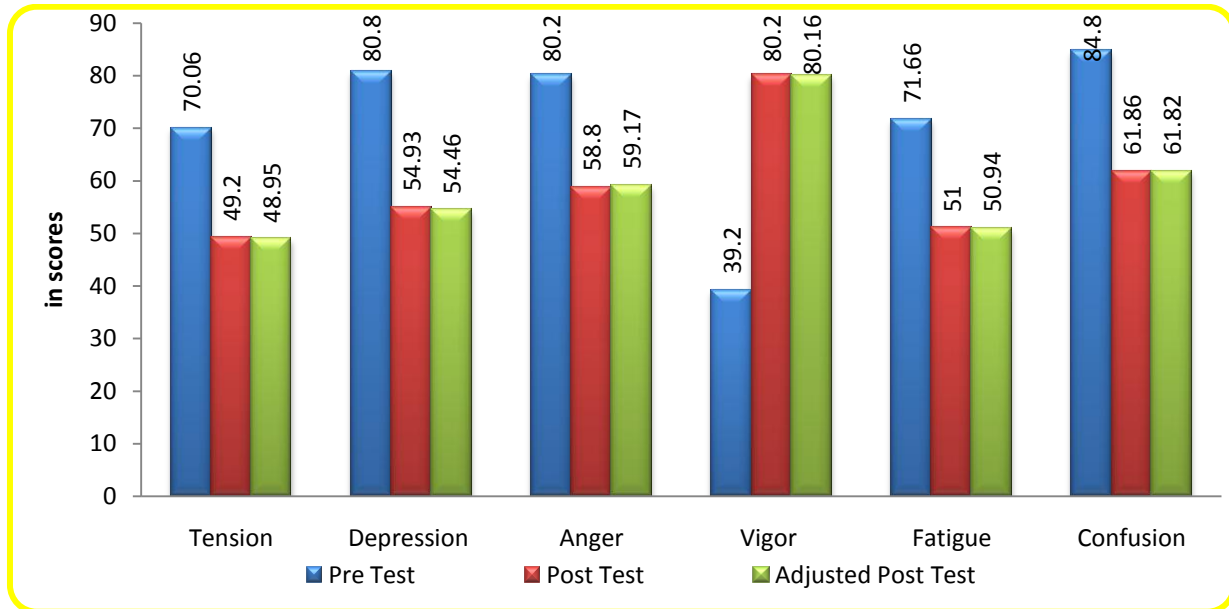**Figure I.** Shows the Mean Values of Mental Imagery Group on Mood states among Hockey Players
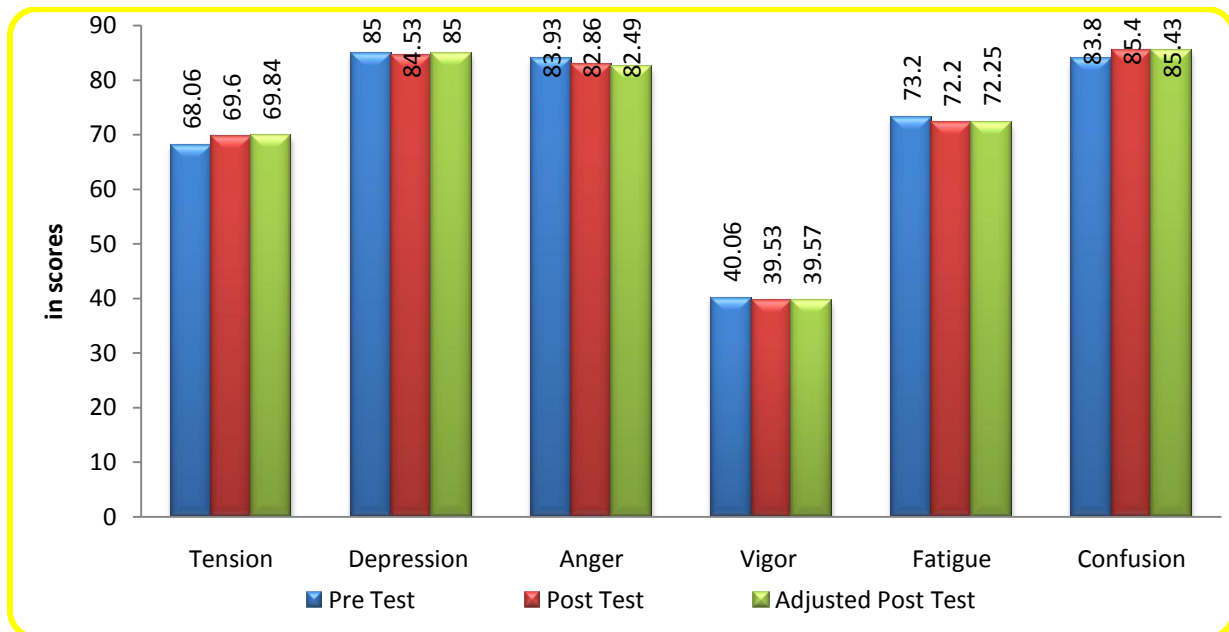

Figure II. Shows the Mean Values of Control Group on Mood states among Hockey Players

Discussion on Findings

In case of mood states i.e. tension, depression, anger, vigor, fatigue and confusion the results between pre and post (12 weeks) test has been found significantly higher in experimental group in comparison to control group. This is possible because still they are under process of psychological growth and development which directly contribute to enhancement in their total mood states and due to regular training programme of mental imagery training which may also bring sudden spurt in hockey players.

The findings of the present study have strongly indicates that mental imagery training of twelve weeks have significant effect on mood states i.e. tension, depression, anger, vigor, fatigue and confusion of hockey players. Hence the hypothesis earlier set that mental

imagery training programme would have been significant effect on mood states in light of the same the hypothesis was accepted.

conclusions

In the light of the study undertaken with certain limitations imposed by the experimental conditions, the following conclusion was drawn.

The result of the study reveals that there was a significant improvement in the experimental groups on selected variables when compared to the control group after the completion of twelve weeks of mental imagery training.

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