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Impact of Specific Training with and without Mental Toughness on Selected Bio-Motor Psychological and Performance Variables on Hockey Players

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Abstract

Modern sports give greater emphasis in preparing the players psychologically because it plays significant role. Physical Educators and coaches believe that without psychological preparation there is little chance of success to the higher level of completions. Several investigations revealed that apart from somatic and physiological variables, higher level of performance is depends upon an athlete's psychological makeup. This quality is underpinned by specific mental skills and, as a coach, you have an important role in helping your athlete or team to develop and perfect these skills. Sport psychology focuses on teaching practical mental skills to athletes, so that they can develop their psychological abilities to the same high level as their physical abilities. The key difference between winning and losing, or a good performance and a poor performance, may be at the mental skill level rather than the physical skill level. As with physical skills, these mental skills need to be taught correctly, fine-tuned by the coach and athlete, and then practised until they are mastered (Weinberg & Gould, 1995).To achieve the purpose of the present study, fifty four National/University level players were selected as participants at random and their ages ranged from 18 to 22 years. The study was formulated as a true random group design, consisting of a pre-test and post-test. The participants were divided into three equal groups. The subjects (n=54) were randomly assigned to three equal groups of eighteen men participants each. The groups were assigned as specific training group (STG), specific training with mental toughness training group (STMTG) and control group (CG) in an equivalent manner. The data were compiled and analyzed using the Statistical Package for the Social Science (SPSS) for windows computer software. The mode of analysis of data on the selected independent variables among the selected dependent variables has been explained in this chapter into parts I &II. Paired sample t-test were found to analysis significant improvement of selected dependent variables on Mental toughness and specific training group /intervention group, Specific training group and the control group were discussed separately. In part II, analysis of covariance (ANCOVA) was founded to analysis the significant improvement differences among the groups on Speed endurance, Self confidence, Negative energy, Attentional control, Motivational level and Goal scoring ability were discussed. The control group had shown improvement in any of the selected variables rather there were slight decreases in some of the variables which may be due to lack of proper coaching in concerned area. The field Hockey players of intervention group didn't show any improvement in Speed and Speed Endurance variables after following the experimental treatment. The field Hockey players of intervention group had shown improvements in Psychological and Performance variables. After the following experimental treatment. The Field Hockey players who underwent field training with Mental Toughness Training showed greater improvement than the other two groups in overall performance factors.

Keywords: Specific Training, Mental Toughness, Bio-Motor, Psychological, Performance.

Introduction

Sports in the present day have become extremely competitive, previous records are being broken whenever there is competition. It is not mere participation or few days practice that brings an individual victory, but the continuous hard work of training right from childhood. Today's sports person faces some unique challenges .The standard are higher, the competition is tougher the stakes are greater attention in these days. (Gangopadhay, 2002). The competitive sports are further ranked according to the level of intensity of the competition. As sports have developed more, it becomes a scientific discipline. Each nation in the world is vying with other to produce top class players to win laurels in the international competitions. Considering research is done and developed to identify various factors that will be productive of achieving high level performance in skills of a given sports with proper coaching.

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Methodology

To achieve the purpose of the present study fifty four National/University level players were selected as participants at random and their ages ranged from 18 to 22 years. The study was formulated as a true random

group design, consisting of a pre-test and post-test. The participants were divided into three equal groups. The subjects (n=54) were randomly assigned to three equal groups of eighteen men participants each. The groups were assigned as specific training group (STG), specific training with mental toughness training group (STMTG) and control group (CG) in an equivalent manner. The training program was scheduled at 6.30 to 8.00 am for alternate three days in a week for both the groups. The participants belonging to control group were not treated with any training programme. After completion of the treatment the participants belong to all the three groups were again tested on criterion measures as measured during the initial test. The experimental groups were subjected to field training schedule which was specially designed to improve the tactical part of the game and fitness training for field Hockey. The field training was also 12 weeks of six days in a week, with two hours training duration each in morning and evening sessions. In addition to above field training, the experimental group had undergone Mental Toughness Training Schedule (Psychological training) was given 1 hour 30 minutes alternate days in morning and evening session expect on the rest day. Mental Toughness Training consisted of Self-confidence, Negative energy, Attention control, Motivation level. However, muscle soreness was reported in the earlier training period but later it was reduced later. The collected data on criterion measures were treated by analysis of covariance to test the significance of mean difference among the three groups on performance and performance related factors. Further if its significance was observed, as post-hoc test, scheffee test was applied.

Table I. Selection of the Test

sl.no.	Area	Variable	Test
1	Bio motor	Speed Endurance	Yo-Yo test 2
2	Psychological	Self-Confidence	Psychological Performance Inventory
		Negative energy	
		Attentional level	
		Motivational level	
3	Performance	Goal scoring ability	Objective Rating of basic skill

Table II. "R" Value

Sl. no.	Area	Variable	"R" Value
1	Bio motor	Speed Endurance	0.92*
2	Psychological	Self-Confidence	0.92*
		Negative energy	0.89*
		Attentional level	0.90*
		Motivational level	0.94*
3	Performance	Goal scoring ability	0.90*

Collection of the Data

Pre-test data were collected two days before the training program .Post test data were collected two days after the training program. In all the cases, the data were collected data in the morning and evening session as indicated in the following table:

Experimental Design and Statistical Technique and Assumption

The pre-test and post-test random group design was used as experimental design in which fifty four participants were divided into three groups of eighteen each at random. The participants were divided into three equal groups. The participants (n=54) were randomly assigned to three equal groups of eighteen participants each. The groups were assigned as Group-I: specific training group (*STG*), Group-II: specific training with mental toughness training group (STMTG) and Group-III: control group (CG) in an equivalent manner. The data collected from the three groups prior to and after the training program on the selected criterion variables were analyses were carried out through various statistical techniques such as the dependent t-test the univariate analysis of covariance (One-way ANCOVA), and the post hoc pair wise comparison using the Scheffe's test analysis. Whenever the 't'- ratio for adjusted post test means were found to be significant, scheffe's test was followed as a post hoc test to determine which of the paired mean differences were significant. In all the cases .05 level of confidence was fixed as level of confidence to test the hypotheses.

Analysis and Interpretations of the data

The data were compiled and analyzed using the Statistical Package for the Social Science (*SPSS*) for windows computer software. The mode of analysis of

data on the selected independent variables among the selected dependent variables has been explained in this chapter into parts I &II. In part I, paired sample t-test were found to analysis significant improvement of selected dependent variables on Mental toughness and specific training group /intervention group, Specific training group and the control group were discussed separately. In part II, analysis of covariance (*ANCOVA*) was founded to analysis the significant improvement differences among the groups on Speed endurance, Self confidence, Negative energy, Attentional control, Motivational level and Goal scoring ability were discussed separately.

Analysis of the Data

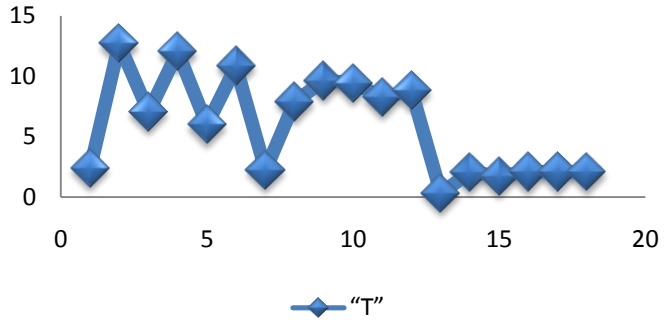
To examine if there were any statistically significant improvement of mental toughness combines with specific training group/Intervention group, specific training group and control group on selected dependent variables were discussed. Presents pre and post test means, and the results of the paired sample t-test of Mental toughness and specific training group/intervention group, specific training group and control group on six depended variables Speed Endurance, Self confidence, Negative Energy, Attentional control, Motivational level and Goal scoring ability.

Results

Table III. Paired sample "t" test of Mental Toughness Training with Specific Training, Specific Training and Control Group on selected dependent variables

Sl. no.	Name of Training Group	Name of the Dependent variables	Pre test Mean	Post test Mean	"t"
1	STMTG	Speed Endurance	9.88	10.27	2.34
		Self-Confidence	24.11	26.66	12.67
		Negative energy	18.22	15.61	7.02
		Attentional level	23.66	27.77	12.02
		Motivational level	27.33	36.27	5.97
		Goal scoring ability	47.22	46.27	10.81
2	STG	Speed Endurance	10.11	10.55	2.20
		Self-Confidence	23.72	26.00	7.87
		Negative energy	18.16	15.83	9.62
		Attentional level	24.11	28.00	9.45
		Motivational level	26.22	33.83	8.22
		Goal scoring ability	47.66	53.38	8.79
3	CG	Speed Endurance	9.83	9.77	.29
		Self-Confidence	23.88	23.38	2.03
		Negative energy	14.22	14.66	1.71
		Attentional level	22.55	21.44	2.07
		Motivational level	24.72	23.94	2.07
		Goal scoring ability	47.22	46.27	2.05

Figure I. Mental Toughness Training with Specific Training, Specific Training and Control Group on selected dependent variables



Result of the Study

Mental Toughness Training with Specific Training

The paired sample‘t’ was computed on selected dependent variables. The results were presented in the above Table IV. The‘t’ value for Speed Endurance ,self confidence ,Negative Energy, Attentional control, Motivational level and goal scoring ability were 2.34, 12.67, 7.02, 12.02, 5.97 &10.81 respectively. All the‘t’ values are significantly higher than the required table value of 2.11 for df 17 at 0.05 level of confidence. The result of the study shows that intervention group significantly improved the performance of all the selected dependent variables.

Specific Training

The paired sample ‘t’ was computed on selected dependent variables. The results were presented in the above Table IV. The ‘t’ value for Speed Endurance , self confidence ,Negative Energy, Attentional control, Motivational level and goal scoring ability were 2.20, 7.87, 9.62, 9.45, 8.22 and 8.79 respectively. All the ‘t’ values are significantly higher than the required table value of 2.11for df 17 at 0.05 level of confidence. The result of the study shows that intervention group significantly improved the performance of all the selected dependent variables.

Control Group

The paired sample‘t’ was computed on selected dependent variables. The results were presented in the above Table IV. The‘t’ value for Speed Endurance, Self Confidence, Negative Energy, Attentional control, Motivational level and Goal Scoring Ability were. 29, 2.03, 1.71, 2.07, 2.07 and 2.05 respectively. All the‘t’ values are significantly higher than the required table value of 2.11for df 17 at 0.05 level of confidence. The result of the study shows that intervention group significantly improved the performance of all the selected dependent variables.

Discussion on Hypothesis

1. In the first hypothesis, it was hypothesized that there would be significant improvement due to the intervention training will have influence on dependent variables among hockey players. The present study produced similar results. Hence the research hypothesis of the investigator was accepted and the null hypothesis was rejected.
2. In the second hypothesis, it was hypothesized that there would be significant difference due to intervention training group on depended variables among hockey players. The present study produced similar results. Hence the research hypothesis of the investigator was accepted and the null hypothesis was rejected.

Conclusions

From the analysis of the data, the following conclusions were drawn:

1. The control group had shown improvement in any of the selected variables rather there were slight decreases in some of the variables which may be due to lack of proper coaching in concerned area.
2. The field Hockey players of intervention group didn’t show any improvement in Speed and Speed Endurance variables after following the experimental treatment.
3. The field Hockey players of intervention group had shown improvements in Psychological and Performance variables. After the following experimental treatment.
4. The Field Hockey players who underwent field training with Mental Toughness Training showed greater improvement than the other two groups in overall performance factors.

References

1. Aubrey Newland,(May 8, 2009), The Relationship Between Mental Toughness And Performance In Collegiate Basketball Players Thesis ,Presented to the Department of Kinesiology ,Western Illinois University.
2. Davenport, 2006, Perceptions of the Contribution of Psychology to Success in Elite Kick Boxing” Journal of Sports Science & Medicine 5 (CSSI), 99–107.
3. Jones, G. Hanton, S., & Connaughton, D. (2002)., What is this thing called mental toughness? An investigation of elite sports performers. *Journal of Applied Sport Psychology*, 14, 205-218.
4. Gangopadhay. S.R. (2002), Physical Education today and tomorrow (Delhi: Friends publication, 62-64.
5. Lee Crust, Kayvon Azadi,(September 2009) , Leadership preferences of mentally tough athletes, Department of Sport, Health and Exercise Sciences, Personality and Individual Differences, 47, 4,326–330
6. Reilly, T. and Borrie,A. (1992). Physiology applied to field hockey. Sports Medicine, 14,10-26Kuan& Joy, 2007
7. Middleton, S.C., Marsh, H.M., Martian, A.J., Richards, G.E., & Perry, C. (2004a). Discovering mental toughness: A qualitative study of the mental toughness in elite athletes. Self Research Centre Biannual Conference, Berlin.
8. Weinberg, R. & Gould, D. (1995), Foundations of Sport and Exercise Psychology. Champaign, IL. Human Kinetics.