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## A comparative study of mental practice on the learning of defensive skills in cricket

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### Abstract

Psychology of sports means applying psychological theories and concepts to aspects of sport. The study was aimed at assessing the effect of mental practice in the learning of selective defensive skills in Cricket. By applying simple random sampling to all the cricket academies of South west Delhi area a total of 5 cricket academies were taken as the centre of administrating the test and collection of the data, then again by applying simple random sampling to the selected academies a total of 100 male subjects were selected, and further were divided into two sub categories, i.e. (50 Control Group and 50 Experimental Group). The pre data of the groups were taken on Back Foot defence and Front Foot Defence in Cricket. The tests were selected from the skill tests designed by Frank Tyson. Further the Experimental Group was induced to first Skill practice followed by Self Confidence, Anxiety and Imagery training and, whereas the control group only did the skill practice of their own. For the assessment of Self Confidence, Anxiety, imagery training and collection of the data the selected experimental groups were given training for 12 weeks for three days of a week (Thursday, Friday and Saturday) after the cricket practice session for 30 minutes for the selected Self Confidence, Imagery and Anxiety exercises. The statistical techniques employed were descriptive statistics followed by Independent 't' test and Paired 't' test. The variable for the study will be mental imagery, self Confidence and Anxiety. The results revealed that a significant difference was found between the experimental and the control group for selected psychological techniques for both front foot and back foot defence. Hence was concluded that

Mental Practice assessed in the investigation produced significant effect in learning of Front Foot and Back Foot defence in cricket, as a significant difference was found in the performances of the experimental and control group on executing a Front and Back defensive stroke. Another observation was made that psychological training will increase energy and avoids injuries as well, not only will visualization improves the athletic performance will also enhances the level of motivation and overall enjoyment of the sport with increasing focus, confidence and self composure.

**Keywords:** mental practice, self confidence, anxiety, imagery, back foot defence, front foot defence

### Introduction

Beginning a paper with a cautionary note may be unusual, nevertheless, in this case it seems warranted. It should be pointed out that some of the papers found in the growing literature on proposals for cognitive interventions in sport are positively biased, especially in the claims made with respect to improving sports performance. Some of the reports make claims that in reality cannot be justified and the concerns of some other authors in this respect should not be ignored.

### As Mahoney (1984), writing about cognitive interventions, points out,

.....It is imperative that a cognitive skills advocate remain both cautious and accountable in making assertions about what an athlete or coach 'should' do to improve performance. Thus, the remarks which follow and those that appear in subsequent sections should be viewed as intervention possibilities rather than direct or confident recommendations. They hardly exhaust the list of possible cognitive skills strategies that might assist athletic performance, and it goes without saying that they are in need of controlled experimental evaluation."

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Along similar lines, Heyman (1984) states "..... Cognitive interventions are derived from clinical approaches. They are more than just 'techniques'. They were developed as part of therapeutic approaches to psychological and behavioural change. It is not always easy to determine when a sport participant's problems are only related to sport or are more comprehensive, and when the application of a cognitive intervention to the sport problem may be inappropriate." Whilst the use of cognitive interventions in sport provides a new and exciting challenge for those involved in sports psychology, the different concerns of Mahoney and Psychology of sports means applying psychological theories and concepts to aspects of sport, such as coaching and teaching. The psychologist uses psychological assessment techniques and intervention strategies in an effort to help individuals to achieve their optimal performance. While sports psychology is concerned with analyzing human behaviour in various types of sports setting it focus on the mental aspects of performance.

It is generally believed that sports play an important role in the socialization of children in that they come in to contact with social order and prevailing social values, and are given a structure within which to act and develop skills in the interest of developing the values held by the society (Kleber and Roberts, Towards a new theory of Motivation in Sports, the role of Perceived Ability)

In recent years the use of cognitive strategies to facilitate optimum performance has gained increased acceptance. Cognitive strategies teach the athletes psychological skills that they can employ in their mental preparation for the competition. In addition to focusing on alleviating the harmful effects of anxiety and arousal, these cognitive strategies can also be used to enhance motivation and self confidence and to improve performance consistency. Behaviour change strategies familiar to most cognitive behaviourists form the core of virtually all athletic performance enhancement interventions. Goal setting, imagery or mental Rehearsal, relaxation training, stress management, self-monitoring, self-instruction, cognitive restructuring, and modelling interventions dominate this literature.

The human brain has the potential for self-renewal through adult neurogenesis, which is the birth of new neurons. Neural plasticity implies that the nervous system can change and grow. This understanding has created new possibilities for cognitive enhancement and rehabilitation. Mental practice devotes the cognitive rehearsal of an action without overt performance of the physical performance of the physical movement involved. It has also been defined by Richardson (1967) as "The Symbolic Rehearsal of a Physical Activity in the absence of any Gross Muscular Movements". The importance of mental factors in sport was also underlined by Mike Marsh, the American Champion Sprinter, who claimed that the ability to win comes "90% from the mind and 10% from the body".

Mental imagery can be defined as the process that occurs when we recreate experiences in the mind using information that is stored in the memory. Dreaming is an unstructured form of imagery, but the type of imagery we're interested in here is structured imagery, where the athlete uses his or her imagination in a controlled fashion to recreate specific images. There are a number of different ways of visualizing images or experiences recreated in the mind (e.g. you can visualize yourself feeling movement internally, or externally as a spectator) but research shows that the more able an athlete is to control his or her imagined movements, the greater the

potential performance enhancement (Advances in Sport Psychology (2nd ed), Champaign IL: Human Kinetics, 2002:405-439) Performance anxiety in sports, sometimes referred to as 'choking,' is described as a decrease in athletic performance due to too much perceived stress. To overcome performance anxiety, traditional coaches and trainers may try to help the athlete understand why those thoughts and feelings develop and then try to change or modify that process with limited amounts of success. Why such thoughts arise may be of interest, but knowing the answer isn't always necessary to overcome them (<http://sportsmedicine.about.com>)

Female and male athletes often create a relationship between their performance and their actual self confidence. Poor performances are explained with a lack of self-confidence and good performances with strong self-confidence.

### **Objectives of the Study**

Keeping in mind the gained popularity of cricket in sporting world inviting an enormous participation of youth resulting to a high degree of skill perfection the objectives set for the study were:

1. To find out the effect of Psychological training in the learning of defensive skills in cricket.
2. To find out the effect of Self Confidence, Anxiety and Imagery training on the learning of Front Foot defence in Cricket.
3. To find out the effect of Self Confidence, Anxiety and Imagery training on the learning of Back Foot defence in Cricket.

### **Hypothesis of the Study**

After going through the literature and keeping in mind the objectives the hypotheses of the study were stated as:

1. Psychological Training will help in learning the selected defensive skills in Cricket.
2. There would be a significant effect of Self Confidence, Anxiety and Imagery training on the learning of Front Foot defence in Cricket.
3. There would be a significant effect of Self Confidence, Anxiety and Imagery training on the learning of Back Foot defence in Cricket.

### **Procedure and Methodology**

By applying simple random sampling to all the cricket academies of South west Delhi area a total of 5 cricket academies were taken as the centre of administrating the test and collection of the data, then again by applying simple random sampling to the selected academies a total of 100 male subjects were selected, and further were divided into two sub categories, i. e. (50 Control Group and 50 Experimental Group). The pre data of the groups were taken on Back Foot defence and Front Foot Defence in Cricket. The tests were selected from the skill tests designed by Frank Tyson. Further the Experimental Group was induced to first Skill practice followed by Self Confidence, Anxiety and Imagery training and, whereas the control group only did the skill practice of their own. For the assessment of Self Confidence, Anxiety, imagery training and collection of the data the selected experimental groups were given training for 12 weeks for three days of a week (Thursday, Friday and Saturday) after the cricket practice session for 30 minutes for the selected Self Confidence, Imagery and Anxiety exercises. The statistical techniques employed were descriptive statistics followed by Independent't' test and Paired't' test. The variable for the study will be mental imagery, self Confidence and Anxiety.

**Results and Discussions**

For the assessment of Self Confidence, Anxiety, imagery training on the learning of Front Foot Defence and Back Foot

Defence in Cricket and collection of the data on the selected experimental groups, the results revealed that:

**Table 1:** Paired ‘t’ Test for Pre and Post Test of Experimental Group and Pre and Post Test of Control Group for Front Foot Defence in Cricket

		Mean	N	Std. Deviation	Std. Error Mean	df	‘t’
Experimental	Pre test	1.94	50	0.710	0.100	49	2.2*
	Post test	2.16	50	0.690	0.100		
Control	Pre test	1.88	50	0.659	0.093	49	1.27
	Post test	1.90	50	0.647	0.091		

Significant at (2.01), 0.05

Table no. 1 indicates the values of Paired ‘t’ test for Front Foot Defence in Cricket, which indicates that Mean and SD Values of Pre and Post Test for Experimental Group was found to be 1.94±0.71 and 2.16±0.69 respectively, whereas the Mean and SD values of Pre and Post Test for Control Group was found to be 1.88±0.66 and 1.90±0.65 respectively, also the table indicates that there was a significant difference was found between the pre and post test values of the experimental group

of Front Foot defence for the selected psychological variables as the value was found to be 2.1 against the tabulated value 2.10 which is significant 0.05 level, whereas no significant difference was found between the pre and post values of the control group, which shows that the mental practice for the selected variables proved to be effective in the learning of Front Foot defence in Cricket

**Table 2:** Independent ‘t’ Test for Pre Test of Control and Experimental Group and Post Test of Control and Experimental Group for Back Foot Defence in Cricket

	Groups	N	Mean	Std. Deviation	Std. Error Mean	df	‘t’
Pre test	Control	50	1.88	.659	.093	98	0.29
	Experimental	50	1.94	.710	.100		
Post test	Control	50	1.90	.647	.091	98	3.39*
	Experimental	50	2.16	.710	.100		

\*Significant at (1.98), 0.05

Table no. 2 indicates the values of Independent ‘t’ test for Front Foot Defence in Cricket, which indicates that Mean and SD Values of Pre Test for Experimental and Control Group was found to be 1.94±0.72 and 1.88±0.66 respectively, whereas the Mean and SD values of Post Test for Experimental and Control Group was found to be 2.16±0.71 and 1.90±0.65 respectively, also the table indicates that there was a significant difference was found between the post test values

of the experimental group and Control group of Front Foot defence for the selected psychological variables as the value was found to be 3.39 against the tabulated value 1.98 which is significant 0.05 level, whereas no significant difference was found between the pre test values of the experimental and control group, which shows that the mental training for the selected variables for 12 weeks had been effective in the learning of Front Foot defence in Cricket.

**Table 3:** Paired ‘t’ Test for Pre and Post Test of Experimental Group and Pre and Post Test of Control Group for Back Foot Defence in Cricket

		Mean	N	Std. Deviation	Std. Error Mean	df	‘t’
Experimental	Pre test	1.90	50	0.730	0.100	49	2.21*
	Post test	2.34	50	0.660	0.100		
Control	Pre test	1.82	50	0.679	0.093	49	1.13
	Post test	2.01	50	0.627	0.091		

Significant at (2.01), 0.05

Table no. 3 indicates the values of Paired ‘t’ test for Back Foot Defence in Cricket, which indicates that Mean and SD Values of Pre and Post Test for Experimental Group was found to be 1.90±0.73 and 2.34±0.66 respectively, whereas the Mean and SD values of Pre and Post Test for Control Group was found to be 1.82±0.68 and 2.01±0.63 respectively, also the table indicates that there was a significant difference was found between the pre and post test values of the experimental group

of Back Foot defence for the selected psychological variables as the value was found to be 2.21 against the tabulated value 2.10 which is significant 0.05 level, whereas no significant difference was found between the pre and post values of the control group, which shows that the mental practice for the selected variables proved to be effective in the learning of Back Foot defence in Cricket

**Table 4:** Independent ‘t’ Test for Pre Test of Control and Experimental Group and Post Test of Control and Experimental Group for Back Foot Defence in Cricket

	Groups	N	Mean	Std. Deviation	Std. Error Mean	df	‘t’
Pre test	Control	50	1.82	0.659	0.093	98	0.37
	Experimental	50	1.90	0.730	0.100		
Post test	Control	50	2.01	0.627	0.091	98	3.44*
	Experimental	50	2.34	0.710	0.100		

\*Significant at (1.98), 0.05

Table no. 4 indicates the values of Independent 't' test for Back Foot Defence in Cricket, which indicates that Mean and SD Values of Pre Test for Experimental and Control Group was found to be  $1.82 \pm 0.66$  and  $1.90 \pm 0.73$  respectively, whereas the Mean and SD values of Post Test for Experimental and Control Group was found to be  $2.01 \pm 0.63$  and  $2.34 \pm 0.71$  respectively, also the table indicates that there was a significant difference was found between the post test values of the experimental group and Control group of Back Foot defence for the selected psychological variables as the value was found to be 3.34 against the tabulated value 1.98 which is significant 0.05 level, whereas no significant difference was found between the pre test values of the experimental and control group, which shows that the mental training for the selected variables for 12 weeks had been effective in the learning of Back Foot defence in Cricket.

### Conclusions

On the basis of the results available following conclusion could be drawn from the study:

1. It was found that a significant difference was found in the post test values of Control and Experimental group which shows that psychological training has proved effective in skill learning.
2. Mental Practice assessed in the investigation produced significant effect in learning of Front Foot and Back Foot defence in cricket, as a significant difference was found in the performances of the experimental and control group on executing a Front and Back defensive stroke.
3. Another observation was made that psychological training will increase energy and avoids injuries as well, not only will visualization improves the athletic performance will also enhances the level of motivation and overall enjoyment of the sport with increasing focus, confidence and self composure.

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