Different group of subjects should be exposed to varied number of sessions so that it can be established as to how many sessions are required in order to maximize the outcomes.

Single subject multiple baseline design may be used to explore changes taking place throughout the process. Pre-post experimental design can be utilized to study effect of mental practice on same group of subjects so as to minimize error variance.

Future research may be taken up with different demographical variables so that findings could be generalized better.

Physiological measures may be utilized to explore as to how does mental practice produce different physiological changes.

Research can be designed for different individual and team games to study its effectiveness in different sport settings.

Future researches should be designed to see as to how does expectation or the attitude towards the intervention influence the outcome.
Modern competitive sports are an extremely complex behavioral phenomenon. In tough competitions, some top athletes who were strong in terms of techniques or physical fitness often failed to achieve their potential because they lacked confidence. Performance in sports is not related to physical strength and skill only, rather psychological states and traits are deeply related to it. There is always a gap between one’s abilities and performance. The magnitude of the gap between ability and performance depends upon how good the mind and body coordinate with each other, which in turn determines human behavior in diverse spheres of life. Sport is one of the most important aspects of human life where mind and body interaction plays a significant role. Performance in sports is not only related to physical strength and skill, rather psychological states and traits are involved in delivering peak performance.

Sport involves those competitive and recreational activities which are governed by a set of rules and provides enjoyment, release of energy, and various health related benefits. Recent times, sport have been going further from the physical aspect to the mental or psychological aspect of competing and there is growing realization that peak performance in sport can only be achieved through taking help from those psychological techniques which enhance players' psychological strength. Mental imagery is a kind of psychological technique where senses are involved to create sensory experiences in the mind in the absence of the actual physical activity so as
to closely resemble the actual movement. It plays a vital role in producing positive states of mind which in turn help the athlete in delivering optimal level of performance. It tends to produce these effects through its cognitive and motivational functions that involve visualizing success, perfection in skill, positive outcomes, and positive mood states for motivating towards higher performance, familiarizing with the conditions, refocusing, and setting stage for performance etc.

The psycho-neuromuscular theory (Carpenter, 1894) and functional equivalence theory (Farah, 1989) maintained that imagination produces similar effects to that of physical practice in many ways. Cognitive theories like symbolic rehearsal theory (Sackett, 1934), self efficacy theory (Bandura, 1977), schema theory (Schmidt, 1975), motivational expectation theory (Paivio, 1985), motor learning theory (Fitts and Posner, 1967), arousal activation theory (Schmidt, 1982), set hypothesis (Nascon & Schmidt, 1971) and insight learning theory (Grouios, 1992) explained cognitive roles of imagery in producing conducive states of mind in delivering peak performance. On the other hand information processing theories like dual code theory (Paivio, 1975), triple code theory (Ashen, 1984), and bio-informational theory (Lang, 1977) proposed the way in which imagery facilitates the flow of information processing through using additional cognitive codes that provide imagery an edge over physical practice in delivering better performance.
Researchers’ interest in mental imagery is as old as beginning of
research in psychology. Researches have shown that mental imagery has
been found to influence a wide variety of variables which include Psycho-
physiological variables like muscular activity, Spinal activity, autonomic
nervous system activity, different areas of brain, and heart rate
(Pfurtscheller et al., 2009; Hale, Raglin, and Koceja, 2003; Crews & Kamen,
2006; Lorey et al., 2009; Papadelis et al., 2007), performance related
variables like motor skill development and sport performance (Shoenfelt &
Griffith, 2008; Krista & Munroe, 2008), and finally the psychological
variables which include anxiety, self-efficacy, flow state, intrinsic
motivation, concentration, and confidence (Magill, 2007; She and Morris,
1997; Nicholls, Polman, & Holt, 2005; Martin & Hall, 1995; Thomas and
Fogarty, 1997; Hall et al., 2009).

Keeping in mind the cognitive and motivational role of imagery
proposed by different theories and different studies showing effect of mental
imagery on vide variety of variables, the present research designed mental
imagery package aiming at enhancing flow state, intrinsic motivation,
concentration, sport confidence, and ultimately the performance of the
hockey and football players. Following objectives and hypotheses were
formulated for the same.

Objectives of the study were:-

To examine the effect of mental imagery on flow state.
To examine the effect of mental imagery on intrinsic motivation.

To examine the effect of mental imagery on concentration.

To examine the effect of mental imagery on sport confidence.

To examine the effect of mental imagery on sport performance.

Following hypotheses were formulated.

Mental imagery would enhance the flow state.

Mental imagery would enhance the intrinsic motivation.

Mental imagery would enhance the sport-confidence.

Mental imagery would enhance the concentration level.

Mental imagery would enhance sport Performance.

Experimental design was used to examine the effect of mental imagery on sport performance and psychological attributes i.e. flow state, intrinsic motivation, sport confidence and concentration. Two comparable groups, in terms of football and hockey skills on the basis of ranks assigned to the participants by their respective coaches, had been formulated and were randomly assigned to experimental and control group. The experimental group was made to undergo mental imagery sessions, whereas the control group did not receive any intervention. Sample of the study included 52 football and 47 hockey players (N=99), screened out of 122 players (65 football and 57 hockey players) on the basis of their ability to imagine,
using movement imagery questionnaire (Hall & Martin, 1997). Following scales/tests were used to measure the dependent variables:-


The Carolina Sport Confidence Inventory (Manzo, Silva & Mink, 2001).

Intrinsic Motivation Inventory (McAuley, Duncan, and Tammen, 1989).

Thought Occurrence Questionnaire (Sarason et al., 1986).

McDonald Soccer Skill Test (1951).

Friedel Field Hockey Skill Test (1956).

The imagery group was exposed to mental imagery of 15 to 25 minutes daily for 10 to 15 sessions. The mental imagery package was composed of four phases namely relaxation, warm up, performance, and feedback phase. Football/hockey matches were organized between control and experiment group and all the participants were assessed on dependent measures. Multivariate Analysis of Variance (MANOVA) was applied to analyze the significance of difference between experimental and control group on dependent measures i.e. flow state, intrinsic motivation, sport confidence and concentration. Chi-square test was used to analyze the performance differences between experimental and control group. The main findings of the research were: -
Imagery group differed significantly from control group in terms of their flow state where imagery group revealed higher level of flow state as compared to control group.

Imagery group differed significantly from control group in terms of their intrinsic motivation. Imagery group had higher level of intrinsic motivation as compared to control group.

Imagery group differed significantly from control group in terms of their concentration. Imagery group revealed less occurrence of distracting thoughts and higher level of concentration as compared to control group.

Imagery group differed significantly from control group in terms of their sport confidence. Imagery group was having higher level of sport confidence as compared to control group.

Multivariate analysis indicated that there is strong relationship among all the four dependent measures i.e. flow state, intrinsic motivation, concentration, and confidence and there was combined significant difference between imagery and control group.

Performance based analysis showed that during the football and hockey matches between the imagery and control group, imagery group had shown higher performance on respective performance criteria.
Findings were discussed within the framework of psycho-neuromuscular theory and symbolic rehearsal theory which explained how imagery helps in improving sport performance. As the findings have indicated that *mental imagery* was found to be effective in altering players’ states of mind and provided them conducive environment for optimal performance, it is inferred that imagery is effective tool for the sport persons in order to enhance their sport performance. Whatever the players imagine before competition, during their practice, while performing, and in general tends to have effect on the players’ state of mind and their performance. If imagination is positive, it would have a positive effect on performance. So, it is very important to make the players learn to incorporate positive aspects in their day today imaginations in order to maximize its benefits on sport performance.