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A Comparative Effect of Tratak Kriya and Mental Imagery Training in Learning of Back Foot Defence in Cricket

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Abstract

Cognitive interventions are designed to enhance positively influence the performance and learning of sports skills, keeping in mind the fact the research scholar intended to identify the comparative effect of Tratak Kriya and Mental Imagery training in learning of back foot defence in cricket. By applying simple random sampling, a total of 150 female cricket players were selected from different academies of South west district with minimum state level participation and age ranging between 16-19 years. The group was further divided into three sub categories, i. e. (50 Tratak Group, 50 Imagery Group and 50 Control Group). Further the Tratak Group was induced to first Skill practice followed by Tratak Kriya training and the other group i. e. the imagery group did the skill practice followed by imagery training, whereas the control group only did the skill practice of their own. For the assessment of mental imagery training, Tratak Kriya Training and collection of the data the selected experimental group were given training for 8 weeks for three days of a week (Thursday, Friday and Saturday) after the cricket practice session for 15 minutes for the selected Tratak Kriya exercises, 9 mental imagery practical relaxation exercises and 8 skill imagery exercises for back foot defence. The statistical techniques employed were descriptive statistics followed by One Way ANOVA. The result revealed that the mean and SD values of Control, Tratak and Imagery Group were found to be 7.02±0.71, 7.38±0.78 and 8.00±0.72 respectively, whereas, a significant difference was found between the post tests of control, Tratak and imagery group as the value was found to be 22.36 against the tabulated value 1.98 which was found to significant at 0.05 level. Hence, finally it can be concluded that Tratak and imagery both were found to be effective in skill learning, but the post hoc analysis proved that mental imagery training was found to be more effective than Tratak kriya training in learning of back foot defence in cricket.

Keywords: Mental Imagery, Tratak Kriya, Skill, Back foot defence

Introduction

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 **(D. A. Wuest and Charles A. Bucher, 1994).**

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 **(D. A. Wuest and Charles A. Bucher, 1994).**

Mental practice devotes the cognitive rehearsal of an action without overt performance of the physical performance of the physical movement involved **(Oriskell, copper and Moran, 1994).** 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" **(Chadban, 1995)**

Besides practicing mental rehearsal the athletes may also use Tratak Kriya another form of intervention technique to enhance performance. Tratak or steady gazing is an excellent concentration exercise. It involves alternately gazing at an object or a point without blinking, then closing eyes and visualising the object in mind's eye. The practice steadies the wandering mind and concentrates attention, leading to focus with pin point accuracy, whenever the eyes go, and the mind follows. So that when you fix your gaze on a single point, the mind too becomes one pointed. Tratak also improves the eye sight and stimulus the brain via the optic nerve.

In recent years the study of mental imagery has sparked the interest of many scholars in the field of sport psychology. It is now recognized that, in general, imagery is used daily by most people **(Barr & Hall, 1992).** In addition, many athletes and coaches have realized the important role that imagery plays **(Salmon, Hall, & Haslam, 1994)** and have incorporated its use in into their training regimens **(Martin, Moritz, & Hall, 1999).**

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)**

Imagery has been shown to be very effective for improving accuracy in sport. Thomas and **Fogarty (1997)** found that imagery combined with positive self-talk improved not only putting performance, but psychological factors as well. **Woolfork et al. (2005)** found that positive imagery participants, in comparison to negative imagery training and control group participants, experienced significant increases in putting performance. Moreover, imagery has been shown to positively enhance free-throw shooting among collegiate basketball players. Kearns and **Crossman (1992), Shambrook and Bull (1996), Templin and Vernacchia (1993, 1995), Stewart (1997), and Carboni, Burke, Joyner, Hardy, and Blom (2000)** have determined imagery to be to some degree effective for most individuals at enhancing free-throw performance.

These aspects of the mental imagery and tratak kriya process need to be constantly practices in order to elicit results. Even though individual differences exist in mental imagery ability, generally, better imagery control correlates to better performance in the motor skill **(Annett, 1995).** Another approach is to combine the techniques of mental imagery with physical practice of the intended skill labelled visual-motor behaviour rehearsal, which in fact till date, had not been used or applied in the field of cricket hence the study has been undertaken.

Objectives and Hypothesis

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 objective set for the study was to know the comparative effect of Tratak Kriya and mental imagery training

on the learning of back foot defence in cricket, and after going through the literature it was hypothesized that there would be a significant effect of mental imagery and Tratak Kriya on the learning of back foot defence in cricket, also Mental Imagery Training will be found more effective than Tratak Kriya in learning of Back foot defence in Cricket.

Procedure and Methodology

By applying simple random sampling to all the cricket academies of South west District 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 150 female subjects were selected, and further were divided into three sub categories, i. e. (50 Tratak Group, 50 Imagery Group and 50 Control Group). Further the Tratak Group was induced to first Skill practice followed by Tratak Kriya training and the other group i. e. the imagery group did the skill practice followed by imagery training, whereas the control group only did the skill practice of their own. For the assessment of mental imagery training, Tratak Kriya Training and collection of the data the selected experimental groups were given training for 8 weeks for three days of a week (Thursday, Friday and Saturday) after the cricket practice session for 15 minutes for the selected Tratak Kriya exercises, 9 mental imagery practical relaxation exercises and 8 skill imagery exercises for back foot defence. The statistical techniques employed were descriptive statistics followed by One Way ANOVA. The variable for the study will be mental imagery and Tratak Kriya. The criterion measure for the purpose of the present study will be the mental imagery test guidelines as explained below:

Mental imagery practical relaxation exercise

- Get yourself into a comfortable position, make sure you will be warm and make sure you won't be disturbed.
- Turn off your phone and loosen any tight clothing.
- Now focus on your breathing.
- Breathe easily and slowly.
- As you breathe in allow your stomach to rise and extend. As you breathe out let your whole body relaxes. Breathe in-feel your stomach rise. Breathe out-relax. Breathe in-feel your stomach rise. Breathe out-relax. (Do 3 times). For the next 10 breaths, each time you breathe in feel your stomach rise-each time you breathe out think to yourself….relax….relax….relax (pause 10 breaths).
- Let yourself relax. Feel the relaxation speed through your body. Breathe easily and slowly. Become aware of your feet. Move your toes slightly. Let them relax. Now think into your lower legs. Let your calf muscles totally relax. Think into your upper legs. Let them totally relax. Feel your legs sink into a completely relaxed state. Relax your behind (pause).
- Focus on the muscles in your lower back. Think relaxation into those muscles. Feel that relaxation spread into your upper back. Feel your whole body sink into a deep state of relaxation. Now focus on your fingers. Feel them tingle slightly. Think warmth into your fingers. Let them totally relax. Relax your forearms, your upper arms, and your shoulders. Totally relax. Relax your neck (pause) and your jaw. Feel your head sink into a totally relaxed and comfortable position.
- Scan your body for possible areas of tightness and relax those areas. Feel your entire body encircled with soothing warmth and relaxation. Enjoy this wonderful state of complete relaxation. (Pause 1 minute).

- Feel yourself sink deeper into a calm and wonderful state of complete relaxation.

Skill imagery

- Now ultimately focus on how to execute back foot defensive stroke with extreme ease perfection.
- Try to feel the sound of the steps of the bowler running towards you.
- This shot will be played to a ball pitching in short of length to you.
- Watch the ball from the bowler's hand and judge when it is going to be pitched.
- High back lift in line with the middle and off stump.
- Movement of the back foot into the stumps across towards the off side, with body and legs just inside the line of the ball.
- Head and eyes directly behind the line of the ball slightly to the off side of back leg.
- Weight on the back foot, with leading shoulder, side and bent front elbow pointing towards the ball's flight.
- Bat coming down from the top of the back lift, back and raise movement of front elbow with rear elbow tucked inside towards the body.
- Perpendicular movement of the bat brushing the top side of the back pad.
- Front shoulder, elbow and top hand on the bat pushing the top of blade ahead of the bottom of the point of contact with the ball.

Tratak Kriya

Purpose: The purpose of the test was to develop the concentration ability of the subjects.

Materials Required: Cricket Ball, Stop Watch and Table (18" to 20" high)

Administration of the test:

1. The subjects were asked to sit firmly in one of the meditation posture with the head, neck and backbone remained, in a straight vertical line and motionless.
2. The subjects were instructed to breathe slowly and smoothly.
3. A cricket ball was placed on the 18" table level, about three feet away from the subjects.
4. The subjects were asked to look steadily at the centre of the cricket ball (the white spot marked on the ball) and concentrate on it.
5. The subjects were informed not to stare or gaze vacantly, instead of just looking steadily without straining their eyes.
6. **Note:** The subjects were made to gaze in a calm, relaxed manner, somewhat as they are looking their faces in the mirror.
7. After about a minute or when eyes become dry and painful, the subjects were asked to close their eyes and keep their inner gaze steady and visualized at the centre of the cricket ball (white spot) at a Ajna or Anahata chakra or in the subject's mind eyes.
8. When the after image is vanished, the subjects were asked to open their eyes and the same process was administered, if possible.

Results and Discussions:

Table No.1: Descriptive Statistics Scores of the Selected Groups for the Back Foot Defence Test

					95% Confidence Interval for Mean	
	N	Mean	Std. Deviation	Std. Error	Lower Bound	Upper Bound

Control	50	7.02	0.714	0.101	6.82	7.22
Tratak	50	7.38	0.780	0.110	7.16	7.60
Imagery	50	8.00	0.728	0.103	7.79	8.21
Total	150	7.47	0.841	0.069	7.33	7.60

Table No. 1 indicates the values of the descriptive statistics for the selected groups for the administered back foot defence test, which shows that mean and standard deviation values for the control, Tratak and Imagery Group were found to be 7.02±0.71, 7.38±0.78 and 8.00±0.72 respectively.

Table No.2: One Way Analysis of Variance of the Post Tests Scores of the Selected Control and Experimental Groups

	Sum of Squares	**df**	**Mean Square**	**F**	**Sig.**
Between Groups	24.573	2	12.287	22.364	0.000
Within Groups	80.760	147	0.549		
Total	105.333	149			

Table no. 2 indicates the values of one-way analysis of variance, which shows that there was a significant difference in the selected groups i.e. (Control, Tratak and Imagery) as the value was found to be 22.37 against the tabulated value 1.98, which was found to be significant at 0.05 level.

Post Hoc Analysis Scores of the Selected Groups

(I) category	**(J) category**				**95% Confidence Interval**	
		Mean Difference (I-J)	**Std. Error**	**Sig.**	**Lower Bound**	**Upper Bound**
Control	Tratak	-0.360*	0.148	0.016	-0.65	-0.07
	Imagery	-0.980*	0.148	0.000	-1.27	-0.69
Tratak	Control	0.360*	0.148	0.016	0.07	0.65
	Imagery	-0.620*	0.148	0.000	-0.91	-0.33
Imagery	Control	0.980*	0.148	0.000	0.69	1.27
	Tratak	0.620*	0.148	0.000	0.33	0.91

Table no. 3 indicates the post hoc analysis scores of the post tests of the selected groups, which shows that there was a significant difference in the post test values of the Control and Imagery group as the mean difference value was found to be 0.98, also a significant difference was found between the Tratak and Imagery group as the mean difference value was found to be 0.62, and finally a significant difference was also found between the Tratak and the control group as the value was found to be 0.36.

Conclusions:

- It was found that a significant difference was found in the post test values of control Tratak group and Imagery group, which shows that psychological training has proved effective in skill learning.

- It was found that highest mean value was found for the imagery group, which shows that the imagery training was found to be most effective in learning of back foot defence in cricket.
- It was concluded that psychological training will increase energy and avoids injuries as well, not only will visualization improve 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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