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A STUDY TO ASSESS THE EFFECT OF PETTLEP IMAGERY TRAINING ON PENALTY FLICK PERFORMANCE WITH TIME PRESSURE CONDITION AFTER DIFFERENT TRAINING DURATIONS ON DIFFERENT TRAINING GROUPS

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ABSTRACT

To achieve the purpose of the present research, a purposive sample of sixty National and Inter-University level male Hockey players of 18-25 years in age was randomly divided into four groups. Pre-test and post-test random group design was employed, groups were assigned to three experimental groups and a control group. The experimental groups along with regular hockey practice group 'A' received imagery training once per week (lx/wk), group 'B' received twice per week (2x/wk), group 'C' received three times per week (3x/wk) and the control group participated in regular routine practice. The experiment continued for twelve weeks. The penalty flick performance was evaluated after six weeks, nine weeks and finally at twelve weeks at the end of experiment. On average, the hockey players had at least 3 years playing experienced without previous training in imagery. ANCOVA was used to determine the significance of difference among mean scores of different training groups and control group after different training durations and Repeated measures analysis of variance was used to find out the significance of difference among mean scores of different training durations of different training frequency groups. Results indicated that PETTLEP imagery training for one day per week has no significant effect on hockey players performance. In twice a week PETTLEP imagery training, PETTLEP imagery training given twice a week for twelve weeks is quite effective in improving Penalty flick hockey performance of a player. PETTLEP imagery training with time pressure condition training three days per week for twelve weeks give better results than training for nine weeks.

Key Words: Hockey, Player, Time pressure, national, Inter-university, Levels, Imagery

1. INTRODUCTION

Imagery is widespread among all sports, from the grassroots level to the personalities of professional sportsmen. As for example Brazilian footballer Ronaldinho, uses imagery for game planning and game planning purposes.

Vealey & Greenleaf in 2001 defined the imagery as the using all the senses to create or recreate an experience in the mind. **Garza & Feltz, in 1998 and Post & Wrisberg in 2012** expressed that imagery is a psychological technique that has proven its effectiveness in sport by influencing psychological states positively, such as lowering fear and improving self-confidence, self-efficacy and attention. According to **Thelwell & Maynard in 2002 and White & Hardy in 1995 explained that** imagery is useful as a coping mechanism, retaining current skills and evaluating previous performances.

The purpose of Cherappurath et. al. (2020) was to analyzed the performance of tennis service of players which was based on PETTLEP imagery training. For the study, 44 junior male tennis players were chosen (M_{age}=13.22 years of age, SD=0.42). The researcher distributed the MIQ-R questionnaire among all the participants , where they obtained 16 and more points in accordance with prior studies. The participants were grouped equally (n=11) into three test groups and a control group (E1, E2 and E3). Pre and post training session, the performance results of all actors were compared. For three days a week for 12 weeks, the three study groups were assigned with service training, service-specific training and imagery training combined with PETTLEP imaging training and PETTLEP imagery training alone. Their accuracy was evaluated on the basis of the international tennis number (ITN) on-court evaluation manual. The data have been evaluated for normality and analysed with non-parametric techniques to detect primary effects (every training method alone) and to quantify PETTLEP's combined effects and relevant training. Special service-specific training alone showed some notable changes in tennis services. While PETTLEP imaging was only slightly better, PETTLEP and service-specific training used together were the most improved services. This suggests a supplementary effect if both techniques are used in combination.

Lingvall (2019) discussed the imagery means and describe different theories of imagery. Mental imagery, performance, and brain plasticity in sport are not being investigated. The study of healthy people and patient studies using MI was carried out to increase performance and examine changes in the brain to respond to the latter focus of this thesis. This thesis is aimed at carrying out a review of the literature. The results show that MI in combination with PP will increase the performance of sport. It was also seen. Most studies have concluded that MI and PP can lead to plasticity in the brain and no evidence has been discovered in only one study. It also demonstrated that MI alone can lead to development of the brain. Future studies should cover greater samples, corresponding topics and the comparison of MI effects in many sports.

McNeil, (2019) studied the reactive agility effects of imagery training and whether imagery may increase reaction to unexpected stimuli. 47 female athletes have been randomly assigned to either a three-week training, imagery or control condition (M_{age} = 21.51, SD = 2.32). Physical training requires the physical testing of the reactionary agility task, when imaging the stimulus present and executing the reactive agility job is the imagery training condition. There was no reactive agility training for the control condition. In order to assess improvements in the reactive performance of the training interventions, a mixed-model MANOVA (3 training conditions) x 7 (reactive agility performing compounds) was completed. Physical training enhanced decision-making time and reactive agility overall. Imaging trainings have enhanced time for stimulus decision and foot stimulation, but not overall reactive agility performance.

Control group did not have any improvement in performance. Findings support the imagery use in light stimulation reactive agility achievement for decision time variable. The lack of an overall improvement in reactive performance may show that imagery training is not successful for all perceptive motor performance components. Inconsistencies in the performance change appear to suggest that during imaging participants may not have created unexpected stimuli. Future research is necessary to determine whether image enhancements translate into reactive tasks for sport.

Baughman (2017) evaluated the shrinking gap in literature by analyzing the effect on short 30-yard shot. The attendees were 5 proficient (average score > 100) male golfers.. A single-subject design was implemented: ABA (baseline, intervention, return-to-baseline). The research took place on a local golf course for a 5-week period. Every golfer tried 20 shots from a distance of 30 metres. Imaging capabilities were measured with the MIQ-R Movement Imagery Questionnaire and the Ability to Motivate Imagery in Sport (MIAMS). Visual inspection and graphs evaluate the efficiency of the short shot imagery intervention. Five out of five participants from baseline to intervention showed changes in pin accuracy. It was hypothesized that the use of a PETTLEP imagery intervention may improve golfer's short-shot accuracy to the pin, as well as imagery ability may increase across stages. The results showed a reduction in accuracy in 4 out of 5 participants. During the intervention, two participants out of five improved their imaging ability. Mean and variability changes were also assessed with impact dimensions, and indicated that during the intervention phase, two out of every five participants differed less. The research has implications, especially when used in pre-existing routine, to emphasize the effect of PETTLEP imagery on golf performance. The results indicate that the practice of PETTLEP imagery helps to improve accuracy and imagery.

2. METHODOLOGY

2.1. Sample of Study

To achieve the purpose of the present research, a purposive sample of sixty National and Inter-University level male Hockey players of 18-25 years in age was randomly divided into four groups.

2.2 Research Design

In the present study the pre-test and post-test random group design was employed, groups were assigned to three experimental groups and a control group.

2.3 Tool Used

The Movement Imagery Questionnaire - Revised (MIQ-R) by **Hall & Martin (1997)** was administered to assess the status of Visual and Kinesthetic Imagery of all subjects.

2.4 Statistical Analysis

RM ANOVA was used to determine the significance of difference among mean scores of different training groups and control group after different training durations and Repeated measures analysis of variance was used to find out the significance of difference among mean scores of different training durations of different training frequency groups.

3. RESULTS

To find out the significant differences penalty flick performance with time pressure condition at different training duration on different groups, repeated measure ANOVA was applied and data pertaining to this, has been presented in Table 1to 3.

TABLE – 1

REPEATED MEASURES ANALYSIS OF VARIANCE OF PENALTY FLICK PERFORMANCE WITH TIME PRESSURE CONDITION AFTER DIFFERENT TRAINING DURATIONS ON DIFFERENT TRAINING GROUPS

S.N0.	Training Frequency	Source of Variance	Sum of Square	DF	Mean Squares	F-ratio
1	One Day/week	Between groups Within groups	555.917 2765.333	3 42	185.305 65.841	2.814*
2	Thrice /week	Between groups Within groups	1116.716 2582.533	3 42	372.239 61.489	6.054*
3	Three Times/week	Between groups Within groups	1496.45 1675.8	3 42	498.317 39.9	12.506*

* Significant at 0.05, F.05 (3,42) =2.83

It is evident from table-19 that the different training frequency groups with time pressure data at different training durations as twice per week training group (2x/wk) and three times per week training group (3x/wk) differ significantly. The obtained f-ratio of 6.054 and 12.50were higher than the required f-ratio 2.83 to be significant at 0.05 level.

The data on penalty flick performance of hockey player at various training frequencies of PETTLEP imagery training with time pressure condition after different training durations in table–19 revealed that one day per week training has no significant effect on hockey players performance as the obtained F-ratio of 2.814 is less than the required F-ratio 2.83 to be significant at 0.05 level.

Whereas in case of twice per week training and three times a week for the penalty flick performance improved significantly at different training durations. As the obtained F-ratio for two days per week (6.054) and three days per week training (12.506) was more than the required F-ratio (2.83) to be significant at 0.05 level.

The findings of the time pressure transfer test suggest that two days per week and three days per week at different training durations has significant improvement in penalty flick performance of hockey players.

TABLE -2

SIGNIFICANCE OF DIFFERENCE BETWEEN ORDERED PAIRED MEANS OF TRAINING DURATIONS ON PENALTY FLICK PERFORMANCE WITH TIME PRESSURE CONDITION ON TWICE A WEEK PETTLEP IMAGERY TRAINING

Pre	6 Weeks	9 Weeks	12 Weeks	6 Weeks	C.I.
17.933	20.933	-	-	3.000	5.726
17.933	-	24	-	6.067*	5.726
17.933	-	-	29.6	11.670*	5.726
-	20.933	24	-	3.067	5.726
-	20.933	-	29.6	8.667*	5.726
-	-	24	29.6	5.600	5.726

* Significant at 0.05 level

It is evident from table-20 that there is no statistically significant difference between mean scores of pre-test and six weeks post-test (3); six weeks post-test and nine weeks post-test (3.067); nine weeks post-test and twelve weeks post-test (5.60) at 0.05 level. As the mean difference between these durations were less than the required f-ratio 5.726 to be significant at0.05 level. The mean difference between pre-test and nine weeks post-test (6.067); pre-test and twelve weeks post-test (11.667); six weeks post-test and twelve weeks post-test (8.667) were significant at 0.05 level. As the mean difference between these durations were more than the required f-ratio 5.726 to be significant at 0.05 level.

The performance data on twice a week PETTLEP imagery training suggest that PETTLEP imagery training with time pressure condition given twice a week for twelve weeks is quite effective in improving Penalty flick hockey performance of a player.

TABLE – 3

SIGNIFICANCE OF DIFFERENCE BETWEEN ORDERED PAIRED MEANS OF TRAINING DURATIONS ON PENALTY FLICK PERFORMANCE WITH TIME PRESSURE CONDITION ON THREE TIMES PER WEEK PETTLEP IMAGERY TRAINING

Pre	6 Weeks	9 Weeks	12 Weeks	6 Weeks	C.I.
21.133	23.867	-	-	2.733	4.613
21.133	-	28.333	-	7.200*	4.613
21.133	-	-	34.333	13.200*	4.613
-	23.867	28.333	-	4.467	4.613
-	23.867	-	34.333	10.467*	4.613
-	-	28.333	34.333	6.000*	4.613

* Significant at 0.05 level

It is evident from table–21 that there is statistically insignificant difference between means of pre-test and six weeks post-test (2.733); six weeks post-test and nine weeks post-test (4.467). As the mean difference between these training durations were less than the confidence interval of 4.613required to be significant at 0.05 level. The mean differences between pre-test and nine weeks post-test (7.2); pre-test and twelve weeks post-test (13.2); six weeks post-test and twelve weeks post-test (10.467); nine weeks post-test and twelve weeks post-test (6.000) were statistically significant at 0.05 level. As the mean difference between these durations were more than the confidence interval of 4.613 to be significant at0.05 level.

It means that the Penalty flick hockey performance with time pressure condition increases with increased duration of training. Results indicates that PETTLEP imagery training with time pressure condition given three times a week for nine weeks and twelve weeks increases the penalty flick performance of hockey player. PETTLEP imagery training with time pressure condition training three days per week for twelve weeks give better results than training for nine weeks.

4. DISCUSSION

PETTLEP imagery training for one day per week has no significant effect on hockey players performance. In twice a week PETTLEP imagery training, PETTLEP imagery training given twice a week for twelve weeks is quite effective in improving Penalty flick hockey performance of a player. PETTLEP imagery training with time pressure condition training three days per week for twelve weeks give better results than training for nine weeks.

5. CONCLUSION

The result indicates that six weeks training program was not effective enough to produce desired results. Penalty flick performance after PETTLEP imagery training of nine weeks duration indicated that a player must be trained for two and more than two days per week (2x/wk) to improve his penalty flick performance. After twelve weeks training for three days per week (3x/wk) showed much more improvement in their penalty flick hockey skill performance. One day per week (1x/wk) training has no significant effect on hockey players performance. In twice a week (2x/wk) PETTLEP imagery training, PETTLEP imagery training given twice a week (2x/wk) for twelve weeks is quite effective in improving Penalty flick hockey performance of a player. In three times per week (3x/wk)PETTLEP imagery training, the Penalty flick hockey performance increases with increased duration of training. PETTLEP imagery training with time

pressure condition training three days per week (3x/wk) for twelve weeks give better results than training for nine weeks.

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