



# EFFECTS OF IMAGERY TRAINING ON PHYSIOLOGICAL VARIABLES AMONG HANDBALL PLAYERS

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## ABSTRACT

The aim of the present study was to find out the effects of imagery training on physiological variables among handball players. To achieve the purpose of the study male handball players were selected from Government Arts and Science College, (Affiliated to Bharathiar University, Coimbatore) Modakkurichi, Erode, Tamilnadu, India. The subject's age ranges from 19 to 24 years. The selected subjects were divided into two equal groups consists of fifteen male handball players each namely experimental group and control group. The experimental group underwent a game specific exercise package programme for twelve weeks. The control group was not taking part in any training during the course of the study. Resting pulse rate and breath holding time was taken as criterion variable in this study. The selected subjects were tested on resting pulse rate and breath holding time was measured through pulse oximeter and digital stop watch. Pre-test was taken before the training period and post- test was measured immediately after the twelve-week training period. Statistical technique 't' ratio was used to analyze the means of the pre-test and post test data of experimental group and control group. The results revealed that there was a significant difference found on the criterion variable. The difference is found due to imagery training package given to the experimental group on resting pulse rate and breath holding time when compared to control group.

**KEYWORDS:** Imagery Training, Handball Players, Resting Pulse Rate and Breath Holding Time.

## 1. INTRODUCTION

Imagery training is a most powerful mental training technique. Most of the world's top sports persons regularly practice imagery. Imagery is nothing more than systematic practice of creating and strengthening strong positive mental image. It is dramatically effective for converting the desires from mental state to physical state. Imagery is one of the popular mental preparation strategies where players try to mentally picture themselves (going through the actual movement in their mind) prior to competition/training. The different terms used for imagery are visualization, mental rehearsal and mental practice. Modern team handball consists of intense, intermittent activities such as running, sprinting, jumping as well as regular in fights between players (i.e. holding, pushing etc.). Research indicates that heavy, strong players, who are not compromised in regard to running capacity or speed seems to be superior. The need for bigger, stronger and faster team handball players is supported by the development in anthropometrics and physical performance parameters over the years. Besides the advantage of physical superiority, tactical and technical skills are better expressed if a player is not inhibited by poor conditioning. In addition, tougher tournaments, more games per season and more aggressive playing supports the need of optimal conditioning. Thus such type of imagery training program is a need for the player to excellent in sport. Thus the present study has been carried out to study the effects of imagery training on physiological variables among handball players.

## 2. METHODOLOGY

### 2.1 Selection of Subjects

The aim of the present study was to find out the effects of imagery training on physiological variables among handball players. To achieve the purpose of the study male handball players were selected from Government Arts and Science College, (Affiliated to Bharathiar University, Coimbatore) Modakkurichi, Erode, Tamilnadu, India.



## 2.2 Selection of Variables

### Independent Variable

- Imagery Training

### Dependent Variables

- Resting Pulse Rate
- Breath Holding Time

## 3. EXPERIMENTAL DESIGN AND IMPLEMENTATION

The selected subjects were divided into two equal groups consists of 15 male handball players each namely experimental group and control group. The experimental group underwent an Imagery Training package programme for twelve weeks. The control group was not taking part in any training during the course of the study. Resting pulse rate and breath holding time was taken as criterion variable in this study. The selected subjects were tested on resting pulse rate and breath holding time was measured through pulse oximeter and digital stop watch. Pre-test was taken before the training period and post- test was measured immediately after the twelve-week training period.

## 4. STATISTICAL TECHNIQUE

The dependent 't' test was used to analysis the significant differences, if any, difference between the correspondingly.

### 4.1 Level of Significance

The 0.05 level of confidence was fixed to test the level of significance which was considered as an appropriate.

### 4.2 Analysis of the Data

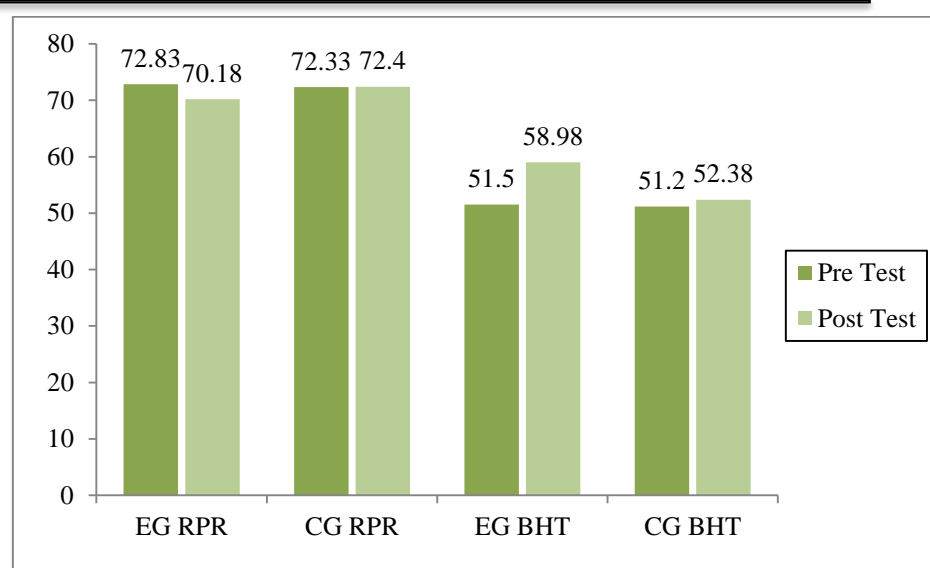
The significance of the difference among the means of the experimental group was found out by pre-test. The data were analyzed and dependent 't' test was used with 0.05 levels as confidence.

**Table-I**  
**Comparison of Mean, and't'-Values of Physiological Variables between**  
**Pre & Post Test among Experimental and Control Groups**

S. No	Skill Performance Variables	Groups	Test	Mean	't' Values	
1.	Resting Pulse Rate	Experimental group	Pre Test	72.83	10.19*	
			Post Test	70.18		
		Control group	Pre Test	72.33		1.12
			Post Test	72.40		
2.	Breath Holding Time	Experimental group	Pre Test	51.50	8.90*	
			Post Test	58.98		
		Control group	Pre Test	51.20		1.12
			Post Test	52.38		

\*Significant at 0.05 level of confidence

Table-I reveals that the obtained mean values of per test and post test of experimental group for resting pulse rate and breath holding time were 72.83 and 70.18, 51.50 and 58.98 respectively; the obtained 't' ratio were 10.19\* and 8.90\* respectively. The tabulated 't' value is 2.14 at 0.05 level of confidence for the degree of freedom 14. The calculated 't' ratio was greater than the table value. It is found to be significant change in resting pulse rate and breath holding time of the handball players. The obtained mean values of pre test and post test scores of control group were 72.33 and 72.40, 51.20 and 52.38 respectively, the obtained 't' ratio was 1.12 and 1.12. The required table value is 2.14 at 0.05 level of confidence for the degree of freedom 14. The calculated 't' ratio was lesser than the table value. It is found to be insignificant changes in resting pulse rate and breath holding time of the handball players. The mean values of resting pulse rate and breath holding time among experimental group and control group are graphically represented in figure-1



**Figure-1: Bar Diagram Showing the Pre Test and Post Test on Resting Pulse Rate and Breath Holding Time of Experimental and Control Groups.**

## 5. DISCUSSION ON FINDINGS

The effects of the study indicates that the experimental group, namely impacts of imagery training group had significantly improved the selected dependent variable, namely resting pulse rate and breath holding time, when compared to the control group. It is also found that the progress caused by imagery training when compared to the control group.

It is inferred from the literature and from the result of the present study. That systematically designed training develops dependent variables are very importance quilts for better performance in almost all sports and games. Hence it is concluded that systematically designed training may be programmes of all the discipline in order to achieve maximum given due recognition and implemented properly in the training performance. These findings are in accordance with the findings of **Senthil Kumaran (2021)**<sup>4</sup>, **Senthil kumaran & mahaboobjan (2018)**<sup>14</sup>, **Senthil Kumaran, Jenith, Abdul Halik & Kodeeswaran (2021)**<sup>9</sup>, **Ooraniyan & Senthil Kumaran (2018)**<sup>16</sup> and **Muniyappan & Vallimurugan (2017)**<sup>17</sup>.

## 6. CONCLUSIONS

On the basis of the results obtained the following conclusions are drawn,

- ✚ There was a significant variation between experimental and control group on resting pulse rate and breath holding time after the training period.
- ✚ There was a significant improvement in resting pulse rate and breath holding time. However, the improvement was in favor of experimental group due to twelve weeks of imagery training.

## 7. REFERENCES

1. S. Senthil Kumaran, Dr. V. Vallimurugan, N. Kodeeswaran (2022), Abdominal Strength as a Result of Core Exercise. *International Journal of Research Publication and Reviews*, Volume-3, Issue-2, Pages: 109-111.
2. Senthil Kumaran (2021). Combination of Specific Basketball Skill Training and Pranayama Practices on Basketballers' Systolic Blood Pressure. *Bharathiar National Journal of Physical Education and Exercise Sciences*, Volume-12, Issue-4, Pages: 14-17.
3. Prabakaran, Kodeeswaran, Senthil Kumaran and Abdul Halik (2021). Physiological Reaction to the Persuade of Yogic Practice on Disabilities. *International Journal of Research in Special Education*, Volume-1, Issue-1, Pages: 19-22.
4. Abdul Halik, Senthil Kumaran, Princy and Rajesh (2021). Comparative Study on Psychological Variables between Volleyballers and Basketballers. *International Journal for Science and Advance Research in Technology*, Volume-7, Issue-5, Pages: 552-554.
5. Krishnamoorthi, Kodeeswaran, Senthil Kumaran and Abdul Halik (2021). Effect of Aerobic Dance Training on Body Composition and Cardio Respiratory Endurance among Obese. *International journal of yogic, human movement and sports sciences*, Volume-6, Issue-1, Pages: 143-145.
6. Senthil Kumaran and Abdul Halik (2021). Tracking Instant Physiological Changes pre-post Basketball play. *International Journal of advance research and innovative ideas in education*, Volume-7, Issue-3, Pages: 436-439.
7. Senthil Kumaran, Jenith, Abdul Halik and Kodeeswaran (2021). Volleyball Players Skill Output in Response to Plyometric Training. *Epura International Journal of Research and Development (IJRD)*, Volume-6, Issue-5, Pages: 176-179.
8. Jenith, Senthil Kumaran and Kodeeswaran (2021). Influences on reaction time and agility response to shadow training among tennis players. *Epura International Journal of Multidisciplinary Research (IJMR)*, Volume-7, Issue-5, Pages: 38-41.
9. Kodeeswaran, Abdul Halik and Senthil Kumaran (2021). Comparative Study on selected physical fitness Variables between Basketball and football referees. *International journal of physical education, sports and health*, Volume-8, Issue-3, Pages: 35-37.



10. Senthil kumaran and vinothkumar (2018). *Effect of Loop Band Training on Leg Strength among Basketball Players. International Journal of Physical Education and Health, Vol. 5 Issue 2, Part F, Pages: 340-342.*
11. Ooraniyan and senthil kumaran (2018). *Impacts of Kettlebell Training on Selected Physical Fitness Components among Handball Players. International Journal of Current Trends in Science and Technology, Vol. 8 Issue 5, Pages: 20427-20430.*
12. Senthil kumaran and mahaboobjan (2018). *Impact of Specific Skill Training on Dribbling among Basketball Players. International Journal of Scientific Research, Vol. 7 Issue 5, pages: 675-676.*
13. Senthil kumaran (2018). *Impacts of Plyometric Training on Selected Physical Fitness Variables among Basketball Players. International Journal of Yoga, Physiotherapy & Physical Education, Vol. 3 Issue 4, Pages: 52-54.*
14. Ooraniyan and senthil kumaran (2018). *Effect of Game Specific Aerobic Training on Motor Fitness Components among Handball Players. International Journal of Yoga, Physiotherapy & Physical Education, 2018, Vol. 3 Issue 4, Pages: 68-70.*
15. Senthil kumaran and vinothkumar (2018). *Consequence of Resistance Band Training on Selected Skill Performance Variables among Basketball Players. International Journal of Yoga, Physiotherapy & Physical Education, Vol. 3 Issue 4, Pages: 71-73.*
16. V Vallimurugan (2020) *Effect of Yogasana and Pranayama Practices on Selected Physical and Physiological Variables among Physical Education Students. Bharathiar National Journal of Physical Education and Exercise Science, Vol 1, Issue 1 Pages14-20.*
17. Muniyappan, R., & Vallimurugan, V. (2017). *Effect of six weeks specific drills with meditation on skill performance of inter collegiate male hockey players. IJAR, 3(7), 1158-1660.*
18. U Srikumar, V Vallimurugan (2016) *Effect of yoga, Pranayama with natural diet on physical fitness variables among patients of coronary artery disease. Int J App Res, Vol 2 Pg no: 585-590.*
19. CA Vijayarani, V Vallimurugan, M Suresh Kumar (2012) *Influence of yogic practices on selected physiological and psychological variables of adolescent's boys. Recent Research in Science and Technology, Vol 2, Issue 4.*