



Experimentation Of Self-Regulative With Yoga Practice And Self-Regulative Without Yoga Practice On Vital Capacity Anxiety And Muscular Endurance

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Abstract

The purpose of the study was to find out the effect of self-regulative with yoga practice and self-regulative without yoga practice on vital capacity, anxiety and muscular endurance. Forty five male hockey players aged between 19 and 25 years were selected for the study. They were divided into three equal groups, each group consisting of fifteen subjects in which three experimental groups and one control group, in which the group I (n=15) underwent self-regulative technique with yoga practice, group II (n = 15) underwent self-regulative technique without yoga practice for six days (alternative days) per week for twelve weeks and group III, acted as control, which did not participate in any training apart from their regular hockey game practice. The subjects were tested on selected criterion variables as vital capacity, anxiety and muscular endurance at prior to and immediately after the training period. For testing the vital capacity the expirograph was used, anxiety was assessed by using Thiwari Chauhan Anxiety inventory was used and muscular endurance was assessed by bent knee sit-ups test. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, between the experimental groups and control group on selected criterion variable separately. Since there were three groups involved in the present study, the Scheffé S test was used as post-hoc test. The selected criterion variables such as vital capacity, anxiety and muscular endurance were improved significantly for all the training groups when compared with the control group.

Key Words: strength training, plyometric training, vital capacity, anxiety and muscular endurance.

INTRODUCTION

Playing sports, among other benefits, can reduce the risk of chronic illnesses and impairments, enhance resilience and self-worth, improve mental health, and foster social connections (Malm, Jakobsson, and Isaksson, 2019; Hopkins et al., 2022). Intense sports involvement among teens has been associated to better physical, mental, social, and emotional results later in life (Collins et al., 2018).

Participation in sports is only the broad definition of what sports are about (Borgers et al., 2018; Chen et al., 2021; Ren, Yan, and Sun, 2021). It has to do with the behaviour and mindset of kids who choose to participate in extracurricular sports. From a sociological and psychological standpoint, playing sports is an essential way to help kids socialise, which is essentially a socialisation process (Ren, Yan, and Sun, 2021; Kraaykamp, Oldenkamp, and Breedveld, 2013).

Self-regulation is the most common emotional intelligence skill used to deal with tough situations. These purposeful or unintentional activities assist us in regaining our equilibrium by reducing our anxiety and pain. (Johnson, 2019). For Zimmerman (2008), "self-regulation is the self-directive process by which learners convert their mental abilities into task-related skills." This is the process by which pupils arrange and manage their thoughts in order to convert them into learning abilities. Self-regulation refers to the process of regularly measuring one's progress towards a target, validating outcomes, and redirecting failing attempts.

Imagery has been defined as "using all of the senses to re-create an experience in the mind". An expansion of this brief description clarifies that: (a) information stored in the sensory register, working memory, or long-term memory can be utilised to construct an image; (b) an image can include one or more senses; and (c) an image can be created in the mind without any external input. One of the most important fields of research in cognitive science is imagery.

The following list includes the five basic categories of imagery: Motivationally specific: Visualise yourself winning an athletic competition, obtaining a medal or trophy, and receiving support from other contestants. Motivational specific imagery may aid in goal-setting and raise motivation and effort during training, but it is unlikely to effectively improve performance on its own. Motivational General Mastery (MG-M): This is founded on the ability to envision oneself overcoming hurdles and prospering in difficult circumstances. It might mean remaining ahead and maintaining an optimistic view before coming back to victory. It appears that MG-M imaging plays an important role in the formation of success and confidence expectations.

Wulf (2007) defines an internal focus of attention as a person's conscious attention being focused on a specific bodily portion or their body's actions. An external focus of attention, on the other hand, directs a person's conscious attention towards the outcomes of motions or specific things in their environment.

A player with strong attention management skills may pick what is most important, focus on it for as long as necessary, and adjust their concentration as needed. Using tactics such as self-talk and visualisation to assist one focus when distracted, being present and focused, reciting key words to oneself, and sustaining focus in the face of distractions are all excellent methods for improving concentration and attention. The state of maximal concentration, often known as "flow" or "the zone," is

generally perceived as a pleasant immersion in the present rather than a conscious struggle, despite the common misperception among novices that it requires strain and effort.

Self-speak refers to the phrases and concepts that artists and sportsmen repeat to themselves, usually within their minds. Self-speak phrases, also known as clues, are used in conjunction with other approaches to increase the efficacy of each. They are used to generate interest in a certain assignment in order to improve focus. For example, a softball player hitting at bat may think "launch point" to focus on the moment the pitcher delivers the ball, or a golfer practicing may think "clean stroke" to remain calm. According to study, self-talk—whether positive or negative—can also improve performance. However, the efficiency of self-speak terminology vary according on how the individual interprets the phrase.

Yoga and fitness have the potential to revolutionise modern society. Yoga concentrates on both body sculpting and galloping fixation. Daily yoga practice promotes good health and physical well-being (Haerricecil, Eric, & Patride, 1970; Singh, 1991). Yoga asanas improve spinal growth, breath control, and attention in everyday life. Tension in your muscles and body can throw you off balance and produce varying degrees of discomfort. Asanas are performed through soft, controlled motions to stretch the body to its greatest potential (Radhakrishnan and Moore, 1967; and Dasgupta, 1975).

Yoga improves the regular functioning of the body. Yoga feeds the endocrine glands and promotes growth and progress (Dass, 1999). Yoga has been shown to increase processing and respiratory capacity. Increases blood flow to the heart and enhances mental wellbeing. Yoga strengthens muscular fascicles and nerves for physiological tasks. Genuine goods increase joint function, respiration, and blood pressure (Aranya, 2000; Phillips, 2009; Olivelle, 1998). Yoga is a science, and its principles may be employed for therapeutic purposes. It is called Moksha Shastra; Moksha means liberation, and Shastra means teaching. It has the power to energise, unite, and unify (Srinivasan, 2013; Jayaraman, 2012). It also helps to restore equilibrium to the mind-body complex and is not associated with any religion, creed, or race. Its teachings, known as Sanatana Dharma, are rooted in ancient Indian spiritual roots (Croucher, 2010; Fan and Chen, 2011).

The greatest amount of air that a person can expel from their lungs after breathing fully is referred to as vital capacity. This is the sum of the inspiratory reserve, tidal volume, and expiratory reserve volume (Biersteker and Biersteker, 1985).

One of the most popular and profitable sports, hockey is played by men and women at all levels, from amateur to professional (Andres and Myers, 2008). Hockey is an Olympic sport that is played by both men and women for both leisure and competitive reasons. Strength, speed, skill, and other psychological and physical qualities are all necessary for top performance in this worldwide sport (Kahn, 1999; Burr et al. 2008; and International Hockey Federation, 2019). Players who engage in this intense, high-energy sport run the danger of developing a variety of musculoskeletal issues since it requires unusual movement patterns (Sherker and Cassel, 2002; and Dick, et al. 2007).

Methods

The goal of this study was to determine how self-regulative with yoga practice and self-regulative without yoga practice, affected on vital capacity, anxiety and muscular endurance. 45 male hockey players who were enrolled at various colleges, those who were represented in inter-collegiate tournaments, around Hosur Town, Tamil Nadu, India for the academic year 2024–2025 were chosen as subjects to fulfil the goal. They were divided into three equal groups of fifteen each and further divided as two experimental groups and one control group, in which the group I (n=15) underwent how self-regulative with yoga practice, group II (n = 15) underwent self-regulative without yoga practice for six days (alternative days) per week for twelve weeks, and group III (n=15) acted as control which did not participate in any special training apart from the regular curricular activities.

There will be changes to the playing ability and systems with every training regimen. After consulting with the specialists, the researchers decided to use the following variables as criteria: 1. Vital capacity, 2. Anxiety and 3. muscular endurance.

Analysis of the Data

The differences, if any, between the corrected post test means on several criteria variables were examined independently using analysis of covariance. The Scheffé S test was used as a post-hoc test if the adjusted post test mean's "F" ratio was shown to be significant. To evaluate the "F" ratio discovered using analysis of covariance, the level of significance was set at .05 level of confidence.

Table – I

Analysis of Covariance and 'F' ratio for vital capacity, anxiety and muscular endurance of self-regulative with yoga practice and self-regulative without yoga practice groups, and control group

Variable Name	Group Name	Exp. Group - I	Exp. Group - II	Control Group	'F' Ratio
Vital capacity (in liters)	Pre-test Mean \pm S.D.	4.28 \pm 0.038	4.299 \pm 0.05	4.313 \pm 0.06	0.49
	Post-test Mean \pm S.D.	4.41 \pm 0.041	4.358 \pm 0.05	4.32 \pm 0.065	11.20*
	Adj. Post-test Mean	4.411	4.362	4.307	130.35*
Anxiety (in Points)	Pre-test Mean \pm S.D.	17.07 \pm 1.44	16.53 \pm 1.06	17.07 \pm 1.53	0.77
	Post-test Mean \pm S.D.	15.73 \pm 1.39	14.80 \pm 0.94	17.60 \pm 1.92	14.08*
	Adj. Post-test Mean	15.577	15.113	17.44	29.86*
Muscular endurance (in No./min)	Pre-test Mean \pm S.D.	34.67 \pm 2.23	34.07 \pm 1.96	34.72 \pm 1.58	0.534
	Post-test Mean \pm S.D.	36.40 \pm 2.38	35.13 \pm 1.96	35.00 \pm 1.46	2.303
	Adj. Post-test Mean	36.233	35.531	34.770	14.77*

* Significant at .05 level of confidence. (The table value required for significance at .05 level of confidence with df 2 and 42 and 2 and 41 were 3.21 and 3.24 respectively).

Table – I shows that the vital capacity pre-test "F" ratio value of 0.49 was less than the necessary table value of 3.21 for significant with df 2 and 42 at 0.05 level of confidence. For the post-test mean and adjusted post-test mean 'F' ratio value of 11.20 and 130.35 for the adjusted post-test scores was greater than the necessary table value of 3.24 for significant. According to Table - I, the pre-test averages of anxiety test 'F' ratio value of 0.77 was less than the necessary table value of 3.21 for significant with df 2 and 42 at 0.05 level of confidence. For post-test and adjusted post-test mean 'F' ratio values of anxiety were 14.08 and 29.86 was greater than the necessary table value of 3.24 for significant. The muscular endurance pre and post-test values 'F' ratio of muscular endurance value was 0.534 and 2.303 which was insignificant. For adjusted post-test mean 'F' ratio values of muscular endurance was 14.77 was greater than the necessary table value of 3.24 for significant. Further, to find out which training group has significant improvement on selected criterion variables, Scheffe S post-hoc test was applied and presented in table – II.

Table - II

Scheffé S Test for the difference between the adjusted post-test mean of vital capacity, anxiety and muscular endurance

Exp Group-1	Exp Group-2	Control Group	Mean Difference	Confidence Interval at 0.05 level
Adjusted Post-test Mean for Vital capacity				
4.411		4.307	0.104*	0.016
4.411	4.362		0.049*	0.016
	4.362	4.307	0.055*	0.016
Adjusted Post-test Mean for Anxiety				
15.577		17.444	1.867*	0.80
15.577	15.113		0.464	0.80
	15.113	17.444	2.331*	0.80
Adjusted Post-test Mean for Muscular endurance				
36.233		34.770	1.463*	0.68
36.233	35.531		0.702*	0.68
	35.531	34.770	0.761*	0.68

* Significant at 0.05 level of confidence.

Results

The adjusted post-test mean difference in vital capacity between self-regulative with yoga practice group and control group and self-regulative without yoga practice group and control group was 0.049, and 0.015, respectively, and these differences were significant at the 0.05 level of confidence, according to Table - II. The table - II also indicate that there was no significant difference was occurred between the training groups (0.004). Based on the study's findings, it can be said that self-regulative with yoga practice group and self-regulative without yoga practice group considerably boost the vital capacity ability.

The adjusted post-test mean difference in anxiety between self-regulative with yoga practice group and control group, self-regulative with yoga practice and self-regulative without yoga practice, self-regulative without yoga practice group and control group was 1.595, 1.131 and 2.726, respectively, and these differences were significant at the 0.05 level of confidence, according to Table - II. Based on the

study's findings, it can be said that self-regulative with yoga practice group and self-regulative without yoga practice group considerably enhance anxiety.

The adjusted post-test mean difference in muscular endurance between self-regulative with yoga practice group and control group, self-regulative with yoga practice and self-regulative without yoga practice, and self-regulative without yoga practice group and control group was 0.078, 0.052 and 0.026, respectively, and these differences were significant at the 0.05 level of confidence, according to Table - II. Based on the study's findings, it can be said that self-regulative with yoga practice group and self-regulative without yoga practice group significantly improved the muscular endurance.

Conclusions

The study's findings showed that the self-regulative approach combined with yogasana practice significantly improved vital capacity. However, there was no discernible difference between the training groups. According to Beutler et al. (2016), practicing yoga on its own has increased vital capacity.

The study's findings demonstrated that self-regulative approach combined with yogasana practice significantly increased muscular endurance. The training groups were shown to vary significantly in favour of the yoga practice group's self-regulative strategy. Viswanath and Mohan, (2016) also found that there was a significant improvement in vital capacity after the yoga practice alone. Kumar, David and Thomas, (2016) found that yogic, core yogic and iron yogic practices has significant positive effect on vital capacity. Balaguru, Selvakumar and Divya, (2021) also support the results of the present study.

The anxiety was reduced after the self-regulative approach combined with yogasana practice significantly. Battaglini, et al., (2022) found that there was a significant reduction in anxiety after 12 week of progressive muscle relaxation training group. Alwan, et al. (2013) found that the guided imagery relaxation method was more effective than the PMR relaxation method to reduce the anxiety. Bagherpour, (2012) found that progressive muscle relaxation (PMR) and internal imagery have effects on reduce somatic and cognitive anxiety in Malaysian and Iranian taekwondo players.

Sankar, Mahaboobjan and Sowmya, (2024) concluded that 12 weeks combined ballistic training and yogic practice package has improve the vital capacity of cricket players. Prem and Rajan (2017) discovered that male hockey players' muscular endurance was improved by the yoga training. According to Singh, Singh, and Kumar (2015), women hockey players' muscular endurance has increased as a result of yoga instruction. According to Ray et al. (2001), the muscular endurance of the 23 male and 5 female members of the yoga group has improved.

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