

An Analytical Study of the Overall Effects of Yogic Exercises on Health and Performance of Sports Persons

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Abstract: In the contemporary world, Yoga and Yogic exercises have assumed a pivotal role in promoting a well-rounded and health-conscious lifestyle. Indeed, Yoga empowers individuals to lead lives imbued with meaning and robust health in the modern age. Rooted in a history spanning over 5000 years, Yoga transcends being merely an ancient tradition; it embodies a scientific approach replete with practical remedies for addressing a wide spectrum of unhealthy lifestyles. Recent years have witnessed the burgeoning popularity of Yoga as a subject of academic study, giving rise to numerous schools and vibrant yoga communities. While selecting a yoga style that resonates with one's preferences may appear daunting initially, it's imperative to acknowledge that Yoga stands as an ideal avenue for personal growth through physical and mental practices. Engaging in Yoga not only prepares us for the challenges we encounter in our daily lives but also resembles the preparation one undertakes for a competitive game. Many Yoga instructors underscore that in today's fast-paced world, Yogic exercises and techniques serve as invaluable assets for upholding a healthy lifestyle. Moreover, Yoga emerges as a potent instrument for fostering a profound connection between the mind and body, equipping individuals with the resilience to confront life's multifaceted challenges.

The objective of this research paper is to present a comprehensive overview of the affirmative effects of Yoga on human health and its transformative impact on the performance of individuals engaged in sports.

Keywords: *Lifestyle, Health, Sports, Performance, Yoga, Yogic Exercises*

Introduction: We recognize the essential interplay between the mind and body in yoga, which is instrumental in helping athletes enhance mental acuity and concentration. Furthermore, yoga aids in alleviating tense muscles and soothing anxious, stressed minds. It's essential to understand that yoga encompasses not only the sagittal plane but also the frontal and transverse planes, ensuring holistic development. Increased relaxation also contributes to improved athletic performance by enhancing focus and minimising the risk of injuries when integrated effectively into training. It is well-established that yoga can address imbalances in physical development, promoting more efficient bodily function. A flexible and supple body is less susceptible to sports-related injuries since it keeps the joints well-lubricated. As the saying goes, "When the surface of a lake is calm, one can see clearly to the bottom," and this holds true for a tranquil mind amidst the chaos of sports. Athletes performing in front of large

audiences often experience intense pressure, leading to diminished performance. No amount of training can fully prepare them for the uncertainty and anxiety that can creep into their minds during a game.

Moreover, by maintaining challenging yoga poses and emphasising deep abdominal breathing, individuals can enhance their body awareness, alleviate chronic tension patterns, calm their minds, sharpen their focus, and maintain a state of flow. Many athletes suffer from injuries requiring surgery due to an excessive focus on strength training with resistance, which, while effective for building strength and muscle mass, significantly hampers flexibility. Nevertheless, when combined with yoga or other forms of extended stretching, along with effective functional exercises, it can be highly beneficial. Through yoga, athletes not only enhance their flexibility but also improve their balance and adaptability as they transition between poses. As they master these transitions, athletes develop the ability to regain their equilibrium in the face of any imbalances their bodies may encounter during play, allowing them to stay focused and injury-free. This is where athletes begin to perform remarkable feats, utilising their bodies in ways they never thought possible while staying on course and avoiding injuries.

It is also a well-known fact that yoga fortifies connective tissues, addressing the lingering effects of past injuries and overtraining that have caused stiffness with age, thus enhancing joint mobility and promoting an anti-aging posture. The rhythmic, mindful breathing practised in yoga also cultivates and nourishes one's life force energy, known as Prana, Qi, or Chi in various healing and martial arts disciplines. Consequently, individuals generate more energy than is expended during a yoga session – a form of energy unrelated to calorie intake but rather a lasting vitality.

(A) Effects of Yoga on Physical Health:

- **It improves respiratory system:** It is often claimed that individuals who incorporate yoga into their routines stand a better chance of developing the capacity to manage their breathing difficulties. By engaging in yogic breathing exercises, one can potentially gain the ability to control bouts of severe breathlessness without the need for medical intervention. Presently, various studies have affirmed the beneficial effects of yoga for individuals facing respiratory issues.
- **It is helpful in pain management:** In contemporary times, Yoga has gained widespread acceptance as a means to alleviate pain. It accomplishes this by assisting the mind in focusing, regulating the spinal cord's gate control system, and facilitating the body's release of natural pain-relievers. Moreover, the breathing techniques employed in yoga have been proven effective in pain reduction. This is due to the fact that muscles tend to relax during exhalation, and extending the exhalation period can promote relaxation and alleviate tension. Developing mindfulness of one's breath aids in achieving a more tranquil and slower breathing rhythm, further contributing to relaxation and effective pain management.
- **It reduces blood pressure:** The unwinding and practice parts of yoga play a significant part in the treatment and counteraction of hypertension. A blend of biofeedback and yogic breathing and unwinding strategies has been found to bring down pulse and decrease the requirement for hypertension prescription in individuals experiencing it.

- **It controls the Asthma attacks:** Numerous studies conducted at yoga institutions in India have unveiled remarkable improvements in enhancing asthma. Moreover, it has been established that yoga practices can effectively prevent asthma attacks without the need for medication.

(B) Effects of Yoga on Mental Health:

- **It helps in psychological well-being:** Now the question arises; are you frequently overwhelmed by stress and tension? Do you often feel like the weight of the world is on your shoulders? Embracing yoga can help you shed these unhealthy feelings. As per the British Psychological Society, yoga places emphasis on mindfulness of breath and body, offering an excellent means to soothe the mind and alleviate worries. Through yoga poses and breathing exercises, it helps in releasing pent-up tension and stress, liberating individuals from these negative influences. Consequently, those who incorporate yoga into their routine are better poised to achieve optimal psychological well-being.
- **It helps in reducing the effects of traumatic experiences:** People who have experienced abuse and enlisted military personnel who have faced combat with enemy combatants often develop a condition called Post Traumatic Stress Disorder (PTSD). This mental illness often leads to symptoms like nightmares and flashbacks. While some mental treatments aim to address the underlying causes of PTSD, there are cases where these approaches do not work. In situations where traditional mental and pharmacological treatments have proven ineffective, research from the American Psychological Association suggests that Hatha Yoga can be a successful means of reducing PTSD symptoms. Therefore, Yoga may offer a promising solution to combat the long-lasting effects of traumatic experiences.
- **It is helpful to control anxiety and depression:** Yoga, comprising activities such as relaxation, meditation, socialisation, and exercise, has been scientifically proven to be beneficial in reducing anxiety and depression. Harvard University research indicates that yoga achieves this by aiding in the management of the body's stress response system. Through its capacity to lower blood pressure, heart rate, and enhance respiration, yoga offers an effective means of addressing and alleviating anxiety and depression without the need for expensive medications.
- **It prevents mental health conditions common during adolescence:** During adolescence, the likelihood of experiencing various mental health issues tends to increase. Given the growing incidence of psychological disorders among teenagers, it is imperative to explore methods for preventing the development of such conditions. One promising approach, as highlighted in a study published in the Journal of Developmental and Behavioral Pediatrics, involves the practice of yoga. In this study, a subset of participants participated in physical education classes centred around Kripalu Yoga, which incorporates physical postures, breathing exercises, relaxation techniques, and meditation. In comparison to the control group, those who engaged in yoga demonstrated significant improvements in several key areas. These improvements included enhanced mood, reduced levels of anxiety and tension, better anger management, increased resilience, and greater mindfulness. These factors play a crucial role in preventing psychological disorders among teenagers.
- **It improves memory and concentration:** There may be occasions in life when you struggle to stay attentive to your everyday tasks. Thankfully, you now have a solution to address this challenge.

According to Women's Fitness, yoga has been proven to be effective in enhancing memory and concentration. For instance, the practice of Dharana, which is synonymous with concentration, offers an excellent way to clear your mind and bring serenity to your senses. As you eliminate mental clutter and direct your focus, you will notice an improvement in your ability to recall information, maintain concentration, and perform at a higher level.

(C) Effect of Yoga on Performance of Sports Persons:

All of us know that yoga is a transformative practice that can greatly benefit individuals, including athletes, by elevating their physical, mental, emotional, and energetic well-being. Beyond the realm of sports and games, yoga enables individuals to recognize the deeper significance of life. On a physical level, yoga's diverse techniques, such as asanas, kriyas, mudras, and pranayama, counterbalance the one-sided physical demands often associated with athletic activities. Moreover, yoga plays a pivotal role in improving the physiological health of vital organs, including the cardiovascular, respiratory, digestive, eliminative, endocrine, nervous, and musculoskeletal systems. It facilitates a conscious strengthening, cleansing, and purifying of the body. In addition to its physical and physiological benefits, yoga plays a crucial role in enhancing the psychological well-being of individuals, including athletes. It helps reduce anxiety, aggression, tension, ego fragility, guilt, and frustration, fostering a holistic sense of well-being—physically, physiologically, and psychologically. The practice of yoga leaves individuals feeling refreshed, relaxed, and exceptionally vital. While asanas predominantly address the physical aspect, pranayama extends into the realm of consciousness. Yogic exercises also promote improved lung function.

Over the past decade, numerous studies have explored the impact and effects of yogic practices on sports and games. Dharmaraj and Pushparajan delved into the effects of varying frequencies of yogic practices on the physiological factors of middle-aged men. Their research demonstrated a notable reduction in pulse rate among participants as a result of yogic practices. Elumalai and Venkatachalapathy investigated the influence of yogic practices on tidal volume and anxiety in middle-aged men. Their findings indicated a significant increase in tidal volume and a concurrent decrease in anxiety levels due to yogic practices. Engarsal and Duraisami embarked on an exploratory study concerning low back pain among yoga practitioners and non-practitioners, considering specific lifestyle factors. The results revealed that the group engaged in yogic exercises experienced a significant reduction in anger levels and heart rate compared to the control group. Jelastin and Rufus scrutinised the effects of yogic packages and mobility training on various psychological variables among volleyball players. Their research unearthed significant improvements across all selected psychological variables among the group undergoing twelve weeks of yogic packages, as well as the group receiving mobility training for the same duration.

Kalaiarasi assessed the impact of aerobic dancing and yogic practice on psychological variables among college women students. Employing a pre and post-test random group design, the study found significant differences in anxiety levels among the groups, utilising ANCOVA and Scheffe's post hoc test for pairwise comparisons. Kumar and Jothi conducted a study to evaluate the influence of yogic practices, both with and without green tea supplementation, on health-related physical fitness variables among obese men. The findings showcased significant enhancements in health-related physical fitness values

for both groups, as indicated by the 't' values of the selected variables. Nathiya and Ramesh conducted a study to explore how different packages of yogic practices influence blood sugar levels in overweight schoolboys. The study established a significance level of 0.05 for testing the 'F' ratio obtained through analysis of covariance, which was considered appropriate. The results indicated statistically significant differences in post-test mean blood sugar levels among the three groups. Additionally, testing the post-adjusted means supported these findings. Prashanth and Sivakumar investigated the effects of yogic practices and aerobic exercise on selected physiological variables. Analysis of covariance (ANCOVA) was employed to identify significant differences between the experimental groups and the control group regarding specific criterion variables. As the study involved three groups, Scheff's test was used as a post-hoc analysis. The study concluded that both yoga practice and aerobic exercise positively influenced criterion variables such as vital capacity and blood pressure (both systolic and diastolic).

(D) Yoga as an alternative Medicine:

As a matter of fact, while the medical community widely acknowledges the significance of research on yoga, there are critics who highlight several limitations that undermine the findings. A substantial portion of yoga research consists of preliminary studies and clinical trials marked by methodological weaknesses, including small sample sizes, inadequate blinding, a lack of randomization, and a high risk of bias. Nevertheless, individuals practising yoga over the long term in the United States have reported improvements in musculoskeletal and mental health, as well as reduced asthma symptoms among asthmatics. There is evidence suggesting that regular yoga practice can elevate brain GABA levels and is more effective in enhancing mood and reducing anxiety compared to some other similarly intense exercises, such as walking. Hatha yoga, with its primary components of exercise, breathing techniques, and meditation, appears particularly beneficial for individuals with heart disease. Studies exploring the impact of yoga on heart disease indicate that it may lead to the reduction of high blood pressure, improvement in heart failure symptoms, enhanced outcomes in cardiac rehabilitation, and a decrease in cardiovascular risk factors. For those suffering from chronic low back pain, specialised programs like "Yoga for Healthy Lower Backs" have demonstrated a 30% greater benefit than standard care alone in a UK clinical trial. This program has emerged as a cost-effective and more efficient treatment option, leading to 8.5 fewer work days missed per year.

Researchers from Boston University School of Medicine conducted a study on yoga's effects on lower back pain. Over twelve weeks, one group of participants engaged in yoga practice, while a control group continued with conventional back pain treatment. The yoga group reported a one-third reduction in pain, whereas the standard treatment group experienced only a five percent decrease. Additionally, yoga participants reduced their use of pain medication by 80%. In recent years, there has been a growing body of research exploring yoga as a complementary intervention for cancer patients. Yoga is increasingly utilised to alleviate depression, insomnia, pain, and fatigue while enhancing anxiety control among cancer patients. Mindfulness-Based Stress Reduction (MBSR) programs incorporate yoga as a mind-body technique to mitigate stress. One study demonstrated that after seven weeks, the yoga-treated group reported significantly less mood disturbance and reduced stress compared to the control group. Another study found that MBSR positively impacted sleep quality, anxiety levels, overall quality of life, and spiritual growth in cancer patients. Yoga has also been subject to investigation as a treatment for

schizophrenia. Although the evidence remains inconclusive, there are promising indications that yoga, when used as a complementary therapy, may help alleviate schizophrenia symptoms and enhance health-related quality of life. Furthermore, a study has shown that yoga can provide acute cognitive benefits, particularly in executive functioning and inhibitory control.

Concluding Remarks: Now we come to conclude that yogic meditation encompasses a range of practices that involve inducing specific emotional states for self-analysis, such as anger or compassion. In recent years, modern scientific tools like fMRI and EEG scans have been employed to observe the physiological and neurological changes that occur in individuals who engage in regular meditation. A 2013 meta-analysis on mindfulness meditation revealed significant reductions in anxiety and depression. Moreover, the study found that increased mindfulness and reduced stress levels were associated with the frequency of weekly meditation sessions. Programs like Mindfulness-Based Stress Reduction (MBSR) incorporate yoga as a holistic approach to stress reduction, and a study showed that the yoga-treated group reported substantial reductions in mood disturbances and stress levels after seven weeks compared to a control group. Meditation may enhance the structural and functional connectivity of specific brain circuits by increasing their quantity and resilience. Some meditation techniques are believed to achieve this by reducing activity in the sympathetic nervous system while boosting the parasympathetic nervous system, resulting in decreased arousal and increased relaxation. Furthermore, there is evidence to suggest that regular yoga practice elevates brain GABA levels and provides more effective relief from mood disorders and anxiety compared to other similarly intensive physical exercises, such as walking.

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