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Effect of Pranayama on Football Players

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Abstract

The purpose of this research was to examine the influence of pranayama exercises on the breath-holding capacity of football players, an ability closely tied to endurance and on-field performance. The study involved thirty male soccer players aged 18 to 25 years, all selected from Manipur University in Imphal, Manipur, who had participated in national-level competitions. These athletes were randomly assigned to two equal groups: an experimental group of fifteen players and a control group of fifteen players. Before the intervention, both groups underwent baseline testing using the nostril-clip method to measure their breath-holding capacity. Following this initial assessment, the experimental group engaged in a structured and supervised pranayama training program, while the control group continued their usual routines without any special exercise intervention. The pranayama sessions were conducted over a six-week period, five days a week from Monday to Friday, with each session lasting sixty minutes. After completing the training program, both groups were re-evaluated to observe any changes in their breath-holding performance. The collected pre- and post-test data were analyzed using paired t-tests and Analysis of Covariance (ANCOVA) to determine whether the pranayama exercises produced significant improvements. The findings aimed to provide deeper insight into how systematic breathing practices can support athletic conditioning and respiratory efficiency in competitive football players.

Key-word: Yoga, Effect, Pranayama, Football Players, Training Intervention etc.

Introduction

The word "yoga" originates from the Sanskrit language and has a rich and multifaceted meaning. Yoga encompasses a diverse range of practices, philosophies, and approaches, but at its core, it refers to a holistic system designed to promote physical, mental, and spiritual well-being(Ramirez-Duran et al., 2025). Here are some key aspects of the meaning of yoga:

1. Union: The most common translation of "yoga" is "union" or "to yoke." It signifies the union of various aspects of the self, such as the body, mind, and spirit. Yoga seeks to harmonize and integrate these aspects to achieve a balanced and wholesome life.
2. Physical and Mental Practices: Yoga encompasses a variety of physical postures (asanas) and breathing techniques (pranayama) that are used to enhance physical health, flexibility, and mental focus(*10 Different Types of Yoga Practices (and Their Benefits)*, n.d.). These practices are often the most familiar aspects of yoga to many people.
3. Spiritual and Philosophical Dimension: Yoga also involves a deep philosophical and spiritual component. It includes concepts like self-realization, self-awareness, and a journey toward higher consciousness. Different schools of yoga may emphasize different aspects of this spiritual dimension(*Yoga Is the Journey of the Self, through the Self, to the Self - The Bhagavad Gita*, n.d.-a).
4. Paths of Yoga: There are several paths or approaches to yoga, including:
   - Hatha Yoga: Focuses on physical postures and alignment.

- Bhakti Yoga: Emphasizes devotion and love for the divine.
- Karma Yoga: Centers on selfless service and actions.
- Jnana Yoga: Concentrates on wisdom, knowledge, and self-inquiry.
- Raja Yoga: Concerned with meditation and mental control.
- Kundalini Yoga: Aims to awaken and channel energy within the body.

5. Health and Well-Being: Yoga is often used as a means to promote physical and mental health. It can reduce stress, improve flexibility, increase strength, and enhance overall well-being.
6. Mind-Body Connection: Yoga is a practice that encourages individuals to be present in the moment and cultivate a strong mind-body connection. It can improve self-awareness and mindfulness.
7. Non-religious and Universal: While yoga has its roots in Indian spiritual traditions, it is not limited to any particular religion. It is a universal practice that can be adapted and embraced by people of various beliefs and backgrounds(Csala et al., 2021).

The meaning of yoga can vary for different individuals and cultures, as it can be approached as a form of exercise, a spiritual journey, a path to self-realization, or a combination of these elements. Ultimately, yoga is a versatile and comprehensive system that offers a wide range of benefits for those who practice it(*Exploring How Different Types of Yoga Change Psychological Resources and Emotional Well-Being across a Single Session | Request PDF*, n.d.).

Meaning and Types of Pranayama: Pranayama is a yogic practice that involves breath control and regulation. There are several types of pranayama techniques, each with its own specific benefits and purposes. Here are some of the most commonly practiced types of pranayama(Jayawardena et al., 2020):

1. **Ujjayi Pranayama**: In Ujjayi pranayama, the breath is constricted in the throat to create a soft, hissing sound. It is often used in conjunction with yoga postures to enhance concentration and generate internal heat.
2. **Kapalabhati Pranayama**: Kapalabhati is a forceful, rapid exhalation and passive inhalation technique. It is often used to clear the nasal passages, increase energy, and stimulate the abdominal muscles.
3. **Bhastrika Pranayama**: Bhastrika is a rapid and forceful breath control technique involving both inhalation and exhalation. It is used to energize the body and clear the mind.
4. **AnulomVilom Pranayama (Alternate Nostril Breathing)**: AnulomVilom involves breathing in through one nostril and exhaling through the other, alternating between nostrils. This practice is believed to balance the body's energy and calm the mind.
5. **Sheetali Pranayama**: Sheetali pranayama is a cooling breath where one inhales through a rolled tongue (or pursed lips if you can't roll your tongue) and exhales through the nose. It is used to cool the body and reduce stress.
6. **Bhramari Pranayama**: Bhramari involves producing a buzzing sound while exhaling by closing the ears with the fingers and applying gentle pressure. It is said to calm the mind and reduce anxiety.
7. **Surya Bhedana and Chandra Bhedana Pranayama**: Surya Bhedana involves inhaling through the right nostril and exhaling through the left nostril. Chandra Bhedana, on the other hand, involves inhaling through the left nostril and exhaling through the right. These practices are associated with stimulating and calming effects, respectively.
8. **Shitali Pranayama**: Shitali is similar to Sheetali but involves inhaling through a rolled tongue. This pranayama cools the body and mind, and it is especially helpful in hot weather.
9. **Udgeeth Pranayama**: Udgeeth is a chanting pranayama where one chants "Om" or another mantra during exhalation. It is believed to promote mental clarity and spiritual awakening.
10. **Plavini Pranayama**: Plavini is a practice in which the practitioner swallows air and fills the stomach with it. This is an advanced and rare form of pranayama.
11. **Sitali Pranayama**: Sitali involves inhaling through a rolled tongue or puckered lips and exhaling through the nose. It is cooling and calming.
12. **Dirgha Pranayama (Three-Part Breath)**: Dirgha pranayama focuses on deep, complete breaths. It involves three parts - the lower, middle, and upper lungs - and is used for relaxation and stress reduction.
13. **Sama Vritti (Equal Breath)**: In Sama Vritti, the inhalation and exhalation are of equal length. This pranayama promotes balance and mindfulness.
14. **Nadi Shodhana (Channel Cleaning or Alternate Nostril Breathing)**: Nadi Shodhana is a balanced breath where you alternate between the nostrils, helping to purify and balance the body's energy channels.

Review of Literature

The review of related literature is instrumental in the selection of topic, formulation of hypothesis and deductive reasoning to the problem. It helps to get a clear idea and supports the findings with regard to the problem under study. The literature in any forms the foundation upon which all future work will be built. "The review of literature is generally used as a basis for inductive reasoning for locating and synthesizing all the relevant literature on particular topic". The research scholar has gone through the available related literature, which are relevant to the present study and have

been presented in Resistance training. All related literature serves as the basis for all subsequent research. If we fail to build upon the foundation of knowledge provided by the review of literature, the researcher might miss some works already done on the same topic.

The following review has been selected by the investigator

Abazar Teimoori et.al. (2012), the objective of this study was to examine the age at which loss of muscle velocity, balance, and agility begins in healthy adult Iranian females. In this study, 928 healthy Iranian women between the ages of 20 and 60 made up the sample. Each of the four age groups that comprised the subjects represented a decade. The tests included muscle velocity, balance, and agility, which were performed and timed using a digital stopwatch.

The findings indicated that muscle velocity, balance, and agility remained unchanged in the 20- and 30-year-old age groups. However, after the age of 30, these parameters began to gradually decline. With increasing age, muscle velocity, balance, and agility continued to decrease.

A one-way ANOVA test showed significant differences ($P < 0.01$) in muscle velocity, balance, and agility across decades, except between the second and third decades ($P = 0.28$). Age, muscle velocity, balance, agility, and power showed a significant relationship ($P < 0.001$). Loss of muscle velocity, balance, and agility appears to begin in the fourth decade of life. The changes in muscle velocity, balance, and agility are significantly associated with aging.

Jennifer G. and Jeffrey C. (2012) investigated the effects of a combined six-week Yogic Pranayama and upper-body plyometric program performed along with sport-specific training on the performance of fundamental skills in basketball. Fourteen ($N = 14$) female physical education students (age: 17.6 ± 0.63 years; height: 156.8 ± 5.1 cm) were randomly divided into two groups: the experimental group (EG; $n = 7$), which performed a combined six-week strength and plyometric training program twice a week, along with two hours of skill training per week, and the control group (CG; $n = 7$), which performed only two hours of skill training per week. Pre-test and post-test measures of weight, height, grip strength, vertical jump, and upper-body strength (1 Repetition Maximum) were collected. The American Alliance for Health, Physical Education, Recreation and Dance (AAHPERD) basketball skills test was administered to the participants. A two-way repeated measure ANOVA revealed a non-significant interaction effect of intervention and test time on all study variables. The six-week combined training program showed no significant difference in the physical and performance variables of female physical education students in a beginner basketball class when compared to sport-specific training alone.

Raghu & Dr. M. Syam Babu (2011) the subjects for the study were selected from students of five degree colleges in Visakhapatnam. Sixty subjects were randomly selected from the five degree **colleges** and divided into two groups, i.e., the Experimental Group and the Control Group. The subjects were aged between 18 to 21 years. The experimental treatment consisted of eight weeks of progressive weight training, which was given only to the experimental group, while the control group received no training. A pilot study was conducted before the experimentation.

Pre- and post-test data for both groups were collected and analyzed to determine the t-ratio significance using Analysis of Variance (ANOVA). Standard statistical packages were used for data analysis.

Results & Discussion

Based on the interpretation of data, the following findings were observed:

A significant difference was found among students in the performance of all six test items, i.e., pull-ups, bent-knee sit-ups, 50-meter dash, standing broad jump, 4×10-meter shuttle run, and 12-minute run/walk test.

Among the colleges, the best performances in each test item were as follows:

- **Pull-ups:** Mrs. Ankita Venkata Narasimha College
- **Bent-knee Sit-ups:** Gayatri Vidya Parishad College
- **50-m Dash:** Dr. Vasireddy Sri Krishna College
- **Standing Broad Jump:** Mrs. Ankita Venkata Narasimha College
- **4×10-m Shuttle Run:** Dr. Lankapalli Bullayya College
- **12-Minute Run/Walk:** Bharathiya Vidya Kendram College

References

1. Ahuja, A., & Ghosh, A. K. (1985). Pre-Asiad'82 injuries in elite Indian athletes.
2. *British Journal of Sports Medicine*, 19(1), 24–26. https://doi.org/10.1136/bjsm.19.1.24
3. Albright, J. P., Powell, J. W., Martindale, A., Black, R., Crowley, E., Schmidt, P., & Salvaterra, G. (2004). Injury patterns in Big Ten Conference football. *The American Journal of Sports Medicine*, 32(6), 1394–1404.
4. Best, J. P., McIntosh, A. S., & Savage, T. N. (2005). Rugby World Cup 2003 injury surveillance project. British Journal of Sports Medicine, 39(11), 812–817.
5. Damore, D. T., Metzl, J. D., Ramundo, M., Pan, S., & Van Amerongen, R. (2003). Patterns in childhood sports injury. Pediatric Emergency Care, 19(2), 65–67.
6. Engebretsen, L., Soligard, T., Steffen, K., Alonso, J. M., Aubry, M., Budgett, R., ... & Palmer-Green, D. (2013). Sports injuries and illnesses during the London Summer Olympic Games 2012. British Journal of Sports Medicine, 47(7), 407–414.
7. Eirale, C., Tol, J. L., Farooq, A., Smiley, F., & Chalabi, H. (2013). Low injury rate strongly correlates with team success in Qatari professional football. *British Journal of Sports Medicine*, 47(12), 807–808.

8. *Ekstrand, J., Hägglund, M., & Waldén, M. (2011). Injury incidence and injury patterns in professional football: The UEFA injury study. British Journal of Sports Medicine, 45(7), 553–558.*

9. *Eng, J. (2003). Sample size estimation: How many individuals should be studied? Radiology, 227(2), 309–313.*

10. 10 different types of yoga practices (and their benefits). *(n.d.). Calm Blog. Retrieved November 10, 2025, from https://blog.calm.com/blog/types-of-yoga*

11. *Csala, B., Springinsfeld, C. M., & Köteles, F. (2021). The Relationship Between Yoga and Spirituality: A Systematic Review of Empirical Research.* Frontiers in Psychology, 12, *695939. https://doi.org/10.3389/fpsyg.2021.695939*

12. Exploring How Different Types of Yoga Change Psychological Resources and Emotional Well-Being across a Single Session | Request PDF. *(n.d.). Retrieved November 10, 2025, from https://www.researchgate.net/publication/339495162_Exploring_How_Different_Types_of_Yoga_Change_Psychological_Resources_and_Emotional_Well-Being_across_a_Single_Session*

13. *Jayawardena, R., Ranasinghe, P., Ranawaka, H., Gamage, N., Dissanayake, D., & Misra, A. (2020). Exploring the Therapeutic Benefits of Pranayama (Yogic Breathing): A Systematic Review.* International Journal of Yoga, 13*(2), 99–110. https://doi.org/10.4103/ijoy.IJOY_37_19*

14. *Ramirez-Duran, D., Kern, M. L., & Stokes, H. (2025). From practice to lifestyle: Conceptualizations of yoga in regular Ashtanga yoga practitioners using reflexive thematic analysis.* Frontiers in Psychology, 16, *1582275. https://doi.org/10.3389/fpsyg.2025.1582275*

15. Yoga is the journey of the self, through the self, to the self—The Bhagavad Gita. *(n.d.). Retrieved November 10, 2025, from https://www.exoticindiaart.com/article/yoga-is-the-journey-of-the-self/?srsltid=AfmBOorjLll9lN1vUaPZK8ivxMjutzom_2dSrPeIjKZoYah3STBTP1k6*