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**GLOBAL PERSPECTIVE ON PHYSICAL EDUCATION,
SPORTS FOR PEACE, AGEING AWARENESS,
YOGA & RECREATION**

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**SPECIAL ISSUE OF GLOBAL PERSPECTIVE ON PHYSICAL EDUCATION, SPORTS
FOR PEACE, AGEING AWARENESS, YOGA & RECREATION**

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**MESSAGE**

I am delighted to convey my heartfelt greetings and congratulations to the organizers, faculty, and participants of the 3rd International Conference on "Global Perspective on Physical Education, Sports for Peace, Ageing Awareness, Yoga & Recreation," hosted by BPCA's College of Physical Education, Wadala, Mumbai.

This conference is a timely initiative, bringing together experts, practitioners, and scholars to discuss and deliberate on crucial areas that shape the future of physical education, sports, and overall well-being. The themes of the conference—peacebuilding through sports, promoting active ageing, integrating yoga into holistic health, and encouraging recreation—are not only relevant but are also critical for promoting a healthier, more inclusive, and sustainable global society.

Physical education and sports transcend boundaries, creating opportunities to promote peace, unity, and development across cultures and nations. Similarly, raising awareness about ageing and adopting traditional practices like yoga are essential for addressing the challenges of modern lifestyles and improving quality of life across generations.

I applaud BPCA's College of Physical Education for their tireless efforts in advancing academic and practical insights in the field of physical education and sports. I wish the conference grand success and hope that the discussions and collaborations emerging from this platform lead to impactful outcomes for the betterment of society.



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MESSAGE

I am pleased to send greetings to all participants at the 3rd International Conference on *"Global Perspective on Physical Education, Sport for Peace, Ageing Awareness, Yoga and Recreation"* on 13th and 14th January, 2025. I thank the organizers for hosting this important conference.

Sports, Physical Activity, Exercise, Yoga and Recreation are outstanding tools to support peace and integrate development to promote holistic health and ageing awareness among the people. Education is always a sign of development and learning. It should be research-oriented helping society to create something new.

Discussions on the challenges faced in the Physical Education & Sports field, diverse range of Presentations, Keynote speech will undoubtedly enhance our understanding of sustainable development and will motivate to create practical measures for a better tomorrow. The response of contributors and likeminded educational fraternity showing their keen interest in this conference is highly prestigious.

I am sure that the conference would achieve its objective by providing a suitable platform for learning and experiencing the latest advancement in Physical Education and Sports Science. The cohesive efforts of a dedicated and committed team are necessary for organizing such conferences.

I wish the organizing committee a grand success!

(Prof. Ravindra D. Kulkarni)
Vice Chancellor
University of Mumbai



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EFFECTIVENESS OF ZUMBA AND AEROBICS TRAINING PROGRAM ON THE BASIS OF STRESS LEVELS OF SECONDARY SCHOOL CHILDREN OF MUMBAI

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Abstract

Introduction:

The mental health and well-being of secondary school students are critical for their overall development and academic performance. In the bustling metropolitan city of Mumbai, where academic pressure and urban stressors significantly impact young minds, innovative interventions like Zumba and aerobics have emerged as potential stress-relief strategies.

Purpose:

The purpose of the study was to investigate the effectiveness of Zumba and Aerobics Training Programs on the basis Stress levels of Secondary School children of Mumbai.

Method:

A rigorous randomized controlled trial was conducted, involving 150 secondary school students (aged 13-15 years) from Mumbai. Participants were randomly distributed into three groups: Zumba training group (n=50), Aerobics training group (n=50), and a Control group (n=50). Standardized assessments were administered both pre-intervention and post-intervention, focusing on Stress levels. The control group has not undergone any training programme. Data were analyzed by using One Way ANCOVA test.

Results and Discussion:

The results revealed that Both Zumba and Aerobics training programs demonstrated significant effectiveness in reducing Stress among secondary school children. Participants who engaged in these programs reported decreased stress levels and a heightened ability to cope with the pressures of academic and social life. It was concluded that this research contributes to the global body of knowledge on youth well-being by highlighting the effectiveness of Zumba and Aerobics training programs in addressing Stress levels among secondary school children. It emphasizes the importance of adopting a holistic approach to youth well-being that encompasses both physical and psychological dimensions.

Keywords: Zumba, Aerobics, Stress

Introduction

Adolescence is a critical period of life characterized by significant physical, emotional, and social changes. Secondary school children, particularly in urban environments like Mumbai, often face considerable stress due to academic pressures, extracurricular demands, and the challenges of navigating social relationships. Prolonged stress at this stage can negatively affect mental health, academic performance, and overall well-being, underscoring the importance of effective stress management strategies.

Physical activity is widely recognized as a beneficial tool for stress reduction, as it promotes the release of endorphins, enhances mood, and improves overall mental health. Among the various forms of physical activity, Zumba and aerobics have gained popularity due to their engaging, rhythmic, and group-based formats. Zumba combines dance and fitness to upbeat music, offering an enjoyable way to exercise, while aerobics focuses on structured cardiovascular workouts designed to enhance physical endurance and reduce stress. Both activities encourage social interaction, improve fitness levels, and foster a sense of accomplishment, making them particularly suitable for adolescents.

Despite the widespread adoption of Zumba and aerobics in fitness and wellness programs, their specific impact on stress levels among secondary school children remains underexplored, particularly in the Indian context. This study aims to address this gap by evaluating the effectiveness of Zumba and aerobics training programs in alleviating stress among secondary school students in Mumbai. By examining these interventions, the study seeks to provide evidence-based recommendations for integrating such programs into school curricula to promote holistic development and mental well-being.

This paper will discuss the methodology used to assess the impact of these interventions, present findings on their effectiveness, and explore their implications for educational and mental health practices in urban school settings.

Purpose of the study

The present study was conducted on Secondary school student age ranging from 13-15 years to investigate and assess the effectiveness of Zumba and Aerobics training programs in reducing the Stress levels of secondary school children in Mumbai. The study aims to provide valuable insights into the impact of these exercise interventions, addressing a critical gap in the existing literature and contributing to the development of targeted health promotion strategies for adolescents in this urban context.

Objective of the Study

For said study, the objective of the study was as follows;

1. To compare the adjusted mean scores of Stress of Secondary School Children of Experimental Group & Control Group by considering Pre-Stress as a Covariate.

Hypothesis of the Study

For said study, the hypothesis of the study was as follows;

H₀: There is no significant difference in the adjusted Mean Scores of Stress of Secondary School Students of Experimental Group and Control Group by taking Pre-Stress as Covariate.

Methodology

One Hundred and Fifty (n=150) Secondary School Students age ranging from 13-15 years were identified as subjects from Saraswati Mandir High School Mahim, Mumbai. The students were further divided into 3 groups out of which two were experimental groups of Zumba and Aerobics and the third group was the control group.

Age	Zumba	Aerobics	Control
13 years	18	18	18
14 years	17	17	17
15 years	15	15	15
Total	50	50	50

Group 'A': Experimental Group (n = 50) - Zumba

Group 'B': Experimental Group (n = 50) - Aerobics

Group 'C': Control Group (n = 50)

Design of the Study

The design of the study was Non Equivalent Control Group Design. Phase – I: Pre-test, Phase – II: Training or Treatment, and Phase – III: Post-test. The subjects were divided into three groups, two Experimental group and one Control group; each group consisted of 50 subjects. Experimental group had undergone Zumba training programme and another Experimental group had undergone Aerobics training programme for the period of twelve weeks.

Dependent Variables of the study: Stress

Criterion Measures

The following criterion measures included the records of the various test items of Stress. This scale consists 40 items divided into four areas: 1. Pressure, 2. Physical Stress, 3. Anxiety, 4. Frustration. It was administered on age range 12 to 24 years

Variable	Test	Unit
Stress	Vijaya Lakshmi and Shruti Narain Stress Scale (2014)	Score / Scale

Independent Variables:

The specific Zumba and Aerobics training was considered as independent variable for the present study.

Statistics:

Comparison of group was done with the help of One Way Analysis of Covariance ANCOVA.

Results and Discussion:

The mean achievement in Stress levels due to Zumba and Aerobics Training Programme, as obtained from ANCOVA test, revealed that –

1.1 TREATMENT WISE COMPARISON OF ADJUSTED MEAN SCORES OF STRESS

The objective was to compare adjusted mean scores of Stress of School Students belonging to Zumba Training Group, Aerobics Training Group and Control Group by taking Pre-Stress as Covariate. The data were analyzed with the help of One Way ANCOVA and results are given in Table 1.1.

Table 1.1: Summary of One Way ANCOVA of Stress by taking Pre-Stress as Covariate

Source of Variance	df	SSy.x	MSSy.x	Fy.x	Remark
Treatment	2	4.80	2.40	0.31	p<0.05
Error	146	1104.81	7.56		
Total	149				

From Table 1.1 it can be seen that the F-value is 0.31 which is significant at 0.05 level with df=2/149. It reflects that the adjusted mean scores of Stress of Students differ significantly when Pre-Stress was taken as covariate. Thus, the Null Hypothesis that there is no significant difference in adjusted mean scores of Stress of Students of Zumba Training Group, Aerobics Training Group and Control Group as covariate is rejected. In order to know which training was found to be more effective the data were further analyzed by using LSD and the results are given in Table 1.2.

Table 1.2: Treatment Wise Adjusted Mean, SE, Mean difference and difference between Adjusted Means of Stress

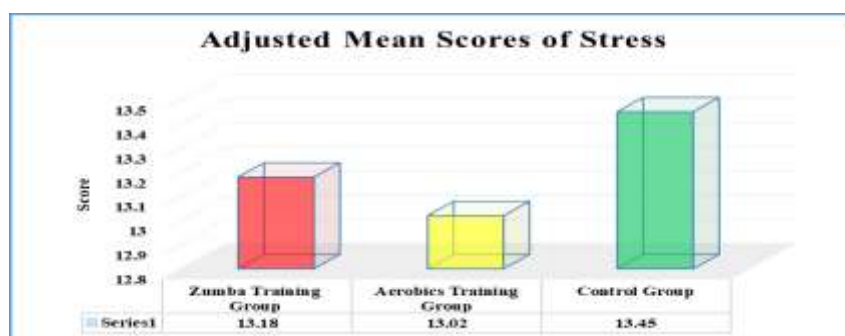
Treatment	Adjusted Mean	SE	Zumba Training	Aerobics Training	Control Group
Zumba Training	13.18	.389			
Aerobics Training	13.02	.391	0.16*		
Control Group	13.45	.390	0.27*	0.43*	

* Significant at 0.05 level ** Significant at 0.01 level

From Table 1.2 From Table 4.20 it can be seen that the mean difference of Zumba Training Group and Control Group is 0.27 which is significant at 0.05 level with $df=48$. It shows that the mean scores of Stress of Zumba Training Group and Control Group differ significantly. Further the adjusted mean score of Stress of Control Group is 13.45 which is significantly higher than that of Zumba Training Group whose adjusted mean score of Stress is 13.18. It may, therefore, be said that the Zumba Training was found to be effective in reducing Stress of School students as compared to Control Group where Pre-Stress was taken as Covariate and also graphically presented in Figure 1.1.

From Table 1.2 it can be seen that the mean difference of Aerobics Training Group and Control Group is 0.43 which is significant at 0.05 level with $df=48$. It shows that the mean scores of Stress of Aerobics Training Group and Control Group differ significantly. Further the adjusted mean score of Stress of Control Group is 13.45 which is significantly higher than that of Aerobics Training Group whose adjusted mean score of Stress is 13.02. It may, therefore, be said that the Aerobics Training was found to be effective in reducing Stress of School students as compared to Control Group where Pre-Stress was taken as Covariate and also graphically presented in Figure 1.1.

From Table 1.2 it can be seen that the mean difference of Zumba Training Group and Aerobics Training Group is 0.16 which is significant at 0.05 level with $df=98$. It shows that the mean scores of Stress of Zumba Training Group and Aerobics Training Group differ significantly. Further the adjusted mean score of Stress of Zumba Training Group is 13.18 which is significantly higher than that of Aerobics Training Group whose adjusted mean score of Stress is 13.02. It may, therefore, be said that the treatment of Aerobics Training was found to be significantly superior to the treatment of Zumba Training in terms of Stress. It is graphically presented in Figure 1.1.

Figure 1.1: Treatment Wise Comparison of Adjusted Mean Scores of Stress

Conclusion:

Effect of twelve weeks Zumba and Aerobics Training Programme was helpful in reducing Stress of School students (Boys) of Mumbai. It influences psychological well-being, contributing to reduced stress levels, improved mood, and increased self-esteem. This underscores the holistic nature of physical fitness and its profound influence on the overall quality of life

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THE JOY OF LIVING: AGING WITH TRADITIONAL YOGA

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Introduction

The aging population has emerged as a critical issue on the global agenda, with projections indicating a substantial increase in individuals aged 65 and older. The World Health Organization (WHO) estimates that by 2050, the global population of people aged 60 and over will double from 1.0 billion in 2019 to 2.1 billion, comprising about 22% of the total population.

This demographic shift poses significant challenges, especially in resource-limited countries where systems are ill-equipped to support the growing number of older adults. In some developing nations, the proportion of older individuals could triple, creating pressing concerns for health, well-being, and support systems.

In this context, promoting self-care practices and healthy aging strategies, such as traditional yoga, becomes vital. Research indicates that regular yoga practice can enhance both physical and mental health in older adults. Integrating such practices into public health strategies is essential for addressing the challenges posed by an aging population.

Aging and Its Types

Aging is a multifaceted process that transitions individuals from health and vitality to vulnerability. Renowned expert Richard Miller categorizes aging into three types: normal, pathological, and successful aging.

Normal aging refers to the natural physiological changes that occur over time. For instance, individuals typically experience a decline in muscle mass and bone density, as well as reduced cardiovascular capacity. Research from Harvard University indicates that without resistance training, individuals can lose up to 30% of muscle mass between the ages of 50 and 70.

Pathological aging is characterized by the onset of chronic diseases that can accelerate the aging process. Common conditions, such as diabetes, heart disease, and dementia, affect more than 80% of individuals over 65, presenting significant challenges for health systems and the well-being of older adults.

Successful aging encompasses the ability to adapt and maintain quality of life, physical health, and emotional well-being in later years. It involves not only the absence of disease but also the preservation of functionality and life satisfaction.

Miller emphasizes that aging is a natural process that can be navigated in various ways, advocating for the promotion of successful aging through healthy habits. This perspective highlights the importance of not just living longer, but living fully and vibrantly.

Research supports the notion that lifestyle interventions—such as regular physical activity, a balanced diet, and social engagement—are critical for fostering successful aging. Older adults who engage in physical and social activities are 30% more likely to report an improved quality of life compared to their sedentary peers.

In summary, understanding the different types of aging and promoting strategies for successful aging is crucial for improving the quality of life of older individuals in a society facing an increase in the elderly population.

In this paper we will discover how and why traditional yoga can be the best lifestyle intervention for successful aging.

The Spiritual Dimension of Aging

While the physical and mental aspects of aging are crucial, the spiritual dimension is equally important. Many older adults experience a loss of purpose upon retirement and as family dynamics shift. This can lead to loneliness, anxiety, and depression. Learning to enjoy solitude and connect with one's inner self becomes essential for healthy aging.

Spiritual practices such as asana, pranayama, and meditation—derived from traditional yoga—offer profound benefits that encompass the physical, mental, emotional, and spiritual realms. Rediscovering a sense of purpose, even amidst retirement and reduced daily activities, is vital for fostering a fulfilling aging experience.

Challenges Associated with Aging

Aging presents various challenges that impact the health and well-being of older adults. Common issues include elder abuse, sarcopenia, frailty, an increased risk of injuries and diseases, and decline of cognitive functions.

Elder abuse is a disturbing reality, manifesting in physical, emotional, and financial forms. WHO reports that approximately 1 in 6 older adults experiences some form of abuse in community settings. This not only inflicts physical harm but also leads to psychological consequences, such as depression and a diminished sense of purpose. Promoting independence and proper planning for aging are key to preventing institutionalization and vulnerability.

Sarcopenia, defined as age-related muscle loss, is a critical factor affecting the functionality and independence of older adults. Muscle loss is associated with several significant metabolic consequences that lead to conditions such as: obesity, insulin resistance and type 2 diabetes, cardiovascular diseases, metabolic diseases. Changes in the hormonal profile is the biological cause of depression. A decreased functional capacity leads to limited daily activity, perpetuating a cycle of inactivity and physical decline, increased risk of falls and fractures, fatigue and weakness, affecting quality of life, with greater dependence on caregivers and hindering participation in social and recreational activities. Sarcopenia is a clear example of how physical and mental health are indivisible in old age.

Malnourishment and dehydration due to loss of thirst and aging of the digestive system, may possibly lead to a reduction in the brain mass. Lack of stimuli also contributes to cognitive impairment.

Aging and Its Causes

Aging is an inevitable process affecting all living beings. Thinkers like Buddha have long reflected on this journey, noting that "life is suffering due to disease, old age, and death." This suffering can be better understood through various theories explaining the causes of aging.

Theories of Aging

According to Genetic Material Depletion Theory, aging results from the gradual loss of genetic material in cells, leading to dysfunction and tissue decline. Telomere shortening is linked to cellular aging.

Free Radical Theory says that aging is accelerated by oxidative stress from free radicals that damage cells. Antioxidant-rich diets and stress management may help mitigate this.

Genetic Programming Theory suggests aging is genetically programmed, influenced by DNA inactivation and telomere shortening. Higher metabolic rates and the buildup of waste products also contribute.

Neuroendocrine theory addresses reduced homeostatic capacity.

In Environmental Theories, aging is impacted by lifestyle and environmental factors like diet and exercise. Research shows a healthy lifestyle can significantly lower mortality risk, highlighting the interplay between genetic and environmental influences.

Aging and Traditional Yoga

Traditional yoga practices, including asanas, pranayama, and meditation, can combat issues like DNA deterioration, oxidative stress, inflammation, and sarcopenia caused by unhealthy lifestyles. They promote overall well-being and can reverse aging effects on physical and mental health.

Impact on Total Health

Traditional Yoga is fundamentally a parasympathetic activation. Each and every one of its techniques stimulates the vagus nerve. Some techniques are seemingly more physical (asanas) and others more psychic (meditation), but all of them are, in reality, of a psycho-physical nature.

It is important to emphasize that, unlike contemporary yoga trends, which are athletic-gymnastic in nature, Traditional Yoga is a complex and comprehensive set of practices that goes far beyond physical conditioning. It encompasses all aspects of the human being, conditioning the physical body with the purpose to achieve not only health but also elevated states of psycho-spiritual development.

This approach reveals a deep and ancestral knowledge about the bioenergetic and neurophysiological technology of the human body, which surprises modern science, still in the process of providing scientific explanations for its astonishing results on health and well-being.

Vagus Nerve Benefits

Increased vagal tone results in anti-inflammatory effects, enhanced immunity, DNA repair, reduced stress and increased neuroplasticity.

Acetylcholine: The Great Anti-inflammatory

In the late 1990s, Kevin Tracey, a professor of molecular medicine and neurosurgery at the Feinstein Institute for Medical Research, made a surprising discovery while working with rats. He found that the vagus nerve has an anti-inflammatory function throughout the organism via acetylcholine, a neurotransmitter that spreads to all organs through the vagal nerve pathway. This neurotransmitter acts as a powerful anti-inflammatory that is activated when the parasympathetic system comes into play (Tracey, 2002).

DNA Repair

Studies suggest that greater activation of the vagus nerve is associated with a slowing of aging processes, even a reversal of them. The restoration of homeostasis dissolves the harmful effects of stress on the organism, reducing oxidative stress and preventing the shortening of telomeres (Epel et al., 2009).

Mental Health

Vagal activity is related to an increase in oxytocin, a hormone that improves mood, enhances relational ability, and brings emotional satisfaction, benefiting the emotional health of individuals and their attachment behaviors (Grewen et al., 2005).

Vagus nerve stimulation (VNS) has been shown to increase levels of neurotransmitters such as serotonin and norepinephrine. These neurotransmitters are crucial in regulating mood and emotional responses.

As we have seen, the vagus nerve has anti-inflammatory properties. Chronic inflammation is linked to depression and other mental health issues. By modulating inflammatory responses, vagus nerve activation can contribute to improved mental health.

Engaging in traditional yoga practices, leading to a relaxation response, can foster a positive mindset, reduce anxiety, and promote feelings of calmness and security, making it easier to manage stress and negative thoughts.

Traditional Yoga not only acts as a physical practice but also provides tools for regulating the nervous system, improving overall health, and reversing aging. Its ability to activate the vagus nerve is the key that scientifically explains its results in promoting psycho-physical health.

Role of Asana in Muscle Tone Regulation

Yogic postures are integral to yoga practice and have been shown to influence muscle tone and overall physical fitness. Research indicates that regular practice of asanas can lead to improvements in muscle strength, flexibility, and endurance, which are crucial for regulating muscle tone.

Scientific studies support the efficacy of yoga in enhancing muscle tone. Regular engagement in yoga asanas can lead to long-lasting benefits, contributing to a balanced and healthy muscle tone, thus preventing or overcoming sarcopenia, loss of flexibility, poor posture due to ageing.

Bhavana Yoga: Attitude Training

Traditional yoga goes beyond physical training and includes deep commitment with the shaping of one's attitudes towards others, life and one's own self.

This is suggested in Patanjali's Yoga Sutras through the ethical training and promoting virtues like compassion, equanimity, satisfaction.

Negative attitudes can lead to stress, anxiety, and poor health outcomes, while positive attitudes can enhance resilience, improve relationships, and promote overall well-being.

Conclusion

Old Age as an Opportunity to Rediscover the Meaning of Life

While aging is often viewed through a negative lens, it can instead represent a profound period of growth, reflection, and purpose rediscovery. With the passage of time comes invaluable knowledge that enhances our ability to form meaningful connections and make thoughtful decisions. This reflective journey allows older adults to gain a deeper understanding of themselves and rekindle their sense of purpose.

Many individuals find joy in exploring new hobbies, engaging in volunteer work, or traveling, all of which contribute to increased life satisfaction and a sense of adventure. Aging encourages us to prioritize our relationships, fostering deeper bonds with family and friends. Additionally, many seek solace in spirituality or philosophy, searching for meaning and comfort in their experiences.

Traditional yoga serves as a powerful tool to enrich all aspects of life, often revealing new perspectives that may have previously gone unnoticed. Old age can indeed be a new beginning—a chance for self-discovery and an initiation into a more profound purpose.

Engaging in traditional yoga invites us to take responsibility for our aging process. By prioritizing self-care, we can ensure the quality of this vital stage in our lives, transforming potential challenges into opportunities. This proactive approach not only enhances our individual well-being but also alleviates the societal burden of supporting an increasingly aging population.

Future Recommendations

The best results are achieved with early participation in practice programs. Groups provide a stimulating and cost-effective way to teach yoga, also encouraging socialization.

One of the greatest advantages is that traditional yoga is a simple and personal discipline. Once individuals acquire the tools, they do not require transportation or additional investments.

Including traditional yoga programs in government approaches to aging populations can bring significant relief to the quality of life for older adults, as well as to healthcare budgets.

ROLE OF PHYSICAL EDUCATION PROGRAMME FOR THE DEVELOPMENT OF PHYSICAL AND MOTOR SKILLS AMONG SCHOOL CHILDRENS

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Abstract

The school's physical education programme is a primary contributor for the development of skills among School Childrens. Physical literacy a part of Physical Education is defined as the ability to move with competence and confidence in a wide variety of physical activities in multiple environments that benefit the healthy development of the whole person. The basic skills the child needs to learn to be physically literate are called fundamental movement skills. Fundamental movement skills such as hopping, skipping, throwing, catching etc. can be taught to the school students. Schools must promote the physical playthings and given to students equipments such as different balls, toys, tricycles, wheel barrows etc. Physical skills that focus on the use of fingers and hand are called fine motor skills and are important to develop the physical literacy. Developing the fine motor skills of the student through creative arts such as chalk, art paper, painting, clay play, stickers etc. Fine motor skills develop the wrist stability of the child. The assortment of balls for childrens in sizes, shapes, colours, weights, textures and material. The Child will feel happy to play with the balls which helps to develop the fine motor skills which is useful for the future participation in sports and games. A Positive out come of the child through physical literacy helps the childrens to develop motivation and interested to participate in Sports and games. The eight major locomotor skills involving large muscle movements are used by children to go from one place to another. The eight major locomotor skills are walking, running, leaping, galloping, sliding, jumping, hopping and skipping. It is recommended that Skills can be promoted through Physical education Programme among childrens.

Key words: Physical Education, Physical literacy, Locomotor skills, walking, running etc.

Introduction:

The school's physical education programme is a primary contributor to building a strong foundation for the development of broad-based physical competencies and opportunities for recreational participation of the School Students in India. School health and physical education programs, for kindergarten through high school, and local youth sports programs, need to implement a long-term athletic development to have a basic foundation of Physical Education to build High Performance Athlete. Physical Education Plays the main role in the Identification of Talent and Selection of Sport of a Child at School and College level to guide for the correct coaching in becoming the future champions of the country.

Sport programs and coaches resort to overemphasizing competition and related sport skills. From a coach's standpoint, there is need for practical, functional, and sequential athlete document that will provide coaches with best practices for the development of strength, flexibility, and stability in their athletes at correct age at school level to develop the motor qualities and skills. This Programme of Physical Education must include movement vocabulary, physical literacy, and athletic movement skills, if athleticism is to be achieved.

The goal of Physical education is to prepare students for a Life time of Healthy living, Physical training for the development of skills among School childrens..The PE programme is an integral component of India school curriculum. the learning areas addressed during PE are:

- Traditional Sports
- Yoga
- Kabaddi and Kho
- Mass Drills exercises
- Lezium
- Physical Health and Fitness

The above activities in the Schools in directly develops motor fitness and athletics ability among Children's.

Discussion:

Physical education tends to be essential during the initial phase of schooling as it prepares students to be fit, bold and confident, and helps them gain good health and focus. Most parents are not aware of the importance of physical education and the benefits of physical activity in their children's lives because encouraging students to exercise ultimately complements their mental and physical health. As parents, we always force our children to concentrate on getting excellent grades and studies. However, at the same time, we neglect the importance of physical activities. Are you wondering why do we need to pay attention to physical education? Let's talk about it and the benefits students derive.

Physical education is introduced to stay healthy and learn various sorts of physical activities that will make students' muscles and bones strong. Regular physical activities like running, cycling, walking, swimming and yoga promote physical growth and personality development of a child. If your child is engaging in daily physical activities, it will be more beneficial for their physical growth. One of the prime benefits of physical education is that it helps ensure good mental health. Mental health is as essential as physical health because it helps in emotional stability. Playing and engaging in physical activities will keep them away from many mental illnesses or disorders like anxiety disorders, depression, and bipolar disorder which can result in severe conditions over long term.

Physical education helps reduce stress levels and keeps students mentally and physically healthy. Many students face stress during exams or other reasons when they start doing some physical activities, which will reduce their stress and make them feel better and fresh. Hence, you should encourage your child to know about the importance of physical education. Physical education enables students to remain alert, concentrated and pro-active. Regular physical exercise will keep their mind at rest and help them focus on studies as well as sports. They'll be mentally and physically fit. One of the important benefits of physical education is that students will have a good quality of sleep. Doing regular physical activities improve and develop good students' character and self-esteem. Students will be able to enhance their leadership qualities, team spirit, and become confident in making decisions.

Conclusions

Regular physical activity can help children to improve the Physical fitness, build strong bones and muscles, control weight, and reduce symptoms of anxiety and depression. It is concluded that physical exercises promote Physical fitness among school children. Hence the regular physical activity must be included in the physical education programs in the Schools. Schools are in a unique position to

help students attain the Physical education classes of daily physical activity to promote the physical fitness and good health. Researcher has also observed that there are improvements in leadership qualities on positive side at the early ages. After the research we have also found that physical activity has also significantly improved their discipline and social behavior. The flow of oxygen to the brain is increased. The number of brain neurotransmitters is increased, which assists your ability to focus, concentrate, learn, remember and handle stress. Physical activity is one of the best ways children can improve their health. Aim for at least one hour of activity daily, including aerobic, muscle-strengthening, and bone-strengthening exercises. Aside from health benefits, your children will likely do better in school, too.

Recommendations:

- Evidence suggests that increasing physical activity and physical fitness may improve academic performance and that time in the school day dedicated to recess, physical education class, and physical activity in the classroom may also facilitate academic performance.
- Physical Exercises to the students in schools will improve the Physical fitness, Health related fitness and specific fitness.
- Executive function and brain health underlie academic performance. Basic cognitive functions related to attention and memory facilitate learning, and these functions are enhanced by physical activity and higher aerobic fitness.
- Single sessions of and long-term participation in physical activity improve cognitive performance and brain health. Children who participate in vigorous- or moderate-intensity physical activity benefit the most.
- Given the importance of time on task to learning, students should be provided with frequent physical activity breaks that are developmentally appropriate.
- Although presently understudied, physically active lessons offered in the classroom may increase time on task and attention to task in the classroom setting.

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EFFECT OF PLYOMETRIC AND ISOTONIC TRAINING PROGRAMME ON AGILITY OF COLLEGE FOOTBALL PLAYERS OF MUMBAI

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Abstract

The main purpose of the study is to understand the effect of plyometric and isometric training on Agility of the college football players. The plyometric and isotonic training was provided and the result was recorded for 30 samples each for control and experimental group. The experimental study was selected and the data of both group was taken for analyses with one way anacova. Purposive Sampling technique was used for selecting sample for the study. The sample were selected from senior college affiliated with Mumbai University. Only male football players were selected for the study. The total sample size was 60 which were divided in to two group; Experimental group and control group respectively. The result of Agility was calculated with F-value was 104.78 which is significant at 0.01 level with $df=2/149$. It reflects that the adjusted mean scores of Agility of College football players differ significantly when Pre- Agility was taken as covariate. Thus, the Null Hypothesis that there is no significant difference in adjusted mean scores of Agility of College football players of Plyometric Training Group, Isotonic Training Group and Control Group as covariate is rejected. It was shows that training was effective for football players. It was concluded that training was helpful for the college football players of Mumbai.

Keywords: Plyometric, Isometric, Agility, Purposive sampling

INTRODUCTION

In the Mumbai university we can see more than 100 colleges were participating in the football events conducted by Mumbai university every year. The Footballer required High quality training in terms of skill improvement. The agility is one of the motor fitness which was required while playing football. In the present study the training was very useful for footballers to boost the fitness with skill and game techniques firmly.

Football is one of the fastest and popular game which required overall physical and mental fitness like speed, agility, co-ordination, physical strength and quick decision making ability.

Football is a game that requires skill and speed. Speed is the ability to perform a movement within a short period of time (Neiman, 1995). Speed training is an important football related skill related component of physical fitness which enables a player to move from one point to another with faster response time. It has been shown that to improve speed each athlete needs to work on acceleration, starting ability, stride rate, speed endurance, and stride length (Mackenzie, 2001). Football is one of the most popular games in the world in general. Football being most competitive sport, a player who is Physically fit does not only enjoy more but he is also capable of using all the skills attained and mastered by him throughout, right from beginning to end of the game. The twin combination of both skill and physical fitness is indispensable for a player without either of which he will not be able to achieve much, specifically in order to play any ball game competently (Nabhendra Singh, 2010). However, the word physical fitness and motor fitness are often used interchangeably. The term motor fitness was developed

to describe a broad concept than physical fitness. This extensive term means the ability to perform basic motor. A Comparative Study of Motor

Performance Level 409 skills efficiently and effectively. Power, balance, agility, speed, reaction time and kinesthetic perception are the traits of motor performance, and these traits plays major role in enhancing the performance of any game's skills. With a good and well efficient combination of all these motor performance traits a player can give all his/her utmost throughout the most strenuous of competitive matches. (Nabhendra Singh, 2010)

Agility is the ability to change the direction of body or its parts rapidly' is dependent on strength, reaction time, speed of movement and muscular coordination. Quick start and stops and quick changes in direction are fundamental to good performance in Football (Nabhendra Singh, 2010)

Training is an essential part of preparing for sports competition. If training for soccer is to be effective it must be related to the demands of the game. Fitness for the sport assumes that the player is capable of meeting these demands; otherwise he or she may not be able to cope with the physiological stress of match-play.

The present study, the scholar wanted to investigate new scientific approach for boosting up performance of Football players. Therefore, the researcher thought to study the Effect of Plyometric and Isotonic Training Programme on Motor Fitness Components, Psychological Variables and Skill Abilities of College Football Players of Mumbai

Plyometric Training

Plyometric training involves the usage of jumps, hops, bounds, and/or skips and should not be confused with ballistic training. This form of training is governed by the stretch-shortening cycle, otherwise known as the reversible action of muscles. Plyometric activities can be separated into two categories depending upon the duration of the ground contact time: 1) fast plyometric movements (≤ 250 milliseconds (ms)); and 2) slow plyometric activities (≥ 251 ms). This training modality appears to be very effective for improving athleticism in both youth and adult populations. Moreover, both land- and aquatic-based plyometric training appears to be a potent stimulus for improving athletic qualities. As plyometric activities are highly coordinated and skillful movements, they should be coached with full care and attention by qualified personnel.

Isotonic Exercise

Isotonic resistance activities are perhaps the most common type of dynamic exercise. With isotonic exercise, the actual muscle length changes as an external force causes a change in the joint angle. In pure isotonic exercise, resistance remains constant, whereas the velocity of movement depends on the load, known as the force-velocity relationship. Eccentric and concentric phases occur during isotonic exercise. Isotonic exercise has two inherent disadvantages: (1) the weight is fixed and does not adjust to the variation in expression of force present during speed work or at various ranges of motion, and (2) the momentum of weight propulsion diminishes the strength required at the extremes of joint motion. This type of exercise is readily available in the form of exercises performed with ankle weights, free weights, and weight machines

Agility

Agility is the capacity to change course, controlling the direction and position of your body while maintaining your momentum. Changing course while sprinting to hit a tennis ball is an example of agility. Sports coach Brian Mackenzie offers a simple zig-zag run to test agility.

OBJECTVIES OF THE STUDY

- To compare the adjusted mean scores of agilities of experimental group and control group of football players by taking pre agility as covariate.

HYPOTHESIS OBJECTVIES OF THE STUDY

Ho1. There is no significant difference in the adjusted mean scores of agility of experimental group and control group of football players by taking pre agility as covariate.

DELIMITATIONS OF THE STUDY

Although the present study has a large scope, however, to complete this within stipulated time frame and the resource availability, the researcher has to delimit it in the following ways:

1. The study was delimited for 12 weeks of Plyometric and Isotonic Training Programme.
2. The study was delimited to the college football players affiliated to university of Mumbai.
3. The study was delimited to Motor Fitness Components and Selected Psychological Variables.

METHODOLOGY**Procedure of the study**

Pre Test	Training	Post test

Training Phase

Particulars	Time
Warm up	10 minutes
Training	40 minutes
Cooling Down	10 minutes
Total	60 minutes

Selection of Sample

For the present study Purposive Sampling technique was used for selecting sample for the study. The sample were selected from senior college affiliated with Mumbai University. Only male football players were selected for the study. The total sample size was 60 which were divided in to two group; Experimental group and control group respectively

Selection of Variables and Test

For present Experimental study has two variables namely; Independent variables and Dependent variables. To measures the dependent variables reliable and valid tests will be conducted as per the description of tests.

Independent Variables

Independent training program which included Plyometric and Isotonic Training Programme.

Dependent Variables: Motor Fitness Variables

- Agility

CRITERION MEASURES

Dependent Variable	Test	Units
Agility	Shuttle run 10m X 4	Seconds

STATASTICAL PROCEDURE

Descriptive statistics was used primarily to process the data. Suitable One Way ANCOVA (Analysis of covariance) was further applied to analyze the per-post-test gain in each group of the selected subjects by taking Pre-Test of variables as Covariate to compared and test the hypotheses.

RESULTS ON MOTOR FITNESS COMPONENTS

TREATMENT WISE COMPARISON OF ADJUSTED MEAN SCORES OF AGILITY

The first objective was to compare adjusted mean scores of Agility of College football players belonging to Plyometric Training Group, Isotonic Training Group and Control Group by taking Pre-Agility as Covariate. The data were analyzed with the help of One Way ANCOVA and results are given in Table 1.1.

Table 1.1: Summary of One Way ANCOVA of Agility by taking Pre-Agility as Covariate

Source of Variance	Df	SSy.x	MSSy.x	Fy.x	Remark
Treatment	2	465.61	234.31		
Error	72	343.67	2.21	102.78	p<0.01
Total	73				

From Table 1.1 it can be seen that the F-value is 104.78 which is significant at 0.01 level with df=2/149. It reflects that the adjusted mean scores of Agility of College football players differ significantly when Pre- Agility was taken as covariate. Thus, the Null Hypothesis that there is no significant difference in adjusted mean scores of Agility of College football players of Plyometric Training Group, Isotonic Training Group and Control Group as covariate is rejected. In order to know which training was found to be more effective the data were further analyzed by using LSD and the results are given in Table 1.2.

Table 1.2: Treatment Wise Adjusted Mean, SE, Mean difference and difference between Adjusted Means Agility

Treatment	Adjusted	SE	Plyometric Training	Isotonic Training	Control Group
	Mean				
Plyometric Training	19.40	.210		1.55**	4.32**
Isotonic Training	18.78	.211			2.77**
Control Group	15.10	.211			

* Significant at 0.05 level ** Significant at 0.01 level

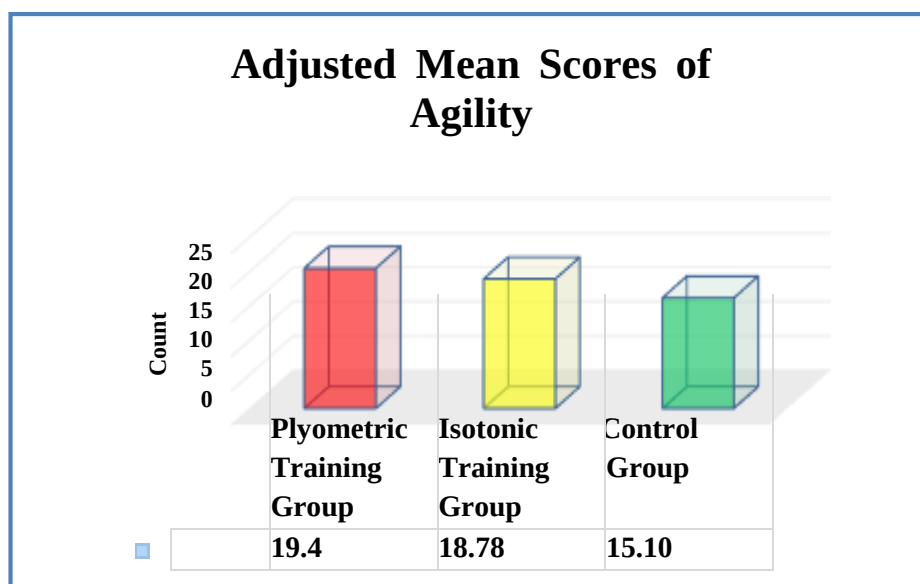
From Table 1.2 it can be seen that the mean difference of Plyometric Training Group and Control Group is 4.32 which is significant at 0.01 level with df=48. It shows that the mean scores of

Agility of Plyometric Training Group and Control Group differ significantly. Further the adjusted mean score of Agility of Plyometric Training Group is 19.40 which is significantly higher than that of Control Group whose adjusted mean score of Agility is 15.10. It may, therefore, be said that the Plyometric Training was found to be effective in improving Agility of College football players as compared to Control Group where Pre- Agility was taken as Covariate and also graphically presented in Figure 1.1.

From Table 1.2 it can be seen that the mean difference of Isometric Training Group and Control Group is 2.77 which is significant at 0.01 level with $df=48$. It shows that the meanscores of Agility of Isotonic Training Group and Control Group differsignificantly. Further the adjusted mean score of Agility of Isotonic Training Group is 18.78 which is significantly higher than that of Control Group whose adjusted mean score of Agility is 15.10. It may, therefore, be said that the Aerobics Training was found to be effective in improving Agility of College football players as compared to Control Group where Pre-Agility was taken as Covariate and also graphically presented in Figure 1.1.

From Table 1.2 it can be seen that the mean difference of Plyometric Training Group and Isotonic Training Group is 1.55 which is significant at 0.01 level with $df=48$. It shows that the mean scores of Agility of Plyometric Training Group and Isotonic Training Group differ significantly. Further the adjusted mean score of Agility of Plyometric Training Group is 19.40 which is significantly higher than that of Isotonic Training Group whose adjusted mean score of Agility is 18.78. It may, therefore, be said that the treatment of Plyometric Training was found to be significantly superior to the treatment of Isotonic Training in terms of Agility of College football players. It is graphically presented in Figure 1.1

Figure 1.1: Treatment Wise Comparison of Adjusted Mean Scores of Agility



CONCLUSION

The above result helps to conclude that the Plyometric Training and Isotonic Training was found helpful to improve Motor Fitness components Agility.

In summary, this research study underscores the manifold benefits of improving physical fitness, both

in terms of physical health and selected psychological Parameters .

RECOMMENDATIONS

- The study would inspire Physical Education Teachers, Coaches and Social Workers to consider incorporating these programs into their physical education curriculum. This would provide students with regular access to these beneficial activities.
- A similar comparative study may be conducted on boys / girls belonging different age groups.
- A similar study may be conducted on the different Physical / Psychological Variables.
- The study may be helpful to encourage further research on the long-term effects of Plyometric and Isotonic training programs on the physical and psychological Parameters of secondary College football Players. Continual evaluation can provide insights for program improvement.
- The study may help in implementing a system for monitoring and assessing the progress of students participating in Plyometric and Isotonic programs. Regular assessments can help track improvements in physical fitness and psychological variables.

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EFFECT OF PLYOMETRIC TRAINING ON LEG MUSCLE STRENGTH OF INTER-COLLEGIATE WRESTLERS

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Abstract

In this study prime objective to examine the effects of plyometric training on leg muscle strength of inter-collegiate wrestlers. This type of research is an experiment using a 2 x 2 factorial design. In this study thirty-two inter-collegiate wrestlers selected from Vishwakarma Institute of Information Technology, Kondhwa, Pune. The wrestlers were selected through the using purposive sampling techniques, samples then divided into experimental (n=16) and control (n=16). The experimental group underwent approximately 60 minutes of plyometric training, including warm-up exercises, three times a week for eight weeks, guided by their coach. The instrument used is to measure the strength of the leg muscles, namely the leg and back dynamometer, while the power of the limbs uses vertical jump. The data analysis technique used is two-way ANOVA. The results showed that there was a significant difference in influence between plyometric training on leg muscle strength of wrestling.

Keywords: *Wrestlers, Plyometric Exercises and Leg Muscle Strength.*

Introduction

Exercise is one of the containers to increase human resources, by exercising regularly and continuing to improve a person's physical and mental qualities. Mansur et al., (2018) said that to achieve great achievements in competitive sports, it takes a prime physical condition in the right with the needs and demands of the sport. The state of prime sports must be the need of every athlete, most importantly for sports that demand long-duration heavy performance.

Wrestling is a branch of martial arts that uses mixed movements of pull, thrust, transport, and spin and focuses on the method of slams, rolls, and locks tried to reduce the stability of opponents and increase the movement of invasion in a set. The movements below are very meaningful so they must be trained always, for that not only the training methods needed but also the training of various components of the body as a supporter of appearances when competing. Wrestling is one of the exercises that rely on strength and endurance (Chernenko, et al., 2020; Rahmani, 2014) One method of exercising wrestling is the slam method which is a raid that has value. The slamming method is tried by transporting the opponent which after that continues with the movement of dropping him onto the mat.

Plyometric exercises are used to train the aspect of muscle action. This type of exercise is designed to improve the relationship between maximum strength and explosive- reactive power many athletes have fantastic strength, yet they cannot throw or jump far. They are unable to produce the power necessary in explosive-type activities. They fail to bridge the gap between sheer strength and power.

Muscle strength means a lot to everyone and the athlete. This muscle strength is to strengthen athletes in carrying out movements in any exercise (Suchomel et al., 2016, 2018). A person who has good muscle strength can carry out and carry out heavy work for a long time. Physically fresh people want to have strong muscles and can work effectively. Nasrulloh & Wicaksono, (2020) said that the increase in muscle work skills due to exercise is caused by physiological changes that are entwined in the neuromuscular system (adjusting to the neuromuscular system). The increase in muscle strength

leads to stronger muscle contractions (increased power), repetition of contractions more lightning (increased speed), and long-lasting exercise periods (increase muscle endurance).

Material and Method

This research used an experimental research model with a 2 x 2 factorial design. This method of testing is to test the effect of one or more variables on other variables. The reports that factorial experiments are designs that can share the treatment variables freely or more at a time that coincides to look at the impact of each variable freely, separately, and coincide with bound variables and the effects that are entwined due to the interaction of some variables. In this study thirty-two inter-collegiate wrestlers selected from Vishwakarma Institute of Information Technology, Kondhwa, Pune. The wrestlers were selected through the using purposive sampling techniques, samples then divided into experimental (n=16) and control (n=16).

The method of gathered information in this research was tested and measured. When before pre-test and post-test measurements, illustration first measured the strength of the leg muscles. To measure the strength, use a leg and back dynamometer test. The instrument to measured lower limb power as an early test or pre-test is to use a vertical jump. After that, the treatment or exercise was eight weeks implemented the experimental group.

Plyometric Training Program

Plyometric exercises	1st, 2nd, 3rd, 4th week	5th, 6th, 7th, 8th weeks
Box jump	3x12x15	3x15x15
Drop jump	3x12x15	3x15x15
Split squat jump	3x12x15	3x15x15
Overhead slam	3x12x15	3x15x15

The method of information analysis used in this research using SPSS 20 is to use ANOVA 2-way at the level of significance 0.05.

Result

The data obtained from the experimental groups before and after the experimental period were statistically analyzed with ANOVA 2-way. The level of confidence was fixed at 0.05 level for all the cases.

Table no. 1

Source	Type III Sum of Squares	Mean Square	F	Sig.
Leg Muscle Strength	1510.214	1510.415	20.74	0.001

From the results of the ANOVA test in Table above, it can be seen that the significance value p is 0,001 and the value of F is 20.74. Because the significance value p of $0.001 < 0.05$, means H_0 is rejected. Being told about this means there is a significant difference in influence. Sourced from the results of the analysis in fact wrestlers who have a large leg muscle strength. This means that the research hypothesis, which reports that, "There is a significant difference in influence between wrestlers who have high and low leg muscle strength on the increase in leg power in wrestlers", has been tested.

Discussion on findings:

The results of the analysis showed that there was a significant influence comparison between wrestlers who have high and low leg muscle strength to the increase in leg power in wrestling athletes. Wrestlers have high leg muscle strength are higher (good) than athletes who have low leg muscle strength against the increase in leg power. The results of the research showed that the procedure of side-to-side box shuffle training is a more efficient procedure used for athletes who have the low leg muscle strength and jump box training is more efficiently used for athletes who have high leg muscle strength.

Plyometric is a training method used by athletes that can be observed and plyometric training can also be tried on all types of exercise to increase strength, energy, and efficient explosives for children and young people (Abd & Elsayed, 2012; Genç & Daglıoğlu, 2021).

Conclusion:

Source from the results of research and the results of analysis of information that has been tried, the following conclusions are obtained. The eight weeks plyometric training program showed the significant effect experimental group wrestlers who have the high & low leg muscle strength to the increase in leg power in wrestling players.

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YOGA AND SPIRITUALITY: A DIVINE INSIGHT

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Abstract

Human life is considered to be the only chance to attain the final goal of any soul i.e. liberation & getting united with the universal soul. One's thirst for seeking this true knowledge makes his mind pure and is able to connect with the supreme soul. We can then get firsthand experience of the glory and the radiance of our oneness with God. Yoga truly begins from external level & diverts towards inner self – trespassing all the 5 koshas i.e. from physical level towards subtle level. Body is the means to attain liberation (Kalidas). Yoga is a wholistic approach which uses body to acquire the true goal. It makes one aware of the soul, spirit, essence of being etc. which makes the life free of persistent troubles and more enjoyable. The research article is a genuine attempt to answer a few questions aroused into a confused mind. What is Yoga? What is Spirituality? What is Religion? What is Dharma? How are religion and dharma related to spirituality? Is it Yoga AND Spirituality? Is it Yoga OR Spirituality? Is it Yoga WITH Spirituality? Spirituality IS Religion? Or Religion and Spirituality are different? Then the question arises that, if our spiritual growth is so important for our well – being, then what is preventing us from achieving it?

Introduction: Eating, sleeping, fearing and mating are similar in both humans and animals, but what differentiates both is the knowledge aspect of humans (Siddhasiddhantapaddhati 25). But knowledge if only collected and not implemented can ruin one's life. Knowledge can be at two levels, intellect which is mere collection of information and intelligence/ discriminative knowledge / wisdom which is actual implementing it in your life. Most of us often get trapped in past or future thoughts, whereas ideally you must be present in present. This conflict of dragging mind into past and future continues throughout one's life. Life is seldom satisfying and every day brings on a new battle. We have no choice but to engage in this battle. But we definitely have a choice of which method to choose.

Aims and Objectives: Interrelation between Yoga and Spirituality.

Method: Descriptive study

Keywords: Yoga, spirituality, dharma, religion, aatma, self-realization, mind, soul.

INTRODUCTION:

Human beings are controlled by four things, mind, intellect, ego and citta (adwait philosophy) (Vedanta Paribhasha, Vedantasara. 66-67). Your mind and body are often at their extremities. The mind is the only reason for bondage and freedom (Maitrāyaṇīya Upaniṣad: 6.34.11, Amritbindu Upanishad, Bhagvadgeeta V:5). Ego and intellect work hand in hand to ruin your life and drive you away from its real goal. Then the question arises that is there anything which can bind them together and work in equanimity? Can YOGA and SPIRITUALITY be it? If you change your perspective of success and failure you'll have solution of every problem, this is one facet of YOGA. You should know how to transform the situation then you'll be the master of the situation, problem will be the opportunity or else the situation will overtake you.

But what is the real meaning of these two? In the present scenario however both yoga and spirituality have lost their true essence. Yoga is limited only up to turning your head upside down, or reducing 2kg of your weight? Cause this is what yoga is meant for many. We need to go more deeper in order to reveal the true meaning of yoga. Yoga is the most valuable and important heritage of India to be cherished throughout lifetime and passed it on to next generation, as our ancestors did. It is our utmost duty, rather

DHARMA to behold in its eternal form without contaminating it. So, it's equally important to understand the true nature and roots of *YOGA*.

YOGA finds its roots in the *VEDA*, (*Rigveda*). *Yoga* is derived from the Sanskrit root word “*yuj*” meaning to join or bind. *Yuj samadhau* (*Divadigan*), *yujir yogey* (*Rudhiradigan*) and *yuj sanyamane* (*Churadigan*) are three definitions of *yoga*. *Yoga* is defined in many Indian literatures, *Rigveda*, *Yujurveda*, *Atharvaveda*, *Yoga Yajnyavalkya*, *Kathopanishad* (6.10–11), *Maitrayani Upanishad*, *Mahābhārata* (12.304.2ab), *Bhagvadgeeta* (Chapter 2, verse 48, 50, Chapter 6, verse 23) etc. the list goes on. As *Patanjali* defines it, *Yoga* is complete cessation of the modifications of the thoughts arising in mind/*citta* (PYS I.2). *Yoga* leads you to your *SWAROOP*, original essence/ soul/ spirit/ conscience. *Yoga* is the subject of spirituality, which is internal (PYS, I: 3), and your *yoga* is external, how is it valid? You practice *yoga* merely on external grounds without taking into consideration its internal facets. Can *yoga* be Internal? Off course, though it begins externally it trespasses all the FIVE *KOSHAS*, *annamaya*, *pranamaya*, *manomaya*, *vijnanmaya* and *anandmaya*, and reaches the true self. But it should be effortless (PYS II:47). It can't be forceful.

As stated, earlier human stands out of rest species owing to his wit. But the question arises is whether this witty brain is being utilized in right way or not? What can be the right way to utilize it? Can it be to attain the true knowledge? Then what is true knowledge? The very surprising is this true knowledge is already present by birth but owing to utter ignorance we run after those things which take us away from this WISDOM. YES, it's true we are so engaged in this illusory, materialistic world that we are least aware of it that the true wisdom is already in us (*Aiterya Upanishad* III:3) we need to go nowhere but just to enter our internal world (*antarang*). Then the question arises is there anything which can take us to our internal world? Can it be spirituality? But what does spirituality actually mean? Is it something related to divinity?

SPIRITUALITY means *ADHYATMA*, *ADHI* (internal) + *ATMA* (spirit/ soul/ conscience). Characteristics of **AATMA**, *Aatma* is *dehantara* (transferred from the body), *avinasi* (imperishable), *anasino* (non-destructible), *aprameyasa* (immesurable), *na jayate* (never takes birth), *na mriyate* (immortal), *na bhutva* (never comes into being), *nitya* (eternal), *sasvato* (permanent), *puranah* (oldest), *avyayam* (immutable), *na chindanti sastrani* (un destructible by any means), *acchedyah* (unbreakable), *adahyah* (can't be burnt), *akledyo* (insoluble), *asosya* (can't be dried), *sarva- gatah* (all pervading), *sthanur* (unchangeable), *acalo* (immovable), *santanah* (eternally the same), *avyakto* (invisible), *acintyo* (inconceivable), *ascarya-vat* (amazing), *avadhyo* (can't be killed) (*Bhagvadgeeta* II: 54-72). If this *aatma* resides into us these all characteristics make us a divine being, but we are totally unaware of it, occasionally if aware least bothered and take it as a myth.

Spirituality is the subject dealing with spirit. Spirituality is a process, which will reach up to a certain end. Then two things are important in this process – START and END. To be successful in life three things are important, start, middle and end. If any of these three are wrong, it may affect other two things and you won't succeed. So, initially you should understand these three things, START, MIDDLE and END. If everything is within you, then why are you searching it external? This itself is a wrong START. *Patanjali* mentioned this process in the first three sutras itself, (PYS I:1-3). We have already STARTED, as we have received this birth, we are on the MIDDLE point, which is the most crucial part. Most of us get trapped in this middle part (birth- death cycle). Very few who are the seekers of true

knowledge reach the END (self-realization). To understand the 3 things, you have to make your paper blank. These 3 things should work properly in synchronized form.

To understand spirituality, you have to understand **RELIGION**. Are religion and spirituality different or same? If you understand correct religion then you understand true spirituality, Wrong interpretation of religion will lead to wrong interpretation of spirituality. It is true, there are valid distinctions between two, but there is also number of problematic distinctions which often & unnecessarily divide the two field of thoughts. It is observed that religion is often negativized and spirituality is often positivized. So, there is confusion between both. Can it be so that both may be same or different? There is a huge confusion between both. Can *yoga* be a bridge to join both? Whether *Yoga* is Religion? Whether *Yoga* is Spirituality? Religion is thought to be negative because it is negatively interpreted. Whereas spirituality is positive because it is positively interpreted. Can it happen so, Religion can include spirituality & can spirituality be religious? But due to wrong interpretation of religion it is not so and the gap widens. Can the gap be filled? If yes, what can it be? Can it be *Yoga*? What is true meaning of religion? Religion can be the avenue to enter spirituality, similar to *yoga*. To reach spirituality you have to understand religion in correct perspective. We're following wrong track of religion or rather being misguided by wrong torch bearers. We ourselves have bounded religion and are so adamant to cross those barriers.

What is Religion? Can it be an institution established by man for various reasons, to apply control, bring morality, organized structure for doing activities, rules? However initially the purpose was wellbeing of man, but later on it got contaminated or manipulated owing to personal interests of few. Is religion *yoga* or not? Instead of being non-religious try to search for true religion. Spirituality extends to all facets of a person's life, since it is inborn. Everybody is spiritual. But religion is often forcefully implemented. Is religion synonymous to ***dharma***? A very softspoken question as it may create turmoil. The answer can be simplified as, if religion leads to spirituality, it is true religion.

There are 7 opinions or thoughts of religion:

- 1) **Ignorance oriented religion:** Promoted & followed by fanatics, they don't accept existence of other religions and strongly believe that their religion is the only THE RELIGION. They are afraid of their ignorance and hence often are in defensive/ attacking mode. They are the major threat to their own religion and almost 90 percent people are lying under this type.
- 2) **Fear oriented religion:** Sometimes we are confused about the speculations of the worldly matters and it's difficult to reveal them all. These things create fear in our mind. So, we search for certain support to overcome this fear. Life is very unpredictable; the past impressions may create trouble in your future life. So, you often carry certain things with you to avoid such scary situations. You take shelter of such religions owing to fear. But true religion will free you from every fear and take you towards bravery.
- 3) **Greed oriented religion:** Greed is one characteristics of human nature, which is associated with fear also. They are also related with ignorance. So, fear, greed and ignorance go hand in hand. Greed anchors you to follow such religion where you misbelieve that all your greed/ needs will be fulfilled, your fears will diminish and you remain ignorant of it.
- 4) **Logic, calculation and intellect-oriented religion:** Such people apply logic behind every aspect of religion. They are always calculative and perform their deeds accordingly. They judge

every act at intellectual level, i.e. they want proof for everything. They surf at gross level and religion works at subtle level as certain things are experiential and not experimental.

The above four types can't fulfill the norms of true religion as they don't reveal you your true self, despite they misguide you.

The next three types can be said true religion as they take you closer to your true essence.

- 5) **Intelligence “sat” based religion:** Don't mess it with intellect, both stand far apart. Intelligence is paradoxical, synthetical, joins together parts to create the whole. It is based on the concept that nothing is incomplete, as the parts are existing in the whole (*Isavasyopanisad*). There is only one criterion for intelligence it takes you higher towards yourself/ essence. An intelligent person will always unite people and not divide. Hence the greatest science of spirituality can be YOGA as it means joining, organizing things together. Intelligence will lead to uprising, lead you to your true goal, take you to your future.
- 6) **Meditation “cit” type religion:** meditation is awareness, spontaneity, consciousness, journey inwards (*antaranga*). All directions, dimensions are dropped. You try to be yourself, can it be *dhyana*, dissolving into self, your pure essence.
- 7) **Samadhi “ananada” type religion:** This is the highest type of religion, Type of ecstasy/ bliss. You can't clearly describe it, just feel/ experience it, “*neti neti*” (*Brihadaranyaka Upanishada* II:3.6)

The word religion is often interpreted as **DHARMA**, whereas we have to first understand what is the true meaning of *Dharma*. Because religion can be said to be a loose translation of *dharma*. *Dharma* is complete in itself and it has no appropriate synonyms in any other language. It can render as “the law of being”, that which makes a thing or being what it is (*SWADHARMA*). In other words, *dharma* can be the essential nature of that thing devoid of which it loses its identity. It is like a demon on the path of spirituality. **Divinity is our true Dharma**. The word *Dharma* is derived from the root ‘*dhru*’ meaning ‘to hold’, ‘to carry’, or ‘to support’. ‘*Dhaarnaat Dharmah*’ (*Bhadvadgeeta* 17) is definition of *dharma*, meaning that which holds together or supports is *dharma*. It also denotes duty, righteousness, virtue, justice, morality, charity etc. *Dharma* is referred in most literatures like, *Brihadaranyaka Upanishada* as truth (BU I.4.14). *Siddha Siddhanta paddhati* states that *dharma* is *unique* feature of humans that segregates it from other species (25).

Lord Krishna (*Bhagvadgeeta* IV: 7-8) states that whenever there will be downfall of *dharma*, he will incarnate to reestablish it. *Sankaracharya* defines *dharma* as any act which will lead to our spiritual advancement. As per *Manu* that which the *Vedas* and *dharma sastras* prompt us to do is *dharma*. Ten markers of *dharms* are, steadfastness/ determination, patience, control of mind, non-stealing, purity of mind-body-speech, control of senses, an enquiring intellect, knowledge which leads to liberation, truth in thought-word & deed & controlling anger. *Taitarya Upanishad* gives a guideline regarding dilemmas of *dharma*. *Ramayana* very clearly states that if you protect *dharma*, *dharma* will always protect you.

YOGA-RELIGION-DHARMA-SPIRITUALITY– leading to self-realization are right paths.

So, is it YOGA AND SPIRITUALITY? YOGA FOR SPIRITUALITY? YOGA WITH SPIRITUALITY? You can't draw a border between both and can't question over there existence. What

you must do is just follow them and surrender without questioning. Because where there is question, there is duality (*dwait*). Yoga destroys this duality (PYS II:48). They will lead you to your final goal, self-realization. When you get true knowledge, you become aware of your true DIVINE essence. You don't want to know anything else as you know everything. Spirituality is inborn quality of all (*Brihadaranyaka Upanishad* I.4.10), (*Chandogya Upanishad* VI: 8.7), (*Aitareya Upanishad* III:3), (*Mandukya Upanishad* I:2). but it is up to you whether to reveal it or refuse it. Some people feel what is the reason dying behind spirituality, because we are very much behind materialistic world. But saints or wise people use spirituality for the wellbeing of the society.

Conclusion: The conflict of dharma and adharma continues within internal and external worlds and YOGA, DHARMA, RELIGION and SPIRITUALITY, lead you from your external towards your internal self. Hence, YOGA, DHARMA, RELIGION and SPIRITUALITY can lead you to your true self. Complete liberation is the ultimate goal of every human being and you should never give up till you achieve that destination. The self can be known only through true knowledge and the implementation of knowledge, there are no short-cuts to it. When you have to make choices and you make no choice that itself is a DIVINE choice. Our primary responsibility is to gain knowledge about ourselves. Only human beings are blessed with this unique facility of reason, analysis and imagination. Liberation is not at all difficult to achieve, it seems to be difficult only we are comfortable in the illusory boundaries created by none other than we ourselves. Finally, our main purpose of being on this earth is to wake up and get true knowledge that we are spiritual beings.

Result: We are born divine getting experiences at physical level. But we think ourselves mere physical beings getting experiences at divine level.

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EFFECTIVENESS OF RELAXATION TRAINING PROGRAM ON THE BASIS OF SELECTED SKILL ABILITIES OF ELITE FOOTBALL PLAYERS

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Abstract

Introduction:

Football is an action-packed sport that frequently enables both the team and individual players to respond to changing conditions. One of the best forms of exercise for relaxing is yoga. Yoga will increase a football team's strength, balance, and flexibility while also fostering focus, control, and recuperation. Strength, balance, and flexibility are enhanced by regular yoga practice, which also teaches the ideas of bodily control, mental focus, and holistic healing, all of which increase overall performance.

Purpose:

The purpose of the study was to identify the effect of Relaxation training program on selected Skill abilities of Elite Football players.

Method:

Total 60 Elite Football players age ranging from 13-14 years from B.S.Pasi Football Club were selected for the study. They were divided into two groups Relaxation Training group (N=30) and Control Group(N=30). Relaxation Training was given to the Experimental group for 12 weeks, whereas the Control was not given any training. Kicking accuracy was measured before and after the Training Program. Data were analyzed by using One Way ANCOVA.

Results and Discussion:

The results revealed that, there was a significant difference in the adjusted mean scores of Kicking Accuracy of Elite Football Players of Relaxation training group and Control group by taking Pre- Kicking Accuracy as Covariate.

Keywords: Football, stretching, Kicking Accuracy

INTRODUCTION

Purpose of the study

The study was conducted on Elite Football Players age ranging from 13 to 14 years. The fundamental purpose of increases improve accuracy, which is one of the fundamental principles of physical fitness. In an effort to lower their risk of injury and improve performance, athletes frequently stretch before (during warm-up) and after activity.

OBJECTIVE OF THE STUDY:

For said study, the objectives of the study were as follows;

- To compare the adjusted Mean Scores of Kicking Accuracy of Elite Football Players of Relaxation Training Group and Control Group by taking Pre-Kicking Accuracy as Covariate.

HYPOTHESIS OF THE STUDY:

For said study, the hypothesis of the study were as follows;

H01 : There is no significant difference in the adjusted Mean Scores of Kicking Accuracy of Elite Football Players of Relaxation Training Group and Control Group by taking Pre-Kicking Accuracy as Covariate.

METHODOLOGY

Sixty (n=60) Elite Football players age ranging from 13-14 years were identified as subjects from B.S.Pasi Football Club. The students were further divided into 2 groups i.e. experimental group and control group.

Design of the Study

The design of the study was Non Equivalent Control Group Design. Phase – I: Pre-test, Phase – II: Training or Treatment, and Phase – III: Post-test. The subjects were divided into two groups, i.e. Group ‘A’ Experimental group and Group ‘B’ Control group; each group consisted of 30 subjects. Experimental group had undergone Relaxaion training program for the period of twelve weeks.

Dependent Variable: Kicking Accuracy

Criterion measures

The following criterion measures included the records of the various test items of Selected Physiological Parameters.

Variable	Test	Unit
Skill test	Kicking Accuracy	Scores in nos.

Independent Variables:

The specific Relaxaion training was considered as independent variable for the present study which includes following aspects:

- Utkatasan
- Vrikshasana
- Dhanurasana
- Pachimotasana
- Vajrasana
- Bhujangasanana
- Kapalbhati
- Ujjayi
- Om Chanting

Statistics:

Comparison of group was done with the help of One Way Analysis of Covariance ANCOVA.

RESULTS AND DISCUSSION:

The mean achievement in 30 meter running wit the Ball, Kicking Accuracy and Juggling due to Stretching Training Program, as obtained from ANCOVA test, revealed that –

Table 1.1: One Way ANCOVA of Relaxation Training Group of Kicking Accuracy

Source of Variance	Df	SSy.x	MSSy.x	Fy.x	Remark	Mean
Treatment	1	0.66	0.22	1.25	P<0.05	
Error	57	20.32	0.18			
Total	59					
Relaxation Training Group						2.07
Control Group						1.95

From Table 1.1 it can be seen that the adjusted F-value is 1.25 which is significant at 0.05 level with $df=1/57$ when Pre-Kicking Accuracy was taken as covariate. It shows that adjusted Mean Scores of Kicking Accuracy of Relaxation Training Group and Control Group differ significantly when Pre-Kicking Accuracy was taken as Covariate. Thus, the Null Hypothesis, H_{01} that there is no significant difference in adjusted mean scores of Kicking Accuracy of Elite Football Players of Relaxation Training Group and Control Group by taking Pre-Kicking Accuracy as Covariate is rejected. Further, the adjusted mean score of Kicking Accuracy of Relaxation Training Group is 2.07 which is significantly higher than that of Control Group where the adjusted mean score of kicking accuracy is 1.95. It may, therefore, be said that the Relaxation Training was found to be effective in improving Kicking Accuracy of Elite Football Players.

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EFFECT OF CIRCUIT TRAINING FOR THE PROMOTION OF SPEED, STRENGTH AND PERFORMANCE IN SELECTED TRACK AND FIELD EVENTS.

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Abstract

There is a great scope and need for research in physical education for applying Circuit Training to promote speed strength and performance in selected track and field events. The present study aimed to collect scientific evidence about the effect of the circuit training program on the promotion of speed, strength, and performance in selected track and field events in schoolboys aged 13–15 years. Forty schoolboys were randomly selected from the 20 boys assigned to the experimental (n=20) and control (n=20) groups. The experimental group was given a Circuit Training program for a period of 8 weeks. The control group did not undergo any training. After the training period, Speed, Strength, and performance in track and field (100 m, shot put, and Long Jump) were assessed. Data were analysed using a One-way ANCOVA. The results revealed that Circuit Training was helpful in improving the Speed, Strength, and performance in track and field (100 m, shot put, Long Jump) of school boys aged 13 to 15 years.

Keywords: *Circuit Training, Track & Field, Speed & Strength.*

INTRODUCTION

Circuit training has emerged as a popular and effective method for enhancing athletic performance across various sports, including track and field events. This training approach involves a series of exercises performed in succession with minimal rest periods, targeting multiple fitness components simultaneously. In the context of track and field, circuit training offers a comprehensive approach to improving speed, strength, and overall performance in selected events.

The integration of circuit training into track and field preparation programs has gained traction due to its ability to address the multifaceted demands of these events. Athletes in track and field require a combination of explosive power, muscular endurance, and cardiovascular fitness to excel in their respective disciplines. Circuit training provides a structured framework to develop these attributes concurrently, potentially leading to more efficient and effective training outcomes.

This introduction aims to explore the effects of circuit training on speed, strength, and performance in selected track and field events. By examining the existing literature and empirical evidence, researcher has selected effect of circuit training for the promotion of speed, strength and performance in selected track and field events.

OBJECTIVES OF THE STUDY

The objectives of the study were as under

- To compare the mean scores of muscular strengths as measured by Standing broad jump test of experimental group and control group.
- To compare the mean gain scores of Speed as measured by 50 m Dash Test of experimental group and Control group.

- To compare the mean gain scores of 100 m. Run as measured by 100 m. Performance of experimental group and control group.
- To compare the mean gain scores of Long Jump as measured by Long Jump performance of experimental group and control group.
- To compare the mean gain scores of Shot Put as measured by Actual performance Shotput of experimental group and control group.

HYPOTHESES OF THE STUDY

The hypothesis sought to be tested are as follows:

- H0** 1 There is no significant difference in the adjusted mean scores of muscular strengths of school boys of experimental group & Control group measured by considering pre-muscular strength as a covariate.
- H0** 2 There is no significant difference in the adjusted mean scores of speed of school boys of experimental group & Control group measured by considering pre-speed as a covariate.
- H0** 3 There is no significant difference in the adjusted mean scores of 100 m run of school boys of experimental group & Control group measured by considering pre-100 m run as a covariate.
- H0** 4 There is no significant difference in the adjusted mean scores of shot put of school boys of experimental group & Control group measured by considering pre-shot put as a covariate.
- H0** 5 There is no significant difference in the adjusted mean scores of long jump of school boys of experimental group & Control group measured by considering pre-long jump as a covariate.

MATERIALS AND METHOD

Selection of Samples

A Sample of forty (n=40) boys were randomly selected for the study of age ranging between 13-15 years were identified as subjects from A.M. Naik School, Powai.

Research Design

The design of the experiment had been planned in three phases viz. Phase I: Pre-test, Phase II: Training or Treatment, and Phase III: Post-test, the subjects in the experiments were divided into two groups, i.e., Group 'A' Experimental Group and Group 'B' Control group consisted 20 subjects. Experimental group was given specific training program for the period of eight weeks.

Tools/Instruments

The following criterion measures were included to record the reading of various test items of Motor fitness and Performance in Football

Sr. No.	Variables	Test	Unit
1	Muscular Strength	Standing Broad Jump	Distance (m)
2	Speed	60 m Dash	Time (Sec.)
3	100 m run	100 m Running	Time (Sec.)
4	Long Jump	Long Jump	Distance (m)
5	Shot Put	Shot Put	Distance (m)

Statistics

Comparison of group was done with the help of 't' Test.

Treatment

The circuit Training was considered as independent variables for the present study which includes following aspects:

Result	1. Skipping	5. Medicine ball (shoulder exercises)
Selected	2. High Knees action	6. Tuck Jump
	3. Push-ups	7. Bent Knee Sit Ups
	4. Half Squats	8. Step Ups

Variables on the Experimental Group

Summary of comparison of change in mean score of Pre and Post test of the Experimental group.							
Variable	Pre-Test		Post Test		N	t-Value	Significance
	Mean	SD	Mean	SD			
Standing broad jump	1.77	0.16	1.84	0.15	20	3.414	0.003 p < 0.01
50 m Dash	8.46	0.68	8.19	0.59	20	4.307	0.00 p < 0.01
100 m Run	17.31	1.28	16.84	1.16	20	5.111	0.00 p < 0.01
Shot Put	5.9	0.76	6.32	0.91	20	4.279	0.00 p < 0.01
Long Jump	3.58	0.27	3.72	0.25	20	3.663	0.002 p < 0.01

Selected Variables on the Control Group

Summary of comparison of change in mean score of Pre-test and Post test of the Control group.							
Variable	Pre-Test		Post Test		N	t-Value	Significance
	Mean	SD	Mean	SD			
Standing broad jump	1.73.	0.26	1.73	0.26	20	0.37	0.71 p > 0.05
50 m Dash	8.17	0.84	8.37	0.88	20	1.719	0.102 p > 0.05
100 m Run	17.46	1.03	17.59	1.21	20	1.209	0.241 p > 0.05
Shot Put	6.31	0.92	6.31	0.91	20	1.104	0.284 p > 0.05
Long Jump	3.2	0.54	3.32	0.49	20	1.292	0.212 p > 0.05

Comparison of change in mean gain scores of the Experimental and Control Group

Comparison of change in mean gain scores of the Experimental Group and Control Group							
Variable	Experimental		Control		N	t-Value	Significance
	Mean	SD	Mean	SD			
Standing broad jump	0.07	0.09	0.0005	0.006	20	3.414	0.003 p < 0.01
50 m Dash	0.26	0.27	0.2	0.52	20	4.307	0.000 p < 0.01
100 m Run	0.46	0.4	0.12	0.45	20	5.111	0.00 p < 0.01
Shot Put	0.42	0.44	0.01	0.04	20	4.279	0.00 p < 0.01
Long Jump	0.13	0.16	0.11	0.39	20	3.663	0.002 p < 0.01

Conclusion & Recommendation

Physical fitness has direct relevance to perform in sports and physical education and general life. It enables an individual to participate in game and sports with greater Muscular Strength, Speed, 100 m, Long Jump, Shot put performance with makes him/her capable of attaining good performance in sports.

Now-a-days Coaches want their player to become faster, agile, and stronger by applying specific techniques and training program which will enable the players to achieve their highest performance. The review of related literature is revealed and experience of the research scholar it was thought desirable to undertake he present study entitled "EFFECT OF CIRCUIT TRAININGF OR THE PROMOTION OF SPEED, STRENGTH AND PERFORMANCEI IN SELECTED TRACK AND FIELD EVENTS."

- The result revels that the subject who practiced circuit training program could show higher score in Muscular Strength as measured by standing broad jump test, than control group. thus, the mean gain in Muscular Strength has increased significantly in experimental group as compared to control group. the circuit training program warrants a statistically significant effect to increase the overall level of performance in Muscular Strength. Which rejects the null Hypothesis H01.
- The result revels that the subject who practiced circuit training program could show higher score in Speed as measured by 50 m dash test, than control group. thus, the mean gain in Speed has increased significantly in experimental group as compared to control group. the circuit training program warrants a statistically significant effect to increase the overall level of performance Speed. Which rejects the null Hypothesis H02.
- The result revels that the subject who practiced circuit training program could show higher score in 100 m Sprint as measured by 100 m run test, than control group. thus, the mean gain in 100 m sprint has increased significantly in experimental group as compared to control group. the circuit training program warrants a statistically significant effect to increase the overall level of performance 100 m sprint. Which rejects the null Hypothesis H03.
- The result revels that the subject who practiced circuit training program could show higher score in Shot put throw as measured by Shot put test, than control group. thus, the mean gain in Shot put throw has increased significantly in experimental group as compared to control

group. the circuit training program warrants a statistically significant effect to increase the overall level of performance Shot put throw. Which rejects the null Hypothesis H04.

- The result reveals that the subject who practiced circuit training program could show higher score in long jump as measured by long jump test, than control group. thus, the mean gain in long jump has increased significantly in experimental group as compared to control group. the circuit training program warrants a statistically significant effect to increase the overall level of performance long jump. Which rejects the null Hypothesis H05.

These results help to interpret that the effect of circuit training Program was useful to Improve Performance in selected track and field events.

Conclusion

The above result help to conclude that the Circuit training was found helpful to improve Speed, Strength and selected track and field events such as 100 m run, Shot put and Long jump.

Recommendations

- A similar comparative study may be undertaken by selecting Speed, Strength variables and selected track and field events of Girls students.
- An Experimental and Control study may be undertaken by selecting male students of other schools' students.
- A similar comparative study may be conducted on Boys belonging alternate age group.

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A STUDY OF ACHIEVEMENT OF DISTRICT LEVEL ASSOCIATIONS AFFILIATED TO MAHARASHTRA AMATEUR GYMNASTICS ASSOCIATION

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Abstract

The cultural base for the expression of all the body movements is titled as Gymnastics .Interestingly ,the rules of gymnastics are concerned with Education, Training and activities emphasizing Physical as well as Psychological well-being of an athlete. Physical Education and Spot are two pillars of interest of international governing body for gymnastics .i.e. Federation International De Gymnastics(FIG).Gymnastics is one of the oldest Olympic sports and was first practiced at ancient Olympic Games where the competitors performs variety of events .There are currently 161 countries affiliated to FIG .In Maharashtra state 28 districts affiliated to Maharashtra Amateur Gymnastics Association. As a previous scenario of Gymnastics game very less players reached in National or International competitions. To change this scenario this study will be very helpful. To increase the standard of Achievement of all District Level Associations for the betterment of players this study will very beneficial .For this study researcher prepared a Questionnaire based on Achievement and problems regarding of Achievement the association.Researcher selected 10 districts randomly as sample for the further study .Data was collected by Questionnaire as well as interviews of secretaries of respective districts. Qualitative analysis was done in the form of concluding statements with number and percentage form. The data analysis involved comparison ,classification ,interpretation and generalization on the basis of justifiable logic .I am sure the findings of this research will be helpful to all the concern professionals for the promotion of the Gymnastics in the state of Maharashtra.

Key words: *Gymnastics, Achievement, Association, District, State*

Introduction

Gymnastics is a sport that combines various exercises that improves body flexibility, strength, co-ordination, suppleness, agility and stamina along with neuro - muscular development. Gymnastics includes Artistic gymnastics, Rhythmic gymnastics, Aerobic gymnastics, Trampoline gymnastics, Tumbling gymnastics, Acrobatic gymnastic and General gymnastics (Gymnastrada), all these disciplines with different yoga positions including somersaults, twisting and tumbling exercises. It also consists of sports acrobatics, acrobatics tricks acrobatic ballet, acrobatic dancing, hand to hand acrobatics, apex acrobatics, aerial acrobatics, aerobic exercise, aerobic fitness, aerobic step, aerobic dance, aerobic workout, aerobic routine. The word Gymnastics includes acrobatic , acrobats , gymnastics clubs , rings, hoop, rope, ribbon, music, grips, skills, toddler gymnastics ,kids gymnastics, gymnastics clothing, gymnastics leotard, gymnastics lessons, gymnastics routine, airborne gymnastics, children's gymnastics etc. In short, all gymnastics elements keep the spectators spell bound, therefore, it is known as mother of all sports.

In Maharashtra state almost every district has Association of Gymnastics which is affiliated to Maharashtra Amateur Gymnastics Association. .Maharashtra Amateur Gymnastics Association is affiliated to Gymnastics Federation of India. There are 26 districts affiliated to Maharashtra Amateur Gymnastics Association.

Various institute, club, vyayamshala and schools etc .are affiliated to district level association. District level body organize various competition ,courses ,and monitor and co-ordinates with state association. Hence ,there is urgent need to develop the achievement ability of district level association. Achievement of District Level Gymnastics Association can play an important to role to prepare gymnast for State ,National and International level.

Research Aim and Objectives

The aim of this research is to study the Achievement of Districts level Associations affiliated to Maharashtra Amateur Gymnastics Association. To achieve the aim, the objectives of present study are as follows:

1. To study the present status of Achievement of District level Gymnastics Associations affiliated to Maharashtra Amateur Gymnastics Association.
2. To know the problem of District level Gymnastics Associations affiliated to Maharashtra Amateur Gymnastics Association.

Assumptions

1. It is assumed that District level Gymnastics Associations affiliated to Maharashtra Amateur Gymnastics Associations are having different achievement status.
2. It is assumed that District level Gymnastics Associations affiliated to Maharashtra Amateur Gymnastics Associations are having problem related to their Achievement.

Limitations of the Study

This survey study only for 10 Districts which is selected as sample randomly.

Delimitations of the Study

1. The study will be delimited to custom made and need based Questionnaire ,Interview which will be used as a tool for the collection of data.
2. The scope of study will be delimited to only achievement aspects and problems of District level Gymnastics Associations affiliated to Maharashtra Amateur Gymnastics Association.

METHODOLOGY

This research has been proposed to understand the present status of Achievement and problems related to Achievement of District level Gymnastics Associations affiliated to Maharashtra Amateur Gymnastics Association.

Design of the Study

The study is based on survey method. The information about the Achievement of selected District Level Gymnastics Association affiliated to Maharashtra Amateur Gymnastics Association has been collected with the help of custom made questionnaire and interview of concern professionals.

Selection of Sample and Population

Sr.No	District	Sr.No	District
1	Akola	5	Jalgaon
2	Aurangabad	6	Mumbai Suburban
3	Buldhana	7	Palghar
4	Dhule	8	Vardha

For this Descriptive Research above 8 District Level Gymnastics Association affiliated to Maharashtra Amateur Gymnastics Association selected as a sample randomly.

Variables of the Study

1. Achievement of the District Level Gymnastics Associations.
2. Problems related to Achievement of the District Level Gymnastics Associations.

Procedure of the study

For the present study an attempt was made by Investigator to locate all possible sources of primary materials concerning the District Level Gymnastics Associations. The primary sources available to the investigator was results publish by various District Level Gymnastics Associations depicting competition conducted and functions undertaken by the District Level Gymnastics Associations since its beginning to the present period. The investigator also collected data through Questionnaire as well as Interview .As data researcher collected following information from district association.

RESLTS

Statistical Procedure to be Used

The present study was a survey under the heading of descriptive research, as most of the data available were in the form of numerical, quantitative analysis done. .The data analysis involved interpretation, classification, comparison and generalization on the basis of justifiable logic.

CONCLUSION

- In this regard it was assumed that the District level Gymnastics Associations affiliated to Maharashtra Amateur Gymnastics Associations are having different achievement status. The various District level Gymnastics Associations affiliated to Maharashtra Amateur Gymnastics Associations are having problems related to their Achievement..
- In the present study Achievement District level Gymnastics Associations consist of their, participation of teams in District ,State, National and Inter-National level Competitions,
- While critically discussing the result of present study it can be stated that major problems with respect to achievement aspects of District level Gymnastics Associations .There is an urgent to pay heed in to it by the concern authority.
- While critically evaluating the achievement District level Gymnastics Associations not at all active and satisfactory.
- It is important to take cognizance of the fact that the infrastructure status of most of the District Level Associations is not satisfactory and enough to cater its need for achievement .Hence ,the competent authority need to focus on the generation infrastructure through various sources.
- So far as the availability of competitions in various District Level Gymnastics Associations is concerned it is important to note that there are very less opportunities available for players for the participation in the district level gymnastics competitions.
- In case of training camps, official exams and workshops organized by the District Level Gymnastics Associations it is evident from the result that the said achievement of the District Level Gymnastics Association is not up to the mark. On the contrary these are the most important functional aspects of any games/sports for promotion. Hence, there is a need to pay heed on it by the concerned professionals.

- The result on the achievement appointments of manpower as well as technical support is seems to be very serious in nature. No Association can function as well as progress without the strength of responsible and accountable manpower as well as technical support, in the present times. Hence, the prime importance needs to be given to these aspects.
- While concluding the critical discussions regarding the problems with respect to achievement of District Level Gymnastics Association, it can be stated that adequate and immediate measures need to be taken carried by the concerned professionals with special reference to generation of fund for infrastructure, providing coaching facilities and adequate management systems. For improving the present status of the achievement of District Level Gymnastics Association in the state. Thus the assumptions sought by the researchers in this regard seems to be accepted.

Recommendations

1. The competition as well as overall achievement of all District Level Gymnastics Associations may be made effective by providing appropriate infrastructure coaching facilities and ,practice conditions as well as regulations by the Maharashtra Amateur Gymnastics Association.
2. The District Level Gymnastics Associations should make the provision for the appointment of qualified and trained coaches , experts helpers for their good achievement.

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A COMPARISON OF EGO-STRENGTH OF POSITIVE MENTAL HEALTH AND BASAL METABOLIC RATE OF BODY COMPOSITION OF FEMALE PHYSICAL EDUCATION AND OTHER SUBJECT TEACHERS OF MUMBAI CITY

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Abstract

The purpose of the study was to explore the interconnectedness of Ego-Strength of positive mental health, and physical health parameters such as basal metabolic rate (BMR) of body composition among female teachers in Mumbai. To achieve this purpose researcher selected sample of 100 Teachers from Mumbai City working in S.S.C Board Schools in which 50 Female Physical Education Teachers and 50 Female Other Subject Teachers selected. To measure the Ego-Strength and Basal Metabolic Rate between Female Physical Education Teachers and Other Subject Teachers, standardized Positive Mental health Questionnaire and for Basal Metabolic Rate, Bioelectrical Impedance Analysis (BIA) was appropriately used to collect the data. The collected data was statistically analyzed by applying Independent Sample t-test. The findings of the study directly that the psychological variable Ego-Strength t-value was 3.40 which was significant at 0.05 level with $df=98$ among Female Physical Education Teachers and Female Other Subject Teachers. The mean scores of Ego-Strength of Physical Education Teachers 7.02 ± 1.91 which was higher than Other Teachers were 5.70 ± 1.97 . Basal Metabolic Rate t-value was 1.59 which were not significant at 0.05 level with $df=98$ among Female Physical Education Teachers and Female Other Subject Teachers. Finding of this study shows that there was significant difference in Ego-Strength but there was no significant difference in Basal Metabolic Rate between Female Physical Education Teachers and Female Other Subject Teachers.

Keywords: Psychological Variable, Ego-Strength, Physiological Variable, Body Composition, Basal Metabolic Rate, Female, Physical Education Teachers, Other Subject Teachers

INTRODUCTION

This research investigates the relationship between ego-strength of positive mental health, and physical health metrics such as basal metabolic rate (BMR) of body composition among female teachers in Mumbai. It compares physical education teachers, whose active profession prioritizes fitness and physical well-being, with teachers of other subjects, who may have less physically demanding routines. Ego-strength, which reflects an individual's resilience and capacity to handle stress, is considered a critical factor in maintaining positive mental health. The study seeks to explore how professional roles and associated lifestyles influence the interplay of mental and physical health.

The importance of this research lies in understanding how lifestyle factors contribute to ego-strength and overall well-being. Female teachers often balance demanding professional responsibilities with personal obligations, making them a relevant group for examining these dynamics. By comparing physical education teachers with their counterparts, the study aims to shed light on the benefits of physical activity and its potential role in enhancing both ego-strength and positive mental health. The findings could offer valuable insights for promoting holistic health strategies in the education sector and encouraging practices that foster resilience, well-being, and physical fitness.

DEFINITIONS OF TERM USED**Physical Education Teachers**

A physical education (PE) teacher instructs students about sports, physical development, health, and proper nutrition.

Subject Teachers

A subject teacher *works as an expert of some curriculum subjects*. A Subject Teacher, also called a School Subject Teacher or formally a Subject Educator, is a person who helps students to acquire knowledge, competence or virtue regarding the said Subject.

Ego-Strength

Ego-strength is a psychological concept referring to an individual's ability to effectively manage stress, navigate life's challenges, and maintain emotional stability. It is an essential component of positive mental health, as it represents the resilience and adaptability required to cope with internal and external pressures while preserving a sense of self-worth and control.

Basal Metabolic Rate

Basal Metabolic Rate, which is the number of calories your body needs to perform its most basic functions at rest. These functions include breathing, circulating blood, controlling body temperature, and other vital activities that keep you alive.

OBJECTIVE OF THE STUDY:

- To Compare mean scores of Ego-Strength of Female Physical Education and Other Subject Teachers of Mumbai City.
- To Compare mean scores of Basal Metabolic Rate of Female Physical Education and Other Subject Teachers of Mumbai City.

HYPOTHESIS OF THE STUDY:

H01. There is no significant difference in mean scores of Ego-Strength of Female Physical Education and Other Subject Teachers of Mumbai City.

H02. There is no significant difference in mean scores of Basal Metabolic Rate of Female Physical Education and Other Subject Teachers of Mumbai City.

METHODOLOGY**DESIGN OF THE STUDY**

The present study was Descriptive in nature under the heading of Descriptive Research which provided Comparison between Female Physical Education and Other Subject Teachers on Basal Metabolic Rate as Physiological Variable. The Scores of Ego-Strength of Positive mental health inventory was collected through the Positive Mental health Questionnaire by Dr. C.D. Agashe and Dr. R.D and Basal Metabolic Rate of Teachers were collected through the Bioelectrical Impedance Analysis (BIA).

POPULATION AND SAMPLE

A sample of 50 Female Physical Education Teachers and 50 Female Other Subject Teachers selected from Mumbai City working in S.S.C Board Schools.

VARIABLE AND TEST

Ego-Strength of Positive mental health inventory

The first tools used in the present study was Positive Mental health Questionnaire by Dr. C.D. Agashe and Dr. R.D. The scoring of the inventory was very simple. A numerical credit of 1 mark was given to each response that matches with the keyed answer, and a numerical credit of zero (0) mark was given to that response which does not match with the keyed answer. A composite score on the whole inventory serves as an individual's raw score denoting his/her magnitude of positive mental health.

Basal Metabolic Rate

The second tool used in the present study was Bioelectrical Impedance Analysis (BIA) of Karada Scan 701, Body Composition Monitor – HBF-701 of MOMRON Company. By Female Physical Education Teachers and other Subject Teachers of Mumbai City

STATISTICAL PROCEDURE

As mentioned in the objectives of the study, data were analysed with help of Independent Sample t-Test method of statistical techniques.

RESULTS OF THE STUDY

I. GROUP WISE COMPARISON OF MEAN SCORES OF EGO-STRENGTH

The first objective was to compare mean scores of Ego-Strength of Physical Education and Other Subject Teachers. There were two levels of Teachers, namely, Physical Education Teachers and Other Subject Teachers. There was only one level of Gender, namely, Female. The data were analysed with the help of independent Sample t-Test and the results are given in Table 1 below.

Table 1: Group-wise M, SD, N, and t-Values of Ego- Strength of Female Teachers

Teacher	M	SD	N	t-value	Remark
Physical Education	7.02	1.91	50	3.40	p<0.01
Other Subject	5.70	1.97	50		

From table 1, it is evident that the t-value is 3.40 which is significant at 0.01 level with df= 98. It shows that the mean scores of Ego-Strength of Physical Education and Other Subject Teachers differ significantly. Thus, the null hypothesis that there is no significant difference between mean scores of Ego-Strength of Physical Education and Other Subject Teachers is rejected. Further, the mean score of Ego-Strength of Physical Education Teachers is 7.02 which is significantly higher than that of Other Subject Teachers whose mean score of Ego-Strength is 5.70. The effect size, as measured by Cohen's d, was 0.68, indicating a medium effect. It may, therefore, be said that Physical Education Teachers were found to believe significantly higher in their Ego-Strength than their counter part Other Subject Teachers. The result is presented graphically in Figure 1 below.

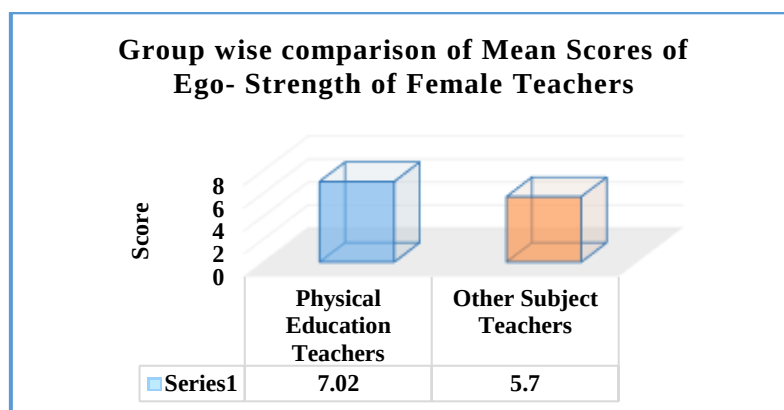


Figure 4.2 Group wise comparison of Mean Scores of Ego-Strength of Female Teachers

II. GROUP WISE COMPARISON OF MEAN SCORES OF BASAL METABOLIC RATE

The second objective was to compare mean scores of Basal Metabolic Rate of Physical Education and Other Subject Teachers. There were two levels of Teachers, namely, Physical Education Teachers and Other Subject Teachers. There was only one level of Gender, namely, Female. The data were analysed with the help of independent Sample t-Test and the results are given in table 2 below.

Table 2: Group-wise M, SD, N, and t-Values of Basal Metabolic Rate of Female Teachers

Teacher	M	SD	N	t-value	Remark
Physical Education	1368.92	198.56	50	1.59	p>0.05
Other Subject	1433.50	207.01	50		

From the above table 2, it is evident that the t-value is 1.59 which is no significant at 0.05 level with df= 98. It shows that the mean scores of Basal Metabolic Rate of Physical Education and Other Subject Teachers do not differ significantly. Thus, the null hypothesis that there is no significant difference between mean scores of Basal Metabolic Rate of Physical Education and Other Subject Teachers is failed to reject. Further, the mean score of Basal Metabolic Rate of Physical Education Teachers is 1368.92 which is significantly same as Other Subject Teachers whose mean score of Basal Metabolic Rate is 1433.50. The effect size, as measured by Cohen's d, was 0.32, indicating a small effect. It may, therefore, be said that Physical Education Teachers were found to believe significantly the same in their Basal Metabolic Rate than their counter part Other Subject Teachers. The result is presented graphically in Figure 2 given below.

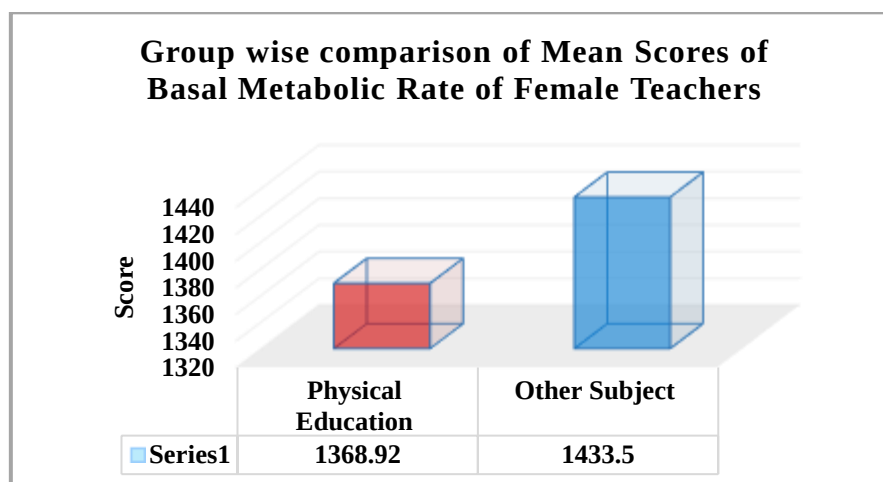


Figure 2: Group wise comparison of Mean Scores of Basal Metabolic Rate of Female Teachers

DISCUSSION ON RESULT

➤ Results on Ego-Strength of Positive Mental Health

- It shows that the mean scores of Ego- Strength of Physical Education and Other Subject Teachers differ significantly
- The effect size between mean scores of Ego-Strength of Physical Education and Other Subject Teachers indicates a medium effect means medium effect size indicates optimum practical applications of research findings.
- The Physical Education Teachers were found to believe significantly higher in their Ego-Strength than their counter part Other Subject Teachers.

➤ Results on Basal Metabolic Rate of Body Composition Parameters

- It shows that the mean scores of Basal Metabolic Rate of Physical Education and Other Subject Teachers do not differ significantly.
- The effect size between mean scores of Basal Metabolic Rate of Physical Education and Other Subject Teachers indicates a small effect small effect size indicates limited practical applications of research findings.
- The Physical Education Teachers were found to believe significantly same in their Basal Metabolic Rate than their counter part Other Subject Teachers.

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RELATIONSHIP OF WEIGHT TO HEIGHT RATIO AND BODY MASS INDEX IN ADOLESCENT SCHOOL STUDENTS OF MUMBAI SUBURBAN

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Abstract

The purpose of the study was to explore the relationship between Weight-to-Height Ratio (WHtR) and Body Mass Index (BMI) among adolescent school students in the Mumbai suburban area. To achieve this purpose researcher selected sample of 50 Boys and 50 Girls (N=100) Adolescent students selected of Ryan International School, Chembur, Mumbai Suburban. For data collection on Body Composition Parameters, Standard ALPHA SRS 475 Body Composition Machine and Tailor's Measuring Tape/Gullic Tape was used to measure Waist Circumference and Height of an Adolescent School Students of Mumbai Suburban. The data collected was statistically analyzed by applying Correlation Coefficient. The findings of the study was directs that the Weight to Hight Ratio and Body Mass Index Correlation Coefficient of school boys was 0.917 was significant at 0.01 level with $df=49$ and Weight to Hight Ratio and Body Mass Index Correlation Coefficient of school girls was 0.697 also was significant at 0.01 level with $df=49$. Finding of this study shows that there was positively significant correlation between Weight to Hight Ratio and Body Mass Index in School Boys as well as Girls and the commonness between Weight to Hight Ratio and Body Mass Index of School Boys is 84.09 % and School Girls is 69.60 % which are high, it means that there is very strong correlation.

Keywords: Physiological Variable, Body Mass Inex, Anthropometric Variable, Weight-to-Height Ratio, Bioelectrical Impedance Analysis, Boys, Gils, Adolescent, School Students

INTRODUCTION

This research explores the relationship between Weight-to-Height Ratio (WHtR) and Body Mass Index (BMI) among adolescent school students in the Mumbai suburban area. Both WHtR and BMI are widely used measures to assess body composition and health risks, particularly in identifying overweight and obesity. While BMI evaluates weight relative to height, WHtR focuses on abdominal fat, a key indicator of metabolic and cardiovascular health risks. Adolescence is a critical period for establishing lifelong health patterns, making it essential to understand how these indicators correlate in this age group.

The study aims to highlight the utility of WHtR as a complementary or alternative tool to BMI in assessing health risks in adolescents. By examining their relationship, the research seeks to provide a deeper understanding of how these metrics reflect body composition and potential health outcomes. The findings could offer valuable insights into early identification of at-risk students and the development of targeted interventions to promote healthier lifestyles during adolescence, reducing long-term risks of obesity-related diseases.

DEFINITIONS OF TERM USED

Adolescent

Adolescent refers to the developmental stage between childhood and adulthood, typically ranging from ages 10 to 19, as defined by the World Health Organization (WHO). This period is marked

by rapid physical, emotional, and psychological changes as individuals transition to maturity. Adolescence is a crucial phase for developing identity, gaining independence, and establishing behaviors and habits that often persist into adulthood.

Bioelectrical Impedance Analysis

Bioelectrical impedance analysis is a method used to estimate body compartments through a mechanism of resistance and reactance. The compartments measured include body cell mass, fat mass, extracellular tissue, and fat-free mass.

Theoretical Basis of Body Composition

The body is composed of two compartments, one rich in electrolytes, which conducts an electrical current readily (the fat-free mass), and one with few electrolytes and therefore resistant to the flow of electrical current (the fat mass). Measuring the resistance of the body to induced electrical current provides information that can be used to estimate body fatness.

Weight-to-Height Ratio

Weight-to-Height Ratio (WHtR) is a measure used to assess an individual's health and risk of developing obesity-related conditions. It is calculated by dividing an individual's waist circumference by their height. This ratio provides insight into the distribution of body fat, particularly abdominal fat, which is a significant indicator of health risks.

Body Mass Index

Body Mass Index (BMI) is a numerical value derived from a person's weight and height and is used to classify them into categories that reflect their body composition. It is commonly used as a simple screening tool to estimate whether an individual is underweight, at a healthy weight, overweight, or obese.

OBJECTIVE OF THE STUDY:

- To study correlation between Weight to Height Ratio and Body Mass Index in School Boys.
- To study correlation between Weight to Height Ratio and Body Mass Index in School Girls.

HYPOTHESIS OF THE STUDY:

- H01.** There is no significant correlation between Weight to Height Ratio and Body Mass Index in School Boys.
- H02.** There is no significant correlation between Weight to Height Ratio and Body Mass Index in School Girls.

METHODOLOGY

DESIGN OF THE STUDY

The present study was Descriptive in nature under the heading of Descriptive Research which provided Relationship between Weight to Height Ratio and Body Mass Index in School Boys and Girls as Physiological Variable. The Scores of Body Mass Index of Teachers were collected through the Bioelectrical Impedance Analysis (BIA) and Tailor's Measuring Tape/Gullic Tape was used to measure Waist Circumference and Height.

POPULATION AND SAMPLE

The sample for the present study was 50 Boys and 50 Girls (N=100) Adolescent students selected of Ryan International School, Chembur, Mumbai Suburban.

VARIABLE AND TEST

• Weight to Hight Ratio

The tool used in the present study was Tailor's Measuring Tape/Gullic Tape was used to measure Waist Circumference and Height of an Adolescent School Students of Mumbai Suburban.

• Body Mass Index

The tool used in the present study was Bioelectrical Impedance Analysis (BIA) of ALPHA SRS 475 of an Adolescent School Students of Mumbai Suburban.

TOOL USED

For data collection on Body Composition Parameters, Standard ALPHA SRS 475 Body Composition Machine and Tailor's Measuring Tape/Gullic Tape was used to measure Waist Circumference and Height of an Adolescent School Students of Mumbai Suburban.

BMI Assessment

Underweight	< 18.5
Normal weight	18.5–24.9
Overweight	25–29.9
Obesity	≥ 30
Obesity Class 1 (Moderate):	30–34.9
Obesity Class 2 (Severe):	35–39.9
Obesity Class 3 (Very severe/extreme)	≥ 40

STATISTICAL PROCEDURE

As mentioned in the objectives of the study, data were analyses with help of Independent Sample t-Test method of statistical techniques.

RESULT OF THE STUDY

I. Relationship Between Weight to Hight Ratio and Body Mass Index of Boys Students

The objective was to study correlation between Weight to Hight Ratio and Body Mass Index in School Boys. The data were analyzed with the help of Pearson Correlation Coefficient and results are given in Table 1. below.

Table 1: Summary of Mean, SD, N, df and Correlation Coefficient of Weight to Hight Ratio and Body Mass Index

Gender	Weight to Hight Ratio		Body Mass Index		N	df	R pb	Remark
	Mean	SD	Mean	SD				
Boys	0.45	0.06	21.32	4.80	50	49	0.917	p<0.01

From Table1 it is evident that the correlation Coefficient is 0.917 which is significant at 0.01 level with df = 49 it shows that there is a significant correlation between Weight to Hight Ratio and Body Mass Index in School Boys. In this context the null hypothesis that there is no significant correlation between Weight to Hight Ratio and Body Mass Index in School Boys is rejected. For the commonness between Weight to Hight Ratio and Body Mass Index of School Boys is 84.09 % it means that there is very strong correlation. It may, therefore, be said that the Weight to Hight Ratio and Body

Mass Index in School Boys were positively correlated. That means higher or lower the Weight to Height Ratio, higher or lower is likely to be the Body Mass Index of School Boys. Where mean scores of Weight to Height Ratio is 0.45 and Body Mass Index is 21.32 of School Boys.

II. Relationship Between Weight to Height Ratio and Body Mass Index of Girls Students

The objective was to study correlation between Weight to Height Ratio and Body Mass Index in School Girls. The data were analyzed with the help of Pearson Correlation Coefficient and results are given in Table 2 below.

Table 2: Summary of Mean, SD, N, df and Correlation Coefficient of Weight to Height Ratio and Body Mass Index

Gender	Weight to Height Ratio		Body Mass Index		N	df	R pb	Remark
	Mean	SD	Mean	SD				
Girls	0.43	0.08	21.41	4.02	50	49	0.696	p<0.01

From Table 2 it is evident that the correlation Coefficient is 0.696 which is significant at 0.01 level with df = 49 it shows that there is a significant correlation between Weight to Height Ratio and Body Mass Index in School Girls. In this context the null hypothesis that there is no significant correlation between Weight to Height Ratio and Body Mass Index in School Girls is rejected. For the commonness between Weight to Height Ratio and Body Mass Index of School Girls is 69.60 % it means that there is very strong correlation. It may, therefore, be said that the Weight to Height Ratio and Body Mass Index in School Girls were positively correlated. That means higher or lower the Weight to Height Ratio, higher or lower is likely to be the Body Mass Index of School Girls. Where mean scores of Weight to Height Ratio is 0.43 and Body Mass Index is 21.41 of School Girls.

FINDINGS OF THE STUDY

- There is a positively significant correlation between Weight to Height Ratio and Body Mass Index in School Boys as well as Girls.
- The Weight to Height Ratio and Body Mass Index in School Boys and Girls were positively correlated. That means higher or lower the Weight to Height Ratio, higher or lower is likely to be the Body Mass Index of School Boys and Girls.
- The commonness between Weight to Height Ratio and Body Mass Index of School Boys is 84.09 % and School Girls is 69.60 % which are high, it means that there is very strong correlation.

RECOMMENDATIONS

According to the findings of the study following are the recommendation:

- It may be recommended that the Healthcare professional can use Waist to Height Ratio WHtR as a screening tool for assessing overall health risks related to body composition in Adolescents as well as different age group categories.
- The study findings may inspire to physical education researcher for the future study on the different age group categories as well as different Body composition Parameters.

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COMPARISON OF BODY MASS INDEX BETWEEN FEMALE PHYSICAL EDUCATION AND OTHER SUBJECT TEACHERS OF MUMBAI CITY

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Abstract

The purpose of the study was to compare Body Mass Index of Body Composition among female teachers in Mumbai. To achieve this purpose researcher selected sample of 100 Teachers from Mumbai City working in S.S.C Board Schools in which 50 Female Physical Education Teachers and 50 Female Other Subject Teachers selected. To measure the Body Mass Index between Female Physical Education Teachers and Other Subject Teachers, Bioelectrical Impedance Analysis (BIA) was appropriately used. The collected data was statistically analyzed by applying Independent Sample t-test. The findings of the study was directs that the psychological variable Body Mass Index t-value was 3.43 which was significant at 0.01 level with $df=98$ among Female Physical Education Teachers and Female Other Subject Teachers. The mean scores of Body Mass Index of Physical Education Teachers 26.28 ± 4.96 which was lower then Other Teachers were 29.90 ± 5.60 . Finding of this study shows that there was significant difference in Body Mass Index between Female Physical Education Teachers and Female Other Subject Teachers.

Keywords: *Physiological Variable, Body Mass Inex, Bioelectrical Impedance Analysis, Female, Physical Education Teachers, Other Subject Teachers Psychological Variable*

INTRODUCTION

This research focuses on comparing the Body Mass Index (BMI) of female physical education teachers with that of teachers from other subjects in Mumbai. BMI, a widely used indicator of body composition, reflects an individual's health status by assessing weight relative to height. Physical education teachers, due to their active and fitness-oriented lifestyles, are hypothesized to have healthier BMI levels compared to their counterparts who may engage in less physical activity due to the sedentary nature of their professions. The study aims to explore how professional roles and associated lifestyle choices impact BMI and overall health.

The significance of this research lies in its potential to highlight the role of physical activity in maintaining a healthy BMI. Female teachers, who face unique challenges balancing professional and personal responsibilities, represent an important demographic for studying health disparities. By comparing the two groups, the study seeks to emphasize the importance of regular physical activity in mitigating lifestyle-related health risks and promoting overall well-being. The findings could provide valuable insights into strategies for fostering healthier workplace environments and encouraging fitness as a key component of occupational health.

DEFINITIONS OF TERM USED

Bioelectrical Impedance Analysis

Bioelectrical impedance analysis is a method used to estimate body compartments through a mechanism of resistance and reactance. The compartments measured include body cell mass, fat mass, extracellular tissue, and fat-free mass.

Theoretical Basis of Body Composition

The body is composed of two compartments, one rich in electrolytes, which conducts an electrical current readily (the fat-free mass), and one with few electrolytes and therefore resistant to the flow of electrical current (the fat mass). Measuring the resistance of the body to induced electrical current provides information that can be used to estimate body fatness.

Body Mass Index

Body Mass Index (BMI) is a numerical value derived from a person's weight and height and is used to classify them into categories that reflect their body composition. It is commonly used as a simple screening tool to estimate whether an individual is underweight, at a healthy weight, overweight, or obese.

OBJECTIVE OF THE STUDY:

- To Compare mean scores of Body Mass Index of Female Physical Education and Other Subject Teachers of Mumbai City.

HYPOTHESIS OF THE STUDY:

- There is no Significant Difference in mean scores of Body Mass Index of Female Physical Education and Other Subject Teachers of Mumbai City.

METHODOLOGY**DESIGN OF THE STUDY**

The present study was Descriptive in nature under the heading of Descriptive Research which provided Comparison between Female Physical Education and Other Subject Teachers on Body Mass Index of Body Composition as Physiological Variable. The Scores of Body Mass Index of Teachers were collected through the Bioelectrical Impedance Analysis (BIA).

POPULATION AND SAMPLE

A sample of 50 Female Physical Education Teachers and 50 Female Other Subject Teachers selected from Mumbai City working in S.S.C Board Schools.

VARIABLE AND TEST

- **Body Mass Index**

The tool used in the present study was Bioelectrical Impedance Analysis (BIA) of Karada Scan 701, Body Composition Monitor – HBF-701 of MOMRON Company. By Female Physical Education Teachers and other Subject Teachers of Mumbai City

TOOL USED

Bioelectrical Impedance Analysis (BIA) of Karada Scan 701, Body Composition Monitor – HBF-701 of MOMRON Company.

BMI Assessment

Underweight	< 18.5
Normal weight	18.5–24.9
Overweight	25–29.9
Obesity	≥ 30
Obesity Class 1 (Moderate):	30–34.9
Obesity Class 2 (Severe):	35–39.9
Obesity Class 3 (Very severe/extreme)	≥ 40

STATISTICAL PROCEDURE

As mentioned in the objectives of the study, data were analysed with help of Independent Sample t-Test method of statistical techniques.

RESULT OF THE STUDY

Result on Comparison of Mean Scores of Body Mass Index of Physical Education and Other Subject Teachers

The objective of the present study was to compare mean scores of Body Mass Index of Physical Education and Other Subject Teachers. There were two levels of Teachers, namely, Physical Education Teachers and Other Subject Teachers. There was only one level of Gender, namely, Female. The data were analysed with the help of independent Sample t-Test and the results are given in Table below.

Table: Group wise Mean, SD, N and t-value of Body Mass Index of Female Teachers

Teacher	M	SD	N	t-value	Remark
Physical Education	26.28	4.96	50	3.43	p<0.01
Other Subject	29.90	5.60	50		

*Significant at 0.01

From the above table, it is evident that the t-value is 3.43 which is significant at 0.01 level with df= 98. It shows that the mean scores of Body Mass Index of Physical Education and Other Subject Teachers differ significantly. Thus, the null hypothesis that there is no significant difference between mean scores of Body Mass Index of Physical Education and Other Subject Teachers is rejected. Further, the mean score of Body Mass Index of Physical Education Teachers is 26.28 which is significantly lower than that of Other Subject Teachers whose mean score of Body Mass Index is 29.90. The effect size, as measured by Cohen's d, was 0.68, indicating a medium effect. It may, therefore, be said that Physical Education Teachers were found to believe significantly lower in their own Body Mass Index than their counter part Other Subject Teachers. But according to the BMI Assessment both Physical Education Teachers and Other Subject Teachers are Over Weight. The result is presented graphically in Figure below.

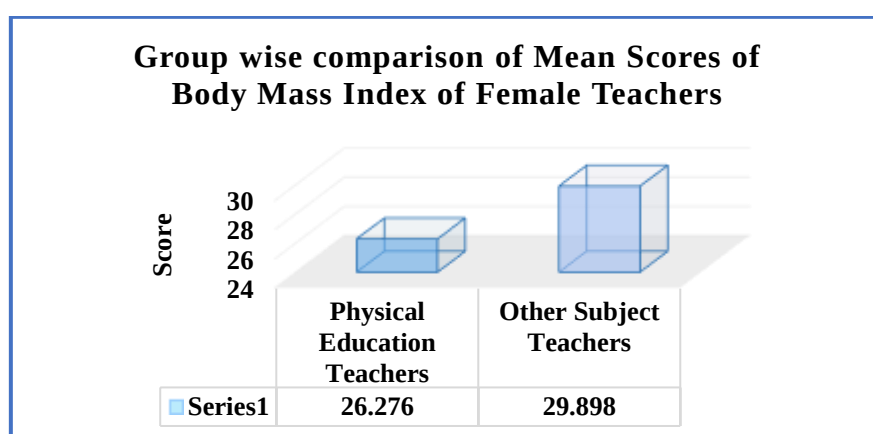


Figure : Group wise comparison of Mean Scores of Body Mass Index of Female Teachers

CONCLUSION AND RECOMMENDATION

On the basis of the result, it can be concluded that:

- Physical Education Teachers were found to believe significantly lower in their own Body Mass Index than their counter part Other Subject Teachers.
- According to the BMI Assessment, both Physical Education Teachers and Other Subject Teachers are Overweight.
- It may be recommended for other Body Composition Parameters also should take in consideration while comparison.
- The study findings may inspire physical education researcher for the future study in the different area of Physical Education and Sports.

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GRACEFULLY AGING FOR SENIOR CITIZEN WITH THE AID OF RECREATIONAL ACTIVITIES

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Abstract

Recreational activities serve to fulfill a variety of needs across age groups, significantly contributing to the health and happiness of elderly individuals. Notably, increased health and fitness are paramount benefits of recreation among the elderly population. Engaging in such activities creates opportunities for social interaction, skill utilization, and the acquisition of new abilities. This paper aims to highlight the importance of leisure activities for elderly individuals, discussing the intersections of aging with quality of life, physical health, well-being, mental health, and social connectedness. While numerous articles were found, only a select few were included in this paper review. The findings underscore the necessity for elderly individuals to engage in recreational activities throughout their lives to maintain and enhance their overall health and well-being.

Keywords: Recreational activities for senior citizens, leisure activities, Aging and Quality of life, Mental well-being, Social connectedness.

INTRODUCTION

Any task undertaken by the individual to refuel the mind and body while contributing enjoyment and interest during their free time is referred to as recreation. Its actions are advantageous in numerous ways. Think about how the most enjoyable hobbies which improve the quality of our life. Keep in mind all the positive outcomes that transpired. We sometimes forget the amount of time and work it took to nurture the abilities essential for genuinely enjoying these recreational activities, but glancing back, it was surely worth it. Investing in leisure pursuits is similar to taking some time out from our daily schedule. An overwhelming feeling of comfort and diminished stress is observed. It can be executed unilaterally or in combination with others. It may happen in an array of situations. People across a range of circumstances and cultures might be affected by recreational pursuits. In this day and age, leisure has many beneficial impacts on individuals and communities. Society ought to be taught the significance and value of leisure activities. This encourages and fosters leisure in our way of life and identifies it as an essential objective for policymakers and governments.

Senior citizens participate in plenty of hobbies that are relaxing, ranging from traditional or typical pastimes like gardening and cards to more current ones like playing master sports. Additionally, leisure activities are associated with physical health and well-being, among other aspects of longevity that are beneficial. Also recreational pursuits are believed to boost general health, albeit the benefits differ according to the kind of exercise. Their physical and mental health may benefit more from specific leisure pursuits than from others.

- **Recreational activities are vital for senior citizens.**

Recreation transforms into a relieving activity that deepens relationships, promotes both physical and mental well-being, and all of these aspects are essential to the general well-being and pleasure of the aged. Both mental and physical health can be improved by recreation. The emotional and psychological well-being of senior citizens might be enhanced by these activities. Seniors can express

themselves and express their emotions through both individual and group activities, which can help them feel better and think about things more clearly. Painting or arts & crafts might achieve this. Card games, jigsaw puzzles, and word puzzles all enhance mental awareness while developing management and ability to solve problems. Participating in group activities also lessens their need for company as well as feelings of loneliness and isolation. It also increases excitement and enhances mood (Anvaya, 2019; Sala et al., 2019; Paggi et al., 2016).

- **Recreational and leisure activities for the elderly**

According to Szanton et al. (2015), indicates the proportion and ranking of older persons' favorite activities during recreation and leisure time to be would prefer walk, jog, garden, or play sports than watch TV, go to religious services, or travel. Recent study data indicates that older people regularly choose workouts as their "preferred," which contradicts commonly held beliefs. Community and family activities are the most practical kind of leisure activity for older people to participate in and keep them active with whole heartedly. Zingmark et al. (2021) stated that elderly Swedes place a high emphasis on nature encounters and outdoor activity. Among the most prominent outdoor pastimes include strolls being in gardens and woods for a natural encounters, swimming outdoors, barbecues, cycling for fitness and fun, gardening, and being outdoors.

- **Aging and Quality of life**

Life quality is defined differently as a shared dimension with the capacity for pleasure and contentment in which the quality of life and manifestations of goodness linked with sub-areas of life influence the quality. The phrase "life quality" refers to a larger concept that includes personal well-being as well as physical health. The concept of measuring life quality evaluates characteristics like as one's role, mood, experiences with sickness and analogous circumstances, general psychological condition, happiness, and life satisfaction (Çiyan, et al., 2021). Similarly, aging is caused by the accumulation of various molecular and cellular damage over time. This causes a progressive loss of physical and cognitive function, as well as an increased risk of illness and, finally, death. These changes are neither linear nor continuous, and they are only distantly related to a person's chronological age. The age-related variety is not by chance. Aside from biological changes, aging is typically associated with other life transitions such as retirement, relocation to more suitable housing, and the loss of friends and companions. (World Health Organization, 2021).

- **Mental well-being**

Non-physically demanding hobbies, including artistic pursuits, have been shown to support mental well-being, facilitating a positive aging experience and enhancing quality of life (Lee & Allen, 2021). Jeong and Park (2020) emphasize that participation in energetic and social leisure activities can positively affect depression and overall quality of life.

Research by Vahia et al. (2020) and Jeste et al. (2020) identifies several strategies to enhance the mental health of older adults:

- Playing Mind Games: Engaging in cognitive exercises is essential for maintaining brain health and preventing cognitive decline as people age. Just as physical activity is important for the body, mental stimulation is crucial for cognitive vitality.

- Getting Physical Exercise: Physical activity is vital for both mental and physical health, increasing confidence and lowering fall risks. Regular exercise is just as important for older adults as it is for individuals of all ages.
- Staying Connected to Family and Friends: Maintaining relationships with loved ones helps mitigate feelings of loneliness and isolation. Utilizing technology for video calls and social media can facilitate these connections, with many resources available to assist older adults in learning these platforms.
- Picking Up New Hobbies: Engaging in hobbies such as painting, gardening, or cooking can foster brain neuroplasticity. Retirement provides an opportunity for individuals to explore new interests and fulfil life goals.
- Volunteering: Contributing time and skills through volunteering can significantly enhance physical, emotional, and mental health in retirees, helping them maintain a sense of purpose.
- Caring for Grandchildren or Pets: The bonds between humans and their pets have been shown to promote physical activity, lower stress levels, and enhance happiness, contributing positively to overall well-being.

Leisure and Social Connectedness

O'Rourke and Sidani (2017) conceptualize social connection as the opposite of loneliness, highlighting it as a subjective evaluation of an individual's capability to cultivate meaningful, intimate, and constructive relationships with others, be they individuals, groups, or society at large. Engaging in strong relationships and meaningful activities, such as leisure pursuits, is essential for successful aging, as outlined by Bone et al. (2022). These activities not only contribute to the joy and satisfaction in life but also promote community engagement and a sense of belonging. Conversely, a lack of social interaction is recognized as a significant risk factor for early mortality, comparable to well-documented health risks such as smoking, physical inactivity, obesity, and even insufficient flu vaccinations. Thus, fostering social connections is not only beneficial but serves as a crucial protective factor for health. Research by Suragarn et al. (2021) and Zhang et al. (2021) further emphasizes the relationship between social connection and psychological well-being. Strong social ties are associated with lower rates of depression, anxiety, and stress, illustrating how meaningful relationships can serve as buffers against the mental health challenges that often accompany loneliness. Participating in leisure pursuits allows older adults to connect with peers, exchange experiences, and share interests, which can alleviate stress and bolster emotional resilience. By fostering a sense of community and belonging, these activities enhance both physical and mental health.

Research has shown that both passive leisure activities, such as hobbies, and active social leisure activities, such as maintaining regular contact with friends, significantly contribute to reducing feelings of loneliness and promoting overall well-being in older adults, irrespective of factors such as age, gender, or marital status. In situations where older adults face financial difficulties, the social networks developed through leisure activities can provide crucial assistance. The connections formed around shared interests allow for a sense of community among seniors, enhancing their resilience in challenging times. Even when financial support is unavailable, the emotional support provided by peers can alleviate feelings of isolation, improve mood, and significantly reduce levels of depression.

Conclusion

Leisure plays a vital role in enhancing the well-being and quality of life for older adults. Engaging in leisure activities not only promotes physical health but also offers significant social benefits, enriching the lives of seniors and individuals of all ages. Through recreation, older individuals can maintain their health and fitness, build social connections, utilize existing skills, and learn new abilities, all of which contribute to a fulfilling life. Regular physical activity is especially important for the elderly, as it helps preserve functional independence, reduces the risk of chronic diseases, enhances functional abilities, and minimizes the likelihood of falls and accidents. Conversely, physical inactivity poses a serious public health challenge globally, with a pronounced impact in rapidly aging regions such as Asia, where middle-aged and older adults are particularly vulnerable. Encouraging participation in structured and unstructured leisure activities—such as walking groups, dance classes, gardening, or arts and crafts—can significantly improve life satisfaction and health outcomes. Therefore, community programs, public health initiatives, and policy measures should focus on creating environments that facilitate and promote active lifestyles for seniors, ensuring they have the support and opportunities needed to engage in vital leisure activities.

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AN INVESTIGATION OF SOCIAL BEHAVIOUR OF JOB SATISFACTION OF KHO-KHO OFFICIALS OF MUMBAI CITY

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Abstract

Job satisfaction has wide-ranging benefits for individuals and organizations. It leads to higher productivity, better employee retention, improved well-being, increased engagement, positive work culture, enhanced customer satisfaction, and a strong organizational reputation. Fostering job satisfaction is therefore crucial for achieving success and sustainable growth in today's competitive work environment. Social Behaviour is one of the components of Job Satisfaction. The objective of the Study in this piece of research, the researcher intends to see "An Investigation of Social Behaviour of Job Satisfaction Of Kho-Kho Officials Of Mumbai City". The objective of the study is to Study the Status of Social Behaviour of Job Satisfaction of Kho-Kho officials of Mumbai city. 73 Kho-Kho officials from different Kho-Kho Club/Institution of Mumbai City were selected as sample for the study by using Convenience Sampling Technique. Custom Made Questionnaire was used for the Study. In order to see the status of Social Behaviour of Job Satisfaction. Standardization of Scores and Percentage of Scores were taken. In case of Social Behaviour of Job Satisfaction from the findings we can say that maximum officials fall under average Social Behaviour of Job Satisfaction and very few Officials fall under extremely high Social Behaviour.

Key Words: Social Behaviour, Job Satisfaction

INTRODUCTION:

Job satisfaction is a term used to describe the level of contentment and fulfilment an individual experiences in their job or occupation. It refers to the overall attitude and emotional state a person has towards their work, encompassing various aspects such as the nature of the job, the work environment, relationships with colleagues, opportunities for growth, compensation, and the organization's culture and values.

Job satisfaction has wide-ranging benefits for individuals and organizations. It leads to higher productivity, better employee retention, improved well-being, increased engagement, positive work culture, enhanced customer satisfaction, and a strong organizational reputation. Fostering job satisfaction is therefore crucial for achieving success and sustainable growth in today's competitive work environment. Social Behaviour is one of the components of Job Satisfaction which means the conduct, interactions, and the manner in which individuals in officiating roles engage with others within the context of sports and events. This includes how officials socially interact with players, coaches, spectators, and fellow officials. In this piece of research, the researcher intends to see "An Investigation of Social Behaviour of Job Satisfaction of Kho-Kho Officials of Mumbai City".

Aim:

This study is conducted to *Investigate Social Behaviour of Job Satisfaction of Kho-Kho Officials of Mumbai City*

Objective:

To study the status of *Social Behaviour of Job Satisfaction* of Kho-Kho officials of Mumbai city.

Assumption:

A₁: It assumed that there is high level of *Social Behaviour of Job Satisfaction* of Kho-Kho officials of Mumbai city

METHODOLOGY:**Selection of Sample**

73 Kho-Kho officials from different Kho-Kho Club/Institution of Mumbai City were selected as sample for the study by using Convenience Sampling Technique.

Research Design

This is Survey Study under the heading of Descriptive Research.

Variable: Social Behaviour (Job Satisfaction)**Tools/Instruments**

Sr. No.	Variable	Tools	Score
1	<i>Social Behaviour</i>	Custom Made Questionnaire	Scores

PROCEDURE OF THE STUDY

The researcher visited the selected Clubs and Institutions to get the questionnaires filled by the officials and when it was not possible in the Club and Institution then visited them personally, of selected Kho-Kho Officials with self-explanatory instructions to fill and submit the questionnaire.

Table 1 Scoring System

Sr. No	Type of Items	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	True	1	2	3	4	5
2	False	5	4	3	2	1

Statistics

In order to see the status of *Social Behaviour of Job Satisfaction*, Standardization of Scores & Percentage of Scores were taken.

Result and Discussion of the study:**RESULTS OF SOCIAL BEHAVIOUR OF JOB SATISFACTION****SCORE WISE, PERCENTAGE WISE STATUS OF SOCIAL BEHAVIOUR OF JOB SATISFACTION OF KHO-KHO OFFICIALS OF MUMBAI CITY**

The objective was to study the Status of *Social Behaviour of Job Satisfaction* of Kho-Kho Officials of Mumbai City

Table 2: Score Wise, Percentage Wise Status of Social Behaviour of Job Satisfaction of Kho-Kho Officials of Mumbai City

Level of Social Behaviour	Scores	Percentage
Extremely High	3	4.11
High	10	13.70
Above Average	11	15.07
Average	16	21.92
Below Average	28	38.36
Low	4	5.48
Extremely Low	1	1.37

From Table 2, It can be seen that 4.11% have extremely high Social Behaviour, 13.70% have high Social Behaviour, 15.07% have above average Social Behaviour, 21.92% have average Social Behaviour, 38.36% have below average have, 5.48% have low Social Behaviour, 1.37 have Extremely low Social Behaviour. Hence it can be seen that more officials fall under below average Social Behaviour.

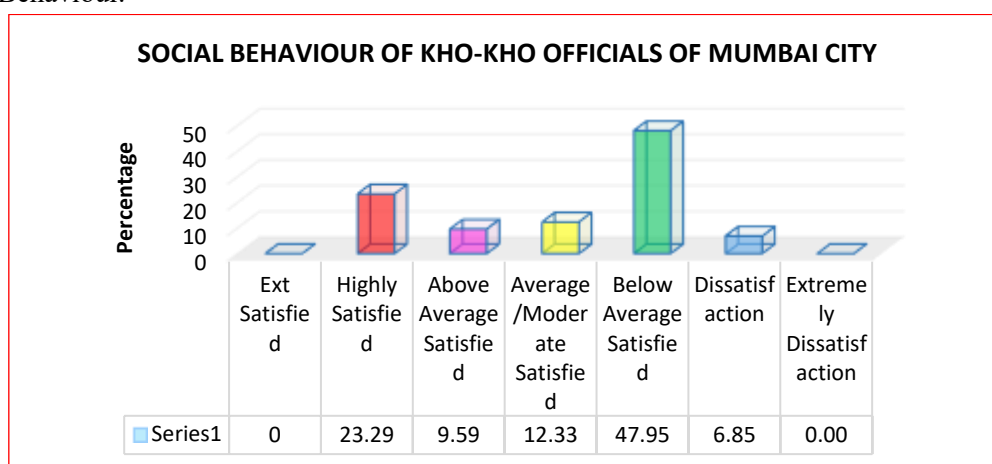


Figure 1: Score Wise, Percentage Wise Status Of SocialBehaviour Of Kho-Kho Officials Of Mumbai City

CONCLUSION

In case of Social Behaviour of Job Satisfaction from the findings we can say that maximum officials fall under average Social Behaviour of Job Satisfaction and very few Officials fall under extremely high Social Behaviour of Job Satisfaction.

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EFFECTIVE BATTERY OF CIRCUIT TRAINING ON SPEED OF FOOTBALL PLAYERS OF MUMBAI

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Abstract

This research examines the impact of Battery Circuit Training on the speed of football players in Mumbai, highlighting the crucial importance of speed in athletic performance. Utilizing a non-equivalent control group design, the study involved 50 male school football players, who were assigned to either an experimental group (n=25) or a control group (n=25). The experimental group participated in a six-week circuit training program, while the control group did not engage in any training activities. Speed and other motor fitness components were quantitatively assessed using standardized tests and analyzed via ANCOVA. The results revealed a notable enhancement in the speed of the experimental group, with an adjusted mean time of 10.43 seconds compared to 11.92 seconds for the control group. These findings indicate that circuit training effectively improves speed and other motor fitness aspects in football players, supporting its inclusion in training regimens aimed at boosting athletic performance. It is recommended that circuit training be incorporated into physical education programs and that its advantages be further investigated across various sports.

Keywords: *Battery circuit training, speed, football players, athletic programme, circuit training program, motor fitness components, ancova, enhanced speed, physical education programs, sports performance.*

INTRODUCTION

The game of football also called soccer. The old name of present football or soccer is Harpaston. It requires lot of strength and skill. The most important thing in football is the skill, the tactics, and the techniques used by the players. The best way to develop strength and stamina is through organized programme of circuit training.

In the realm of sports, particularly football, players' performance is often a direct reflection of their physical fitness, speed, and endurance. Among the various physical attributes essential for footballers, speed is one of the most critical factors that influence their effectiveness on the field. Speed allows players to accelerate quickly, react faster to game situations, and cover the ground efficiently, all of which are crucial for success in modern football. One effective method for enhancing an athlete's speed and overall performance is through targeted training programs designed to improve their physical conditioning. One such method is *Battery Circuit Training*, a versatile and dynamic approach that combines endurance and strength exercises, aimed at boosting the overall physical capacity of the player. This method, through its high-intensity interval training (HIIT) structure, works to optimize cardiovascular endurance, muscle power, and agility – all of which contribute to an athlete's speed on the field.

This study focuses on the impact of *Battery Circuit Training* on the speed of football players in Mumbai. It explores how this particular form of training can enhance the performance levels of players by improving their acceleration, stamina, and agility. Through a carefully designed regimen of drills and exercises, football players can potentially see a measurable improvement in their sprinting abilities,

reaction times, and overall game performance. Speed is the facility to move your body swiftly. Speed is usually associated with running, but other exercises, like throwing or kicking a ball, depend on moving your arms or legs rapidly. Some athletic coaches measure speed with a 40-yard dash. Speed refers to quickness of actions and one's ability to perform rapidly successive movements in a single direction over a short duration. Speed is the ability to perform a movement in a short period of time.

Circuit Training is an enduring and evolving training exercise format that was developed by R.E. Morgan and G.T. Anderson in 1953 at the university of Leeds in England (Kravitz1996). The term circuit refers to a number of carefully selected exercises arranged consecutively. In the original format, 9-12 stations comprised the circuit. This number may vary according to the circuit's design. Each circuit training participant moves from one place to the next with little (15-30 seconds) or no rest, performing a 15-45 seconds work about of 8-20 repetitions at each station (using a resistance of about 40%-60% of one- repetition maximum [IRM]). The circuit training workout program may be performed with exercise machines, hand-held weights, elastic resistance, calisthenics or any combination of these. A Circuit training program can be used to develop either short-term or long-term strength endurance is required to maintain a high level of work throughout the race. But sports that last much longer than 2 minutes like soccer, field hockey, rugby, boxing, wrestling and martial arts also demand similar short-term strength endurance. Circuit Training of exercises performed one by one in a particular way regular training of the exercise can be called as "Circuit Training". Motor fitness may be defined as readiness or preparedness for performance with special regard for big muscle activity without undue fatigue. Balance -One's ability to maintain the body's center of gravity over the center of supporting base of the body. Coordination-The ability of the performer to integrate the type of the body movements into specific patterns. Power-The ability to produce maximum muscular strength (force) in shortest time. Speed- The ability to perform body movements rapidly

OBJECTIVES OF THE STUDY

The Specific Objectives Formulated for the Present Study was as under:

- To compare the adjusted mean scores of Balances of School Boys of Experimental Group & Control Group by considering Pre Balance as a Covariate.
- To compare the adjusted mean scores of Coordination of School Boys of Experimental Group & Control Group by considering Pre-Coordination as a Covariate.
- To compare the adjusted mean scores of Power of School Boys of Experimental Group & Control Group by considering Pre Power as a Covariate.
- To compare the adjusted mean scores of Speed of School Boys of Experimental Group & Control Group by considering Pre Speed as a Covariate.
- To compare the adjusted mean scores of Agility of School Boys of Experimental Group & Control Group by considering Pre Agility as a Covariate.
- To compare the adjusted mean scores of Reaction Time of School Boys of Experimental Group & Control Group by considering Pre-Reaction Time as a Covariate.

METHODOLOGY

DESIGN OF THE STUDY

The present study was conducted by adopting experimental method. The experimental design was non-equivalent control group design. The subjects in the experiment were divided into two groups,

i.e. Group 'A' Experimental group and Group 'B' Control group; each group consisted of 25 subjects. Experimental group was given Circuit training for the period of six weeks. The control group has not undergone any Training Programmed. The blue print of the design is as under

Experimental Method



(Experimental Group (n=25))

Pre test
Treatment
Post test

Phase I
Phase II
Phase III

(Control Group (n=25))

Pre test
No Treatment
Post test

SELECTION OF THE VARIABLES AND TEST

1. DEPENDENT VARIABLE

Motor Fitness Variables:

- Balance
- Coordination
- Power
- Speed
- Agility
- Reaction Time.

2. INDEPENDENT VARIABLE

The following Circuit Training practice including in the training programmed will be considered as independent variable of the present study which includes following aspects:

- Hops Kicks
- Toe Touch
- Half Squat
- Skipping
- Sideward Running
- Bent Knee Sit-up
- High Knee Action
- Tuck Jump With Knees Up STATEMENT

CRITERION MEASURES

The following criterion measures included the records of the various test items of Motor Fitness Components.

Variable	Test	Unit
MOTOR FITNESS VARIABLES		
Balance	Stork Balance Stand Test	Seconds
Coordination	Eye Foot Coordination Test	Seconds
Power	Standing Broad Jump	Centimetres
Speed	50 m Dash	Seconds
Agility	4 X 10 Shuttle Run	Seconds
Reaction Time	Nelson Hand Reaction Test	Centimetres

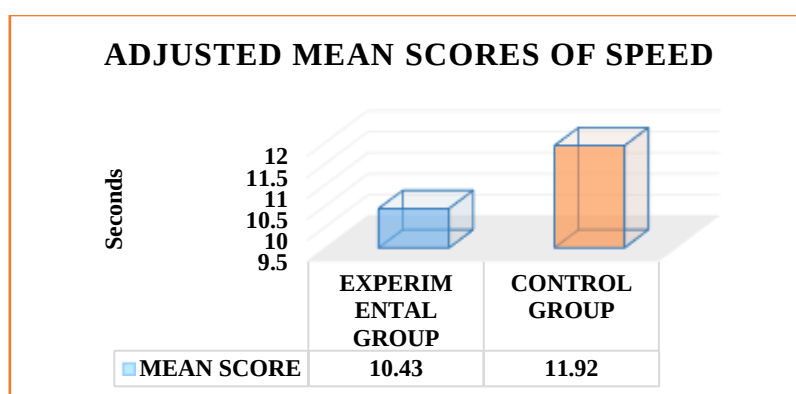
RESULTS ON MOTOR FITNESS COMPONENTS SPEED

Summary of One Way ANCOVA of Speed by taking Pre-Speed as Covariate

Source of Variance	df	SSy.x	MSSy.x	Fy.x	Remark
Group	1	26.22	26.22	355.665	p<0.01
Error	47	3.47	0.074		
Total	49	98.92			

Significant at 0.01

From Table it can be seen that the adjusted F-value is 355.665 which is significant at 0.01 level with $df=1/49$ when Pre-Speed was taken as covariate. It shows that adjusted mean scores of Speed of Students of Experimental and Control Groups differ significantly when Pre-Speed was taken as covariate. Thus, the Null Hypothesis that there is no significant difference in adjusted mean scores of Students of Experimental Group and Control Group by taking Pre-Speed as covariate is rejected. Further the adjusted mean score of Speed of Experimental Group is 10.43 which is significantly less than that of Control Group where adjusted mean score of Speed is 11.92. It may, therefore, be said that Circuit Training was found to be effective in improving Speed of Students of Experimental Group than Control Group Where Pre-Speed was taken as covariate. The result is also graphically presented.



DISCUSSION

The purpose of this study was to investigate the Effect of Circuit Training on Motor Fitness Components and Performance of Football players of Mumbai.

In case of Speed of Experimental Group, it is found that there is significant difference as compared to Control Group hence the Hypothesis sought that there is no significant difference in adjusted mean scores of Speed of students of Experimental Group and Control Group taking Pre-Speed as a covariate is rejected.

CONCLUSION

From the result it can be concluded that

The result of the study helps to conclude that the Circuit training was found helpful to improve the Motor Fitness Components of the school students.

Circuit training contributed most of the motor fitness components including balance, speed, power, agility to improve the Football skills of the subjects.

RECOMMENDATION

From the interpretation and the results of the present study, the following recommendation may be forwarded

- The present study recommends the use of these findings to sports coaches and physical education teacher for training and assisting in preparing football players for competition.
- More innovative circuit training may be developed for various other sports competition.
- Further studies on boys are recommended.
- The finding of the study may inspire other Physical Education teachers to incorporate the Circuit Training for the enhancement of the parameters related to improvement of skill in Football.
- Professional of Physical Education should consider the need for improvisation of Circuit Training.

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TO COMPARE THE MEAN SCORES OF AGILITY OF SCHOOL BASKETBALL PLAYER OF RYAN INTERNATIONAL SCHOOL, SANPADA AND RYAN INTERNATIONAL SCHOOL KHARGHAR

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Abstract

This study investigates the comparative agility performance of school basketball players from Ryan International School, Sanpada, and Ryan International School, Kharghar, with an emphasis on motor fitness components. Agility, a key motor fitness attribute, was measured using the 4x10 meter shuttle run test, and data were analyzed through an independent t-test. A total of 60 players, equally divided between the two schools, participated in the study. The results indicate no statistically significant difference in agility scores between the groups ($t=0.75$, $p>0.05$). However, the mean agility score of Sanpada players (13.02 seconds) was slightly superior to that of Kharghar players (12.83 seconds). This suggests that while the observed difference is not significant, players from Sanpada demonstrate marginally better agility. The study underscores the role of consistent training programs in enhancing motor fitness components like agility. Future research could extend this comparative analysis to other schools, different sports, and include gender-based evaluations to explore broader trends in motor fitness development among young athletes.

INTRODUCTION

A Motor fitness is a term that describes an athlete's ability to perform effectively during sports or other physical activity. An athlete's motor fitness is a combination of six different components, each of which is essential for high levels of performance. Improving fitness involves a training regimen in all six components. There are many different manifestations of fitness. Some examples include strength, stamina, speed, and flexibility. Certain types of fitness, such as an athlete's cardiac fitness level, are more important than others. An athlete needs to be aware of the various types of fitness to develop an effective training program that focuses on weak or important areas. Motor fitness, or motor physical fitness, refers to how an athlete can perform at his or her sport, and involves a mixture of agility, coordination, balance, and power, and reaction time, speed. Improving this form of fitness is an indirect result of training in any of these attributes. All six components of fitness are essential for competing at high levels, which is why the concept is seen as an essential part of any athlete's training regime.

A motor skill is a function that involves specific movements of the body's muscles to perform a certain task. These tasks could include walking, running, or riding a bike. In order to perform this skill, the body's nervous system, muscles, and brain have to work together. The goal of motor skill is to optimize the ability to perform the skill at the rate of success, precision, and to reduce the energy consumption required for performance. Performance is an act of executing a motor skill or task. Continuous practice of a specific motor skill will result in a greatly improved performance, which leads to Motor Learning. Motor learning is a relatively permanent change in the ability to perform a skill as a result of continuous practice or experience. A sport has a very prominent role in society in the process of historical development. Physical activities are part of the fundamental pattern of living for every

creature. That has ever lived on earth for the reason that the condition of a person's body must have always been of great concern. The awareness of motor fitness is a factor which normally functions.

OBJECTIVE OF THE STUDY

The objectives of study are as under: -

- To compare the Mean Scores of Agility of school basketball player of Ryan International School, Sanpada and Ryan International School Kharghar.

HYPOTHESIS OF THE STUDY

The null hypothesis sought to be the tested are as under:

H01: There is no significant difference in the Mean Scores of Agility of school basketball player of Ryan International School, Sanpada and Ryan International School, Kharghar.

LIMITATIONS

The limitations of the study are as follows:

- It was not possible to control the subject day to day activities.
- There was no control in food habit, rest and sleep of the selected students because they were coming from different places.
- The standard of living of the students was not controlled.

DELIMITATIONS

- The delimitations of the study are as follows:
- The study was delimited to Ryan International School, Sanpada and Kharghar of Navi Mumbai.
- The study was delimited to Stress and Motor Fitness Components.

METHODOLOGY

DESIGN OF THE STUDY

Basically the study was surveyed in nature under the heading of descriptive research. The researcher personally visits the selected school along with her assistance and necessary data was collected on selected Motor fitness components of basketball players.

SELECTION OF SAMPLE

Selection of 30 students belonging from Ryan international school Sanpada and 30 students from Ryan international school Kharghar.

SELECTION OF VARIABLES AND TOOLS

The following components will be considered as the variables of the present study.

SR.NO	VARIABLE	TEST	CRITERION MEASURE
1	AGILITY	4 X 10 Metres shuttle run	time in seconds

The above tests are decided on the basis of the book "Test and Measurement in Sports and Physical Education" by the author KANSAL D.K (2008).

STATISTICAL PROCEDURES USED AND JUSTIFICATION (t-test)

The analysis of the data collected by the researcher has been presented in this chapter comparison Was done between two group by independent't' test

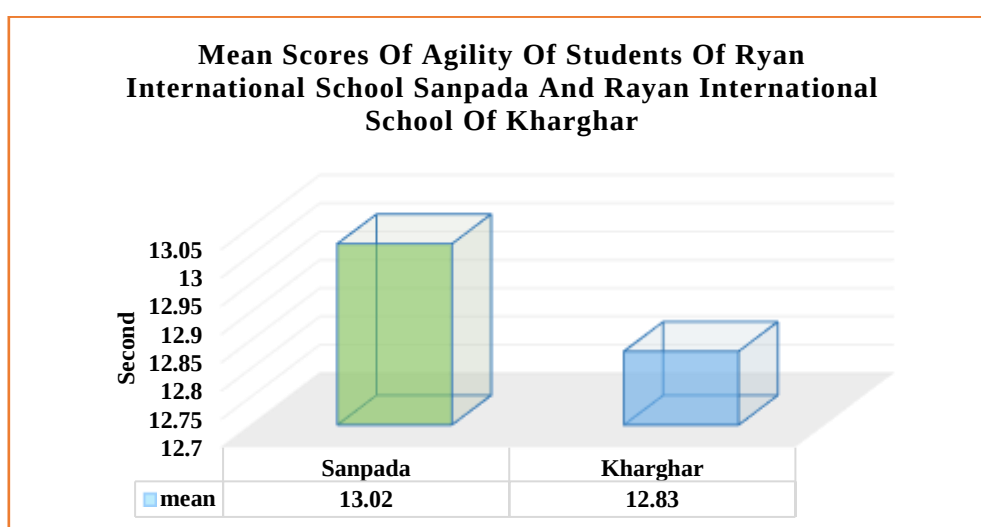
GROUP WISE COMPARISON OF MEAN SCORES OF POWER

The objective was to compare Mean Score of agility of students of Ryan International School, Sanpada and Ryan International school, Kharghar. The data were analysed with the help of t-Test and results are given in table.

Table: Group wise Mean, SD, N and t-value of power of club players

TEST	mean	sd	N	t-value	OR	remarks
Sanpada	13.02	0.93	30	0.75	OR	P>0.05
Kharghar	12.83	1.07	30			

*significant at 0.05



RESULT

The mean scores of agility of Ryan International school, Sanpada is 13.02 which is significantly not higher than Ryan International School, Kharghar which is 12.83. It may therefore be said that agility of Ryan International School, Sanpada students is superior to Ryan International school, Kharghar students.

CONCLUSION

On the basis of the finding of the present study it can be concluded that in case of agility students of Ryan International school, Sanpada are superior over the students of Ryan International school, Kharghar.

RECCOMENDATIONS

- The following recommendations have been forwarded in the light of present study.
- Similar study can be conducted on students of other schools
- A similar comparative study may be conducted on students belonging to different groups.
- Similar study can be conducted on players of various games and sports.
- Similar study can be conducted on comparison between male and female.

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A COMPARATIVE STUDY OF SELECTIVE MOTOR FITNESS COMPONENT OF KARATE AND KICKBOXING PLAYERS OF MUMBAI SUBURBAN

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Abstract

This study, "A Comparative Study of Selective Motor Fitness Component of Karate and Kickboxing Players of Mumbai Suburban," explores the power attributes of male karate and kickboxing athletes aged 13-15 from Govandi, Mumbai. Karate, emphasizing strikes and defensive techniques, and kickboxing, a hybrid combat sport blending karate, Muay Thai, and boxing elements, form the focus of this comparison.

The objective was to compare the power levels of these athletes, measured through the standing broad jump test. Using convenience sampling, data were collected from two clubs in the region. Statistical analysis through an independent t-test showed mean power scores of 1.66 meters for karate players and 1.67 meters for kickboxing players, with a mean difference of 0.01 meters. The t-value of 0.35 indicated no statistically significant difference ($p > 0.05$). The findings suggest that while kickboxing players demonstrated slightly higher power, the difference is not significant. The study concludes that kickboxing athletes may have a minor edge in power but recommends further research incorporating psychological factors and additional fitness components for a more comprehensive understanding of athletic performance in these disciplines

Keywords: Kickboxing, Karate, Muscular Endurance

INTRODUCTION

Karate is an empty hand self-defence technique used for striking with punches, kicks, knee strikes, elbow strikes, open hand technique called as knife hand, spear-hand and palm-heel strikes, vital points strikes, throws etc. are taught. In this hands and legs are used to attack and control on an opponent. Karate is classified into various categories. Namely Budokan, Shotokan, Goju-ryu, Shito ryu, Uechi-ryu, Wado-ryu, Shorin-ryu, Ashihara, etc. in the following passage the founder of karate (Budokan) and from where the technique developed is mentioned in detail. (Japanese: empty hand unarmed martial-arts discipline employing kicking, striking, and defensive blocking with arms and legs. Emphasis is on concentrating as much of the body's power as possible at the point and instant of impact. Striking surfaces include the hands (particularly the knuckles and the outer edge), ball of the foot, heel, forearm, knee, and elbow. All are toughened by practice blows against padded surfaces or wood. Pine boards up to several inches in thickness can be broken by the bare hand or foot of an expert. Timing, tactics, and spirit, however, are each considered at least as important as physical toughening. In sporting karate and sparring (kumite) in training, blows and kicks are stopped short, preferably within an inch of contact. Sporting matches commonly last about three minutes, to a decision, if neither contestant has scored a clean "killing" point in the estimation of the judges. Contests of form (kata) are also held, in which single competitors perform predetermined series of movements simulating defense and counterattack against several opponents. Performances are scored by a panel of judges, as in gymnastics.

The Origin of Karate

Karate as we know it today originated from ancient fighting arts which began thousands of years ago. Drawings of men in karate-like stances are found on the wall of an ancient Egyptian tomb dated around 5000 years ago. Karate blocking techniques are also found in some Babylonian artworks dating back 3000 to 2000 B.C. It is thought that karate fighting principles were introduced to India through Turkey and were further developed into a much more sophisticated fighting art called Kalaripayattu. Kalaripayattu is still practiced today in India. It is considered the mother of all martial arts and is believed to be one of the oldest surviving martial arts with over 3000 years of history. Kalaripayattu includes strikes, kicks, grappling, preset forms, weaponry, and healing methods. Students will first learn physical exercises to strengthen the body and mind before proceeding to wooden weapons and then metallic weapons. Finally, advanced students will be taught techniques to defend themselves without using weapons like locking, gripping, and throwing.

Karate in India

Karate is one of the most popular and practiced martial arts in India. Because of Its simplicity & incredibly fast application time. Karate originated in the island of Okinawa with the influence of Chinese Gong Fu which, in turn had been influenced by ancient Indian martial arts. Hence, Karate is indirectly related to India. Karate is a striking based martial art, which includes punches, blocks, kicks and open hand strikes. It does not require full contact sparring like boxing and MMA. This makes it safer for children. These factors contribute the growth of Karate worldwide.

Kickboxing

It is a group of stand-up combat sports based on kicking and punching, historically developed from karate mixed with boxing, with Taekwondo, Muay Thai, and Savate also having some influence. Kickboxing is practiced for self-defense, general fitness, or as a contact sport. Japanese kickboxing originated in the late 1950s, with competitions held since then. American kickboxing originated in the 1970s and was brought to prominence in September 1974, when the Professional Karate Association (PKA) held the first World Championships. Historically, kickboxing can be considered a hybrid martial art formed from the combination of elements of various traditional styles. This approach became increasingly popular since the 1970s, and since the 1990s, kickboxing has contributed to the emergence of mixed martial arts via further hybridization with ground fighting techniques from Brazilian jiu-jitsu, and folk wrestling. There is no single international governing body. International governing bodies include the World Association of Kickboxing Organizations (also known as WAKO), World Kickboxing Association, International Sport Karate Association, International Kickboxing Federation, and World Kickboxing Network, among others. Consequently, there is no single kickboxing world championship, and champion titles are issued by individual promotions, such as Glory, ONE Championship, K-1, SUPERKOMBAT and Kunlun Fight among others. Bouts organized under different governing bodies apply different rules, such as allowing the use of knees or clinching. 5 History of kickboxing Since kickboxing is a broad term, understanding the history can be somewhat difficult. Some of the earliest forms of kickboxing included the various Southeast Asian martial arts especially Muay, which developed into modern Muay Thai. However, in terms of modern competition, it was during the 1950s that a Japanese karate named Tatsuo Yamada first established an outline of a new sport that combined karate and Muay Thai. This was further explored during the early 1960s, when

competitions between karate and Muay Thai began, which allowed for rule modifications to take place. By the middle of the decade the first true kickboxing events were being held in Osaka.

OBJECTIVE OF STUDY

- To compare the mean scores of power of kickboxing and karate players of Mumbai Suburban

HYPOTHESIS OF THE STUDY

Hypothesis to be tested are sought below_

H01: There is no significance difference in mean scores of power of kickboxing and karate players of Mumbai Suburban.

LIMITATION OF THE STUDY

The following limitations are considered as under_

- There will be no control on the diet of the subjects.
- There will be no control on day-to-day activities of the subject

DELIMITATIONS OF THE STUDY

The following delimitations are considered as under_

- The study was delimited to the Male players of karate and kickboxing
- The study was delimited to the players of govandi locality of Mumbai Suburban
- The study was delimited to the power of the Karate and kickboxing players of Mumbai Suburban
- The study was delimited to boys players aged of 13-15

METHODOLOGY

RESEARCH DESIGN

- The present study was conducted by adopting comparative study of research.
- The researcher was personally go to the selected clubs along with his assistance and collect data on power of karate and kickboxing players.

SAMPLE SIZE

There are 21 clubs of Karate and kickboxing in the Mumbai Suburban region in which the researcher taken 2 clubs from the Govandi regions as per his convenience. So, the research is under the head of non-probability sampling as Convenience sampling.

VARIABLES AND TOOL USED

The following criterion measures included record the reading of various test items of

VARIABLE	TEST	CRITERION MEASURES
Power	Standing Broad Jump	Centimetre

STATISTICAL PROCEDURES USED AND JUSTIFICATION (t-test)

The analysis of the data collected by the researcher has been presented in this chapter Comparison Was done between two group by independent 't' test

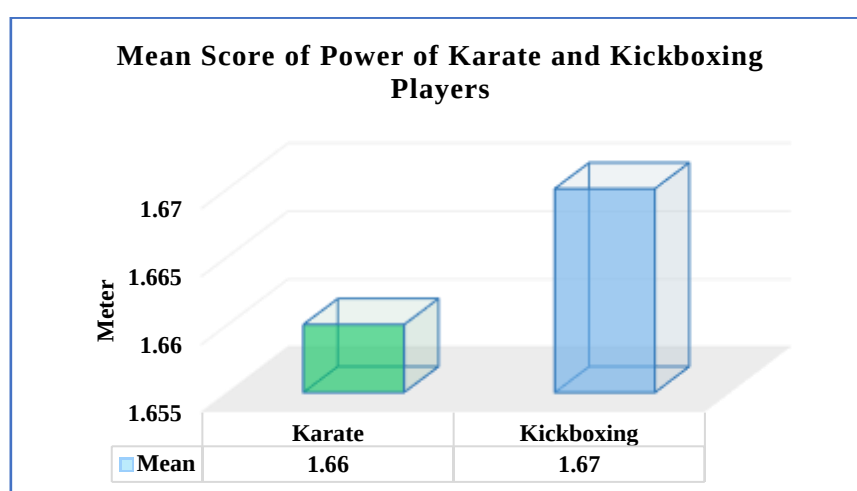
GROUP WISE COMPARISON OF MEAN SCORES OF POWER

The objective was to compare Mean Score of Power of Karate and Kickboxing boys players. The data were analysed with the help of t-Test and results are given in table.

Table: Group wise Mean, SD, N and t-value of power of club players

Test	Mean	Sd	df	N	t-value	remarks
Karate	1.66	0.22	98	50	0.35	p>0.05
Kickboxing	1.67	0.22		50		

*Significant at 0.05



RESULT

In case of Power measured by standing broad jump, the mean of the karate players and kickboxing players is 1.66 and 1.67 respectively whereas the difference in mean is 0.01 which is in favor of kickboxing players. The 't' value of the same is 0.35 which is not significant at 0.05 (P>0.05) level.

CONCLUSION

On the basis of the finding of the present study it can be concluded that in case of power kickboxing male players are superior over the karate male players.

RECOMMENDATIONS

From the results finding and conclusion it recommended as under_

- Similar comparative study may be conducted by taking psychological variables along with other physical components.
- A similar study may be conducted on only taking one component of General Motor Ability.
- A similar study may be conducted on the other institution to know the status of various physical abilities of the student.

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EFFECTIVE OF KARATE TRAINING PROGRAMME FOR THE DEVELOPMENT OF FLEXIBILITY OF SCHOOL STUDENTS

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Abstract

This study examines the effect of Karate training on flexibility in school students, employing an experimental design with an experimental group and a control group. Fifty students were randomly divided into either a Karate training programme (n=25) or no training (n=25). Flexibility was measured with the sit and reach test and by pre-test scores as a covariate. One-way ANCOVA analysis showed significant difference in the adjusted mean values of flexibility scores between Karate training group (7.99) and control group (7.04), which demonstrated a significant F-value of 31.57 (p 0.01). These results provide evidence that a structured Karate exercise programme can have a major positive effect on school children's flexibility and thus they highlight the more general physical advantages of martial arts training. The findings of the study are also of importance in shaping physical education programs and fostering physical fitness at the whole body level in adolescents.

Keywords: Karate, Group Training, Flexibility

INTRODUCTION

The karate is derived from Japanese words 'Kara' means empty and 'Te' means hand. Karate was originally known as Kenpo as it had its origination from China, Chinese Tang Dynasty. Karate was developed in the Ryukyu kingdom, Ryukyu Islands in what is now Okinawa, Japan. Karate has contributed for the development of Physical, Mental, Emotional, Social and Spiritual Values. The Karate exercise involves different types of fitness parameters such as Agility, Flexibility, Muscular Endurance, Neuromuscular Coordination, Reactions, Power, Speed and Balance. Karate helps to control over fear, tension and psycho-physiological factors & also improves physical vigour. It gives rise to self-realization, self-confidence and enriches balance personality.

Karate is very ancient martial art. The era of karate can be divided into two: Ancient age and Modern age. Gradually the word "Karate" is being understood as a way of combat with empty hands. The word now stands for a method of combat using conceivable part of the body which can be employed as a dangerous weapon.

CONCEPT OF KARATE

Karate is defined as "Empty Hand". A Karate practice is primarily characterized by linear punching and kicking techniques.

FLEXIBILITY (KANSAL, 2012)

Flexibility may be defined as "the range of motion around a joint as determined by the elasticity of the muscles, tendons and ligaments associated with the joint under consideration".

OBJECTIVE OF THE STUDY

To compare adjusted mean scores of Flexibility as measured by sit and reach test, of experimental and control group by taking pre flexibility as covariate.

METHODOLOGY

DESIGN OF THE STUDY

This experimental design consists of an experimental group and control group, which was compared for testing the effect of Karate training on flexibility. The selected 50 students were divided into two equal groups i.e. one control group (n=25) and the second experimental Group (n=25) the experimental group had received Karate training for six weeks and the control group did not receive any karate training and it was treated as control group. Both groups did not have any control on their daily routine and other activities.

INDEPENDENT VARIABLES

The selected independent variable of this study is as under.

1. Horse Stance (Kiba Dachi)
2. Forward Stance (Zenkus Dachi)
3. Face Punch (Jodan Zuki)
4. Stomach Punch (Chudan Zuki)
5. Front Kick (Mai Geri)
6. Side Kick (Yoko Geri)
7. Snap Kick (Mavashi Geri)
8. Back Kick (Ushiro Geri)
9. Front Jumping Kick (Nidan Geri)
10. Upper Rising Block (Age Uke)
11. Downward Block (Gedan Barai)
12. Outer Block (Soto Uke)
13. Inner Block (Uchi Uke)

DEPENDENT VARIABLE

The selected dependent variable of this study is as under:

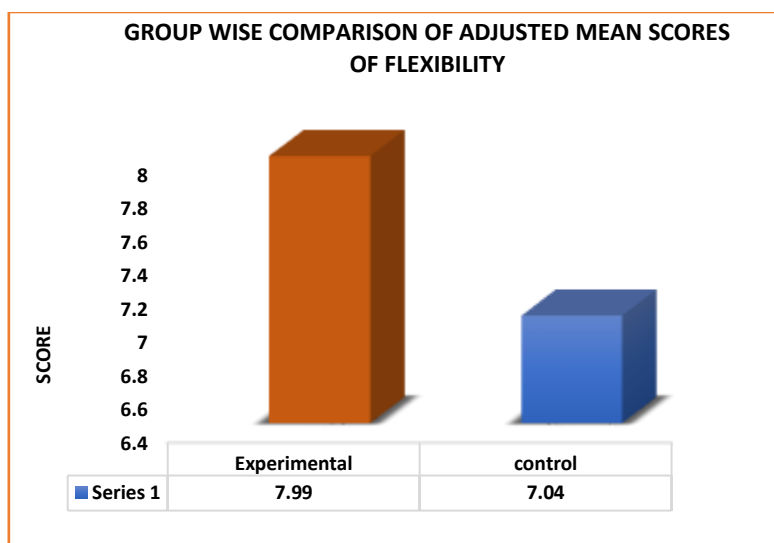
Sr. No.	Variable	Test	Unit
1.	FLEXIBILITY	Sit and Reach	cm

SUMMARY OF ONE-WAY ANCOVA OF FLEXIBILITY BY TAKING PRE FLEXIBILITY AS COVARIATE

Source of variance	df	SSy.x	MSS.x	Fy.x	Remark
Group	1	10.862	10.86	31.57	P<0.01
Error	47	16.169	0.34		
Total	49				

From Table it can be seen that the adjusted F-value is 31.57 which is significant at 0.01 level with df=1/49 when Pre- Flexibility was taken as covariate. It shows that adjusted mean scores of Flexibility of School Students of Karate Training Group and Non-Karate Training group differ significantly when pre-Flexibility was taken as covariate. Thus, the Null Hypothesis that there is no significant difference in adjusted mean scores of Flexibility of School Students of Karate Training Group

and Non-Karate Training group by taking pre-Flexibility as covariate is rejected. Further, the adjusted mean scores of Flexibility of Karate Training group is 7.99. Which is significantly greater than that of Non- Karate Training group where adjusted mean scores of Flexibility is 7.04. It may, therefore, be said that Karate Training group was found to be effective in increasing Flexibility of School Students than that of Non- Karate Training group where pre-Flexibility was taken as covariate. The result is also presented graphically in Figure.



MEAN SCORE OF FLEXIBILITY

FINDINGS

The results have been summarized as below:

There was significant difference between adjusted mean scores of Flexibility of Students of Thane District of Karate Training Group and Non-Karate Training group by taking Pre-Flexibility as Covariate ($F_{y,x} = 31.57$, $df = 1/47$, $p < 0.01$) Therefore, the adjusted mean scores of Flexibility of Handball Training Group is 7.69 which is significantly higher than that of Non- Karate Training Group which is 6.80. Thus, the overall performance scores of both the groups Karate Training Group and Non-Karate Training Group of Flexibility were not equal.

DISCUSSION

The objective of this study was to see the Effectiveness of Karate Training Programme on The Basis of Flexibility of School Students.

In case of Total Flexibility of Karate Training Group, it is found that there is significant difference as compared to Non-Karate Training Group hence the hypothesis sought that - H_0 2 There is significant difference in adjusted mean scores of Total Flexibility of School Students of Karate Training Group and non-Karate Training group by considering Pre Total Flexibility as covariate is rejected.

CONCLUSION

The above result helps to conclude that –

The Karate Training Programme was found to be helpful to improve Fitness parameters variables such as Flexibility.

Karate training for the period of six weeks is effective to improve the Flexibility variable Of school boys.

RECOMMENDATIONS

1. It is recommended that the karate training may be incorporated as an activity in the training scheduled.
2. Investigation on other age group can also be considered for study.
3. Similar study may be conducted on Female students.
4. Study may be conducted on other parameters of fitness.

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A COMPARATIVE STUDY OF MUSCULAR STRENGTH UNDER GRADUATE STUDENTS OF BPED PROGRAMME OF MUMBAI AND GOA

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Abstract

This study examines the muscular strength differences between Bachelor of Physical Education (BPED) students from Mumbai and Goa, focusing on the comprehensive benefits of physical education. Employing a descriptive research methodology, the research included 200 participants, evenly split between the two locations, who completed a standardized One Minute Push Up Test to evaluate their muscular strength. The analysis revealed that the average muscular strength scores for BPED students in Mumbai (36.40) and Goa (37.02) were statistically similar, with a t-value of 0.36 at a significance level of 0.05. This finding indicates that both cohorts exhibit similar levels of muscular strength, underscoring the vital role of physical education in promoting overall health and fitness. The results enhance the understanding of health-related physical fitness and its essential contribution to the educational growth of students, emphasizing the need for an integrated approach to physical and mental health within physical education programs.

Keyword: - Muscular strength, Bachelor of physical education, BPED students, Mumbai, goa

INTRODUCTION: -

Physical education is not only physical rather it is the all-round development. Due to which it is necessary to pay attention to all sides and not only physical. H.C Buck states that "Physical Education is that part of the general Education programme which is concerned with the growth, development and education of children through the medium of big muscle activities. It is education of the whole child by means of physical activities. Physical activities are the tools. They are so selected and conducted as to influence every aspect of child's life, physically, mentally, emotionally and morally".

Physical Education has an influence on mental health too and not just on physical health. For overall development of the child it is mandatory to pay attention to both physical and mental health. The word mental health does not refer to any one aspect of mental life or to any one dimension of human personality. It circumscribes all aspects of the individuals to have a good mental health.

Physical fitness is the most noticeable and workable condition in which the individual is truly supposed to be running efficiently and effectively. "It is the body's ability to be able to withstand whatever life throws its way! Sprinting, jumping, walking, and playing with grandchildren..... Physical fitness is specific to the individual and therefore training to improve and maintain it should be as well" says Sarah E Rippel.

Health related physical fitness is also known as general fitness. It means activities that are done in order to try to improve the physical health of a human being to stay well. Health related fitness helps to have enough energy to avoid fatigue and to simply enjoy life. Health Related Physical Fitness improves quality of life. If the health related fitness is excellent then it builds a good foundation to fitness and well-being.

CONCEPT OF MUSCULAR STRENGTH

Muscular Strength is the ability of the muscle to put maximum force against a resistance.

- **Muscular Strength:** -

The maximum amount of force a muscle or group of muscle can exert in a single effort. It can be pulling or pushing. Muscular Strength can be measured by one min push up test or measuring the standing broad jump.

- **Objectives of the study**

To compare the mean Scores of Muscular Strength Under Graduate Students of BPED Programme of Mumbai and Goa.

METHODOLOGY: -

DESIGN OF THE STUDY

The study was a comparative study between Under Graduate Students of BPED Programme of Mumbai and Goa.

The study was survey in nature under the heading- Descriptive Research.

In the study, the researcher personally visits the pre-selected/decided colleges in the predetermined time slot given by the colleges along with a team of assistants, consisting of 3-4 members. Physical tests was used for collecting data / information from the students.

Physical tests that was used for the survey method were as under:

- One Min Push up Test to test the Muscular Strength of the subjects. The study was survey in nature under the heading- Descriptive Research.

SELECTION OF SAMPLE

The researcher Selected the test with the help of two hundred (n=200) college students from 2 predetermined of affiliated Mumbai University BPED students and Goa as samples for the study.

The researcher randomly selected Under Graduate Students of BPED Programme of Mumbai and Goa from colleges.

SELECTION OF PHYSICAL TEST:

SR.NO	VARIABLES	TEST	UNIT
1	Muscular strength	One Min Push Up Test	Total No

PUSH UPS TEST (ref. Health and Physical Education Book)

- **Objectives:** To measure the Muscular strength of the arms.
- **Concept:** Maximal contraction power of the muscle is known as Muscular Strength. Muscular Strength is the amount of resistance that a muscle or group of muscles can move. E.g. to lift any heavy weight.
- **Equipment:** Stopwatch, carpet, pen, score sheets.
- **Procedure:** Before starting the subject is asked to keep his/her both hands straight from shoulder and palm on the ground, by keeping equal distance to the shoulders. Keep the legs straight and close (dips position) on the ground. At the signal 'start', go down by bending both the elbows (by keeping 90° angle) and by keeping rest of the body parallel to the supporting

surface, without touching chest, waist and knees to the ground and should come up to the original position which will be considered as one complete pushup. Perform this action continuously for maximum number of times in one minute (60 seconds).

- **Scoring:** Record the number of push-ups executed in one min and marks out of 10 will be given as per ready reckoner enclosed.
- **Instruction:**
 1. Subject should not touch trunk to the ground.
 2. If subject do not keep body parallel to ground otherwise, push-ups will not be counted.
 3. Subject should keep the elbows close to the body.

STATISTICAL ANALYSIS: -

GROUP WISE COMPARISON OF MEAN SCORES OF SCULAR STRENGTH

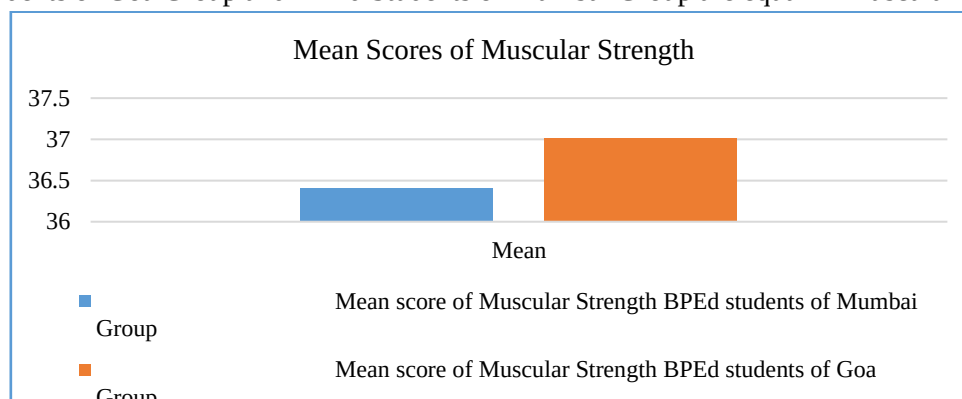
The second objective to compare the mean scores Muscular Strength of Under Graduate Students of BPED Programme of Mumbai and Goa. The data were analyzed with the help of t-Test and results are given in Table.

Table: Group wise Mean, SD, and t-value of Muscular Strength

Group	Mean	SD	N	t-value	Remark
BPED Students of Mumbai Group	36.40	14.24	100	0.36	P> 0.05
BPED Students of Goa Group	37.02	9.30	100		

*Significant at 0.05

From Table it can be seen that t-value is 0.36 which is significant at 0.05 level with df= 198. It indicates that mean scores of BPED Students of Mumbai Group and BPED Students of Goa Group not differ significantly. Thus, the Null Hypothesis that is no significant difference in Mean Score of Muscular Strength of BPED Students of Mumbai Group and BPED Students of Goa Group is failed to reject. The mean scores of Muscular Strength of BPED Students of Mumbai Group is 36.40 which is significantly lower than the BPED Students of Goa Group which is 37.02. It may therefore be said that BPED Students of Goa Group and BPED Students of Mumbai Group are equal in Muscular Strength.



Mean Scores of Muscular strength

DISCUSSION:

Physical fitness is recognized as one of the primary objectives of physical education and sports. The main objective of Physical Education is the wholesome development of the individual which includes physical, mental, emotional, spiritual social wellbeing of the individual.

The first thing which comes in the mind when we think about Physical Education student is fitness but in fact the students should not only have physical fitness rather it includes mental health too.

Fitness is the capacity to carry out daily routine activities without undue fatigue but if you're mental health is not proper then the physical work to gets effected. Physical fitness and mental health are interconnected. Which help in the maximum work production. If one doesn't function properly, it had the effect on the other. Now a day the fitness of the students is decreases as compared to olden days due to online social life and online games.

It can be seen that t-value is 0.36 which is significant at 0.05 level with df= 198. It indicates that mean scores of BPED Students of Mumbai Group and BPED Students of Goa Group not differ significantly. Thus, the Null Hypothesis that is no significant difference in Mean Score of Muscular Strength of BPED Students of Mumbai Group and BPED Students of Goa Group is failed to reject. The mean scores of Muscular Strength of BPED Students of Mumbai Group is 36.40 which is significantly lower than the BPED Students of Goa Group which is 37.02.

CONCLUSION:

On the basis of results and findings study can be concluded as follows:

There is no significant difference in the level of Muscular Strength between Under Graduate Students of BPED Programme of Mumbai and Goa.

RECOMMENDATIONS:

- The following recommendations have been forwarded in the light of present study.
- Similar studies can be conducted on other professional courses.
- Similar studies can also be undertaken to compare psychological variables.
- A similar comparative study may be undertaken on other geographical regions of India.
- A similar comparative study may be undertaken by selecting a specific gender.
- Similar studies can also be undertaken to compare physical fitness components.
- Similar studies can also be undertaken to compare physiological variables.
- A similar comparative study may be undertaken by selecting athletes of Mumbai and Goa.
- The study finding may inspire to physical education researcher, coaches and education institutes for the future study.

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AN INVESTIGATION OF WORKING CONDITIONS OF OCCUPATIONAL STRESS OF KHO-KHO OFFICIALS OF MUMBAI CITY

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Abstract

Occupational stress refers to the physiological, psychological, and behavioural responses that are associated with the demands and pressures arising from one's job or occupation. Professional individuals experience when faced with work-related demands that exceed their ability to cope effectively. Working Conditions is one of the components of Occupational Stress.

It means the factors such as the physical workspace, safety measures, equipment availability, workload, work hours, flexibility, relationships with colleagues and supervisors, and overall work environment. Positive working conditions contribute to employee's overall job satisfaction, performance, and overall well-being. In this piece of research, the researcher studied the topic entitled, "An Investigation of Working Conditions of Occupational Stress of Kho-Kho Officials of Mumbai City". The objective of the study is to Study the Status of Working Conditions of Occupational Stress of Kho-Kho officials of Mumbai city. 73 Kho-Kho officials from different Kho-Kho Club/Institutions of Mumbai City were selected as sample for the study by using Convenience Sampling Technique. Custom Made Questionnaire was used for the Study. In order to see the status of Working Conditions of Occupational Stress, Standardization of Scores & Percentage of Scores were taken. From the findings, we can say that, maximum officials have below average Working Condition while officiating and very few Officials have Extremely High Working Condition.

Key Words: Working Conditions, Occupational Stress

INTRODUCTION:

Occupational stress refers to the physiological, psychological, and behavioural responses that are associated with the demands and pressures arising from one's job or occupation. Professional individuals experience when faced with work-related demands that exceed their ability to cope effectively. Working Conditions is one of the components of Occupational Stress. It means the factors such as the physical workspace, safety measures, equipment availability, workload, work hours, flexibility, relationships with colleagues and supervisors, and overall work environment. Positive working conditions contribute to employee's overall job satisfaction, performance, and overall well-being. In this piece of research, the researcher studied the topic entitled, "An Investigation of Working Conditions of Occupational Stress of Kho-Kho Officials of Mumbai City".

Aim:

This study is conducted to Investigate Working Conditions of Occupational Stress of Kho-Kho Officials of Mumbai City

Objective:

To study the status of Working Conditions of Occupational Stress of Kho-Kho officials of Mumbai city.

Assumption:

A1: It assumed that there is high level of Working Conditions of Occupational Stress of Kho-Kho officials of Mumbai city

METHODOLOGY:**Selection of Sample**

73 Kho-Kho officials from different Kho-Kho Club/Institution of Mumbai City were selected as sample for the study by using Convenience Sampling Technique.

Research Design

This is Survey Study under the heading of Descriptive Research.

Variable: Working Condition (Occupational Stress)**Tools/Instruments**

Sr. No.	Variable	Tools	Score
1	Working Conditions	Custom Made Questionnaire	Scores

PROCEDURE OF THE STUDY

The researcher visited the selected Clubs and Institutions to get the questionnaires filled by the officials and when it was not possible in the Club and Institution then visited them personally, of selected Kho-Kho Officials with self-explanatory instructions to fill and submit the questionnaire.

Table 1 Scoring System

Sr. No	Type of Items	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	True	1	2	3	4	5
2	False	5	4	3	2	1

Statistics

In order to see the status of Working Conditions of Occupational Stress Standardization of Scores & Percentage of Scores were taken.

RESULT AND DISCUSSION OF THE STUDY:**RESULTS OF WORKING CONDITION OF OCCUPATIONAL STRESS****SCORE WISE, PERCENTAGE WISE STATUS OF WORKING CONDITION OF OCCUPATIONAL STRESS OF KHO-KHO OFFICIALS OF MUMBAI CITY**

The objective was to study the Status of Working Conditions of Occupational Stress of Kho-Kho Officials of Mumbai City

Table 2: Score Wise, Percentage Wise Status of Working Condition of Occupational Stress of Kho-Kho Officials of Mumbai City

Level of Working Condition	Scores	Percentage
Extremely High	2	2.74
High	9	12.33
Above Average	10	13.70
Average	23	31.51
Below Average	26	35.62
Low	3	4.11
Extremely Low	2	2.74

From Table 2, It can be seen that 2.74% Kho-Kho Officials have Extremely Working Condition, 12.33% have high Working Condition, 13.70% have above average stress, 31.51% have above Working Condition, 35.62% have below average Working Condition, 4.11% have low Working Condition and 2.74% have Extremely Low Working Condition. Hence it can be seen that maximum officials have Below average Working Condition while officiating.

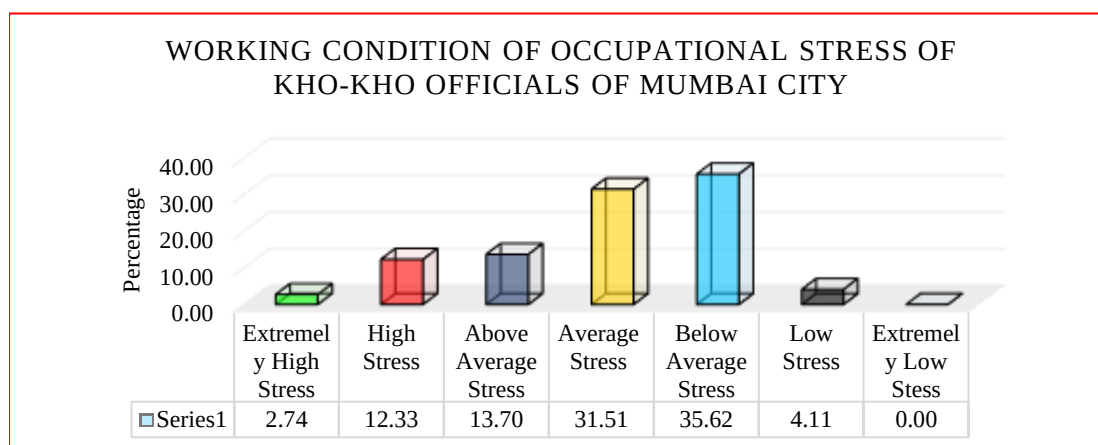


Figure 1: Score Wise, Percentage Wise Status of Working Condition of Occupational Stress of Kho-Kho Officials of Mumbai City

CONCLUSION

In case of Working Conditions of Occupational Stress from the findings we can say thatat maximum officials have Below average Working Condition of Occupational Stress while officiating and very few Officials have Extremely High Working Condition of Occupational Stress.

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EFFECT OF MORNING EXERCISE ON THE PSYCHOLOGICAL WELL-BEING OF HIGH SCHOOL FEMALE STUDENTS

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Abstract

It seems necessary to have a better and more accurate recognition of the strategies affecting the students' psychological well-being level in order to enhance their mental health. There have been few studies in this respect, hence considering the effective role of physical activities on mental well-being and also the ways one can improve the students' psychological well-being state, it becomes clear that the need for a proper research is inevitable. Seventy students were randomly chosen. After answering the health and physical activities questionnaire and psychological well-being questionnaire, were divided into two groups of control and experimental. The heights, weights and the BMIs of the subjects were also measured. The subjects did a selected aerobic exercise accompanied by music for seven days. After the sessions, the psychological well-being questionnaire was answered again by the control and experimental groups. The results show that morning exercise has a meaningful effect on the psychological well-being of the students. Also, the morning exercise, has meaningful effect on psychological well-being micro scales, such as environmental mastery, autonomy, positive relations with others, self-acceptance, and purpose in life, but it has no meaningful effect on personal growth.

Key word: Psychological Well-Being, morning exercise, environmental mastery

INTRODUCTION

“Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.”

The positive and negative dimensions of this definition are considered by Downie et al. (1996). In the first section of the definition, they believe that health is regarded as positive concept (positive quality: well-being). In the second section of the definition, health is considered as a negative aspect that is the absence of disease or infirmity. By taking these dimensions into consideration, the definition can imply that the true health includes both preventing from in firmer or disease and improving the positive health [1].

Despite the emphasis of aforementioned definitions on positive aspects, health experts are often so much focused on the diseased people's problems that they forget the healthy individuals' needs. In other words, the mental health centers, instead of paying attention to the positive aspects of health, are more occupied with inhibiting and curing the diseases (Pilgrim, 1997) [4]. However, World Health Organization defines the mental health as “a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (2004) [4].

Some of the researchers conceptualize well-being in case of components and special processes like emotional processes (Roothman et al. 2003) and some others, emphasize on the physical processes and maintain that there is a relation between high physical health and high life quality (Pastin ,1992).

Therefore, one must not simply take well-being as an equivalent for a more experiencing of pleasure rather than pain; instead well-being should involve an effort for completion and absolution of the individual's real potential forces [4].

Ryff & Keyes (1995) claimed that the constructive components of the psychological well-being, includes six factors:

- 1) Autonomy: A feeling of self-determinism and independence, being able to resist social pressures to think and act in certain ways; evaluating self by personal standards.
- 2) Environmental mastery: A sense of mastery and competence in managing the environment, to choose or create appropriate personal relationships
- 3) Personal growth: A feeling of continued development and its potential, being open to new experiences, a sense of increasing self-knowledge and effectiveness.
- 4) Positive relations with others: Having warm, satisfying, trusting relationships with others; being concerned about the welfare of others; being capable of strong empathy, affection, and intimacy
- 5) Purpose in life : Having goals in life and a sense of directedness and feeling there is meaning to present and past life; holding beliefs that give life purpose
- 6) Self-acceptance: Possessing a positive attitude toward the self; acknowledging and accepting multiple aspects of self, feeling positive about past life [17].

The category of psychological well-being is important because ignoring them can lead to disappointment, lack of motivation for any kind of attempt and a decline in social, economic, cultural and sanitary activities, and in a wider context, it can affect the socio-economic development of a country. In other words, by improving the well-being we have stepped toward the society's health improvement, and this issue is exactly in the direction of development and is the ultimate goal of any government.

Physical education, by simultaneously expanding the dynamic and educational activities and relying on the group activities, causes the characteristic aspects [3]. Therefore, physical education activities and sport are combined with mental education, and each dynamic experience or physical change, involves a mental experience or change [6].

Caruso & Gill (1992) in a study maintain that participating in athletic exercise and physical activities would bring about, physiological, psychological and physical fitness. The psychological advantages of those activities includes stress reduction, increase in self-confidence and temperament improvement [6].

L.J. Besenski (2009), in investigating the health improvement via physical activities also found that physical activity can be effective for improving the well-being of students. He showed that the pleasure experience during the activity is the basis of need satisfaction in case of well-being, in such a way that, the ones who had good and pleasing experiences during the activity, were in higher levels of well-being [13]. Also, the relation between the psychological skills and psychological well-being was proposed by David Edwards & Ben STEYN (2008); the results showed that the psychological well-being factors (the six factors), have evident overlaps with psychological skills (arousal, mental imagery, concentration, confidence, goal-setting and motivation) [9].

The results of the studies, shows that sport or organized physical activity, is an effective factor in developing the health and happiness of all the layers of society , and also demonstrates that the students' spirit and happiness as one of the major sections of society, guarantee the mental health of the

future community.

Achieving this goal is possible by physical education courses and executing organized athletic activities in schools, and also morning exercises can be done as the organized activities which do not need equipped athletic spaces and advanced facilities. Morning exercise does not take much time, so it can be placed in the schools' curriculum, without disrupting the general process of school work [3]. By considering the constructive role of students in society and also their psychological aspects, one can see that determining the ways we can help students in developing psychological and physical aspects is very important. Guiding them in personal and social tasks and helping them in forming their characteristics as effective citizens, are the key reasons of considering long-term planning for this layer of society. Moreover, for decreasing the rate of diseases and the consequences of people's inaction in society, we should look upon the students' role in the society's future more and more.

Although, many studies have shown that sport and physical activities are effective in improving health and spirit of the individuals, few studies have focused on the morning exercise which may be one of the most effective and the most economical approaches in increasing the students' efficiency and spirit [3].

Elsie et al. (2009), investigated the effect of dance on physical and psychological well-being in older persons. According to a 12-week exercise program of physical and psychological well-being in older persons, they showed that the exercised group, had a better feeling in state improvement in case of physiological and mental indexes, compared to the ones who had not exercised [12].

In the investigations done by Sarah and Kevin (2006), on the effect of athletic participation on the teenagers' emotional well-being, it was shown that the increase in participation in athletic activities has a positive relation with the behavioral and emotional well-being aspects, especially with the self-concept [19].

Stephen Edwards (2006), in investigating the effect of physical activity on the mental well-being of the club athletes, found that organized exercise causes general well-being enhancement especially in cases of temperament, lifestyle, life satisfaction, feeling of progress, endurance, stress management and compatibility [21].

Thorsten et al. (2009), in their research, studied the effect of aerobic motions and fitness programs on the psychological and physical performance of men and women. By using a three-month training course, they found that there is a strong relation between the enhancement of physical state and psychological well-being. They also observed the difference in the physiological and psychological compatibility in men and women after three months of training [22].

MATERIALS AND METHODS

The method used in the research is a semi-experimental one, and a plan consisted of experimental group, pretest, post-test and control group was used. The subjects were divided into two equal groups according to individual characteristics, by using homogenization tests. The homogenization of the control and experimental groups was done by using the scores and identifications obtained by the well-being questionnaire.

The population of the test included 218 high school female students from Barfiwala high school, Andheri, Mumbai, serves as sample for the study. of which 70 students were randomly chosen. After answering the health and physical activities questionnaire and psychological well-being questionnaire,

and disqualifying 10 more students because of regular exercise or being diseased, the rest were divided into two groups of control and experimental. The heights, weights and the BMIs of the subjects were also measured.

Therefore, the subjects did a selected aerobic exercise accompanied by music for seven days. The exercise program included a 5-minute warm up, 10-minute main goal and 5-minute cool-down. The heart rate samples were taken during and after the warm-up, during and immediately after the main activity, and in returning to the premier state [5]. After seven days of music, the average heart rates of the subjects were obtained in two phases of warm-up (50% of maximum heartbeat) and main phase (70% of maximum heartbeat). The subjects did morning exercise for 24 sessions, 5 days a week and for 20 minutes each session [3]. After the sessions, the psychological well-being questionnaire was answered again by the control and experimental groups.

RESULTS

The analysis of the research results shows that morning exercise has a meaningful effect on the psychological well-being of the students. Also, the morning exercise, has meaningful effect on psychological well-being micro scales, such as environmental mastery, autonomy, positive relations with others, self-acceptance, and purpose in life, but it has no meaningful effect on personal growth.

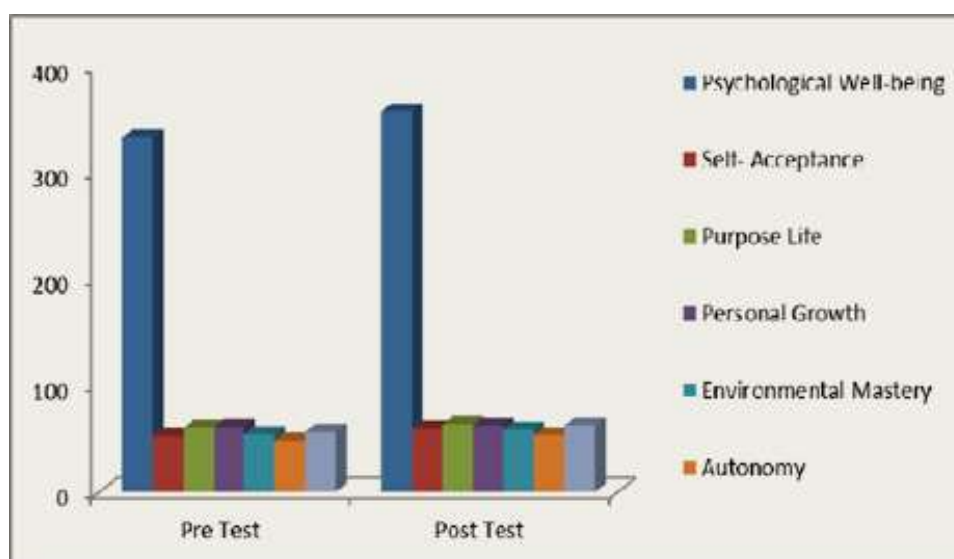


Figure : The comparison between psychological well-being and other factors in experimental group

DISCUSSION AND CONCLUSION

The results of this study, is fully compatible with the results of these studies: Elsie et al. (2009), Michael & Joan (2006), Edwards & Steyn (2008), Sarah & Kevin (2006), Pavey et al. (2006), Stephen Edwards (2006), Thorsten et al. (2009), Eleanor & Joan (2009), L.J Besenski (2009), Ahmadi (2000), Peyravi (1994) [8,5,2,12,16].

Although in these studies, there are heterogeneity in case of kind, repetition, duration, age,

gender and the environmental conditions of the subjects, in all of them, the physical activity has had a meaningful effect on the psychological well-being. In the research of Elsie et al. (2009), like the present study, dancing was used but in that study the subjects were older persons and the sessions were more [5]. Michael & Joan (2006), maintain that the environment and conditions of the exercise is effective in case of well-being [8].

In the study of Peyravi (2004), the subjects were students like those of the present research but in that research, the students were boys and a different questionnaire was completed by the subjects. However, they also came to this conclusion that morning exercise highly reduces the depression and mental pressures and has significant effect in reinforcing the emotions, truthfulness, the spirits and happiness. Also the role of morning exercise on the enhancement of educational and non-educational skills were claimed to be positive and the researcher maintained that morning exercise can have significant effect on the rate of learning. According to the studies done by Najjarzadeh and Piri, it seems that morning exercise has more effects on the mental factors [1].

In general, the studies shows that individuals' participation in athletic activities facilitates the psychological well-being and morning exercise for 10-20 minutes a day, can be the most effective and the most economical way to enhance the students' spirit and efficiency and also it can motivate them in being successful and having an active life [3], and we can provide the opportunities, in which the students by reaching autonomy, can demonstrate their creativity [11]. Therefore, with an organized long-term program like morning exercise, we can have the maximum profit in the country's socio-economic development and by improving the level of health and well-being and by helping to form the students characteristics, we can step toward the society's health improvement and this issue is exactly in the direction of development and is the ultimate goal of any government.

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COMPARATIVE ANALYSIS OF FLEXIBILITY AS A HEALTH-RELATED PHYSICAL FITNESS COMPONENT AMONG COLLEGE BOYS IN MUMBAI

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Abstract

The purpose of the study was to compare the Flexibility Junior College Boys and Senior College Boys of Mumbai. To achieve this purpose researcher selected a sample of 100 Students randomly from a college in Mumbai. To measure the Flexibility between Junior Boys and Senior Boys, standardized sit and reach test was appropriately used to collect the data. The collected data was statistically analyzed by applying Independent Sample t-test. The findings of the study was that the HRPF variable Flexibility t-value was 0.415 which was significant at 0.05 level with $df=98$ among College Junior Boys And Senior Boys. The mean scores of Flexibility of Junior Boys was 5.9400 which was significantly higher than Senior Boys which was 5.6400 Finding of this study shows that Junior Boys are more Flexibility than Senior Boys In Student Age.

Keywords: *HRPF Variable, Flexibility, Sit and Reach test, College students, fitness activity of students/ Junior Boys and Senior Boys.*

INTRODUCTION

Physical fitness is an essential aspect of overall health, particularly during adolescence. During the transition from Junior college and Senior college, students undergo significant physical and psychological changes and it is applicable for all as well. Flexibility depends upon various factors like hereditary, physical practice, body composition, interest toward sports/ fitness activities, injury, age, gender, life style, etc. This comparative study aims to assess and compare the health-related physical fitness components of Junior Boys and Senior Boys providing valuable insights into potential changes during this critical period. Flexibility reflects the efficiency of the Flexibility and muscular system in delivering stretch to working muscles during sustained physical activity. It is associated with a reduced risk of joint injuries, improved energy levels, improved musculoskeletal flexibility and enhanced overall Flexibility. Flexibility directly proportionally related to Endurance. Hence Endurance also improves.

“This applies not only to STUDENTS, but to all of us.”

RATIONALE OF THE STUDY

The present study was conducted on Junior College Boys and Senior College Boys of Mumbai. College students are always rumored to be fit and healthy because 1) they are young 2) one PT period or Free/ Off period is enough for fitness and mental relaxation throughout the week so they don't need physical fitness activities. And moreover “some institutions are thinking ‘Physical Education/ Sports’ is not required like other subjects. This type of institution promotes conventional/Prejudary thinking e.g. Its wastes time and only due to PE they can get injured and PE will create distraction in the study as well”. We need to address this issue to understand the differences in fitness levels of college students and why their fitness levels are declining. Also with the changing times students are becoming more and more prevalent such as mobiles, computers, seating works, sedentary lifestyle, etc. due to excessive use of

technology. Students Physical and mental health is becoming weak and fragile. It is widely happening everywhere like in school, college, private classes who are promoting and enforcing theory only rather than wholesome development of a person. For changes you first inform the government, organizing institution committee or other regulatory authorities and in return they provide a good ground or indoor activity hall for sports and physical activities in the institutional place so that the institution can keep itself healthy and fit.

Objective of the study:

- To Compare mean scores of jr. college Boys and sr. college Boys
- There is no Significant Difference in Mean Scores of jr. college Boys and sr. college Boys

METHODOLOGY

Design of the Study

The present study was Descriptive in nature under the heading of Descriptive Research which provided Comparison between Senior Boys and Junior Boys on Health Related Physical Fitness Variables. The Scores of Flexibility were collected through the standardized physical test.

Population and Sample

A sample of 50 jr. college boys and 50 sr. college boys selected from collage of Mumbai.

Variable and Test

● Flexibility

The tool used in the present study was a standardized physical (Sit and Reach) test, through Flexometer. performed by jr. college boys and sr. college boys of Mumbai.

Statistical procedure

As mentioned in the objectives of the study, data were analyzed with help of the Independent Sample t-Test method of statistical techniques.

RESULT OF THE STUDY

Result on Flexibility Junior College Boys and Senior College Boys Of Mumbai

Objective of the present study was to compare the Mean Score of Jr. college boys and Sr. college boys. The data were analyzed with the help of t-Test and results are given in Table below.

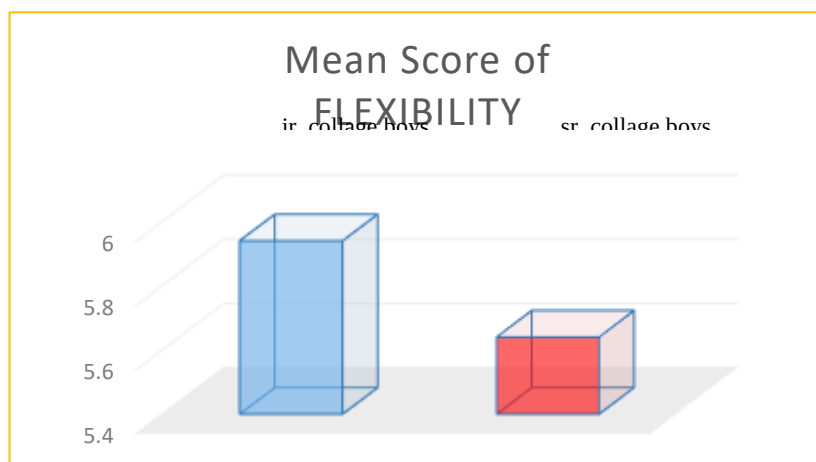
Table: Group wise Mean, SD, N and t-value of Flexibility

Test	Mean	SD	N	t-value
Junior collage boys	5.94	3.70	50	0.41
Senior collage boys	5.64	3.52	50	

*Significant at 0.05

From above table it can be seen that the t-value is **0.41** which is significant at 0.05 level with df=98. It indicates the mean scores of jr. college boys and sr. College boys differ significantly. Thus, the Null Hypothesis that there is no significant difference in Mean Score of Flexibility of junior college boys and senior college boys is rejected. The mean scores of Flexibility of junior college boys is **5.94** which is significantly higher than senior college boys which is **5.64**

. It may therefore be said that junior college boys are superior over the senior college boys in terms of Flexibility. The above result have been also graphically represented in figure



Mean Score of **Junior Boys** and **Senior Boys** of Flexibility

CONCLUSION

On the basis of the result, it can be concluded that:

- Junior college boys are superior over the Senior college boys in terms of Flexibility.

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UTILITY OF PLYOMETRIC EXERCISES FOR THE PROMOTION OF POWER AND SPEED COMPONENTS OF FOOTBALL PLAYERS AGED 14 TO 16 YEARS

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Abstract

Plyometric is the term now applied to exercises that have their roots in Europe, where they were first known simply as jump training. Interest in this jump training increased during the early 1970 as east European athletes emerged as powers on the world sport scene, but the actual term Plyometric was first coined in 1975 by Fred wilt, one of Americas more forward thinking track and field coaches, based on Latin origin, Plyometric is interpreted to mean "measurable increases" Plyometric is defined as exercises that enable a muscle to reach maximum strength in a short a time as possible. This speed strength ability is known as power. To promote motor fitness and skill traditionally various training methods like weight training, circuit training, Fartlek training etc. are used but so far no significant work is carried in field of football, keeping in mind various factors researcher felt a need to conduct study on the effect of Plyometric training program for the promotion of motor fitness and skill performance

Keywords: - football, motor fitness, Plyometric training

INTRODUCTION

Plyometric is the term now applied to exercises that have their roots in Europe, where they were first known simply as jump training. Interest in this jump training increased during the early 1970 as east European athletes emerged as powers on the world sport scene, but the actual term Plyometric was first coined in 1975 by Fred wilt, one of Americas more forward thinking track and field coaches, based on Latin origin, Plyometric is interpreted to mean "measurable increases". Plyometric is defined as exercises that enable a muscle to reach maximum strength in a short a time as possible. This speed strength ability is known as power

NEED AND BACKGROUND

In the game of football in the arena of national and international competition it is difficult to distinguish the top performance of the players from one another; therefore motor fitness aspect comes into consideration. Coaches and physical educationist today are continuously confronted with the task of improving performance of the players with the help of specialized training. Motor fitness and skills are integral part of performance. The role of motor fitness and skill is phenomenal in competitive football game. In an extended match of 120 minutes, the less fit player often experiences difficulties in executing skills of game, owing to fatigue and exhaustion. To promote motor fitness and skill traditionally various training methods like weight training, circuit training, Fartlek training etc. are used but so far no significant work is carried in field of football, keeping in mind various factors researcher felt a need to conduct study on the effect of Plyometric training program for the promotion of motor fitness and skill performance.

OBJECTIVES OF THE STUDY

- To compare the mean gain scores of Power as measured by the Standing Board Jump test of the experimental group having given a plyometric training program.
- To compare the mean gain scores of speed as measured by 50 yard Dash test of the experimental group having given a plyometric training program.

HYPOTHESIS OF THE STUDY

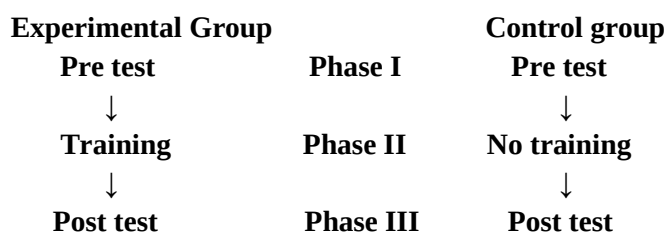
- **HO:** There will be no significant difference in mean gain scores Power as tested by Standing Board Jump test, between experimental group and control group, due to the plyometric training program.
- **HO:** There will be no significant difference in mean gain scores of speed as tested by 50 yard dash test, between the experimental group and control group, due to plyometric training program.

RESEARCH DESIGN

Group 'A' - Experimental Group (n=30)

Group 'B' – Controlled Group (n=30)

Both the groups were pre tested, after pre-testing the subject of the experimental group had undergone 8 weeks Plyometric Exercise training program, where as the controlled group did not receive any special training.



SELECTION OF VARIABLES AND TOOLS TO BE USED

Dependent Variables

The following Motor Performance Components will be considered as dependent variables of the present study.

Sr. No.	Variable	Test	Unit
1	Power	Standing Broad Jump	Meter
2	Speed	30 mt Flying start test	Seconds

Independent Variables

The following selected 10 plyometric exercises in the training programmed were considered as Independent variables of present training scheduled.

- 1) Stadium hops
- 2) Medicine ball backward throw
- 3) Medicine ball pullover pass
- 4) Medicine ball power drop.

- 5) Front cone hops
- 6) Standing triple jump
- 7) Two foot Ankle Hop
- 8) Side to side Ankle Hop
- 9) Lateral cone Hops
- 10) Standing jump over Barrier

Training Schedule

The tentative training scheduled as follow as under:

60 MIN. PLYOMETRIC TRAINING PROGRAMME

Weeks	Week 1 & 2		Week 3 & 4		Week 5 & 6		Week 7 & 8	
Load	40% to 50%		60% to 70%		80% to 90%		40% to 50%	
Exercises	Rep.	Rest	Rep.	Rest	Rep.	Rest	Rep.	Rest
Front Cone Hops	15 in 1.30 min.	After	20in 1.30min .	After	25 in 1.30min.	After	15 in 1.30 min.	After
Stadium Hops	10in 1. 30 min.	One	13 in 1.30min .	One	17 in 1.30 min.	One	10in 1.30 min.	One
Lateral Cone hops	12 in 1. 30 min.	Set	16 in 1.30min .	Set	20 in 1.30 min.	Set	12 in 1.30 min.	Set
Two foot Ankle hops	15 in 1. 30 min.	5 min	20 in 1.30min .	5 min	25 in 1.30 min.	5 min	15 in 1.30 min.	5 min
Standing triple jump	10 in 1. 30 min.	Rest	13in 1.30min .	rest	17 in 1.30min	rest	10in 1.30mi n.	rest
Standing jump over Barrier	15 in 1. 30 min.		20 in 1.30min .		25 in 1.30min		15 in 1.30 min.	
side to side ankle hop	14 in 1. 30 min.		18 in 1.30min		24 in 1.30min.		14 in 1.30 min.	
Medicine ball pull over throws	12 in 1. 30 min.		16in 1.30min		20 in 1.30min.		12 in 1.30 min.	

Medicine ball backward throws	10 in 1. 30 min.	13 in 1.30 min.	17 in 1.30 min.	10 in 1.30 min.
Medicine ball power drop	15 in 1. 30 min.	20 in 1.30 min.	25 in 1.30min.	15 in 1.30 min.

STATISTICAL ANALYSIS

The data is analyzed by using 't'-test for the said purpose of Statistical Package for Social Sciences (SPSS) software was used.

RESULT AND INTERPRETATION

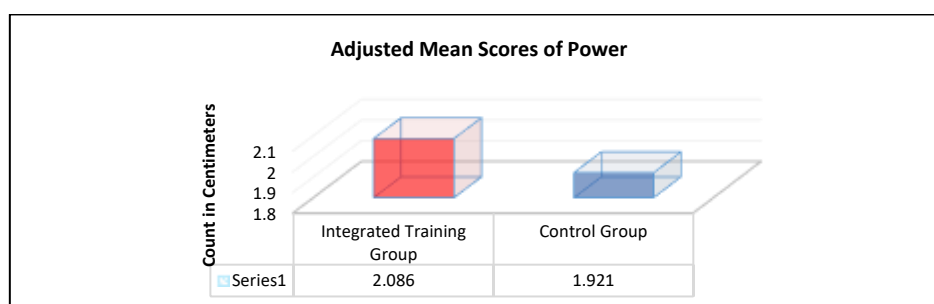
GROUPWISE TREATMENT COMPARISON OF ADJUSTED MEAN SCORES OF POWER BY TAKING PRE-POWER AS COVARIATE

The objective was to compare the adjusted Mean Scores of Power of Football players of Integrated Training Group and Control Group by taking Pre-Power as Covariate. The data were analyzed with the help of One Way ANCOVA, and the results are given in Table.

Summary of One Way ANCOVA of Power by taking Pre-Power as a covariate

Source of Variance	df	SSy.x	MSSy.x	Fy.x	Remark
Treatment	1	.336	.336	57.149	p < 0.05
Error	57	.336	.006		
Total	59				

Table shows that when Pre-Power was included as a covariate, the adjusted F-value was 57.149, which is significant at 0.05 with df=1/57. It shows that when Pre-Power was taken into account as a covariate and measured by the Standing Broad Jump test, the adjusted mean scores of the Power of the Training Group and Control Group were significantly different. Additionally, the adjusted mean score of the Power of the Training Group is 2.086, which is significantly higher than the adjusted mean score of the Power of the Control Group, which is 1.921. Thus, we reject the Null Hypothesis that there is no significant difference in the adjusted mean scores of Power between the Training Group and the Control Group due to plyometric training program.



Comparison of Adjusted Mean Scores of Power between Training Group and Control Group

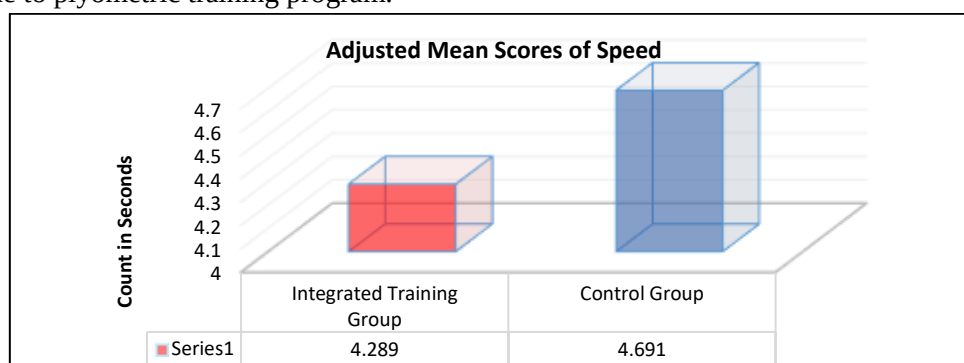
GROUPWISE TREATMENT COMPARISON OF ADJUSTED MEAN SCORES OF SPEEDBY TAKING PRE-SPEEDAS COVARIATE

The objective was to compare the adjusted Mean Scores of Speed of Football players of Training Group and Control Group by taking Pre-Speed as Covariate. The data were analyzed with the help of One Way ANCOVA, and the results are in Table.

Summary of One Way ANCOVA of Speed by taking Pre Speed as a covariate

Source of Variance	df	SSy.x	MSSy.x	Fy.x	Remark
Treatment	1	2.309	2.309	33.024	p < 0.05
Error	57	3.986	.070		
Total	59				

Table shows that when Pre-Speed was included as a covariate, the adjusted F-value was 33.024, which is significant at 0.05 with $df=1/57$. It shows that when Pre-Speed was taken into account as a covariate and measured by the 30m flying start test, the adjusted mean scores of the Speed of the Training Group and Control Group were significantly different. Additionally, the adjusted mean score of Speed of the Training Group is 4.289, which is significantly lower than the adjusted mean score of Speed of the Control Group, which is 4.691. Thus, we reject the Null Hypothesis that there is no significant difference in the adjusted mean scores of Speed between the Training Group and the Control Group due to plyometric training program.



Comparison of Adjusted Mean Scores of Speed between Integrated Training Group and Control Group

FINDINGS

1. Plyometric Training Module is useful in significantly developing the power of Football Players when measured by standing broad jump test.
2. Plyometric Training Module is useful in significantly developing the speed of Football Players when measured by 30mt flying start Test.

RECOMMENDATIONS

Following recommendations regarding the study's implications and possibilities for additional research are made after weighing all of the study's advantages and disadvantages:

1. The plyometric training designed in this study may be applied to address the football players' specific General Motor Ability and skill improvement.

2. A similar study on female football players may be conducted.
3. A similar study with integration with other aspects, such as psychological and yogic practices, may be conducted.
4. The study's findings may be helpful to the concerned professionals and coaches in preparing athletes for competition at various levels.
5. A similar study may be conducted concerning Senior Football Players.

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ROLE-EFFECTIVENESS OF YOGA IN VALUE EDUCATION

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Man has made tremendous progress in almost every walk of life. Objects once considered impossible to be achieved have now been achieved by us. What we have achieved and accomplished today could not have been imagined in their dreams by our past generations. Modern scientists and researchers have absolutely changed our life-style. Science has been incessantly pouring on us new materials and devices to make our physical life more happy and comfortable. Today, we can claim that we are modern and civilized but cannot claim that we are genuinely happy. Longing for material wealth has hardened our heart. Human values are declining. Work to time, competition and commotion have made us suffer from stress and strains mental tension or strain produces undesirable consequences. Stress and strains are the causes of physical as well as psychological diseases such as diabetes, Cancer, acidity, ulcer, migraine and hypertension.

Keeping above background in view, there is urgent need to develop **Human Values**. The best means to develop Human Values is to introduce '**Value Education System**' in our schools and colleges. Thus, the subject value education has come to acquire increasing prominence in educational discussions at all levels during recent times in our country. The issue has been projected as one of national priority in the **National**

Educational Policy, 1986.

The Policy declares: 'The growing concern over the erosion of essential values and an increasing cynicism in society has brought to focus the need for readjustments in the curriculum in order to make education a forceful tool for the cultivation of social and moral values.' According to **National Curriculum for Primary and Secondary Education (1985)**, the crisis of Values our society is passing through 'demands more explicit and deliberate Educational efforts towards value development.' Similarly the **Programme of Action (1992)** also emphasized that value oriented education should become an integral Part of the school curriculum.

Role-effectiveness of Yoga in Value Education

Now we will discuss the topic 'Role-effectiveness of Yoga in Value Education'

With the help of the following points:

- 1 Concept of Value Education.
- 2 Concept of Yoga.
- 3 Ancient Gurukul System of Education.
- 4 Yoga as means to develop Value Education.
- 5 Yoga-The basis of Morality.
- 6 Yoga and Balanced Life.
- 7 Yoga and Value Education.

1. Concept of Value Education:

Value education is a comprehensive process. In its full range of connotation it Covers the entire domain of learning, cognitive, affective and psychomotor and Includes knowledge, understanding and appreciation of our culture, moral, aesthetic and spiritual values i.e. the values springing from our nationalistic aspirations and Universal perceptions. Thus value education is a process of education which involves Working on the total personality of the individual keeping in view all aspects of Personality development, the physical, intellectual, social and emotional, will and Character. To some value education is simply a matter of developing appropriate behavior and habits involving inculcations of certain virtues and habits. Actually the ability of make moral judgment based on sound reasoning is a very important aim of value education and has to be deliberately cultivated. Value education, according to one more view, is essentially a matter of educating the feelings and emotions. It is the 'training of heart' and consists in developing the right feelings and emotions. Thus, in short we can say that value education is education in values and education towards the inculcation of values. Implicit in this definition the conviction that value education is a universal phenomenon intrinsic to all learning and education, whether at home or in an institution.

2. Concept of Yoga:

Yoga as a system of physical exercise has been in existence in India since very Ancient times. In India, Yoga is regarding as a science as well as method that Allows man to live a harmonious life while favouring his spiritual progress through the control of mind and body. The word Yoga is derived from the Sanskrit root 'Yuj which means 'To join'. It is the true union of our will with the will of God. In other words, Yoga is a systematic and scientific discipline for a successful organization of all the energies and faculties of the integral human being with a view of attaining the highest ecstatic communion with the cosmic reality or God.

Maharishi Patanjai has suggested eight stages of Yoga to secure purity of body, mind and soul and final communion with God. These eight stages are known as Ashtangyoga'. The eight stages of Yoga are: Yama, Niyama, Asana, Pranayama, Pratyahara, Dharna, Dhyana and Samadhi. If yoga is practiced and followed in life, virues like morality, morally sound conduct and good character are developed in man. Besides, there is all round progress in human life, physically, intellectually and spiritually and man attains physical fitness and mental equanimity. In other words, Yoga in a total philosophy of life to promote ultimate aim of life. Due to all these reasons, today Yoga is becoming of great interest among the people in the world. The path of Yoga is an inner path whose gateway is your soul. Yoga is harmony between the individuals and the cosmos, between thought and action, between soul and God, between organism and respiration. As science probes grater depths of the secrets of nature, the relevance of Yoga too is bound to grow, and a day is bound to come when human society will find no other way except Yoga to come out of the present dead end of a tunnel-out into the broad sunshine of tranquility, peace and happiness.

3. Ancient Gurukul System of Education:

The Indian traditional education had a 'Gurukul' system. The Gurukul system of education in India was fully 'value based system of Education'. Even the prince like Rama, Krishna had to leave their palaces and stays with the Gurus (Acharyas) In Gurukuls (Ashramas). In the Gurukul system of education Yoga occupied very important place. The teacher (Guru) in this system used Yoga as a means

to educate his students (shishyas) physically, mentally, socially, morally as well as spiritually. Actually speaking in 'Gurukul' system of education the daily routine used to start with prayer and yogic exercises. Thus, in Gurukul system 'Yoga' as means of education occupied very important place. Not only that, it was also found most reliable and valid means of develop value oriented moral education in the students (shishyas).

The life of Gurukul was simple but it contributed to the all round character building with spirituality being its base. The learners (shishyas) did all works and thus 'The work is worship' was the foundation. The service rendered by the shishyas was selfless and with total dedication. The value system was so much permeated in family set up that Rama left for Vanvas to keep the promise of his father. Similarly Gandhari kept her eyes tied because her husband Dhitarashtra was blind. The ideal example of Shravan is known to all. Even the wars were fought obeying the strict rules of the values and human dignity. In the ancient Indian culture the Yoga

4. Ancient Gurukul System of Education:

The traditional Indian education system was based on the 'Gurukul' system. This system of education was completely 'value-based'. Even princes like Rama and Krishna had to leave their palaces and stay with Gurus (teachers) in Gurukuls (ashrams). In the Gurukul system, Yoga played a very important role. The teacher (Guru) used Yoga to educate the students (shishyas) physically, mentally, socially, morally, and spiritually.

In fact, in the Gurukul system, the daily routine began with prayer and yogic exercises. Yoga was considered a very important and reliable means of developing value-oriented moral education in the students.

The life in a Gurukul was simple, but it contributed to the all-round development of character with spirituality as its foundation. The learners (shishyas) did all the work, and the principle of "work is worship" was fundamental. The service rendered by the shishyas was selfless and with total dedication. The value system was so deeply ingrained in the family setup that Rama left for Vanvas to keep his father's promise. Similarly, Gandhari kept her eyes tied because her husband Dhitarashtra was blind. The ideal example of Shravan is known to all. Even wars were fought adhering to strict rules of values and human dignity. In ancient Indian culture, Yoga was a way of life. The life pattern believed in Tamso ma' am jyotigro Maya the light over the all the darkness.

5. Yoga as means to develop Value Education:

The whole system of Yoga is based on value education. All the eight stages of Yoga from Yama and Samadhi are fully value based. For example, Yama means restraint or abstention. It contains five moral practices. They are : Ahimsa (Non- violence), Satya (Truthfulness), Asteya (Non-stealing), Brahmacharya (Celibacy) and Aparigraha (Non-acquisitiveness). Similarly Niyama are rules of conduct towards oneself consist of certain disciplines which are both physical and mental. These are also five in number: Saucha (Cleanliness), Santosha (Contentment), Tapas (Austerity), Swadhyaya (Self-study) and Ishvara Pranidhana (Surrender to God). Thus, we can judge that Yama and Niyama are the best ethical codes and success for all individuals across culture, social, political, religious and economic boundaries. Similarly Asana (Postures), Pranayama (Breath control), Dharna (Concentration), Dhyana (Meditation) and Samadhi (Self-realization) were fully value based and ethical in character. One was suppose to

follow each stage in sequence and the last stage Samadhi was the stage of supreme happiness, free from pleasure, pain or misery.

The basic objective of education is to ensure all-round development of human beings so that he may achieve higher success in all the walks of life. However, in the present educational set-up more importance is attached to intellectual achievements. Education in the current set-up has neglected human qualities like sympathy, kindness, truth, devotion, co-operation, compassion, etc. The purpose of value education is to develop human virtues alongwith intellectual development. So, inclusion of Yoga would naturally facilitate the spiritual dimension of education, which is very much needed in the present age, as it is seen that the modern youth appears to be unconcerned with moral and spiritual value approach to life.

6. Yoga-The basis of Morality:

Lack of discipline at the school, society, state and the national level is due to moral degeneration of the people. Morality is an important part of character and its neglect is a social and national loss. In the educational programme complete indifference is shown towards moral values. Emphasis is laid on intellectual development. This has led to lop-sided development of students' personality with the result that immoral acts today rule supreme. Smuggling, black marketing, hoarding and adulterations which have played havoc with the society are flourishing because of lack of respect shown to moral values. Today there is a gap between what we expect and what we actually get. This

Gap widens day by day and inner dissatisfaction grows along with it. A dissatisfied and unhappy person likes to bring out his anger, frustration and bitterness. While doing so, he may get into crimes, frauds, sexual assaults, corruptions, etc. Today, people run after material wealth at the cost of spiritual awakening. Material wealth without spiritual wealth is the real cause of all human suffering. The Art of Yoga is the real, time tested, comprehensive, long-term solution to all human problems. Because, Yoga integrates body, mind, intellect, emotions and spirit and thus develop happiness and peace in people. A happy and peaceful person behaves morally. Thus, we can say that Yoga is the basis of morality.

7. Yoga and Balanced Life:

Owing to the development of technology, modern life has become endlessly competitive, resulting in increased strain on both men and women. It is difficult to maintain a balanced life. Anxieties and diseases affecting the nervous and circulatory systems have multiplied. In despair, people become addicted to psychedelic drugs, smoking and drinking or indiscriminate sex to find relief. These activities allow one to forget oneself temporarily, but the causes remain unsolved and the diseases return. Only Yoga gives real relief from these problems.

8. Yoga and Value Education :

Ours is a land of Vedas, Upanishadas, the land of Ramayana and Mahabharat. The virtues have always prevailed over the vices, be it any story from our ancient scriptures. It only indicates that our culture has values deep rooted in its soil and therefore, this had produced many saints. Our culture believes that character is the highest virtue. This was appropriately reflected in Ramayana episode of Sita being abandoned by Rama by sheer remarks of washerman.

One of the basic aims of value education is character building. Yoga is one of the best means to develop character. Alongwith character creativeness of the students can also be nurtured through "Yoga" by cultivating a habit of concentration of mind in certain flashes of innovative idea or thought. Yoga is

a way of life, an integrated system of education for the body, mind and inner spirit. The main aim of Yoga is to remove ignorance and to achieve wisdom. It should be rooted that practice of Yoga not only helps in improving one's health but it also necessary for one's general progress. In end, it can be concluded that there is direct relationship between Yoga and Value Education and it is high time to introduce Yoga in our educational system for implementing value education to young generation.

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A COMPARATIVE STUDY OF REACTION TIME AMONGST CRICKET, FOOTBALL AND KABADDI PLAYERS OF MUMBAI

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Abstract

The aim of the study was to compare the hand reaction, a component of motor fitness, among Kabaddi, Football, and Cricket players in Mumbai. To achieve this, 296 subjects were randomly selected from schools in Mumbai, consisting of 100 Cricket players, 100 Football players, and 96 Kabaddi players. The Nelson Hand Reaction Test was used to assess hand reaction levels among these players. The collected data were statistically analyzed using a One-Way ANOVA test. The findings of the study showed that the F-value for the variable Reaction Time was 5.500, which was significant at the 0.005 level with $df = 2/293$, comparing Kabaddi, Football, and Cricket players. The results indicated that the reaction times between Football and Kabaddi players were close, with both groups exhibiting better eye-hand coordination than Cricket players. However, there was no significant difference in reaction times between Football and Kabaddi players. In conclusion, the study found that Football and Kabaddi players exhibited significantly higher levels of eye-hand reaction compared to Cricket players.

Keywords: *Motor fitness, Reaction Time, Kabaddi, Football, Cricket, Sports Players*

INTRODUCTION

Sport hold the most important position in the modern scientific age. Today, sport has emerged to be the inevitable component of our human and social life. Game and sport are indispensable to man, having been an inherent constituent of his culture. It can be pretty well guaranteed that, more than games and distraction, they have formed the vital essentials of his existence in their purely physical forms because it needed fitness to survive. The term physical fitness and motor fitness are often used interchangeably. The term motor fitness was developed to describe a broad concept than physical fitness. This extensive term means the ability to perform basic motor skills efficiently and effectively. The present study was conducted to compare the Motor fitness components eye hand reaction among Kabaddi, Football and Cricket players of Mumbai because it requires basic skills like running, jumping, dodging, climbing, swimming with sustained efforts in variety of situation. Eye hand reaction is one of the most important skill components in selected sports for the present study i.e. Cricket, Football and Kabaddi Games. The ability to exert maximum muscular contraction instantly in an explosive burst of movement, the eye hand reaction is defined as such, for this study. This will be measured by using the Nelson Hand Reaction Time Test. Time is read from the stick just above the upper edge of the thumb when the subject catches the falling stick timer. Discards results of five fastest and five slowest trials, then this would out of 20 trials will average the middle 10 to give the score in this test (Nelson, 1965).

OBJECTIVES OF THE STUDY

- To compare mean scores of Reaction Time of Sports Players Playing Cricket, Football and Kabaddi Game

HYPOTHESIS OF THE STUDY

- There is no significant difference among mean scores of Reaction Time of Sports Players Paying Cricket, Football and Kabaddi Game

LIMITATION OF THE STUDY

- There was no control on the diet of the subjects
- There was no control on the subjects participating in the programme
- The research scholar was no control on day to day activities of the subject.

DELIMITATION OF THE STUDY

- The study was delimited to the School Students who were sports player of Mumbai.
- The study was delimited to the kabaddi, football and cricket Game.
- The study was be delimited to the Motor fitness component Reaction Time only.

METHODOLOGY

The study was comparative in nature under the heading of Descriptive Research. The researcher personally collected data along with his assistants on Motor fitness component reaction time of Kabaddi, Football, and Cricket players of Mumbai.

SELECTION OF THE SAMPLE

The sample of 100 Cricket players, 100 Football players, and 96 Kabaddi players of Mumbai was taken as sample. The researcher has taken the test of Motor fitness component and collected data of the same.

SELECTION OF VARIABLES AND TOOLS

Variable	Test	Unit of Measurement
Reaction Time	Nelson Hand reaction test	Inches

RESULT OF THE STUDY***Group wise Comparison of Mean Scores of Reaction Time***

The objective was to compare mean scores of Sports Players Paying Cricket, Football and Kabaddi Game. Thus, the data were analysed with the help of One Way ANOVA and the results are given in the table 1 below.

Table 1: Summary of One Way ANOVA of Reaction Time

Source of Variance	df	SSy.x	MSSy.x	Fy.x	Remark
Within Group	2	82.696	41.348	5.500	p<.005
Between Group	293	2202.808	7.518		
Total	295	2285.504			

From above table 1, it is evident that the F-Value is 5.500 which is significant at .005 level with $df = 2/293$. It shows that the mean scores of Reaction Time of Sports Players Paying Cricket, Football and Kabaddi Game differ significantly. Thus, the null hypothesis that there is no significant difference among mean scores of Reaction Time of Sports Players Paying Cricket, Football and Kabaddi Game is rejected. In order to know which Type of Sports Players had significantly higher mean score of Reaction

Time, the data were further analysed with the help of Least Square Difference (LSD) Post Hoc Test and the results are given in table 2 below.

Table 2: Group wise Mean, SE, N and difference between Means of Reaction Time

Schools	Mean	SE	N	Cricket	Football	Kabaddi
Cricket	8.5403	.34395	100	-	ns	ns
Football	7.3844	.22679	100	-	-	p<.005
Kabaddi	7.4674	.23935	96	-	-	-

*ns: not significant

From the above table 2 it can be seen that there is significance difference in Reaction Time between football and Kabaddi at .005 where Football is having greater Reaction Time in compared to Cricket. In case of Kabaddi and Football there is no significant difference at .005 level. In case of Cricket and Kabaddi there is no significant difference in Reaction Time at .005 level. It may therefore be said that the Football found to be significantly high level of Reaction Time in compared to Cricket and Kabaddi Players. In order to know the trend between Cricket, Football and Kabaddi Players the following graph has been plotted.

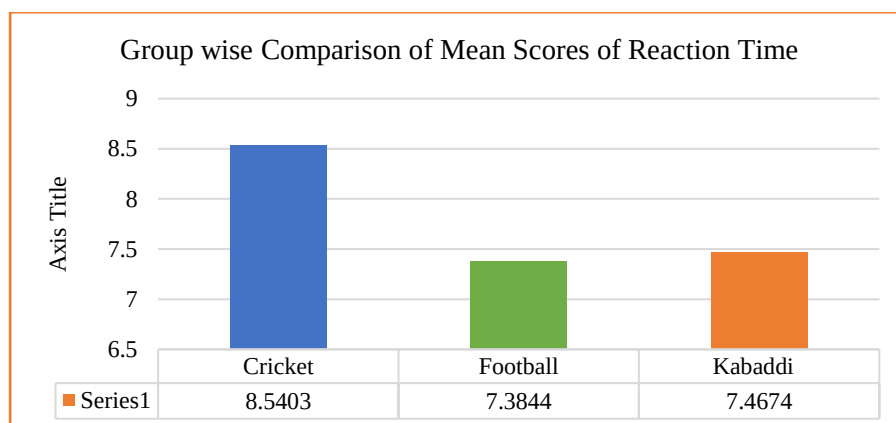


Figure: Trend of Reaction Time between Cricket, Football and Kabaddi Players

DISCUSSION

Reaction Time is the main variables which the researcher has made to check the difference on the motor fitness of Kabaddi, Football and Cricket players. Reaction Time between Football and Kabaddi found to be differ where Football is having greater Reaction Time in compared to Cricket. Where in case of Kabaddi and Football, Football and Kabaddi there is no significant difference found. It may therefore be said that the Football players found to be significantly high level of Reaction Time in compared to Cricket and Kabaddi Players.

CONCLUSION

It is concluded that the Football Players' Reaction Time found to be significantly high in compared to Cricket and Kabaddi Players. This study gives relevant information about the Motor fitness component Reaction Time of Kabaddi, Football and Cricket players of Mumbai.

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THE EFFECT OF RESISTANCE TRAINING COMBINED WITH SKILL TRAINING ON SPEED, DRIBBLING AND SHOOTING IN INTERCOLLEGIATE MALE FOOTBALL PLAYERS

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Abstract

The purpose of the present study was to determine the effect of resistance training combined with skill training on the selected performance parameters such as speed, dribbling and shooting of intercollegiate male football players studying in affiliated colleges of Osmania University. To achieve the purpose of the study, the subjects were randomly selected from intercollegiate male football players of Osmania University, Hyderabad, Telangana, India and their age group was 18 to 22 years. The selected subjects were divided into two groups of 30 each, one is experimental group and the other is control group. The experimental group was trained with resistance training combined with skill training while the control group did not receive any specific training. Duration of the training period was 12 weeks at the rate of 3 sessions per week. The results of the study reveals that there is a significant improvement in the resistance group when compared to control group. The improvement in performance may be attributed to resistance training combined with skill training.

INTRODUCTION

Football is a game of constant actions and require continuous adaptation to changing situation by the team as a whole as well as by individual players. Although, it is a team game, there is ample room for players to display their brilliance through individual performance with the ball as well as through team play involving improvisations and tactical knowledge. As in most other sports, the skill of football can be practiced in any area of any size and almost any type of surface (Thomas, 1964, p.1).

Football is an intermittent, highly intensive and complex sport. A successful performance is dependent on basic abilities, in particular, repeated explosive burst, strength, power, kicking, tackling, and their derivatives such as jumping, turning, sprinting and changing pace, all making important contributions to the performance of the soccer player (Bangsbo et al., 2006, pp. 665-674).

Strength derives considerable attention from football players. Players need to produce power when kicking a ball for long distance or shooting at the goal when changing directions against their own momentum or that of an opponent when accelerating quickly or jumping. Unfortunately, many people associate strength development and weight training with muscle-bound individuals that are slow and have very limited flexibility. Research in the area of muscular development has shown this to be a misconception. Football players can and must work at improving their strength and power to play more effectively (Beim, 1977, pp.220-221).

Resistance training is considered a key strategy to improve in field soccer performance due to the proved relationship between the strength levels and high intensity actions (e.g., Sprint & Jump) Swinton et al., 2014; Nunez et al., 2019.

METHODOLOGY

The purpose of the present study was to determine the effect of resistance training on the selected performance parameters such as speed, dribbling and shooting of intercollegiate male football players studying in affiliated colleges of Osmania University. To achieve the purpose of the study, the subjects were randomly selected from intercollegiate male football players of Osmania University, Hyderabad, Telangana, India and their age group was 18 to 22 years. The selected subjects were divided into two groups of 30 each, namely, an experimental group (Resistance training combined with skill training) and one control group. Out of total subjects of 60, 30 underwent resistance training while the control group did not receive any specific training. The duration of the training period was 12 weeks at a rate of 3 sessions per week. The resistance training group was considered as independent variable whereas the performance parameters such as speed, dribbling and shooting were treated as dependent variables.

For resistance training group, Squats, Bench Press, Leg Press, Sit-Ups, Power Clean, Bench Step-Ups were given and the intensities were set as low, medium and high for 1-4 weeks, 5-8 weeks and 9-12 weeks respectively. For skill training, the following drills were given such as dribbling with the ball, tracking on a dependent, creating space to lose marker, playing against tight marking dependent. For shooting drills, shoot from an angle, quick shooting and the art of scoring goals. The control group was not given any specific exercises.

STATISTICAL ANALYSIS

The following procedures were employed to estimate the effect of resistance training combined with skill training on selected performance parameters like speed, dribbling and shooting among intercollegiate male football players. The pre and post test scores were analyzed by employing “t” test. The statistical significance was set at a priority of < 0.05 .

FINDINGS

The mean difference between the pre and post-test results of control and experimental groups was tested using “t” ratio to determine the significance of the difference exhibited by the experimental and control groups during the training period of 12 weeks.

Table - I
Computation of “t” ratio between pre-test and post-test means of
Experimental and Control groups on Speed.

Groups ↓	Pre-Test for Speed		Post-Test for Speed		“t”-Test
	Mean	SD	Mean	SD	
RT + ST	7.37	0.556	6.80	0.551	5.461 *
CG	7.63	0.556	7.60	0.563	1.000

*** The table value is 2.045 with df 29 at 0.05% Level of Significance**

The significance of the difference between the pre and post test mean values of speed of the Resistance Training Group combined with Skill Training (RTG+ST) and Control Group (CG) was analyzed by t-test and found to be 5.461 and 1.000 respectively. Since the obtained ‘t’-test values of experimental groups are greater than the tabular value of 2.045 with degree of freedom 29 at 0.05 level of significance, it may be inferred that the Resistance Training Group combined with Skill Training (RTG+ST), showed significant improvement in the performance of speed. However, the control group

has no significant improvement in the performance of speed. The difference between the initial and final mean is represented in Figure-I.

Figure – I The Pre Test And Post Test Mean Differences On Speed Of Alloted Groups

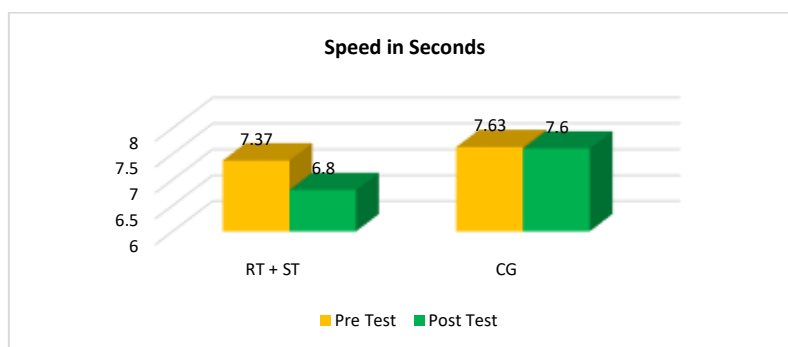


Table – II: Computation of “t” ratio between pre-test and post-test means of Experimental and Control groups on Dribbling.

Groups ↓	Pre-Test for Speed		Post-Test for Speed		“t”-Test
	Mean	SD	Mean	SD	
RT + ST	63.17	8.009	53.77	7.596	16.899 *
CG	64.90	3.199	65.07	3.205	1.306

*** The table value is 2.045 with df 29 at 0.05% Level of Significance**

With the help of dependent ‘t’-test, the statistical importance of the variation in the initial and final mean values of dribbling for the Resistance Training Group with Skill Training(RT+ST) was determined to be 16.899* and CG was determined to be 1.306* correspondingly. It can be inferred that the RT+ST as well as CG showed substantial enhancement in their abilities of dribbling as calculated “t”-test values of testing teams have been higher when compared to theoretical figure of 2.045 with degree of freedom 29 around 0.05 alpha level. Figure-II depicts the distinction between the pre and post test means.

FIGURE – II

THE INITIAL AND FINAL MEAN DIFFERENCES ON DRIBBLING OF ALLOTTED GROUPS

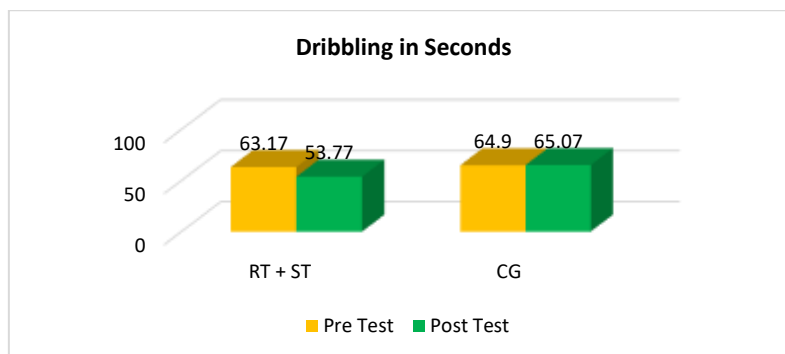


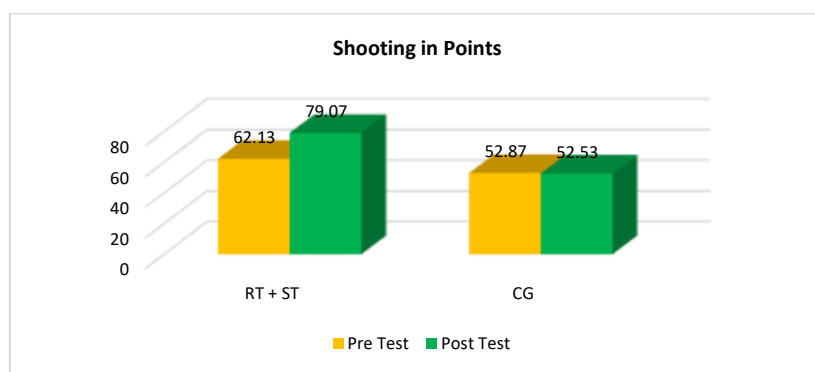
Table – III: Computation of “t” ratio between pre-test and post-test means of Experimental and Control groups on Shooting.

Groups ↓	Pre-Test for Speed		Post-Test for Speed		“t”-Test
	Mean	SD	Mean	SD	
RT + ST	62.13	18.798	79.07	15.684	7.217*
CG	52.87	6.095	52.53	5.859	0.895

* The table value is 2.045 with df 29 at 0.05% Level of Significance

Significance of the variation across the pre and post-test average shooting scores of Resistance Training Group combined with Skill Training (RT+ST) and Control Group (CG) was analysed by dependent “t”-test and found to be 7.217 and 0.895 correspondingly. As the computed “t”-test results of the study groups exceeded the theoretical value of 2.045 with 29 degrees of freedom at 0.05 alpha level. It may be inferred that the RT+ST and CG showed considerable enhancement in shooting efficiency.

FIGURE – III
THE INITIAL AND FINAL MEAN DIFFERENCES ON SHOOTING OF ALLOTTED GROUPS



CONCLUSIONS

The results of the study reveal that there is a significant improvement on resistance training group combined with skill training when compared to control group. The improvement in performance may be attributed to resistance training combined with skill training.

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EFFECT OF CIRCUIT TRAINING AND PLYOMETRIC TRAINING ON SPEED OF WOMEN KHO KHO PLAYERS IN NORTH TELANGANA REGION

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Abstract

The Purpose of the study is to find out the Effect of Circuit Training and Plyometric Training on Speed of Women Kho Kho Players in North Telangana Region. The Sample for the study consists of 45 Women Kho Kho Players of North Telangana Region. The study consists of 15 Players Circuit Training Group, 15 Players Plyometric Training Group and 15 Players Control group. Circuit and Plyometric training were given to the Experimental Group along with general training of Kho Kho Players and control group has doing general Training of Kho Kho for eight weeks. To assess the Speed 50 M Run were used in the Pre Test and Post Test of the Study. This study shows that the Experiment Group of Plyometric Training and Circuit Training increase the Speed compare to the control group. It is concluded that due to Plyometric training and circuit training there is a improvement of speed among Kho Kho players. Key words: circuit training, Plyometric Training, speed etc.

INTRODUCTION

Sports serve vital social and cultural functions the importance of which can hardly be exaggerated. The contribution of sports towards the overall welfare of the human society may be capsule in the following points :- Sports help in the all round development of human personality. In all sports, speed, strength, agility, endurance and power are important qualities. Generally, it requires developing performance in sports and games. Plyometric strength training uses burst techniques to help tone the fast-twitch response muscles, allowing for stronger and more frequent bursts of physical motion during competition. Circuit Training is developed by the Scientist Morgan R.E. and Adamson G.T. at University of Leeds in the year 1957. This is Resistance to develop the motor abilities such as strength, Speed and endurance. Circuit training is a exercise "circuit" which consists of prescribed exercises which includes for the upper body, lower back, abdomen and Lower body. It can be done with own body Weight and using the resistance exercises such as Barbells, Medicine Balls etc. Circuit training improves all round physical fitness, as opposed to fitness for a specific sport.

Prof. Rajesh Kumar (2020) studied about the effect of Plyometric and Circuit Training on selected Physical Variables among Sprinters of Hyderabad District of Telangana State. To achieve this purpose, forty five Sprinters in the age group of 16 to 20 years those who have participated in the Hyderabad Open Sprints Athletics Championships at Gachibowli Stadium, Hyderabad for the year 2019 taken as subjects. The selected forty five subjects were divided into three equal groups of fifteen each as two experimental groups and one control group, in which group – I (n=15) underwent plyometric training for three days per week for Twelve weeks, group – II (n=15) underwent the Circuit Training for three days per week for Twelve weeks and group – III (n=15) acted as control who are not participate any training apart from their regular activities. The selected Physical variables such as abdominal strength, speed and leg explosive power were assessed before and after the training period. Sit Up Test, 50 M Dash and Standing Broad Jump are the Tests were used to conduct the pre test and post for Measuring the Physical Variables such as Abdominal Strength, Speed and explosive power of legs. The

results of the study it was found that there was a significant difference of performance due to Plyometric and circuit training when compared with the control group.

Purpose of the study:

The Purpose of the study is to find out the Effect of Circuit Training and Plyometric Training on Speed of Women Kho Kho Players in North Telangana Region.

METHODOLOGY:

The Sample for the study consists of 45 Women Kho Kho Players of North Telangana Region. The study consists of 15 Players Circuit Training Group, 15 Players Plyometric Training Group and 15 Players Control group. Circuit and Plyometric training were given to the Experimental Group along with general training of Kho Kho Players and control group has doing general Training of Kho Kho for eight weeks. To assess the Speed 50 M Run were used in the Pre Test and Post Test of the Study

S.No	Name of the Groups (Kho Kho)	Sample
1	Experimental group Circuit Training	N=15
2	Experimental group Plyometric Training	N=15
2	Control Group	N=15
3	Total	N=45

Results and Discussion:

Table showing the Mean, Standard Deviations, and One-Way Analysis of Covariance (ANCOVA) in 50m Run of Plyometric training, Circuit Training and Control Group among Women Kho Kho Players of North Telangana Region

Test	Continuous Training	Circuit Training	C.G.	S O V	Sum of Squares	df	M.S.	F-ratio	P- value
Pre test	7.16	7.04	7.17	B	0.297	2	0.148	1.797	.172
Mean	0.307	0.266	0.286	W	7.179	87	0.083		
SD									
Post test	6.95	6.71	7.22	B	3.907	2	1.953	24.43*	0.000
Mean	0.282	0.286	0.279	W	6.954	87	0.080		
SD									
Adjusted	6.91	6.78	7.18	B	2.338	2	1.169	224.27*	0.000
Mean				W	0.448	86	0.005		

Note.*Significant (P<0.05).

The 50 M Run Circuit Training is 7.16, Plyometric Training 7.04 and CG is 7.17 and PT Mean 50 M Run of Circuit Training Group is 6.95, Plyometric Training 6.71 and Control Group is 7.22. The Adjusted Mean of Circuit Training group is 6.91, Plyometric Training Group 6.78 and control group is 7.18. The Sum of Squares of all groups is 0.297 and 3.907 and adjust Mean is 2.338. The Mean Squares of all groups is 0.297 and Post Test is 3.907 and adjust Mean 2.338.

CONCLUSION

This study shows that the Experiment Group of Plyometric Training and Circuit Training increase the Speed compare to the control group. It is concluded that due to Plyometric training is better than circuit training for the development of Speed among Women Kho Kho Players.

RECOMMENDATIONS

It is recommended that similar studies can be conducted on other events in other events This type of study is useful to coaches to give proper coaching for development of motor qualities for improvement of performance in Sports and Games.

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EFFECT OF YOGIC PRACTICE ON PSYCHOLOGICAL TRAITS AMONG CENTRAL TELANGANA GIRLS

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Abstract

Aim: To examine the scientific approach for the effect of Yogic practice on Stress among girls of Central Telangana. **Method:** A sample of one hundred (N= 100) subjects in the age categories of 18 to 22 years, were divided equally into two groups. One experimental group and the other control group. The dependent variable tested for this study was delimited to Stress. The criterion variables chosen were tested with reliable testing tools. Stress was measured with Perceived Stress Questionnaire (PSQ) and scores were recorded based on the responses. The control group was not given any specific training whereas the experimental group underwent Yogic practice 6 days a week for 12 weeks and 60 min per session. The pre and post test data collected were statistically analyzed by applying paired t-test initially to compare the means for significant difference on stress. **Results:** The results of the study indicate that Stress significantly reduced in the experimental group as a result of participating in the Yogic practice. **Conclusion:** It is concluded that Yogic practice reduces Stress in central Telangana girls.

INTRODUCTION

In the modern era, the origin of yoga is not usually given much importance. While “Yoga” has now become a veritable household word, knowledge of its roots escapes most people, even many of those practicing it with regularity. Historically yoga was more than a particular teaching. Yoga, a way of life, a culture and a lifestyle which encompassed not just techniques, practices or ideas, but also eating habits, bathing habits, prayer, social interaction, and work. The emergence of creativity as the core of technology has added aesthetics or a new dimension in the field of science. Hence, yoga has brought a breakthrough in unraveling the hidden dimensions of mind. All those seeking to develop greater critical and creative faculties now have yoga as a new tool.

Sports psychology is a science in which the principles of psychology are applied in a sport or exercise setting. These principles are often applied to enhance performance. However, the true sports psychologist is intended for much more than performance enhancement and sees sports as a vehicle of human enrichment. The sports psychologist is interested in helping every sports participant reach his or her potential as an athlete. If helping a young athlete develop self-control and confidence results in superior athletic performance, so be it. Stated more simply, sports and exercise psychology are the study of the effect of psychological and emotional factors on sport and exercise performance, and the effect of sports and exercise involvement on psychological and emotional factors.

The modern man suffers more psychological stress than physical stress. Humans are trying to live a successful life as per the expectation and norms of the society and are continually challenged with rapidly accumulating stresses. In this fast-moving social set up, with high standard of living and innumerable changes the individual has no time to look back and think about what is happening to his body and mind. This accumulated stress for a prolonged period leads him to the so-called stress induced

disorders, like Heart Attacks, High Blood Pressure, Diabetes, Asthma, Back pain and other psychological problems.

A change in attitude and lifestyle is necessary to help the individual to come out of these health hazards and to cope with the future. Traditional yoga philosophy regards human beings as an individual entity. The root cause of ailment of a stress, through the various therapeutic techniques of yoga one can pluck out this cause and can provide health and harmony. (Davidson. G.C and Neal J.M 1990).

METHODOLOGY

Selection of subjects: For the present investigation one hundred (100) girl students of Government College of Physical Education, Domalguda, Hyderabad was selected randomly. Their age ranged between 18 and 22 years.

Training Design: The subjects were assigned to two groups with 50 each, Group I was experimental and group II control group. Yogic practices were given to Group I. No training was provided to Group II i.e. control group. The duration of the training period was 12 weeks and the number of sessions per week were confined to 6 days which was considered adequate enough to cause change in selected dependent variables. Each session lasted for one hour. Pre-test and post-test were conducted to the control and experimental groups.

Selection of Variable and Procedure: The instrument used in obtaining data of each player's Stress was the Perceived Stress Questionnaire (PSQ) and scores were recorded for the groups. The questionnaire administered in a group setting and the subjects were seated comfortably. The researcher has explained about the questionnaire and made them fill up the questionnaire. The following instructions were given to the subjects. Questionnaire has 30 statements, each statement describing some personal experience. Each statement was evaluated on "Almost", "Sometimes", "Often", or "Usually". The researcher requested them to read each statement carefully and decide what each statement was true and asked them to put the right mark at the appropriate option.

Scoring: First, the scores for questions 1, 7, 10, 13, 17, 21, 25, and 29 are reversed. Change the scores for these five questions as follows: 4 = 1, 3 = 2, 2 = 3, and 1 = 4. To get a total, sum the scores for each item.

Norms: Low stress would be between 0 and 13.

14–26 would be regarded as a moderate stress range.

27 to 40 are regarded as a high perceived stress range.

Statistical Analysis: The data collected from the groups on selected variable was statistically examined to find out whether there was any significant difference between the pretest and posttest of experimental and control groups by using statistical technique of t-test and comparing the means scores for significant differences. The level of significance was fixed at 0.05 level of confidence.

RESULTS:

Table showing the Effect of Yogic practices on experimental groups than control groups on Stress among Central Telangana girls.

TABLE I

Group	N	Pre test		Post test		Mean diff	t-test	Sig. (2-tailed)	Inference
		Mean	SD	Mean	SD				
Experimental Group	50	0.534	0.113	0.500	0.101	0.034	7.796	0.000	S*
Control Group	50	0.549	0.098	0.547	0.099	0.002	1.593	0.118	NS

***A table value of 2.011 is at 0.05 level.**

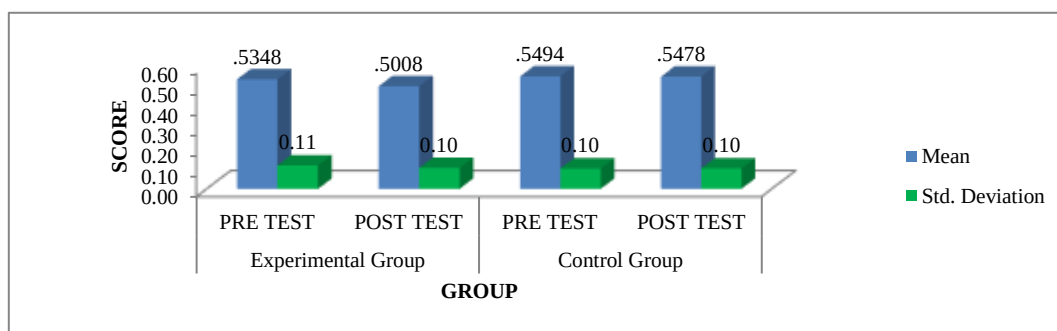
The above table shows that Stress of the selected sample in experimental group, pretest mean is 0.534 with 0.113 S. D and posttest mean is 0.500 with 0.101 S.D. From the t-test calculated value is 7.796 greater than table value 2.011 at 49 D.f. with 0.05 α . Hence there is a significant improvement of Yogic practices on Stress pretest to post test in experimental group of Central Telangana girls.

Whereas the selected variable Stress of selected women in control group shows that pretest mean is 0.549 with 0.098 S. D and posttest mean is 0.547 with 0.099 S.D. From the t-test calculated value is 1.593 less than table value 2.011 at 49 D.f. with 0.05 α . Hence there is a no significant improvement of Yogic practices on Stress pretest and posttest in control group.

The above table clearly shows that there is a significant effect of Yogic practices in relation to Stress in experimental group than control group among Central Telangana girls.

Bar diagram showing the Effect of Yogic practices on experimental groups than control groups on Stress among Central Telangana girls.

FIGURE-I



DISCUSSION:

The main aim of the study was to find out the effect of yogic practices on Stress of the central Telangana girls. All the subjects took part in their regular Yogic training program. Our results indicate yogic training significantly reduces the measures of Stress. Stress has been a central concept for sports psychology and has received a huge amount of investigation because of influence on performance. It is generally defined as negative emotion characterized by feelings of apprehension and tension. The more proficiency and match experience always enhance the performance of athletes with balanced psychological well-being.

CONCLUSION:

Within the limitations of the study and on the basis of the obtained results it was concluded that the 12 weeks of Yogic practice had significantly reduced Stress among central Telangana girls.

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A STUDY OF EFFECT OF HIGH INTENSITY INTERVAL TRAINING PROGRAMME ON THE BASIS OF POST SKILL PERFORMANCE ON MUSCULAR STRENGTH OF JUDO PLAYERS OF MUMBAI

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Abstract

High Intensity Interval Training also termed as HIIT is a specific form of interval training with short bursts / periods of intense exercises combined with shorter recovery periods until too much exhausted to continue. It is done to the nearest maximum intensity. Heart rate recovery (HRR) is commonly defined as the decrease of heart rate at 1 minute after cessation of exercise. Judo is a combat sport. Judo is an individual sport in which two opponents compete against each other with a prime objective to throw the opponent to the ground on the back, immobilize with a hold, or force an opponent to surrender with a joint lock or a choke. HIIT would prove to be an effective means to fulfil the physiological and physical demands required from a judo player. Similarly HIIT may also improve Heart Rate Recovery. The purpose of the study was to determine the effect of HIIT Training on the basis of post skill performance on Muscular Strength of Judo Players of Mumbai. This study is conducted to determine the effect of HIIT Training on the basis of post skill performance on Muscular Strength of Judo Players of Mumbai. To compare the adjusted mean scores of post skill performance Muscular Strength of judo players of Experimental Group and Control Group by taking pre post-skill performance Muscular Strength as co-variate. Seventy female students aging 16 to 18 years were randomly assigned to experimental (n=35) and control (n=35) groups. The experimental subjects underwent HIIT training; five days in a week for twelve weeks whereas control group didn't participated in the HIIT training. At the baseline and after training intervention Heart Rate Recovery test through pulse count were conducted to assess the levels of Muscular Strength. Data were analyzed by using One Way ANCOVA test. The results revealed that HIIT Training significantly increase Muscular Strength. The findings conclude that HIIT Training improve Muscular Strength among female students of age 16 to 18 years.

Keywords: High Intensity Interval Training (HIIT) and Muscular Strength

INTRODUCTION

High Intensity Interval Training also termed as HIIT is a specific form of interval training with short bursts / periods of intense exercises combined with shorter recovery periods until too much exhausted to continue. It is to be done at near maximum intensity. It consists of sets and an individual practicing HIIT needs to push oneself to the max during every set. HIIT routines involves bodyweight work (example: squats) or added weights (example: medicine ball, etc.). It is effective on multiple fronts such as improved strength, endurance, improved metabolism, getting shredded, etc. HIIT can be done anywhere and at any place. Though there is no universal HIIT session duration, these sessions typically last for 20 to 45 minutes varying on individual participant's fitness levels. It consists of warming up, repetitions of HIIT exercises, recovery periods and cooling down. The number of repetitions and duration of each exercise depends on the exercise and its intensity. The common formula involves a 2 ratio 1 (2:1) of work / exercise to recovery periods. For example: 20 seconds of burpees with 10 seconds of recovery period/ break repeated to 8 sets. These 8 sets repeated to 5 sets or 6 sets depending on the

participant's fitness capacity. It is considered to be the best workout in the least amount of time. Judo is a combat sport. Judo (柔道 jūdō, meaning gentle way) was created as a physical, mental and moral pedagogy in Japan, in 1882, by Jigoro Kano. It was evolved from traditional martial arts and 'jujitsu' which later got categorized as modern martial arts and an Olympic sport. Judo is an individual sport in which two opponents compete against each other with a prime objective to throw the opponent to the ground on the back, immobilize with a hold, or force an opponent to surrender with a joint lock or a choke. A judo practitioner is called a judoka. Judo performance deals in great demand of physical power and great mental discipline. Judo offers students code of ethics that is a way of living and being. HIIT would prove to be an effective means to fulfill the physiological and physical demands required from a judo player. HIIT may also increase muscular strength.

In this piece of research, the researcher intends to see the effect of High Intensity Interval Training on Muscular Strength of college students aged 16 to 18 years under the topic. ***"A Study of Effect of High Intensity Interval Training Programme on the basis of Post Skill Performance on Muscular Strength of Judo players Of Mumbai "***

Objective of the Study:

- To compare the adjusted mean scores of post skill performance Muscular Strength of judo players of Experimental Group and Control Group by taking pre post-skill performance Muscular Strength as co-variate.

Hypothesis of the Study:

H₀₁: There is no significance difference in adjusted mean scores of Muscular Strength of judo players of Experimental Group and Control Group by taking pre post skill performance Muscular Strength as co-variate.

Methodology:**Selection of Sample:**

A sample of sixty (n=70) female students of aging 16 to 18 years were identified as subjects from Lords Universal Junior College of Commerce & Science, Goregaon (W) 400104.

Research Design: (Pre-test and Post-test Non Equivalent Control Group Design)

The design of the experiment had been planned in three phase's viz., Phase – I: Pre-test, Phase – II: Training or Treatment, and Phase – III: Post-test. The subjects in the experiment were divided into two groups, i.e. Group 'A' Experimental group and Group 'B' Control group; each group consisted of 35 subjects. Experimental group was given High Intensity Interval Training five days in a week for a total of 12 weeks.

Dependent Variable: Muscular Strength

Tools/ Instruments

The following criterion measure was included to record the reading of Muscular Strength.

Variable	Test	Unit
Muscular Strength	Modifued Push Ups Test	Count/Numbers

Training Schedule:

The specific High Intensity Interval Training was considered as independent variable for the present study which included following aspects:

PARTICULARS	DURATION
Warming Up	10 minutes
HIIT Training	40 minutes
Cooling down	10 minutes
Total	60 minutes

Statistics:

Comparison of group was done with the help of One Way Analysis of Covariance ANCOVA.

Results and Discussion:***Effect of High Intensity Interval Training on Muscular Strength.***

The mean achievement in Muscular Strength due to High Intensity Interval Training, as obtained from ANCOVA test, revealed that –

- There was significant difference between adjusted mean scores of Muscular Strength of College Students (Girls) of High Intensity Interval Training Group and Non High Intensity Interval Group by taking Pre Muscular Strength as covariate ($F_{y.x}=14.038$, $df=1/67$, $p<0.05$). Therefore the adjusted mean scores of Muscular Strength of College Students (Girls) of High Intensity Interval Training Group is 23.878. This does differ significantly than that of Non High Intensity Interval Training Group where adjusted mean score of Muscular Strength is 23.208. Thus, the overall performance scores of both the groups High Intensity Interval Training Group and Non High Intensity Interval Training Group of Muscular Strength were equal.

This result helps to interpret that the effect of High Intensity Interval Training was helpful in improving the Muscular Strength of College students (Girls).

CONCLUSION

The result of the study helps to conclude that the High Intensity Interval Training was found helpful to improve the Muscular Strength of College students (Girls).

FUTURE RECOMMENDATION

HIIT Training was found helpful to improve Physical Variable of Muscular Strength of Judo Students (Girls) aged 16 to 19 years and the same study can be conducted on boys / girls belonging to different age groups.

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EFFECT OF SPECIFIC SELF DEFENCE TRAINING ON MUSCULAR STRENGTH AND MUSCULAR ENDURANCE OF SECONDARY SCHOOLS CHILDREN

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Abstract

Introduction:

It is imperative that girls feel empowered in all aspects of their lives - physically, emotionally, and mentally. To achieve this goal, a comprehensive self-defense approach is necessary to address both physical safety concerns and the social pressures that adolescents face.

Purpose:

The purpose of the study was to identify the effect of Specific Self Defence Training Program on Muscular Strength and Muscular Endurance of Secondary School Girls of Thane District.

Method:

100 subjects were divided into two groups, experimental (n=50) and control (n=50) groups. Experimental group was given specific self defence training program for the period of twelve weeks. The control group has not undergone any training programme. At the baseline and after training intervention Muscular Strength and Muscular Endurance were used to assess the levels of Health-Related Physical Fitness. Data were analyzed by using One Way ANCOVA test.

Results and Discussion:

The results revealed that there was a significant difference in the adjusted mean scores of Muscular Strength of Secondary School Girls belonging to Specific Self Defence training group and Control Group by taking Pre- Muscular Strength as Covariate. It also revealed that there was a significant difference in the adjusted mean scores of Muscular Endurance of Secondary School Girls belonging to Specific Self Defence training group and Control Group by taking Pre-Muscular Endurance as Covariate.

Keywords: *Self Defence, Muscular Strength, Muscular Endurance*

INTRODUCTION

Self-defense classes teach systematic knowledge, methods, and appropriate behavior for assault situations. While martial arts training may have some self-defense applications, self-defense classes are marketed towards real-world efficacy. Girls can feel powerful physically, emotionally, and intellectually with a multidimensional self-defense strategy that addresses both physical safety and social pressures.

Young women today are pressured to interact in ways that weaken their ability to connect with each other. This gap between a girl's authentic self and society's expectations can lead to self-concept loss. Bullying is not the only issue for adolescent well-being; parents, teachers, and officials also worry about keeping daughters safe in an unsafe world. Every woman should be attentive and aware of her surroundings.

The definition of physical fitness involves living a complete and balanced life, encompassing both a healthy attitude and body. It is essential for self-sufficiency and cognitive alertness and allows for successful adaptation to one's environment. While physical fitness is widely recognized as an important aspect of a child's growth, there is no consistent definition of its precise nature.

Purpose of the study

The present study was conducted on Secondary school girls age ranging from 14-16 years to understand the effect of Specific Self Defence Training program. The assessment can help the students to realize that Self- defense not only teaches physical defense, but also important values like hard work, devotion, perseverance, and sustaining personal relationships.

Objective of the Study

For said study, the objectives of the study were as follows;

1. To compare the adjusted mean scores of Muscular Strength of School Girls of Specific Training Group and Non Specific Training Group by taking their Pre Muscular Strength as Covariate.
2. To compare the adjusted mean scores of Muscular Endurance of School Girls of Specific Training Group and Non Specific Training Group by taking their Pre Muscular Endurance as Covariate.

Hypothesis of the Study

For said study, the hypothesis of the study were as follows;

H01: There is no significant difference in the adjusted Mean Scores of Muscular Strength of School Girls of Specific Training Group and Non Specific Training Group by taking Pre Muscular Strength as Covariate.

H02: There is no significant difference in the adjusted Mean Scores of Muscular Endurance of School Girls of Specific Training Group and Non Specific Training Group by taking Pre Muscular Endurance as Covariate.

METHODOLOGY

One Hundred (n=100) Secondary School Girls age ranging from 14-16 years were identified as subjects from Ravindra Vidyalaya, Titwala. The students were further divided into 2 groups out of which one were experimental group of Specific Self Defence Training and the other group was control group.

Design of the Study

The design of the study was Non Equivalent Control Group Design. Phase – I: Pre-test, Phase – II: Training or Treatment, and Phase – III: Post-test. The subjects were divided into two groups, one Experimental group and one Control group; each group consisted of 50 subjects. Experimental group had undergone Specific Self Defence Training Programme for the period of twelve weeks.

Dependent Variables of the study: Muscular Strength and Muscular Endurance

Criterion Measures

The following criterion measures included the records of the various test. items of Selected Physical Fitness Components.

Variable	Test	Unit
Muscular Strength	Modified Push Ups	Counts/Min
Muscular Endurance	Bent Knee Sit ups	Counts/Min

Independent Variables:

The specific Self Defence Training was considered as independent variable for the present study.

STATISTICS:

Comparison of group was done with the help of One-Way Analysis of Covariance ANCOVA.

Results and Discussion:

The mean achievement in Muscular Strength and Muscular Endurance due to Specific Self Defence Training Programme, as obtained from ANCOVA test, revealed that –

Table 1.1: Summary of One Way ANCOVA of Comprehension by taking Pre-Muscular Strength as Covariate

Source of Variance	Df	SSy.x	MSSy.x	Fy.x	Remark
Treatment	1	437.883	437.883	176.271	P<0.01
Error	97	240.962	2.484		
Total	100				

From Table 1.1 it can be seen that the adjusted F-value is 176.27 which is significant at 0.01 level with df=1/97 when Pre-Muscular Strength was taken as covariate. It shows that the adjusted mean scores of Muscular Strength of School Girls of Specific Training Group and Non Specific Training Group by taking their Pre Muscular Strength as Covariate. Thus, the Null Hypothesis that there is no significant difference in the adjusted Mean Scores of Muscular Strength of School Girls of Specific Training Group and Non Specific Training Group by taking Pre Muscular Strength as Covariate is rejected. Further the adjusted mean score of Muscular Strength of Specific Self Defence Training Group is 24.04 which is significantly higher than the adjusted mean score of Control Group which is 20.32. It may, therefore, be said that Specific Self Defence Training is useful in improving Muscular Strength of School Girls compare to the Control Group where Pre- Muscular Strength was taken as covariate.

Table 1.2: Summary of One Way ANCOVA of Comprehension by taking Pre-Muscular Endurance as Covariate

Source of Variance	Df	SSy.x	MSSy.x	Fy.x	Remark
Treatment	1	361.049	361.049	66.214	P<0.01
Error	97	528.920	5.453		
Total	100				

From Table 1.2 it can be seen that the adjusted F-value is 66.21 which is significant at 0.01 level with df=1/97 when Pre-Muscular Endurance was taken as covariate. It shows that the adjusted mean scores of Muscular Endurance of School Girls of Specific Training Group and Non Specific Training Group by taking their Pre Muscular Endurance as Covariate. Thus, the Null Hypothesis that there is no significant difference in the adjusted Mean Scores of Muscular Endurance of School Girls of Specific Training Group and Non Specific Training Group by taking Pre Muscular Endurance as Covariate is rejected. Further the adjusted mean score of Muscular Endurance of Specific Self Defence Training Group is 23.64 which is significantly higher than the adjusted mean score of Control Group which is 19.83. It may, therefore, be said that Specific Self Defence

Training is useful in improving Muscular Endurance of School Girls compare to the Control Group where Pre- Muscular Endurance was taken as covariate.

Conclusion:

Effect of twelve weeks Specific Self Defence Training Programme intervention has potential benefits to improve Muscular Strength and Muscular Endurance of Secondary School Girls.

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SMARTPHONE ADDICTION AND ITS MENTAL HEALTH RISK**Ashwini Ashok Malkar**

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Abstract

The human body is always harmed by addiction. Students emotional and physical health is also impacted by smartphone addiction. Clinically, smartphone addiction is categorised as behavioural addiction, which arises from excessively problematic use of smartphones that interferes with daily living. Although young people are frequently linked to this phenomena, addiction of this kind can have a major negative impact on mental health and afflict practically any group. Smartphone addiction can have serious consequences, including increased stress, worry, and depression as well as decreased sleep quality. In the past decade phones have developed from being instruments for communication to an all-in-one digital device, and our entire worlds can now be accessed with only a few touches on the screen. Because of this, they are very helpful, but they also have a strong allure that many people find difficult to avoid. Maintaining healthy limits in the ever-expanding digital environment is crucial for managing digital literacy. The risks and complexities brought on by mobile phone addiction must be avoided; this calls for behaviour among susceptible pupils, counselling, and educational planning. This Paper throes light on topics "Smartphone Addiction and its Mental Health Risk".

Keywords: Smartphone, Addiction, Mental Health, Stress, Depression

INTRODUCTION

Mental illnesses are a serious public health issue, particularly for college students. Serious psychological discomfort and smartphone addiction are more likely to develop in women, those who believed that using a smartphone impairs their mental abilities, and those who experienced sleep problems and exhaustion. Although smartphones are essential, over usage of them can cause addiction and negatively impact the mental health of college students (Sawsan M A Abuhamdah, 2023). Since the mobile market is growing so quickly, smartphones are becoming more and more popular. In addition to being more accessible than computers, smartphones are extremely addictive—more than twice as addictive as the Internet. Since it is known that a large number of students struggle with smartphone use, drastic steps should be taken to keep them from developing a smartphone addiction. Additionally, it is crucial to teach smartphone use in elementary school as the age at which children begin using smartphones is decreasing. Since many students view smartphones as more than just communication devices, other strategies should be tried to guide students towards responsible smartphone use rather than strictly regulating it (Yu, 2014). According to the study's findings, parents and social workers should be encouraged to recognise the serious hazards that excessive smartphone use or addiction poses to teenager's mental health. In order to lower smartphone abuse and the suicide rate, there is a continuing need for targeted government regulations and efficient prevention strategies.

Research have shown that smartphone-based tools have decreased anxiety and depression symptoms, which supports the idea that they can be a useful tool for preventing smartphone addiction and other hazards. Also, we propose that parents can reduce the dangers associated with smartphone

addiction by implementing measures including emotional support, parental supervision, and reasonable smartphone use restrictions (Oyuntuya Shinetsetseg, 2022).

It is obvious how smartphone addiction affects one's health. Smartphone addiction will negatively impact student's everyday lives in a number of ways, including impaired focus, irregular eating habits, decreased productivity, strained social interactions, and health issues like hazy vision, stiff necks, wrist discomfort, and sleep disturbances. Spending more than four hours a day on the internet has been shown to dramatically raise the risk of Sub-Health Status (SHS). Long-term Internet use has been linked to fatigue, anxiety, and other symptoms of SHS, as well as backache, neck, finger, wrist, and arm discomfort. Therefore, in order to support the development of students physical and mental health, colleges should advise them on physical activity and psychological counselling (Ming Zhang, 2022).

There is a risk of addiction to some web programs, such social networking sites (SNS), which are easily accessed through smartphones, as a result of the sharp rise in smartphone use. The possibility of a rise in narcissism among SNS users is a significant worry associated with the growing usage of these sites (Pearson, 2016).

Compared to non-addicted students, students with smartphone addiction were more likely to have a lower GPA, poorer physical health, and a serious mental disease. According to this research Smartphone Addiction Prevalence and Its Association on Academic Performance, Physical Health, and Mental Well-Being among University Students in Umm Al-Qura University (UQU), Saudi Arabia, university students may benefit from smartphone education that emphasises the negative effects of smartphone addiction on their physical and mental health (Mohammad Saud Alotaibi, 2022).

Students addiction to mobile phones may be avoided with the use of early intervention initiatives like classroom instruction, keynote addresses, and educational pamphlets. Additionally, it is imperative that students understand the possible harm that excessive mobile phone use may do to their physical and mental health, which will motivate them to concentrate more on in-person relationships. Since poor sleep is frequently linked to serious mobile phone addiction, administrators should also act right away to improve students' sleep quality. It may be advantageous to identify students who are at risk using sleep quality surveys and offer suitable interventions, like psychiatric counselling and the creation of dormitory support groups (Irum Zeb, 2024).

Several tactics can be used to control and lessen reliance on phones such as, the use of phones with awareness. Only use the phone when absolutely need, get rid of apps that aren't needed, make other connections with people (e.g., phone conversations, in-person contacts). Setting boundaries and establishing guidelines can help people develop a more positive connection with their gadgets. Set aside specified times to use your phone. Don't use your phone at social events or while eating. Establish areas (like the dining room or bedroom) where phones are not allowed. Numerous applications are made to assist people in controlling their phone use and overcoming addiction. These applications include features and tools for goal-setting, progress tracking, and screen time monitoring and limitation. One way to lessen the stress that comes with using a smartphone is to turn off unnecessary notifications like sounds, advertisements, and vibrations. Limiting the amount of time spent on social networking apps might also lessen feelings of loneliness and sadness (Arista, 2024).

The high rate of smartphone use may be related to the COVID-19 pandemic, when people first restricted themselves to their houses, which increased their sense of loneliness. The use of smartphones for entertainment and communication has consequently increased significantly. Smartphones have become essential due to the move to online learning, which has led to a rise in usage. The pandemic may have caused a shift in lifestyle that made pupils more susceptible to smartphone addiction leading towards poor mental health. By teaching useful strategies for obtaining social support, counselling centres can manage behavioural disorders, prevent problems, and promote mental health. Given that mobile phone addiction is a factor in mental health, efforts should be made to preserve students' mental health and lessen their addiction to digital media. Universities and colleges must create educational programs to maintain students physical and mental well-being, and they must develop recreational programs for students, leisure time. (Neda Malek Mohammadi, 2024).

The number of children using smartphones is expected to increase, which could cause psychological and physical problems for the young population. Teens who are older and more depressed are more likely to become addicted to smartphones. Furthermore, parental control over their children's smartphone use is ineffective and makes smartphone addiction worse. A substantial amount of information about the detrimental effects of smartphones on children is still lacking. More study is required to better understand how to prevent children from being addicted to smartphones (Lee & Ogbolu, 2018). Studies have clearly shown that Smartphone Addiction is increasing day by day causing severe Physical & Mental Health problems.

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LIFE-SAVING 'LOADING DOSE': AN OVERVIEW OF IMMEDIATE TREATMENT TOOLS TO AVOID A PLAYER'S ACUTE CARDIAC ARREST

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Abstract

The most common medical cause of death in athletes today is sudden cardiac death (SCD). It can occur during games and training or in athletes of any age, but the causes and risks vary depending on the age of the athlete and other factors. The primary objective of the article is to improve awareness of the risk factors and consequences of a heart attack and save a player's life.

Authors can define loading dose as the highest dose of drug/drugs or combination of drugs above its normal level or maintenance level during the emergency period to save the life of the victims.

Heart attack, also scientifically called acute myocardial infarction, occurs when the blood supply to the heart is cut off or a clot forms. Heart disease is still the leading cause of death in India. Common symptoms of a heart attack are severe pain in the middle of the chest, pain in the left upper back, pain in the left arm, shoulder and jaw, shortness of breath, sweating even in cold environments, unusual difficulty or difficulty in climbing stairs Feeling discomfort in walking, fainting and vomiting. Common risk factors and causes of heart attack are diabetes, high blood pressure, obesity, family history of heart disease, sedentary lifestyle, smoking, occupational and educational stress, drinking too much alcohol, unhealthy diet, HIV, high cholesterol levels and Old age etc. The 'loading dose' for heart attack consists of 325 mg aspirin, 80 mg atorvastatin and 300 mg (150x2) clopidogrel. Aspirin, clopidogrel, and atorvastatin help prevent or avoid heart attacks in people with coronary artery disease and those at higher than average risk. Aspirin and clopidogrel are antiplatelet drugs or medicines and contribute to keeping blood flowing smoothly in the coronary arteries. Additionally, aspirin and clopidogrel prevent platelets from sticking together and preventing them from forming harmful clots in the blood.

Additionally, atorvastatin is a cholesterol-lowering agent that reduces inflammation and stickiness of platelets and helps prevent clotting. 03 The said medicine should be kept in a small bag and kept in the pocket, while playing a match or training periods .

INTRODUCTION

Loading dose is the initial large dose of a drug or drugs that is used to ensure a quick therapeutic response. It is usually given for a short time before continuing therapy with a lower maintenance dose. (Miller 2016, Baliga 2017). The use of loading doses of medications can be complex and error prone (Miller 2016). Incorrect use of loading doses or subsequent maintenance regimens may result in serious harm or death.

(Miller 2016,). Regular or management doses do not adequately reduce platelet stickiness during a heart attack. However, when given in large doses, it can act very efficiently (Baliga 2017). Heart disease is still the leading cause of death in India, killing 1.7 million Indians in 2016 (Global Burden of Disease Report, 2017).

Mortality due to cardiovascular diseases (CVD) declined by a significant 41 percent in the US between 1990 and 2016, while in India it increased by nearly 34% from 155.7 to 209.1 deaths per lakh population (in the Elsevier Journal of the American College of of Cardiology.)

Heart attack (acute myocardial infarction) one of the types of cardiovascular diseases (CVD) occurs when blood flow to a part of the heart is blocked (Zhang, 2010, WHF 2011, DHD, 2017). Heart attacks are caused by the coronary arteries that supply blood to the heart becoming gradually thickened and hardened by a buildup of fat in the form of triglycerides, low-density lipoproteins, very-low-density lipoproteins (cholesterol), and other substances Are going called plaque (Different heart diseases 2018; Six Types of Cardiovascular Disease, 2018; American Heart Association 2011; Aspirin for heart attack,2018; World Heart Federation,2018 andVale, 2000).

Symptoms of a heart attack

Common symptoms of a heart attack are severe pain in the middle/left side of the chest, pain in the left upper back, pain in the left arm, shoulder and jaw, shortness of breath, sweating and feeling faint and vomiting. (Bakthavathsalam 2015;Dimsdale, 2008;Dabbak, and Arafa,2014).

Risk factors and causes of heart attack

Common risk factors and causes of heart attack are diabetes, high blood pressure (hypertension), obesity, family history of heart disease, sedentary lifestyle (physical inactivity), smoking, occupational and educational stress, drinking too much alcohol, wrong Eating and drinking. Habits, HIV, high cholesterol level and old age etc. (Ravi , Pradeepa,Mohan2004;Blackburn,2007; Shah & Mathur,2010;Hlaing, Nath, & Huffman, 2007;Pearson, 2007; Smalley, Wittler, &Oliverson, 2004;Vale, 2000;Grech&Ramsdale ,2003;Dimsdale, 2008;Dabbak, and Arafa, 2014). Heart attacks can be fatal, but if victims get medical attention and treatment to rule out blockage soon after a heart attack, you may save your life. (World Heart Federation,2018 ;Dabbak, and Arafa, 2014A life-saving 'loading dose' can save victims' lives after an immediate heart attack. Loading dose includes aspirin, atorvastatin (statin) and the anti-platelets drug clopidogrel.

What should we do during heart attack?

Severe pain in the middle/left side of the chest, pain in the left upper back, pain in the left arm, shoulder and jaw, trouble breathing, sweating even in cold environments, unusual difficulty climbing stairs or discomfort in walking, Feeling faint and vomiting are warning signs of a heart attack (Bakthavathsalam 2015). Victims need immediate medical attention, call a doctor immediately and avoid driving, walking or running, climbing stairs, shuddering and lying quietly.

During the above situations, please swallow the 'loading dose' present in your pocket with a glass of water. These 'loading dose' first aid tablets reduce blood viscosity, reduce the severity of heart attacks and 'could save lives' of victims.

(Bakthavathsalam 2015).

Life Saving 'Loading Dose' for heart attack

Loading Dose' consists of the following combination of Medicines are as :

1. Disprin 325 mg
2. Atorvastatin (Lipitor) 80 mg (Brand Name- Atrova, Astin, Atromac, Atrona, Xtor etc.)
3. Clopidogrel 300 mg (150x2 = 300mg). (Brand name - Clopitab, Clopivas, Clopilet, Clopigrel, Clopiget, Clopid, Plavix etc.)

Description of Disprin:

A 325 mg dose of Disprin may increase the chances of surviving a heart attack. Disprin prevents a blood clot that is blocking the blood supply to the heart (Lathwal, 2016).

Disprin helps by preventing platelets from forming. Disprin tablets contain the active ingredient acetylsalicylic acid, better known as aspirin. Aspirin works by blocking the action of an enzyme called cyclo-oxygenase in the body (Lathwal, 2016, Malik, 2015).

Disprin helps by preventing platelets from forming. Disprin tablets contain the active ingredient acetylsalicylic acid, better known as aspirin. Aspirin works by blocking the action of an enzyme called cyclo-oxygenase in the body (Lathwal, 2016, Malik, 2015).

If the blockage becomes complete, it deprives a portion of the heart muscle of oxygen. As a result, muscle cells die – and this is a heart attack. (Aspirin for Heart Attack 2018).

Why Disprin not Ecosprin?

Basically Ecosprin is an aspirin which usually does not dissolve so quickly, but Disprin dissolves faster due to the sodium salt of acetyl salicylic acid with Ca(OH)_2 , (Lathwal, 2016; Malik, 2015).

Disprin dissolves easily in water and works quickly to prevent blood clotting. Ecosprin takes longer to work than Disprin, so Disprin is better than Ecosprin. For best results, chew a full-size 325 mg tablet, but do not use enteric-coated tablets, which will work more slowly even if chewed.

(Aspirin for heart attack 2018)

Clopidogrel (Generic name)

Clopidogrel is used to prevent the risk of heart attack and stroke in people who have recently had a heart attack. Clopidogrel is an antiplatelet drug or medicine and helps keep blood flow smooth in the arteries. (Clopidogrel Bisulfate".(2016). Additionally, clopidogrel treats new/worsening chest pain (new heart attack, unstable angina) and keeps blood vessels smooth and prevents blood clots after certain procedures such as cardiac stents. (<https://www.webmd.com/drugs/2/drug-5190/clopidogrel-oral/details>). Clopidogrel prevents platelets from sticking together and preventing them from forming harmful clots (<https://www.webmd.com/drugs/2/drug-5190/clopidogrel-oral/details>). The highest dosage of clopidogrel is 150 mg which is available in medical stores under the brand names Clopitab, Clopivas, Clopilet, Clopigrel, Clopigate, Clopid, Plavix etc.

Atorvastatin (Lipitor)

Atorvastatin belongs to a class of drugs called statins. It is used to reduce cholesterol. Atorvastatin acts primarily in the liver. Decreases cholesterol levels in the liver and protects against heart disease (<https://www.drugbank.ca/drugs/DB01076>). Cholesterol-lowering agents (statins) reduce the swelling and stickiness of platelets. Therefore, atorvastatin is also given in loading dose (Baliga, 2017). The brand names of atorvastatin are Atrova, Astin, Atromac, Atrona, Xtor etc. which are available in medical stores.

Discussion

The authors may define loading dose as the highest dose of drugs/ medicine or combination of medicines from its normal level or maintenance level during an emergency period to save the life of victims. Recently the World Health Organization (WHO 2002) has declared that by 2020, 60% of cardiovascular cases will be of Indian origin. The study, which provides the first-of-its-kind nationally representative estimates of cardiovascular mortality in India, shows that heart ailments caused more than 2.1 million deaths in India in 2015 at all ages, The study shows that deaths due to heart diseases were more common among the rural and urban population Between 2000 and 2015(Million Death Study project). Pearson, (2007) found that CVD remains the leading cause of morbidity and mortality for both men and women. Many forms of heart disease or CVD can be prevented or treated with healthy lifestyle choices (AHA, 2011; Pearson, 2007). The ICMR-WHO study on Burden of Disease reviewed literature till 2003 on NCDs. The weighted average prevalence for cardiovascular disease was estimated to be 6.4 per cent in urban areas and 2.5 per cent in rural areas. Cardiovascular diseases (CVD) accounted for 63% of all deaths and India contributed to 17 % to the worldwide mortality (Shah &Mathur , 2010). In addition, The Global Burden of Diseases (GBD) study reported the estimated mortality from coronary heart disease (CHD) in India at 1.6 million in the year 2000. A total of nearly 64 million cases of CVD are likely in the year 2015, of which nearly 61 million would be CHD cases. Gupta (2005) found that cardiovascular disease (CVD) is more prevalent in Indian urban populations and there is a clear declining gradient in its prevalence from semi-urban to rural populations. Epidemiological studies show a sizable burden of CVD in adult rural (3-5%) and urban (7-10%) populations..The Minnesota Business Men Study was conducted in 1948 among 300 healthy businessmen to find out the cause and progression of CVD (Blackburn, 2007). From those participants, relative weight, body fatness (skinfold thickness), blood pressure, and serum cholesterol were measured. Among the variables studied, only serum cholesterol was found significant for the development of CVD. The Hlaing et al., (2007) conducted the Studies among university students that indicate that college students are also at risk of developing CVD. Data from Behavioral Risk Factor Surveillance System (BRFSS) surveys for the period 2006 - 2010 revealed that the prevalence of CVD was men (7.8%) than women (4.6%), and among those with less than a high school education (9.2%), compared with high school graduates (6.7%), those with some college (6.2%), and those with more than a college degree (4.6%). AHA (2011) classified risk factors for CVD into three categories: major risk factors (that significantly increase the risk of CVD), contributing risk factors (are associated with increase in CVD risk, but their significance and prevalence have not been precisely determined), and modifiable risk factors (that can be controlled, modified or treated).. Major risk factors that can be modified, treated or controlled are high blood cholesterol, high blood pressure, physical inactivity, obesity and overweight, high blood sugar (Diabetes Mellitus), and smoking (AHA, 2011).A study conducted by National Vital Statistics Report 2007 showed that heart disease is the number one killer for both men and women in the United States. In both men and women risk factors such as hypertension, high blood cholesterol level, smoking, lack of physical activity and obesity increase the probability of developing CVD (Zhang, 2010). AHA (2011) reported that cigarette smoking increases the risk of coronary heart disease by itself and when it acts with other factors, the risks highly increase. Prevalence of smoking among college students has decreased in recent years from 30% in 1999 to 18.1 % in 2011.AHA (2011) classified stress as a contributing risk factor for developing

CVD. The increased risk of CVD from chronic stress has been linked to increased plaque build-up as a result of elevated cholesterol, hardening of the arteries, change in the blood pressure, and abnormal working rhythm of the heart (Dimsdale, 2008). The National Health Interview Study conducted by CDC reported that stress is accountable for 30% risk of heart attacks (Torpy, 2007). Living a stressful life can cause people to adopt poor habits like smoking, overeating, and drinking, which in turn are risk factors for CVD (WHF, 2011).

These 'loading dose' (Disprin 325 mg, Atrovastatin 80 mg and colpidogrel 300 mg) reduce the viscosity of the blood, decrease the severity of heart attack and may 'save the life' from heart attack.

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HEALTH-RELATED FITNESS AND BODY COMPOSITION ANALYSIS AMONG UNIVERSITY-LEVEL FEMALE STUDENTS

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Abstract

This study investigates the health-related fitness indicators and body composition characteristics of university-level female students. The study focuses on various parameters including height, weight, visceral fat, basal metabolic rate (BMR), body mass index (BMI), and visceral fat, providing a comprehensive understanding of the physical health of students. The data includes a sample of 120 students aged 17-21, offering insight into the relationship between body composition and health metrics.

Keywords: *Body Composition, BMI, BMR, Visceral Fat, Health-related Fitness, University Students, Physical Health etc.*

INTRODUCTION

Health-related fitness is an essential aspect of well-being, contributing to overall quality of life. University students, particularly young women, are often at a crucial stage where lifestyle habits influence long-term health outcomes. Understanding body composition parameters, such as BMI, BMR, and visceral fat, can provide a clearer picture of individual health status. This research aims to assess and analyze the physical health status of female students at the university level based on these parameters.

MATERIALS AND METHODS

Participants

The study analyzed a cohort of 120 female students, aged between 17 and 21 years. The students were from diverse academic backgrounds but were all enrolled at a Palamuru University. The parameters measured include:

- Height (cm)
- Weight (kg)
- Visceral Fat (unit)
- BMR (K.Cal)
- BMI (units)

Data Collection

The data for each student was collected during a routine health screening. Measurements were recorded under standard conditions and reviewed by a certified health professional. The parameters of visceral fat and BMR were measured using advanced bioelectrical impedance analysis (BIA) technology.

Statistical Analysis

Data was analyzed using descriptive statistics to examine the trends and averages for each parameter. The relationship between BMI and visceral fat was analyzed using correlation tests. The data

was stratified by age groups (17-18 years, 19-20 years, and 21 years) to identify any age-related differences in body composition.

RESULTS

The findings of the study are summarized as follows:

1. General Physical Characteristics

- The average height of the students ranged from 140 cm to 168 cm.
- The average weight varied from 33.9 kg to 93 kg, with a general trend towards higher weight in older students.
- Visceral fat ranged from 0.5 to 16 units, with a significant percentage of students displaying elevated visceral fat levels, particularly among those aged 19-21.

2. Basal Metabolic Rate (BMR)

- The BMR values ranged from 999 Kcal to 1536 Kcal, with an average BMR of 1300 Kcal for the sample population.
- There was a noticeable increase in BMR with age, especially among students aged 19 and above.

3. Body Mass Index (BMI)

- The BMI values ranged from 14.8 to 31.7, with most students falling into the normal weight category (BMI: 18.5–24.9).
- A substantial number of students (approximately 20%) had a BMI indicating overweight or obesity, especially in the 19-21 age range.

4. Visceral Fat and Health Implications

- Visceral fat, which is a crucial indicator of health risks such as cardiovascular disease, was found to be elevated in a significant portion of the student population, particularly among those with higher BMI scores.
- A positive correlation was found between visceral fat levels and BMI, suggesting that students with higher BMI tend to have higher levels of visceral fat.

DISCUSSION

The results of this study suggest a concerning trend regarding body composition and health-related fitness among university-level female students. While many students fall within a normal BMI range, a large portion of the sample displays elevated visceral fat levels, which are linked to increased health risks. The findings highlight the importance of promoting healthy lifestyle choices, including physical activity and balanced nutrition, to maintain a healthy body composition. The increase in BMR with age is consistent with the natural growth and development of the students. However, the presence of excess visceral fat in students over 18 years underscores the need for interventions aimed at improving overall fitness and body composition.

LIMITATIONS

The study is limited by its cross-sectional design, and the data collected is based on self-reported measures. Further longitudinal studies would be beneficial to assess how these parameters change over time.

RECOMMENDATIONS

- Encourage physical activity programs focused on reducing visceral fat.
- Provide educational programs on maintaining a healthy weight through balanced nutrition.

- Regular health screenings to monitor body composition and prevent obesity-related health issues.

CONCLUSION

This research provides valuable insights into the health-related fitness and body composition of university-level female students. The findings underscore the need for awareness and intervention regarding excessive visceral fat and the risks associated with higher BMI. A focus on maintaining a healthy lifestyle through physical activity and dietary management is essential for improving the health and well-being of young women at the university level.

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EFFECT OF INTEGRATED TRAINING PROGRAMME ON BURNOUT OF JUNIOR NATIONAL KABADDI PLAYERS OF GUJARAT STATE

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Abstract

According to Psychology, Burnout is a state of emotional, mental, and often physical exhaustion brought on by prolonged or repeated stress. Burnout is the important factor that significantly affects the performance of an individual or team. Psychological preparation plays most important factor for the player to help him overcome the effect of stress and to become mentally tough to fight against the odd situation to give his best performance. Burnout during competition does not help the player to give best performance. Integrated training module is designed to involve aspects like psycho-physical variable for enhancement of skill for junior National kabaddi players of Gujarat state which help to boost their performance at competition level. Through Integrated training burnout is channelized with proper planning and awareness of mind, and character is encouraged. The purpose of the study was to determine the "Effect of Integrated Training Programme on Burnout of Junior National Kabaddi Players of Gujarat State". The objective of the study was to compare the adjusted Mean Scores of Burnout of Junior National Kabaddi Players of Integrated Training Group and Control Group by taking Pre-Burnout as Covariate. Sixty female Junior National Players of Gujarat State were assigned to experimental (n=30) and control (n=30) groups. The experimental group underwent Integrated training; six days a week for 12 weeks, whereas control group didn't participate in the Integrated Training Programme. At the baseline and after training intervention Burnout test through questionnaire by Karuna Shankar Misra – 2005 were conducted to assess the Burnout. Data were analyzed by using One Way ANCOVA test. The result revealed that Integrated Training Programme did help to reduce Burnout.

Key Word: Burnout

INTRODUCTION

Kabaddi is perhaps the only combative sport in which attack is an individual attempt while defense is a group effort. Yoga, the Indian science to control body and mind through meditation and self-control plays an integral part of Kabaddi. Psychological preparation plays most important factor for the player to help him overcome the effect of stress and to become mentally tough to fight against the odd situation to give his best performance. Burnout during competition does not help the player to give best performance. Burnout is a state of emotional, mental, and often physical exhaustion brought on by prolonged or repeated stress. The players have to be mental strong to deal with the each and every situation that they may face. It has direct application to perform better in sports. Burnout is the important factor that significantly affects the performance of an individual or team. Integrated training module is designed to involve aspects like psycho-physical variable for enhancement of skill for junior National kabaddi players of Gujarat state which help to boost their performance at competition level. Through Integrated training burnout is channelized with proper planning and awareness of mind, and character is encouraged. In this piece of research, the researcher intends to see the "Effect of Integrated Training Programme on Burnout of Junior National Kabaddi Players of Gujarat State".

Aim:

This study is conducted to determine the effect of Integrated Training Programme on Burnout of Junior National Kabaddi Players of Gujarat State.

Objective if the Study:

- To compare the adjusted Mean Scores of Burnout of Junior National Kabaddi Players of Integrated Training Group and Control Group by taking Pre-Burnout as Covariate.

Hypotheses of the Study:

H01: There is no significant difference in the adjusted Mean Scores of Burnout of Junior National Kabaddi Players of Integrated Training Group and Control Group by taking Pre-Burnout as Covariate.

METHODOLOGY:**Selection of Sample**

Sixty female Junior National Players of Gujarat State were assigned to experimental (n=30) and control (n=30) groups.

Research Design

The design of the experiment has been planned in three phases' viz., Phase-I: Pre-test, Phase-II: Training or Treatment and Phase-III: Post-test. The subjects in the experiment were divided into two groups, i.e. Group A: Experimental (Integrated Training Group) and Group B: Control Group; each group consisted of 30 subjects. The experimental group underwent Integrated training; six days a week for 12 weeks, whereas control group didn't participate in the integrated training programme.

Dependent Variable

Psychological Variable: Burnout

Tools/Instruments

The following criterion measure was included to record the score of Aggression.

Sr. No.	Variable	Tools	Test	Score
1	Burnout	Questionnaire	Burnout Inventory Questionnaire by Karuna Shankar Misra – 2005	Score in numbers

Training Schedule:

The integrated training was considered as independent variable for the present study which included the following aspects:

PARTICULARS	DURATION
Warming Up	10 minutes
Integrated Training	40 minutes
Cooling Down	10 minutes
Total	60 minutes

Statistics

Comparison of Integrated Training group and Control group was done with the help of One Way Analysis of Covariance (ANCOVA).

Result and Discussion of the study**TREATMENT WISE COMPARISON OF ADJUSTED MEAN SCORES OF AGGRESSION**

The adjusted F-value is 4.58 which is significant at 0.05 level with df=1/57 when Pre-Burnout was taken as covariate. It shows that the adjusted Mean Scores of Burnout of Junior National Kabaddi

Players of Integrated Exercise Training Group and Control Group does differ significantly when Pre-Burnout was taken as Covariate. Thus, the Null Hypothesis that there is no significant difference in the adjusted Mean Scores of Burnout of Junior National Kabaddi Players of Integrated Exercise Training Group and Control Group by taking Pre Burnout as Covariate is rejected. Further the adjusted mean score of Burnout of Integrated Exercise Training Group is 97.77. This does differ significantly than that of Control Group where adjusted mean score of Burnout is 100.50. It may, therefore, be said that Integrated Exercise Training Group was found to be effective in reducing Burnout of Junior National Kabaddi Players than Control Group where Pre Burnout was taken as covariate.

CONCLUSION

The result of the study helps to conclude that the Integrated Training among Junior National Kabaddi players of Gujarat State was found to be effective in reducing Burnout.

ACKNOWLEDGEMENT:

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EFFECT OF PLYOMETRIC TRAINING MODULE ON VERTICAL JUMP PERFORMANCE IN FEMALE VOLLEYBALL PLAYERS

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Abstract

Plyometric training is renowned for its ability to improve athletic performance since it involves explosive movements that increase muscular power. The impact of a 12-week plyometric training module on female volleyball players' vertical jump performance is examined in this study. Thirty subjects were divided into two groups: 15 for the experimental group and 15 for the control group. While the control group continued their usual volleyball training routine, the experimental group engaged plyometric activities. Chu (1996) used the stand and reach test to determine vertical jump height before and after the training. Participants used chalk powder to jump against a wall. Findings showed that the experimental group exceeded the control group, demonstrating the value of plyometric training in improving explosive power and performance in games.

Key words: *Plyometric training, vertical jump, explosive power, volleyball.*

INTRODUCTION:

The dynamic and fast-paced sport of volleyball demands a blend of explosive power, strength, agility, and coordination. One of the most important volleyball talents is the ability to jump vertically. It is necessary for skills like spiking the ball over the net and blocking opponent attacks. A player's effectiveness on the court can be greatly impacted by their capacity to produce vertical height during these crucial moves.

Several variables, such as technique, explosiveness, and lower body strength, affect the vertical jump in volleyball. Players must develop certain physical attributes to succeed, especially to obtain an edge in high-pressure scenarios like successfully serving, attacking or blocking an opponent's spike. Plyometric training is one prevalent and effective training module for improving vertical jump performance. The explosive muscle contractions used in plyometric exercises serve to increase power and strength by focusing on the muscles that provide vertical force. The purpose of these workouts, which include box jumps, bounding, and jump squats, is to increase the speed and efficacy of muscle activation, which can result in a higher vertical jump height. This kind of training may improve performance in explosive sports like football, basketball, volleyball, and track and field.

The purpose of this study

The purpose of this study is to investigate how an organised plyometric training program affects female volleyball players' vertical jump performance.

In order to improve overall gameplay and provide players a competitive edge on the court, we hope to determine whether plyometric activities can result in quantifiable gains in vertical leap performance.

Objectives of the Study

- To assess the extent in which plyometric training has enhanced vertical jump height.

- To compare the performance outcomes between an experimental group and a control group.

Limitations of the study:

- There will be no control on the day-to-day activities of the subject.
- There will be no control on their lifestyle.
- Heredity factors which may have had some influence on the player performance could not be controlled.
- There will be no control on eating habits or diet control.
- Delimitation of the study:
 - The study will be delimited to Female Volleyball players only.
 - The study will be delimited to Volleyball players of 18-21 years age group of Thane district only.
- The period of training will be delimited to 2 days per week for duration of 12 weeks only.

Methodology of the study

Thirty (n=30) female volleyball players, age ranging from 18–21 years, were selected as the subjects from Thane district schools. Two groups, the Experimental group and the Control group, each with 15 subjects, were created randomly from the samples. For 12 weeks, the experimental group participated in a plyometric exercise program.

DESIGN OF THE STUDY:

Training program

Two training sessions each week were implemented in the development of a 12-week training program. The most significant component was to warm up before every session. Before the training began, the experimental groups were instructed on how to perform plyometric training exercises. The subjects were shown the plyometric activities by the researcher himself.

Each session comprising:

- Warm-up: Dynamic stretches and aerobic exercises.
- Plyometric Training:
 - Box jumps
 - Depth jumps
 - Lateral bounds
 - Squat jumps
 - Bounding drills
- • Cool-down: Static stretches and light jogging.

The subjects in control group continued with their regular volleyball training.

Data collection:

Using standardized testing procedures and the chalk powder method to guarantee consistency, vertical jump height was assessed in the pre-test and post-test phases.

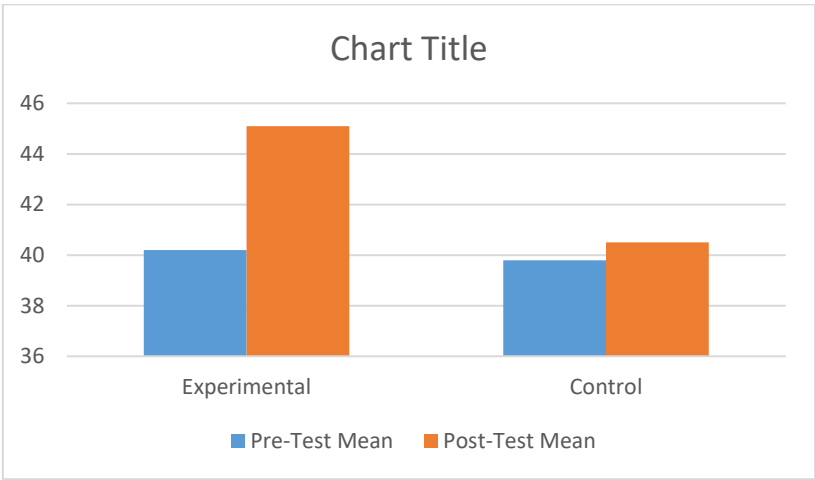
Statistical analysis:

The t-test was used to compare the pre-test and post-test scores.

RESULTS:

Group	N	Pre-Test Mean (SD)	Post-Test Mean (SD)	Diff. (Mean)	t	p
Experimental	15	40.2 (±3.1)	45.1 (±3.0)	+4.9	8.54	<0.05
Control	15	39.8 (±2.9)	40.5 (±3.1)	+0.7	1.02	>0.05

Analysing the data showed that the experimental group's vertical jump performance was significantly better than that of the control group. The efficacy of the plyometric training program was confirmed by the t-test, which showed statistical significance for the experimental group ($p < 0.05$).



DISCUSSION

In accordance with the study, plyometric exercise significantly improved vertical jump performance. Neuromuscular coordination, explosive power, and general athletic performance were all successfully enhanced by the exercises. These findings highlight the potential of plyometric training as a crucial element of conditioning regimens tailored to volleyball.

Practical Applications

1. Plyometric training helps enhance players' vertical jump and explosive strength during volleyball practice sessions.
2. Customized exercises and progressive overload guarantee long-lasting performance gains.

CONCLUSION

Female volleyball players' performance in the vertical jump was considerably enhanced by the 12-week plyometric training module. To maximize player performance, trainers and coaches should use systematic plyometric activities. The effects of plyometric training on various age groups and skill levels may be investigated in future research.

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EFFECT OF PLYOMETRIC TRAINING AND CIRCUIT TRAINING ON SELECTED MOTOR FITNESS VARIABLES OF SCHOOL LEVEL MALE FOOTBALL PLAYERS

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Abstract

The purpose of this study was to find out the effect of plyometric training and circuit training on selected motor fitness variables of school level male football players. Randomly 90 male students were selected from various government schools of Hyderabad (Dist) Telangana, India. Were selected as subjects and their ages were ranged from 13 to 15 years. They were divided into three equal groups and each group consisted of 30 subjects. Group-I was plyometric training, Group-II was circuit training and group-III was acted as a control group. The selected criterion variables are agility and muscular endurance were selected and measured by digital B.P Monitor and step test for this study. The data was analyzed by the used to F- ratio. The obtained f- ratio was tested for significance at 0.05 level of confidence. The analysis of the data revealed that there was a significant improvement on agility and muscular endurance by the application of plyometric training and circuit training.

Key words: *plyometric training and circuit training, agility and muscular endurance.*

INTRODUCTION

Physical fitness is a state of health and well-being and, more specifically, the ability to perform aspects of sports, occupations and daily activities. Physical fitness is divided into two categories: general fitness (a state of health and well-being) and specific fitness (a task-oriented definition based on the ability to perform specific aspects of sports or occupations). Physical fitness is typically attained through proper nutrition, exercise, and adequate rest.

FOOTBALL

football or soccer,^[a] is a team sport played between two teams of 11 players each, who almost exclusively use their feet to propel a ball around a rectangular field called a pitch. The objective of the game is to score more goals than the opposing team by moving the ball beyond the goal line into a rectangular-framed goal defended by the opposing team. Traditionally, the game has been played over two 45-minute halves, for a total match time of 90 minutes. With an estimated 250 million players active in over 200 countries and territories, it is the world's most popular sport.

PLYOMETRIC TRAINING

Plyometrics is the name given for a type of exercise that is designed to increase intensity or explosive power in certain muscle groups. This kind of training is used to increase power of a boxer's punch or the force of volleyball and basketball player's jump. Plyometric training is different from traditional strength training exercise because it is performed quickly and explosively. It increase muscle power by capitalizing on lengthening and shortening of the muscle cycles. This kind of training usually starts with a rapid stretch of a muscle or eccentric phase followed by a rapid shortening of the same muscle (or) the concentric phase burpees, clap push-ups, jumping ropes, and jumping jacks are types of plyometric exercise. Several studies suggest that plyometric can greatly improve athletic performance

in terms of vertical jumps, long jumps, sprinting, cycling, volleyball, basketball, kick boxing and many more. It is said that even one (or) two types of plyometric training completed one to three times in a week may improve motor performance with in 6 to 12 weeks. In addition to this, 3 sets of plyometric pushups may also increase upper body strength. **(Donald .A. Chu, 1998)**

CIRCUIT TRAINING

Circuit training was invented in 1953 as effective and efficient way for coaches to train many athletes in a limited amount of time with limited equipment. The exerciser moved through a series of weight training or calisthenics arranged consequently. It was past paced workout of 15 to 45 seconds per station with little (15 – 30 seconds) rest or no rest between stations. Today this is known as “circuit weight training” research has shown that it can increase muscular strength and endurance. There is mild improvement in aerobic stamina but only if the rest periods are kept very short. Another variation is “aerobic circuit training” aerobic station like treadmill, rower or stepper (1 to 5 minute per station) or interspersed with weight training stations. This protocol has been found to increase aerobic stamina and muscular endurance and endurance.

METHODOLOGY

For this study, thirty (N=90) school level male football players. Randomly 90 female students were selected from various government schools of Hyderabad (Dist) Telangana, India. Were selected as subjects and their ages were ranged from 13 to 15 years. They were divided into three equal groups and each group consisted of 30 subjects. Experimental Groups was given 12 weeks (Duration – 12 weeks, Session – 3 day/week, Duration of one session – One hour) of plyometric training, circuit training and control group was not participated any specific training. Experimental Group-I (Plyometric Training), Experimental Group-II (Circuit training) were given to the experimental groups. The subjects were tested in the selected criterion variables agility and muscular endurance were selected and measured 4x10 yard run test and bent knee sit ups test for this study. Before and after the training period the data were collected. The collected data was treated by using F-ratio. The level of confidence was fixed at 0.05 levels.

Table – I
Computation Of Analysis Of Co-Variance On Agility Among Experiemntal Group And Control Group

TEST	EXPERIEMENTAL GROUP	CONTROL GROUP	SSV	SS	DF	MS	‘F’
PRE-TEST MEAN	11.73	11.64	BG	0.043	1	0.043	0.048
PRE-TEST SD	0.93	0.97	WG	19.93	22	0.906	
POST-TEST MEAN	10.78	11.71	BG	5.19	1	5.19	7.17*
POST-TEST SD	0.76	0.92	WG	15.94	22	0.72	
ADJUSTED POST TEST MEAN	10.76	11.73	BG	5.72	1	5.72	12.20*
			WG	9.86	21	0.47	

*Significant at 0.05 level of confidence

Table I shows that the pre-test mean value on agility of experimental group (combined plyometric and circuit training group) and control group were 11.73 and 11.64 respectively. Standard deviation values of experimental group and control group were 0.93 and 0.97 respectively. The obtained 'F' ratio of pre-test mean was 0.048, which was lesser than the required table value of 3.10 for df 1 and 87 at 0.05 level of confidence on agility.

The post-test mean value on agility of experimental group (combined plyometric and circuit training group) and control group were 10.78 and 11.71 respectively. And standard deviation of experimental group and control group were 0.76 and 0.92 respectively. The obtained 'F' ratio of post-test mean is 7.17 which were greater than the required table value of 3.10 for df 1 and 87 at 0.05 level of confidence on agility.

The adjusted post-test mean value on agility of experimental group (combined plyometric and circuit training group) and control group were 10.76 and 11.73 respectively. The obtained 'F' ratio of adjusted post-test mean was 12.20 which was greater than the required table value of 3.10 for df 1 and 21 at 0.05 level of confidence on agility.

The result of the study indicates that there was a significant difference between the adjusted post-test mean of combined plyometric and circuit training and control group on agility.

Figure –I: Bar Diagram Showing The Mean Values Of Pre And Post Test Of Experimental And Control Group On Agility

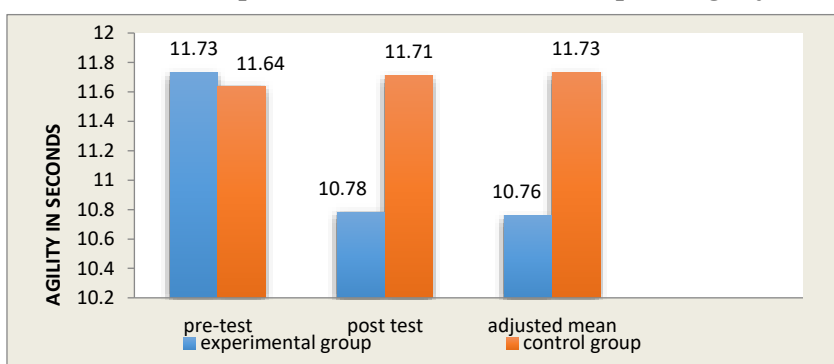


Table – II: Computation of Analysis of Co-Variance on Muscular Endurance among Experimental Group And Control Group

TEST	EXPERIMENTAL GROUP	CONTROL GROUP	SSV	SS	DF	MS	'F'
PRE-TEST MEAN	40.00	39.91	BG	0.042	1	0.042	0.001
PRE-TEST SD	7.73	3.36	WG	782.917	22	35.59	
POST-TEST MEAN	44.75	39.25	BG	181.5	1	181.5	6.79*
POST-TEST SD	6.63	5.78	WG	588.5	22	26.75	
ADJUSTED POST TEST MEAN	45	39.28	BG	176.87	1	176.87	131.16*
			WG	28.319	21	1.349	

*Significant at 0.05 level of confidence

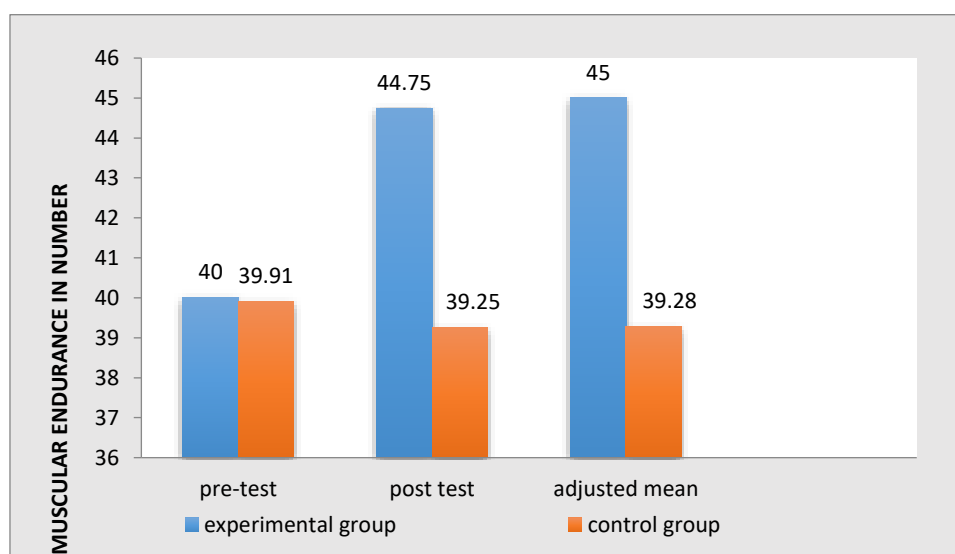
Table II shows that the pre-test mean value on speed of experimental group (combined plyometric and circuit training group) and control group were 40.00 and 39.91 respectively. Standard deviation values of experimental group and control group were 7.73 and 3.36 respectively. The obtained 'F' ratio of pre-test mean was 0.001, which was lesser than the required table value of 3.10 for df 1 and 87 at 0.05 level of confidence on muscular endurance.

The post-test mean value on speed of experimental group (combined plyometric and circuit training group) and control group were 44.75 and 39.25 respectively. And standard deviation of experimental group and control group were 6.63 and 5.78 respectively. The obtained 'F' ratio of post-test mean was 6.79 which were greater than the required table value of 3.10 for df 1 and 87 at 0.05 level of confidence on muscular endurance

The adjusted post-test mean value on muscular endurance of experimental group (combined plyometric and circuit training group) and control group were 45 and 39.28 respectively. The obtained 'F' ratio of adjusted post-test mean was 131.16 which were greater than the required table value of 3.10 for df 1 and 87 at 0.05 level of confidence on muscular endurance.

FIGURE –II

BAR DIAGRAM SHOWING THE MEAN VALUES OF PRE AND POST TEST OF EXPERIMENTAL AND CONTROL GROUP MUSCULAR ENDURANCE



CONCLUSION

1. It was concluded that there was a significant improvement on agility by the application of plyometric training and circuit training.
2. It was concluded that there was a significant improvement on muscular endurance by the application of plyometric training and circuit training.

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A COMPREHENSIVE COMPARISON OF TRADITIONAL KABADDI AND MODERN KABADDI: INSIGHTS FROM KABADDI COACHES

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Abstract

Kabaddi, an ancient sport with deep roots in the culture of India, has undergone a remarkable transformation over the past few decades. Originally a rural pastime, Kabaddi has become a professional sport with a global following, especially with the advent of leagues like the Pro Kabaddi League (PKL). This article seeks to compare traditional Kabaddi with modern Kabaddi, highlighting the evolution of the sport's structure, gameplay, rules, and training methods, as well as the evolving role of Kabaddi coaches.

Keyword: Traditional Kabaddi, Modern Kabaddi

1. Origins and Evolution of Kabaddi

Traditional Kabaddi has its origins in ancient India and is believed to have been practiced as early as the Vedic period. It is mentioned in the Mahabharata and the Ramayana and is known by different names in various regions, such as *Ha-du-du* in Bengal and *Chedugudu* in Andhra Pradesh. It was often played informally, with basic rules and without structured teams. Players generally relied on their physical strength, agility, and endurance to compete.

Modern Kabaddi, on the other hand, has evolved significantly from its informal roots. The game has become formalized, with defined rules, structured teams, and professional leagues. The Pro Kabaddi League (PKL), which began in 2014, is a key example of modern Kabaddi's popularity, where Kabaddi is not only a competitive sport but also a commercially viable one with international exposure.

2. Rules and Structure

One of the most significant differences between traditional Kabaddi and modern Kabaddi is the structure and formalization of the rules.

Traditional Kabaddi:

- **Gameplay:** Traditional Kabaddi was often a simpler form of the game, played with few formal rules. It usually consisted of two teams, and one player would attempt to "raid" the opponent's side by tagging as many players as possible without being caught. The main rule was for the raider to chant "Kabaddi" repeatedly while holding their breath, making it more of a test of stamina and endurance.
- **Team Sizes:** There were no standard team sizes, and the number of players varied widely depending on the region and available players.
- **Scoring:** Scoring was based on the ability of the raider to touch opponents and return to their own side. There were no standardized points for different actions, such as successful tackles or "super tackles."

- **Duration and Environment:** Matches were informal, lasting until one team managed to outscore the other or all players from one side were eliminated. There were also no fixed playing surfaces, and the game was typically played in open fields or rural environments.

Modern Kabaddi:

- **Gameplay:** In modern Kabaddi, the game has become much more structured. A match consists of two halves, each lasting 20 minutes, with a 5-minute break in between. Teams alternate between attacking (raiding) and defending. Raiders attempt to tag opponents and return to their own side without being caught.
- **Team Sizes:** The teams in modern Kabaddi are standardized, with seven players on each side. These players are assigned specific roles, such as raiders, defenders, and all-rounders, depending on their strengths.
- **Scoring System:** The scoring system in modern Kabaddi is much more nuanced. Points are awarded for successful raids, tackles, and "super tackles," which occur when defenders manage to stop a raider despite being outnumbered.
- **Duration and Environment:** Modern Kabaddi is played in indoor stadiums with a standardized, soft mat surface to minimize injuries. The matches are broadcast globally, especially through leagues like the PKL, and have become part of mainstream sports entertainment.

3. Techniques and Strategies

Traditional Kabaddi:

In traditional Kabaddi, the focus was mainly on individual skill. Raiders were expected to be fast and agile, able to elude defenders. Defenders, in turn, focused on basic physical skills like holding the raider back, using body blocks or simple tackles. Teamwork was important, but it was often ad-hoc and less structured.

- **Raiding:** Raiders in traditional Kabaddi relied on quickness and agility, often using simple movements like side-steps or sudden acceleration to evade defenders.
- **Defending:** Defenders used brute strength, often attempting to outmuscle the raider. There were no specialized techniques such as ankle holds, body blocks, or strategic tackles.

Modern Kabaddi:

Modern Kabaddi, particularly in the context of the PKL, has developed highly specialized techniques. Coaches now train players to use advanced tactics, positioning, and coordination to maximize their chances of success.

- **Raiding:** Modern raiders have perfected complex movements like dashes, fakes, and side-body turns to deceive defenders. The strategic use of "running" raids and "jumping" raids has become standard practice.
- **Defending:** Defenders have become more sophisticated, using techniques like ankle holds, body blocks, and group tackles to neutralize raiders. Defending in modern Kabaddi is a highly coordinated effort, often involving multiple defenders working together to stop a raider.
- **Super Tackle:** One of the newer innovations, a "super tackle" occurs when a defending team manages to stop a raider with fewer than three defenders. This strategic play adds an exciting dimension to the game.

4. Role of Coaches in Traditional vs. Modern Kabaddi

The role of the coach has evolved dramatically in Kabaddi's transformation from a traditional to a modern sport. While **traditional Kabaddi coaches** often had a more informal role, teaching players through experience and practice, **modern Kabaddi coaches** operate with a scientific, data-driven approach to improve performance.

Traditional Coaching:

- **Local Knowledge:** Traditional Kabaddi coaches were often local figures who had played the sport themselves and had a deep understanding of regional styles of play. They taught through demonstration and repetition, with a strong emphasis on physical endurance and basic techniques.
- **Coaching Style:** The coaching was often more instinctive, with less focus on tactical analysis or strategic planning. Coaches would encourage players to develop strength, stamina, and basic techniques like raiding and simple defense strategies.
- **Limited Resources:** Traditional coaching lacked access to modern tools and resources, such as performance analysis software, fitness trackers, or video breakdowns of matches. Training methods were passed down through oral traditions, and there was little formalized structure.

Modern Coaching:

- **Data-Driven Approach:** Modern Kabaddi coaches use technology to track players' performance, analyze match footage, and develop strategies based on data. Performance analysis software and GPS trackers are used to monitor players' movements during matches and practices.
- **Scientific Methods:** Coaches now employ scientific methods of training, including strength and conditioning programs, nutrition plans, and recovery strategies. Mental conditioning, diet control, and specific exercises for agility, balance, and flexibility are part of the modern coaching regime.
- **Strategic Thinking:** Modern coaches are expected to develop complex game strategies, such as setting up special plays for raiders and defenders. They also create contingency plans based on the opposition's strengths and weaknesses, and the use of video footage allows for detailed post-match analysis.
- **Focus on Specialization:** Coaches in modern Kabaddi also emphasize specialization, creating distinct roles for raiders, defenders, and all-rounders. This specialization allows for a more organized approach to both defense and offense, with clear expectations for each player's role on the team.

5. Physical Fitness and Conditioning

Physical fitness and conditioning play a critical role in both traditional and modern Kabaddi, but the level of preparation has evolved substantially.

Traditional Kabaddi:

In traditional Kabaddi, players were largely conditioned through natural means. Physical fitness came from activities such as running, wrestling, or manual labor in rural areas. The training was less structured, and players would focus primarily on building stamina and strength through repetitive practice.

Modern Kabaddi:

The demands of modern Kabaddi, particularly in professional leagues like the PKL, require a far more regimented approach to fitness. Players undergo specific training programs that focus on

cardiovascular endurance, strength, flexibility, and explosive power. The modern Kabaddi player also follows a more disciplined approach to diet, sleep, and recovery.

Fitness coaches work alongside Kabaddi coaches to ensure that players are in optimal shape to compete at the highest levels. This includes tailored fitness regimes for raiders, defenders, and all-rounders, with an emphasis on injury prevention and recovery.

6. Globalization and Popularity

Traditional Kabaddi:

Traditional Kabaddi was mostly played in rural areas and had a limited international following. The game was popular primarily in South Asia, with informal village tournaments being the norm. There was little media coverage or global exposure, and Kabaddi remained a sport rooted in regional culture.

Modern Kabaddi:

With the creation of professional leagues such as the PKL, Kabaddi has gained significant international recognition. The PKL, in particular, has helped the sport reach new audiences, not only in India but across the world. Kabaddi tournaments are now televised globally, attracting viewers from countries like Iran, South Korea, Kenya, and Japan.

The success of the PKL has also led to Kabaddi being recognized as a professional sport with sponsorships, celebrity endorsements, and a growing fan base. Kabaddi's inclusion in multi-sport events like the Asian Games has further boosted its global appeal.

CONCLUSION

The transformation of Kabaddi from a traditional rural pastime to a modern, professional sport reflects broader shifts in how sports are played, coached, and consumed. Traditional Kabaddi was simple, informal, and localized, with a focus on endurance, individual skill, and local coaching. In contrast, modern Kabaddi has evolved into a highly competitive, organized sport, with structured teams, specialized roles, advanced tactics, and a global fan base.

The role of the Kabaddi coach has also transformed, from being an experienced player passing down knowledge through informal methods to a modern tactician utilizing data-driven approaches, strategic planning, and scientific training methods. Modern Kabaddi coaches must focus not only on skill development but also on managing players' fitness, mental conditioning, and game strategies. As Kabaddi continues to evolve, it will likely draw further on both its traditional roots and the innovations of modern sports science. The blend of tradition and modernity ensures that Kabaddi remains dynamic, competitive, and ever-evolving.

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SCIENTIFIC ADVANCEMENT IN ENVIRONMENTAL AND SPORTS RESEARCH: A NEXUS FOR HEALTH AND WELL-BEING

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Abstract

Owing to its complex effects on human health and well-being, the nexus between sports and environmental study has attracted a lot of interest. This study delves into the scientific developments in this field, emphasizing the mutually beneficial interaction between sports and the environment and clarifying how both play a combined role in fostering health. This research article attempts to explore the cutting-edge approaches, technologies, and discoveries influencing this developing topic by a thorough examination of the literature. This study aims to emphasize the critical role that scientific developments play in promoting a healthy society by drawing attention to the interconnections between human health, environmental sustainability, and sports.

Keywords: Sports and environment, scientific advancements, Athlete health, Sustainable sports facilities, Environmental impact, Technological innovation, Climate adaptation

INTRODUCTION:

The goal of the study paper's introduction is to establish the context by highlighting the proven benefits of sports for promoting physical and mental health as well as the expanding understanding of the role that environmental variables play in determining human health outcomes. It then goes on to discuss current scientific findings that point to a deeper relationship between sports and the environment.

Determining the Sports' Significance:

The first section of the introduction notes that sports are generally recognized for their ability to enhance both physical and mental health. It highlights the long-standing recognition that participating in sports may improve cardiovascular fitness, mental health by lowering stress and anxiety, and social relationships by promoting teamwork or community sports.

Recognizing the Impact of Environment on Health:

The introduction simultaneously recognizes the growing body of research about the substantial influence of environmental variables on human health outcomes. The effects of environmental pollution, climate change, and the depletion of natural resources on health are discussed, particularly how they affect mental health, cardiovascular health, respiratory health, and general well-being.

Revealing a More profound bond:

In the introduction, it is noted that new findings in science have shown a hitherto unrecognized connection between sports and the environment. These developments might include study on the effects of environmental factors on players' performance, the creation of environmentally friendly sports equipment, or studies on the psychological advantages of playing sports in natural

settings.

Clarifying the Mutually Exclusive Relationship:

Exposing the mutually beneficial link between sports activities and environmental research is the main goal stated in the introduction. It highlights that although these fields may have appeared unrelated, there is a growing understanding of their connections and how they work together to support human health and wellbeing.

Stressing the Collective Impact

The introduction concludes by highlighting how environmental studies and sports activities work together to promote human health. It emphasizes the necessity of thoroughly investigating and comprehending this relationship in order to fully utilize their combined potential for the benefit of people and society at large.

The part devoted to technical improvements in sports and environmental research delves into the ways in which these developments have advanced our knowledge of the interactions between environmental elements, sports, and human health. Here is a further explanation of each point:

Sensors and Wearable Technology for Environmental Monitoring:

Sports equipment with built-in sensors and fitness trackers are examples of wearable technology that makes it possible to monitor many environmental factors in real time while engaging in physical activity.

The environmental conditions that athletes are exposed to during training and competition can be better understood by researchers and athletes thanks to the data that these sensors can detect, including temperature, humidity, UV exposure, air quality, and pollution levels. Athletes may optimize their training regimens, adjust to changing conditions, and take preventative measures to reduce health hazards linked with certain environmental elements by regularly gathering and evaluating environmental data.

Intelligent Textiles and Sustainable Sportswear:

Advances in the field of materials science have resulted in the creation of eco-friendly materials and intelligent textiles that are customized for athletic use. By using organic fibers, recycled materials, or biodegradable components, these textiles are made to be more environmentally friendly both during and after manufacture. By adding features like breathability, temperature control, UV protection, and moisture wicking, smart textiles can improve athletes' comfort and performance while lessening the environmental impact of the sportswear industry.

Developments in Data Analytics and GPS Tracking:

The knowledge of athletes' performance in a variety of environmental situations has been revolutionized by the combination of GPS monitoring technology and advanced data analytics. It is possible to measure and analyze an athlete's motions, speed, endurance, and physiological reactions in a variety of environmental circumstances. This information helps coaches, trainers, and players themselves optimize training plans and performance results. GPS monitoring provides data-driven insights that are used to create customized training plans that take into account how environmental conditions affect each athlete's performance. This allows athletes to reach their full potential while lowering their risk of fatigue or injury.

To sum up, the progress made in technology has greatly expanded our knowledge of how

environmental conditions impact athletes and their performance. Researchers and athletes may make well-informed decisions to maximize training, enhance performance, and minimize possible health hazards linked with changing environmental conditions by utilizing wearable technologies, smart textiles, and sophisticated analytics.

In order to reduce their environmental effect at every stage of its lifetime, from building to day-to-day operations, sports arenas and stadiums can include eco-friendly methods and technology, as discussed in the section on sustainable sports facilities:

Combining Sustainable Energy Sources:

In order to provide clean energy, sports stadiums are progressively implementing renewable energy sources like solar panels, wind turbines, or geothermal systems. By mitigating the electrical demand of stadiums and arenas, these renewable energy sources lessen the need for fossil fuels and cut carbon emissions. Using energy-efficient heating, ventilation, and lighting systems also adds to the sustainability of sporting facilities.

Putting Eco-friendly Materials and Green Infrastructure into Practice:

Building and maintaining sports facilities with sustainable design principles is known as "green infrastructure." To reduce the environmental effect of construction, this includes employing eco-friendly building materials such recycled steel, sustainable timber, low-impact paints, and eco-friendly insulation. In and around sporting arenas, including green roofs, rain gardens, permeable pavements, and natural landscaping improves biodiversity, manages runoff, and lessens the impacts of heat islands.

Techniques for managing water and waste:

Water conservation measures are implemented in sports facilities by means of water recycling technology, low-flow fixtures, and effective irrigation systems. Materials needed for operations and events are reduced, reused, and recycled as part of waste management procedures. This includes encouraging recycling programs inside the venue, properly sorting garbage, and composting organic waste. Closing material loops and lowering the overall environmental effect of sporting events are two ways that adopting a circular economy strategy seeks to minimize waste output and enhance resource efficiency. By encouraging eco-friendly behaviors, these sustainable projects not only lessen the environmental effect of sports facilities but also serve as role models for the community, sports enthusiasts, and other businesses. Sports facilities can run more sustainably and ecologically by incorporating green infrastructure, renewable energy, and effective waste and water management techniques. This helps to advance the larger objective of environmental preservation and sustainability. The crucial components of how athletes' health and performance are impacted by climate change are covered in the section on athlete health and climate adaptation, along with methods for adapting to changing climatic circumstances and maximizing performance:

Studies on How Climate Change Affects Athletes

Athletes have a number of obstacles as a result of climate change, including as high temperatures, higher humidity, air pollution, and unpredictable weather patterns. The goal of scientific study is to comprehend how these climate-related variables impact athletes' performance, physiological reactions, and health consequences. Research on how heat stress, dehydration, heatstroke, problems with air quality, and other climate-related situations affect athletes might give

important information about the dangers and vulnerabilities that athletes confront in a changing environment.

Techniques for Reducing Heat-Related Illnesses and Accidents:

It is necessary to put preventative measures and guidelines into place in order to minimize heat-related illnesses and injuries during sporting activities. Sports organizations and medical professionals create procedures for tracking weather, modifying event schedules, setting up enough water stations, putting cooling techniques (like misting stations) into place, and training players, coaches, and support staff to identify and handle heat-related risks. When it comes to quickly diagnosing and treating heat-related ailments, medical professionals are essential in making sure athletes receive the care they require.

Creation of Training Plans Taking the Environment Into Account:

Training plans for athletes must be modified to take different environmental factors into consideration. Acclimatization tactics in which athletes exercise in conditions similar to those they may encounter during competitions, are sometimes included in training programs. This helps athletes progressively adjust to environmental changes. To ensure that athletes can perform at their best while minimizing the risk of injury or performance decline, coaches and sports scientists analyze environmental factors such as temperature, humidity, altitude, and air quality. They then use this information to optimize training schedules, modify recovery strategies, and tweak workout intensities. Sports organizations and professionals seek to protect athletes' health, maximize their performance, and lessen the negative effects of climate change on sporting events through research on the effects of climate change on athletes, the implementation of heat mitigation strategies, and the adaptation of training regimens to environmental conditions. These initiatives are essential to preserving the integrity and competitiveness of sports in the face of climate change while guaranteeing the safety and wellbeing of players.

The psychological components of playing sports in natural settings and how these interactions affect mental health, stress reduction, and environmental awareness are covered in detail in the section on environmental psychology and sports participation:

Benefits of Sports for Psychology in Natural Settings:

The goal of environmental psychology research is to better understand the beneficial effects that sports and physical activity in natural environments have on mental health. Research examines how participating in outdoor activities like hiking, trail running, outdoor yoga, or wilderness sports affects people's psychological states, such as lowered stress levels, elevated moods, better attention spans, and greater psychological well-being overall. Participating in nature-based sports gives people the chance to get outside, explore new places, and enjoy the positive effects of outdoor activities on their mental health.

Green spaces' effects on stress reduction and mental health

Parks, woods, and other natural settings are examples of green spaces that have been connected to a number of advantages for mental health. According to research, playing sports in green spaces may help athletes reduce stress, unwind, focus better, and recover emotionally, all of which are beneficial to their general mental health and wellbeing. Playing sports or engaging

in physical activity in green areas promotes a sense of connectivity to nature, which enhances pleasant emotions and lessens the mental exhaustion that is frequently linked with metropolitan environments.

Community-Based Initiatives Advancing Outdoor Sports to Raise Awareness of Environmental Conservation:

Participation in outdoor activities is encouraged while environmental awareness and conservation are promoted via community initiatives and programs. These initiatives seek to get people involved in outdoor sports activities. Examples of these activities include nature-based fitness classes, eco-friendly sports tournaments, community clean-up events, and outdoor sports groups that priorities environmental stewardship. These community-based programs promote environmental awareness, a sense of responsibility towards the environment, and sustainable behaviours among participants by tying sports involvement with environmental conservation activities.

To summarize, studies on the relationship between environmental psychology and sports participation show how playing sports in natural settings has a significant positive influence on mental health, stress management, and environmental awareness. Recognizing and advancing the psychological advantages of outdoor activities improves people's overall health and fosters a greater love of the natural world, which supports local environmental conservation initiatives.

Conclusion

The research paper's conclusion summarizes the main conclusions and revelations from examining the relationship between sports and environmental science, highlighting the profound influence of scientific discoveries on environmental sustainability, human health, and well-being:

Revealing Bright Prospects for Health and Welfare:

The conclusion recognizes that new discoveries in science have shown exciting prospects at the intersection of environmental and sports science. These developments have illuminated the connections between these ostensibly separate fields and how they might work together to promote human health and wellbeing.

Sports and Environment Have a Synergistic Relationship:

The conclusion highlights the mutually beneficial link between sports and the environment and emphasizes the ways in which these areas interact and impact one another. It acknowledges the substantial environmental effects of sports-related activities while highlighting the ways in which environmental variables influence sports activities.

Innovation and Multidisciplinary Collaboration Are Necessary:

Taking into account the intricate interplay of sports, the environment, and health, the result underscores the need for multidisciplinary cooperation. It emphasizes how crucial it is for scientists, researchers, athletes, environmentalists, legislators, and other interested parties to collaborate in order to create ground-breaking solutions that make the most of both fields' advantages.

Using Innovations in Technology:

The conclusion emphasizes how technology innovations- like wearable, smart textiles, GPS monitoring, and data analytics- have advanced research and improved knowledge of how environmental elements affect sports and athlete performance.

Encouraging Eco-Friendly Sports Facilities

The conclusion highlights the need to incorporate eco-friendly materials, renewable energy, and effective waste and water management systems into the design and operations of sports venues, while also acknowledging the value of sustainable sports facilities.

Recognizing the Effects of Climate Adaptation on the Health of Athletes:

The need to understand how climate change affects athletes' performance and health is emphasized once more in the conclusion. It highlights how crucial it is to create plans to reduce heat-related illnesses and injuries and to modify training schedules in light of environmental considerations in order to maximize athlete performance.

The Psychological Advantages of Playing Sports in Nature:

The conclusion emphasizes the psychological advantages of playing sports in natural settings and stresses the benefits to mental health and environmental awareness. It also emphasizes how important it is to support these kinds of activities for overall wellbeing.

The Promotion of Sustainable Living and Holistic Health via Scientific Advancements:

In the end, the result reaffirms how crucial scientific developments are in using environmental and sports research to support holistic health and sustainable living. It emphasizes how important it is to keep up research, innovation, and teamwork in order to create a healthy future for people and the earth.

In summary, the conclusion highlights the link between human health, the environment, and sports and calls for more research as well as cooperative efforts to fully realize the potential of this relationship for the benefit of both society and the environment.

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EFFECT OF JUDO TRAINING PROGRAM ON EMOTIONAL STABILITY OF STUDENTS OF MUMBAI SUBURBAN

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Abstract

Judo develops self-discipline and respect for oneself and others. It provides the means for learning self-confidence, concentration, and leadership skills, as well as physical coordination, power, and flexibility. As a sport that has evolved from a fighting art, it develops complete body control, fine balance, and fast reflexive action. Above all, it develops a sharp reacting mind well-coordinated with the same kind of body. Training gives a person an effective self-defense system if the need arises. Emotional stability refers to a person's ability to remain stable and balanced. At the other end of the scale, a person who is high in neuroticism has a tendency to easily experience negative emotions. The Objective of the study was to compare the adjusted mean scores of Emotional Stability of School Boys of Judo Training Group and Non- Judo Training Group by considering Pre-Emotional stability as Covariate. A Sample of fifty (n=60) students were randomly selected for the study of age ranging between 12 to 14 years. They were identified from Pali Chimbai BMC School, Bandra, Mumbai 400 050. The present study was conducted by adopting the experiment method of research. The experiment design of the study was the Non-Equivalent Control Group Design. Emotional Stability Questionnaire by Dr. (Mrs.) A. Sen Gupta & Dr. A. K. Singh was used for the study. Comparison of group was done with the help of one-way Analysis of Covariance (ANCOVA). The adjusted mean score of Emotional Stability of Judo Training group is 6.76 which is significantly lower than that of Non- Judo Training group where adjusted mean scores of Emotional Stability is 8.2. It may, therefore, be said that Judo Training group was found to be effective in improving Emotional Stability of School Boys than that of non-Judo Training group where pre Emotional Stability was taken as covariate.

Key Words: Emotional Stability, Judo

Introduction:

Judo develops self-discipline and respect for oneself and others. It provides the means for learning self-confidence, concentration, and leadership skills, as well as physical coordination, power, and flexibility. As a sport that has evolved from a fighting art, it develops complete body control, fine balance, and fast reflexive action. Above all, it develops a sharp reacting mind well-coordinated with the same kind of body. Training gives a person an effective self-defense system if the need arises.

Emotional stability refers to a person's ability to remain stable and balanced. At the other end of the scale, a person who is high in neuroticism has a tendency to easily experience negative emotions.

Aim:

This study is conducted to find the *Effect of Judo Training Programme on Emotional Stability of Students of Mumbai Suburban*

Objectives:

To compare the adjusted mean scores of Emotional Stability of School Boys of Judo Training Group and Non- Judo Training Group by considering Pre Emotional stability as Covariate

Hypotheses:

H0₁: To compare the adjusted mean scores of Emotional Stability of School Boys of Judo Training Group and Non- Judo Training Group by considering Pre Emotional stability as Covariate

Methodology:**Selection of Sample**

A Sample of fifty (n=60) students were randomly selected for the study of age ranging between 12 to 14 years. They were identified from Pali Chimbai BMC School, Bandra, Mumbai 400 050.

Research Design

The present study was conducted by adopting the experiment method of research. The experiment design of the study was the Non-Equivalent Control Group Design.

Psychological Variable: Emotional Stability**Tools/Instruments**

The following criterion measure was included to record the score of Emotional Stability. Standardized Questionnaire was used to measure Emotional Stability of Students of Mumbai Suburban.

Sr. No.	Variable	Tools	Score
1	Emotional Stability	Dr. (Mrs.) A. Sen Gupta & Dr. A. K. Singh	Scores / Points

PROCEDURE OF THE STUDY

Test was conducted at on students of Pali Chimbai BMC School, Bandra, Mumbai 400 050. The purpose of the study was explained to the subjects in detail. Necessary instructions were given to all subjects aged 12 to 14 years. There were two groups experimental i.e Judo Training Group and Control group i.e. Non Judo Training Group, each group consisted of 30 judokas. Experimental group was given six weeks Judo training programme whereas the Control group did not undergo any training programme. Administration of the test was done in three phases. Pretest, Training Phase & Post test. Emotional Stability Questionnaire was filled by the students before starting the Judo Training Programme and after Completion of the Training Programme. Training Programme was conducted for 6 weeks, 6 days in a week except on holiday. The Training Programme consisted of Warm up Session for 5 mins, Ukemis for 15 mins, Nage waza for 15 mins, Katame waza for 15 mins & Cool down for 5 mins.

Statistics

Comparison of group was done with the help of one-way Analysis of Covariance (ANCOVA).by using SPSS software.

Result and Discussion of the Study:**RESULTS OF EMOTIONAL STABILITY****TREATMENT WISE COMPARISON OF ADJUSTED MEAN SCORES OF EMOTIONAL STABILITY BY TAKING PRE-EMOTIONAL STABILITY AS COVARIATE**

The objective was to compare adjusted mean scores of Emotional Stability of School Boys of Judo Training Group and Non-Judo Training group by taking pre-Emotional Stability as covariate. The data were analysed with the help of One Way ANCOVA and results are given in Table 1.

Table 1: Summary of One Way ANCOVA of Emotional Stability by taking Pre Emotional Stability as Covariate

Source of Variance	df	SSy.x	MSSy.x	Fy.x	Remark
Group	1	30.817	30.817	45.794	p<0.01
Error	57	38.358	0.673		
Total	59				

**Significant at 0.01

From Table 1 it can be seen that the adjusted F-value is 45.794 which is significant at 0.01 level with $df=1/57$ when Pre-Emotional Stability was taken as covariate. It shows that adjusted mean scores of Emotional Stability of School Boys of Judo Training Group and Non-Judo Training group differ significantly when pre Emotional Stability was taken as covariate. Thus, the Null Hypothesis that there is no significant difference in adjusted mean scores of Emotional Stability of School Boys of Judo Training Group and Non-Judo Training group by taking Pre-Emotional Stability as covariate is rejected. Further the adjusted mean score of Emotional Stability of Judo Training group is 6.76 which is significantly lower than that of Non- Judo Training group where adjusted mean scores of Emotional Stability is 8.2. It may, therefore, be said that Judo Training group was found to be effective in improving Emotional Stability of School Boys than that of non-Judo Training group where Pre-Emotional Stability was taken as covariate. The result is presented graphically in Figure 1.

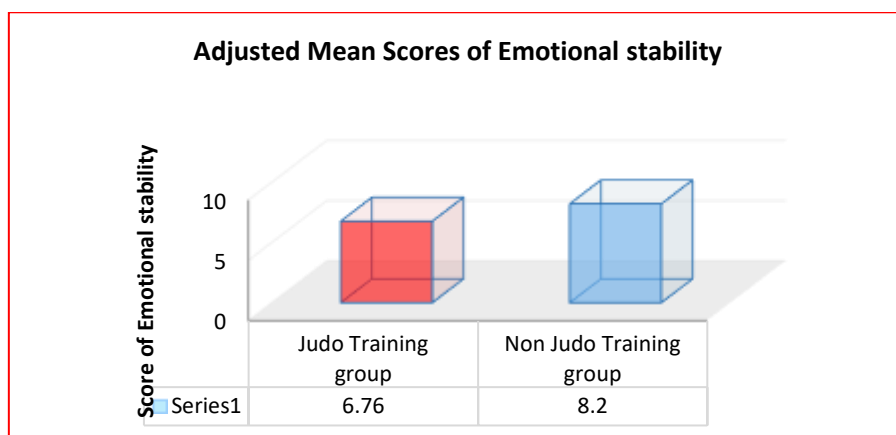


Figure 1. Treatment wise Comparison of Adjusted Mean Scores of Emotional Stability

CONCLUSIONS

- In case of the psychological Parameter, the result showed that the Judo Training Programme Improves Emotional stability of students of Mumbai Suburban.

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A COMPARISON ON MUSCULAR STRENGTH OF 8TH AND 9TH GRADE BOYS OF SDA SCHOOL OF NAVI MUMBAI

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Abstract

Physical fitness is an essential aspect of overall health. The aims of the study is to compare the muscular strength of 8th and 9th grade boys from SDA School, Navi Mumbai. Muscular strength is a crucial component of physical fitness, influencing overall health, athletic performance, and daily activities. The sample consisted of 100 (hundred) boys from both grades. This study was conducted with a sample of boys from 8th and 9th grades, using standardized fitness test to measure muscular strength, such as push-ups. Data analysis revealed differences in muscular strength between these two grades. To find out the significance between 8th and 9th grade of SDA (Seventh-Day Adventist Higher Secondary school, Navi Mumbai) students the independent 't'-test statistical technique was employed. On the basis of the findings of the present study it can be concluded that, in case of muscular strength the studying in 9th grade boys are superior over the 8th grade boys of SDA school, Navi Mumbai.

Keywords: Physical fitness, health, strength, muscular strength, school, activity, athletic, performance

INTRODUCTION

Physical fitness is an essential aspect of overall health, particularly during adolescence. During the transition from 8th to 9th grade, students undergo significant physical and psychological changes. This comparative study aims to assess and compare the Muscular strength of 8th and 9th class students, providing valuable insights into potential changes during this critical period. 'This applies not only to children, but to all of us.' Regular physical activity and exercise are widely recognized as crucial contributors to overall health and well-being. Physical fitness, encompassing various components, plays a vital role in maintaining and promoting optimal health. Health- related physical fitness components include cardiovascular endurance, muscular strength, muscular endurance, flexibility, and body composition. Understanding the interplay and comparative analysis of these components can provide valuable insights into individuals' physical fitness profiles, which can, in turn, inform exercise prescriptions, health interventions, and performance enhancement strategies.

Muscular strength, on the other hand, refer to the maximal force a muscle or muscle group can generate during a single contraction. It is important for performing daily activities, preventing injuries, and participating in sports and other physically demanding tasks.

Muscular Strength

Is the ability of the muscles to perform continuous without fatiguing. The maximum number of correct Push-ups performed in 1 min will be the Muscular Strength. E.g.- would be cycling, step machines and elliptical machines. The sit up test is most often used to test muscular endurance.

Objective of the study

- To compare the mean score of Muscular strength of 8th and 9th Grade Boys SDA school, Navi Mumbai.

Limitation of the study

The limitation considered in the present study was as under...

- There was no control on the diet of subjects participating in the programme.
- The research Scholars was no control on day to day activities of the subjects.

Delimitations of the study

The study was delimited to...

- The students admitted to 8th and 9th grade boys of Navi Mumbai The study was delimited to Muscular Strength...

Hypothesis of the study

The hypothesis to be tested is formulated as under...

H01: There is no significance difference between mean score of Muscular strength of 8th and 9th Grade Boys of Navi Mumbai

METHOD

The study will employ a comparative cross-sectional design to assess and compare the Muscular Strength of 8th and 9th Grade Boys of SDA school of Navi Mumbai. This design will allow for the examination of difference between the two levels at a specific point in time.

Table No. 1 The following variable is considered fort the present study.

Component	Test	Unit
Muscular Strength	Push Ups	Count/ Numbers

Statistical Procedure used and its Justification

The analysis of data collects and presented in this comparison was done between two groups by independent 't' test.

Table No. 2 Mean, Standard Deviation, Mean Difference of Muscular Strength Of 8th and 9th Grade Boys of SDA (Seven-Day Adventist) School, Navi Mumbai.

Table No. 2 Group Wise Mean, SD, N, and t-value of Muscular Strength

Test	Mean	SD	N	t- value	Remark
8 th Grade boys	13.14	4.17	50	0.227	p>0.5
9 th grade boys	13.32	3.75	50		

*Level of Significance 0.05

The above result has been also graphically represented in fig. 1

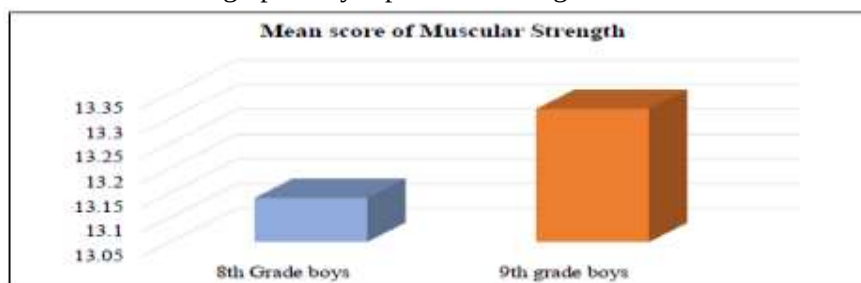


Figure 1: Mean Score of 8th and 09th grade boys of Muscular Strength

Results

It is revealed in case of Muscular strength measured by Push Ups through of the mean Score is 13.14 and 13.32 of both 8th and 9th grade boys respectively. Whereas, SD is 4.17 and 3.75. Therefore, it can be said that in case of Muscular Strength 9th grade boys is superior over the 8th grade boys. The 't' value is 0.227, which is in favors of 9th grade boys, thus the null hypothesis H_0 , 'There is no significant difference between mean score of Muscular Strength of 8th and 9th grade boys and the said hypothesis failed to reject.

The investigator, within certain limitations concludes the study as follows:

In case of Muscular Strength, the studying in 9th grade boys is superior over the 8th grade boys of SDA school, Navi Mumbai.

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WRESTLING EARLIER & PRESENT IN INDIA

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Abstract

The three basic types of wrestling contests are the belt-and-jacket, catch-hold, and loose styles, all of which appear to have originated in antiquity. Belt-and-jacket styles of wrestling are those in which the clothing of the wrestlers provides the principal means of gripping the opponent. To study the present status of wrestlers in India. To understand the status of performance of Indian Wrestlers in the Olympics. The history of wrestling in India, however, traces its origin to the fifth-century BCE. In India, the early form of wrestling was known as malla-yuddha, and several references to it can be found in ancient epics, such as the Ramayana and Mahabharata. In fact, Bhima - the second of the five Pandava brothers in the Mahabharata - was considered the strongest man in the epic and was known as an accomplished wrestler. Styles Freestyle Olympic Wrestling Freestyle wrestling is one of the two forms of wrestling represented in the Olympic Games. The aim of a freestyle wrestler is to throw and pin their opponents on the mat. It is as much a drama with wrestlers playing characters as an exhibition of wrestling.

Keywords: Wrestling, Games, Freestyle, Men, Wrestlers, Olympics, Opponent, India, Dangal, Pehlwani, Styles.

INTRODUCTION

Wrestling, a sport practiced in various styles by two competitors, involves forcing an opponent to touch the ground with some part of the body other than his feet, forcing him to a certain position, usually supine (on his back) or holding him in that position for a minimum length of time. Wrestling is conducted in various styles, with the contestants upright or on the ground (or mat).

The three basic types of wrestling contests are the belt-and-jacket, catch-hold, and loose styles, all of which appear to have originated in antiquity. Belt-and-jacket styles of wrestling are those in which the clothing of the wrestlers provides the principal means of gripping the opponent. In many cases, this is no more than a special belt worn by both wrestlers, whereas in others, a special belted jacket and special trousers are worn. Catch-hold styles require contestants to take a prescribed hold before the contest begins; this grip must often be maintained throughout the struggle. Loose styles of wrestling, which are used in modern international competition, commence with the wrestlers being separated and free to seize any grip that they choose except such as are explicitly forbidden (e.g., taking hold of an opponent's clothing or using a life-threatening grip, such as a stranglehold). Wrestling can also be classified according to what is required to win. These categories can be graded on an ascending scale of violence as follows: break-stance sports require forcing the opponent to relinquish a certain posture or position; toppling requires that the standing opponent be forced to touch the ground with some part of his body other than his feet; touch-fall wrestling requires that the opponent be forced into a certain position, usually supine, for a brief instant; pin-fall wrestling requires that the opponent be held in such a position for a measurable length of time; and submission wrestling requires the opponent to vocally or visually signal defeat by his own choice. (Augustyn., 2024)

Earlier Westling Consider from 7000 BC – up to 1947 & Above 1947 – up to 2024

OBJECTIVES

- To understand the history of wrestling in India.
- To study the present status of wrestlers in India.
- To determine the various styles used in wrestling in the previous and present stages.
- To study the achievements of Indian Wrestlers in Olympics.
- To understand the status of performance of Indian Wrestlers in the Olympics.

DELIMITATION

The study is delimited only for past & present of wrestling.

The study is delimited only for the previous & present status of wrestling in India.

METHODOLOGY

This piece is categorized as a "review article," with all the information gathered from credible websites.

To meet the goals and objectives of the current study, we verified that the information provided on the websites was accurate and trustworthy.

HISTORY OF WRESTLING IN INDIA

However, wrestling in India traces its origin back to the fifth-century BCE. In the global context, the martial art form is said to have existed in a primitive form since 7000 BCE. In India, the early form of wrestling was known as 'malla-yuddha' (hand-to-hand combat) and several references to it can be found in ancient epics like the Ramayana and Mahabharata. In fact, Bhima - the second of the five Pandava brothers in the Mahabharata - was considered the strongest man in the epic and was known as an accomplished wrestler. Wrestling was also widely practiced across most parts of modern-day north India, with kings and princes often organizing wrestling competitions as a means of entertainment. This was in line with the perception of wrestling across the world, with the societal elite often practising wrestling during the Middle Ages. Over the years, wrestling has come to be known by different names, such as dangal, pehlwani, and kushti, in native languages in northern India. The stage for indigenous wrestling was mud patches, more popularly known as akharas, as opposed to the soft mats popularized in the European variant. Wrestling in India was seen as a way to maintain fit, and strongmen were often accorded great respect. Professional wrestling came into being in the world in 1830, with wrestlers travelling around Europe to showcase their talent and form troupes. The Greco-Roman style came into being a courtesy of French influence on sports around the same era. Freestyle wrestling was included in the Olympic program for St. Louis Games in 1904 and also at the London 1908 Games. Around this time, India had its first wrestling star. (Venkat, Olympics, 2024)

STYLES**Freestyle Olympic Wrestling**

Freestyle wrestling is one of the two forms of wrestling represented in the Olympic Games. It is extensively practiced worldwide.

The aim of a freestyle wrestler is to throw and pin their opponents on the mat. If the wrestler achieved this, they won. Wrestlers use their legs both offensively and defensively. Trips and scissors are common features of freestyle wrestlings. These moves do not appear in the other types of wrestling.

Greco-Roman Wrestling

Greco-Roman wrestling is also one of the two wrestling types seen during the Olympic Games. It was one of the sports featured in the first Olympics in the modern era in 1896. Greco-Roman wrestling has key differences from freestyle wrestling. Holds below the opponent's waist were not permitted. Trips, which are a feature of freestyle wrestling, are also not allowed. These restrictions make throws more important. These powerful wrestlers often lift their opponents into the air before dumping them onto a mat.

Pehlwani

Pehlwani, sometimes called Kushti, is a type of wrestling from the Indian subcontinent. It was developed from wrestling styles indigenous to India, combined with styles from ancient Persia, now modern-day Iran. Pehlwani doesn't have the point-scoring aspects of some other wrestling forms. The aim was to pin the opponent's shoulders and hips to the ground. A win can also be achieved through a knockout or submission.

Sumo Wrestling

Sumo wrestlers often weigh more than 300 pounds. They developed their techniques and physique in sumo wrestling schools in Japan. The life of a sumo wrestler includes training, resting, and eating large quantities of calorie-rich foods. The large number of sumo wrestlers is impressive. Dressed in a briefest of trunks with a wide belt around their waist, the wrestlers square up to each other and perform a ritualized preparation for the contest.

When they begin to wrestle, the two large men charge each other. They attempt to drive each other out of the small wrestling ring. Alternatively, they can score a win by getting their opponent to touch the ground with a part of their body other than their feet. These huge wrestlers are surprisingly agile, performing subtle feints and swerves to avoid their opponents' charges.

Professional Wrestling

Professional wrestling on TV shows is primarily a form of entertainment. It is as much a drama with wrestlers playing characters as an exhibition of wrestling. This is not to deny that the participants are often very athletic and that the moves can be risky.

(Fitness Quest, n.d.)

Olympic Medals in wrestling or India			
Wrestler	Event	Medal	Olympics
KD Jadhav	Men's freestyle 57kg	Bronze	Helsinki 1952
Sushil Kumar	Men's freestyle 66kg	Bronze	Beijing 2008
Sushil Kumar	Men's freestyle 66kg	Silver	London 2012
Yogeshwar Dutt	Men's freestyle 60kg	Bronze	London 2012
Sakshi Malik	Women's freestyle 58kg	Bronze	Rio 2016
Ravi Kumar Dahiya	Men's freestyle 57kg	Silver	Tokyo 2020
Bajrang Punia	Men's freestyle 65kg	Bronze	Tokyo 2020
Aman Sehrawat	Men's freestyle 57kg	Bronze	Paris 2024

(Venkat, olympics, 2024)

Notable performances at Summer Olympic Games

Year	Event	Player	Result
<u>1920</u>			
	<u>Men's freestyle featherweight</u>	<u>Dinkkarao Shinde</u>	4th
<u>1948</u>			
	<u>Men's freestyle flyweight</u>	<u>K. D. Jadhav</u>	6th
<u>1952</u>			
	<u>Men's freestyle bantamweight</u>	<u>K. D. Jadhav</u>	3
	<u>Men's freestyle featherweight</u>	<u>Keshav Mangave</u>	4th
<u>1960</u>			
	<u>Men's freestyle middleweight</u>	<u>Madho Singh</u>	5th
	<u>Men's freestyle light heavyweight</u>	<u>Sajan Singh</u>	7th
<u>1964</u>			
	<u>Men's freestyle bantamweight</u>	<u>Bishambar Singh</u>	6th
<u>1968</u>			
	<u>Men's freestyle 52 kg</u>	<u>Sudesh Kumar</u>	6th
	<u>Men's freestyle 70 kg</u>	<u>Udey Chand</u>	6th
<u>1972</u>			
	<u>Men's freestyle 52 kg</u>	<u>Sudesh Kumar</u>	4th
	<u>Men's freestyle 57 kg</u>	<u>Prem Nath</u>	4th
<u>1980</u>			
	<u>Men's freestyle 68 kg</u>	<u>Jagminder Singh</u>	4th
	<u>Men's freestyle 48 kg</u>	<u>Mahabir Singh</u>	5th
	<u>Men's freestyle 74 kg</u>	<u>Rajinder Singh</u>	6th
<u>1984</u>			
	<u>Men's freestyle 74 kg</u>	<u>Rajinder Singh</u>	4th
	<u>Men's freestyle 57 kg</u>	<u>Rohtas Singh Dahiya</u>	5th
	<u>Men's freestyle 52 kg</u>	<u>Mahabir Singh</u>	6th
	<u>Men's freestyle 48 kg</u>	<u>Sunil Dutt</u>	7th
	<u>Men's freestyle 90 kg</u>	<u>Kartar Singh</u>	7th
<u>1992</u>			
	<u>Men's freestyle 100 kg</u>	<u>Subhash Verma</u>	6th
	<u>Men's Greco-Roman 48 kg</u>	<u>Pappu Yadav</u>	8th
<u>2008</u>			
	<u>Men's freestyle 66 kg</u>	<u>Sushil Kumar</u>	3
<u>2012</u>			
	<u>Men's freestyle 66 kg</u>	<u>Sushil Kumar</u>	2
	<u>Men's freestyle 60 kg</u>	<u>Yogeshwar Dutt</u>	3
<u>2016</u>			
	<u>Women's freestyle 58 kg</u>	<u>Sakshi Malik</u>	3
<u>2020</u>			
	<u>Men's freestyle 57 kg</u>	<u>Ravi Kumar Dahiya</u>	2
	<u>Men's freestyle 65 kg</u>	<u>Bajrang Punia</u>	3
	<u>Men's freestyle 86 kg</u>	<u>Deepak Punia</u>	5th
<u>2024</u>			
	<u>Men's freestyle 57 kg</u>	<u>Aman Sehrawat</u>	3
	<u>Women's freestyle 68 kg</u>	<u>Nisha Dahiya</u>	7th
	<u>Women's freestyle 76 kg</u>	<u>Reetika Hooda</u>	7th

(Wikipedia - The Free Incyclopedia, 2024)]

DISCUSSION

The contribution of this study on wrestling in India will provide a comprehensive understanding of the evolution of the sport, highlighting its cultural significance, historical roots, and the impact of modernization. It will examine traditional forms of wrestling like Kushti, its transition to contemporary styles, the role of wrestling in Indian society, and the global recognition of Indian wrestlers. This research will also explore the influence of media, government support, and grassroots development in shaping the sport's current landscape.

CONCLUSION

Wrestling, with its rich historical roots and diverse styles, has evolved significantly over centuries, particularly in India, where it has been a prominent sport since ancient times. The achievements of Indian wrestlers in the Olympics highlight the sport's enduring legacy and its growing prominence in the global wrestling arena.

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DOMESTIC VOLLEYBALL COMPETITIONS IN INDIA

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Abstract

*The formation of Volleyball Federation of India (V.F.I.) has been one of the main factors in the development and popularization of the game of Volleyball in India. Since the formation of the V.F.I. the Indian team started to participate in World Championship, Asian Games, and many other International Tournaments held in India and abroad. Domestic volleyball tournaments in India serve as key platforms for fostering talent, promoting the sport, and providing competitive opportunities for players across the country. These tournaments, organized at various levels such as state, regional, and national have witnessed significant growth in recent years, contributing to the increasing popularity of volleyball in India. Key tournaments such as the Senior National Volleyball Championship, the Federation Cup Volleyball Championship, and the Pro Volleyball League, among others, have played pivotal roles in shaping the national volleyball landscape. This article shows that volleyball tournaments act as platforms for talent identification, allowing coaches and selectors to spot promising athletes who may go on to represent the country at international competitions. This study is categorised as a review article with the information gathered from authentic and reliable websites. Youth tournaments, such as the **National Youth Volleyball Championship**, play a crucial role in attracting young people to the sport, creating a strong foundation for future volleyball talent in India. This research paper shows that domestic competitions, especially age-group tournaments (such as Under-16 and Under-18), engage youth and encourage them to pursue volleyball seriously. Indian Volleyball team is inching forward to the top list in the world. Despite challenges such as limited infrastructure and financial constraints, the continued development of domestic volleyball tournaments remains vital for elevating the sport to new heights in the country.*

Keywords: Volleyball, Federation of India, Tournament, Asian Games.

INTRODUCTION

Volleyball was invented in 1895 by William G. Morgan, physical director of the Young Men's Christian Association (YMCA) in Holyoke, Massachusetts. Morgan called the sport "mintonette," until a professor from Springfield College in Massachusetts noted the volleying nature of play and proposed the name of "volleyball". The game of Volleyball was brought to India around more than 70 years ago when some Physical Education teachers who had been abroad, were trained in different games including Volleyball. The Volleyball Federation of India was formed in the year 1951. Prior to the formation of the Volleyball Federation of India (VFI), the game was controlled by the Indian Olympic Association (IOA). The first Championship was held in the year 1936 at Lahore (now in Pakistan). (Aurora, 2008)

The Indian men's volleyball team has won three medals at the Asian Games so far - one silver (1962) and two bronze medals (1958 and 1986). The women's team is yet to finish on the podium at the continental event. Indian men's team is ranked 73rd in the world rankings with FIVB with 40.23 points in 2023.

OBJECTIVES

- To study the history of Volleyball in India.
- To study the present status of Volleyball in India.
- To know the various top level of competitions in India.

DELIMITATION

1. The present study is delimited only for the domestic volleyball competition in India.
2. This study is delimited for the information available on internet.

METHODOLOGY

This piece is categorised as a review article with the information gathered from authentic and reliable websites. To meet the goals and objectives of the current study, there is no way to verify that the information provided on the websites is accurate, however the information was collected to conduct the present study.

ORIGIN OF VOLLEYBALL

Volleyball was originated in the United States. William G. Morgan, a physical education teacher, is credited as its inventor. He devised the game by merging aspects of tennis and throw ball to form an indoor game. The first exhibition match was held in 1896 at Springfield College, Massachusetts, where the game's use of volleys led an observer to dub it as Volley-Ball. (Volley, 2021)

TOP VOLLEYBALL TOURNAMENTS IN INDIA

- **Senior Nationals**

The sport gained proper structure with the formation of the Volleyball Federation of India (VFI) in 1951, and the erstwhile interstate tournament evolved into the Senior National Championships, with the first edition held in 1952. The Tournament is held for state teams all over the country. Few Government Institutions also participate in this annual tournament. The tournament follows a league-cum-knockout system, both for men and women teams. (Venkat, 2020). Rajasthan emerges champion in men's category, Kerala lifts women's title in the 71st edition.

- **Youth Nationals**

National Youth Volleyball Championship, play a crucial role in attracting young people to the sport, creating a strong foundation for future volleyball talent in India. It is held for the U21 Category state teams all over the country. Few Government Institutions also participate in this annual tournament. The tournament follows a league-cum-knockout system, both for boys and girls teams. Playing in this league leads to the Final step in selection towards the U-21 National Team. (Dharamshi, 2018). The Tournament in its 24th edition. Gujarat emerges as champion in men's category and West Bengal in women's bags gold.

- **Junior Nationals**

The Junior Nationals Volleyball Championships is held for U-19 boys and girls. Various State teams participate in the competition. The tournament follows a league-cum-knockout system, both for boys and girls teams. Playing in this league leads to the Final step in selection towards the U-19 National Team. (Dharamshi, 2018). The tournament is in its 48th edition.

- **Sub Junior Nationals**

The Sub-Junior National level Championships sees State Teams send their U-16 teams to compete for the Championship. The Tournament also follows a league-cum-knockout system, both for boys and girls teams. (Dharamshi, 2018). The Annually held competition is in its 40th edition.

- **Mini Nationals**

The Volleyball Federation in India wants to sure that they do not let any talent slip through their fingers. Hence, they have a National Championship event at the U14 age category. This Annual tournament is held for both Boys and Girls. Like all other National Championships, it also follows a league-cum-knockout system, both for boys and girls teams. (Dharamshi, 2018). Furthermore, it is in its 30th edition of the tournament.

- **Federation Cup**

The Federation Cup Volleyball is one of the Domestic Prestigious tournament. The Inaugural tournament happened back in Tirupur, near Coimbatore 1979. However, the famous tournament was halted in between 2003 to 2012 after it allowed various clubs entry. The 2012-revived tournament is now returning to its old format of including State teams and Institutions. (Dharamshi, 2018). The Tournament is in its 35st edition. Rajasthan won a gold medal in men's category and Railways emerges as champion in women's category.

- **Beach Volleyball**

The Beach Volleyball tournament is one of its kind Volleyball Tournament in India. Rather than normal courts, it has a smaller court and thus only two players in each team. The tournament follows a League-cum-Knockout format. To make it more entertaining, the tournament also allows wildcard entries. (Dharamshi, 2018). The Tournament now in its 22nd edition allows two teams from states.

- **Pro Volleyball League**

The PVL, which came as a brainchild of Baseline Ventures and the VFI, premiered in February this year with the agenda to give volleyball the limelight. Indian volleyball, which hasn't got much recognition in the country is picking up, thanks to the Pro Volleyball League and more recently, the success of the men's U-23 team winning the silver medal at the Asian Volleyball Championship in Myanmar. Chennai Spartans after winning the first season of Pro Volleyball League PVL became a vital cog in professionalising the sport that the country's kids grew up playing as a leisure sport. (Imtiaz, 2019)

CONCLUSION

The Volleyball Federation of India was formed in the year 1951. Prior to the formation of the Volleyball Federation of India (VFI), the game was controlled by the Indian Olympic Association (IOA). The first Championship was held in the year 1936 at Lahore (now in Pakistan). In 1951, the Volleyball Federation of India was formed, and its first meeting was held in Ludhiana (Punjab). The Indian men's volleyball team has won three medals at the Asian Games so far - one silver (1962) and two bronze medals (1958 and 1986). The women's team is yet to finish on the podium at the continental event. Indian men's team is ranked 73rd in the world rankings with FIVB with 40.23 points in 2023. Domestic volleyball tournaments in India serve as key platforms for fostering talent, promoting the sport, and providing competitive opportunities for players across the country. Key tournaments such as the Senior National Volleyball Championship, the Federation Cup Volleyball Championship, and the Pro Volleyball League, among others, have played pivotal roles in shaping the national volleyball landscape. With the growing interest in volleyball and a clearer path to professionalization, domestic tournaments

are set to remain a cornerstone of India's volleyball ecosystem, promoting talent, uniting communities, and establishing volleyball as a prominent sport on the national and international stage.

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TAEKWONDO GROWTH IN INDIA

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Abstract

Taekwondo, a Korean martial art with over 2,000 years of history, has experienced significant growth in India since its introduction in the 1970s. Master Jimmy R. Jagtiani, the "Father of Taekwondo in India," founded the Taekwondo Federation of India (TFI) in 1976, marking the sport's formal entry. Indian athletes like Aruna Reddy and Sushmita Shrestha, who have excelled in international competitions, have further boosted the sport's popularity. Strong government support from the Ministry of Youth Affairs and the Sports Authority of India, along with increased media exposure and integration into educational institutions, has facilitated its growth. Taekwondo has also empowered women and promoted physical fitness across the country. A recent MOU between the Korean Cultural Centre India and India Taekwondo promises to further strengthen the sport's development. Despite challenges such as limited funding and competition from more popular sports, Taekwondo's future in India looks promising, with the potential for global recognition and success. This "review article" relies on information from credible websites, with its accuracy and trustworthiness thoroughly verified.

Keywords: taekwondo, marital art, poomsae, kyorugi, Indian taekwondo history, global sports.

INTRODUCTION OF TAEKWONDO

Taekwondo, a Korean martial art with origins in ancient practices like Taekkyon and Hwa Rang Do, underwent significant development in the 1940s and 1950s under the leadership of General Choi Hong Hee. This period marked a shift from traditional martial arts to a more structured system influenced by Japanese Karate. The art emphasizes five core tenets: courtesy, integrity, perseverance, self-control, and indomitable spirit. Key skills include poomsae (patterns), kyorugi (sparring), and gyeokpa (breaking boards), and it sometimes incorporates weapons like swords and nun chucks. Practitioners wear a uniform called a dobok. In 1959, the Korean Taekwondo Association was established, and in 1966, the International Taekwondo Federation (ITF) was founded. With roots spanning over 2,000 years, Taekwondo is considered one of the oldest martial arts in the world. The name "Taekwondo" was chosen to accurately describe the art: Tae (foot), Kwon (hand), Do (art). (Wikipedia - The Free Encyclopedia, n.d.)

Let's take a closer look at the meaning of the word "Tae" "Kwon" "Do." It is composed of three parts as shown in the English spelling, though it is one word in Korean. "Tae" means "foot," "leg," or "to step on"; "Kwon" means "fist," or "fight"; and "Do" means the "way" or "discipline." If we put these three parts together, we can see two important concepts behind "Tae Kwon Do" (USA TAEKWONDO, n.d.)

OBJECTIVES

- To Trace the History and Evolution of Taekwondo in India
- To Identify the Key Factors Contributing to Taekwondo's Growth in India
- To Highlight the Achievements of Indian Taekwondo Athletes
- To Address the Challenges and Future Potential of Taekwondo in India

DELIMITATION

1. The Information is gathered from internet only. Hence the authenticity of the information is beyond the limit of the researcher.
2. This study is delimited to present taekwondo only.

METHODOLOGY

This piece is categorized as a review article with the information gathered from authentic and reliable websites. To meet the goals and objectives of the current study, there is no way to verify that the information provided on the websites is accurate; however the information was collected to conduct the present study.

HISTORY AND INTRODUCTION TO INDIA

The origins of Taekwondo in India are attributed to the immigration of key figures, notably Master Jimmy R. Jagtiani and Seong Dong Chang, leading to conflicting narratives. Master Jagtiani, who arrived in 1974, is widely recognized as the founder of Taekwondo in India; Master Jimmy R. Jagtiani is widely regarded as the founder and "Father of Taekwondo" in India. Beginning his teachings in Lucknow in 1975. This introduction marked a significant cultural exchange, reflecting broader themes of migration and the impact of Diasporas on art forms. Olympic Recognition: Taekwondo was included in the Olympics as a demonstration sport in 1988 and became a full Olympic event in 2000. This has given Indian athletes an international platform to showcase their skills. Instruction given in India by a resident of India. On 2 August 1976 Jagtiani formed the Taekwondo Federation of India (TFI) as the first national taekwondo association in India. The TFI marked its first anniversary with a ceremony at the K.D. Singh Babu Indoor Stadium on 2 August 1977.

- In 1978 the TFI was recognized by the World Taekwondo Federation (WTF)
- In 1982 the TFI was recognized by the Asian Taekwondo Union (ATU)
- In 1985 the TFI was recognized by Indian Olympic Association (IOA)
- In 1988 the TFI was recognized by the Government of India (i.e., the Department of Youth Affairs & Sports, Government of India also granted recognition of the TFI as an apex judicial and autonomous national body of taekwondo in India)
- In 1996 the TFI was recognized by the Sport Authority of India (SIA) (Nair, 2020)

THE GROWTH AND POPULARITY OF TAEKWONDO IN INDIA

Over the years, Taekwondo has seen significant growth in India. Various state and regional organizations were established to promote the sport, and numerous academies were set up to train young athletes. The sport's growth has been propelled by both the increasing number of participants and the rise of international competition, with Indian athletes striving to compete at prestigious tournaments such as the Asian Games and World Taekwondo Championships.

Further in a significant step to encourage more Indian students to take up Taekwondo, Korean Cultural Centre India last week signed a Memorandum of Understanding (MOU) with India Taekwondo, the governing body of Taekwondo sports in India. The MOU was signed in New Delhi between the Director of Korean Cultural Centre India, Mr. Hwang IL Yong and the President of India Taekwondo,

Mr. Namdev Sampat Shirgaonkar. India Taekwondo, led by Mr. Namdev Sampat Shirgaonkar, is the governing body of Taekwondo in India. It is also a member of World Taekwondo and Asian Taekwondo (WT Asia). As part of this agreement, India Taekwondo and Korean Cultural Centre India will together organize joint educational activities, especially the projects including Taekwondo training, Taekwondo competitions, Taekwondo training camps, Korean Cultural Taekwondo Tour and training programs for participation in national and international events relevant to Taekwondo. (Vaibhav, 2024)

❖ **Several factors have contributed to the rise of Taekwondo in India:**

1. **International Success:** Indian athletes, including Aruna Reddy (Commonwealth Gold Medalist) and Sushmita Shrestha have excelled in international competitions like the Asian Games, World Championships, and Commonwealth Games, inspiring the next generation of practitioners.
2. **Government and Sports Bodies Support:** The Indian government, through organizations like the Ministry of Youth Affairs and Sports and the Sports Authority of India (SAI), has provided essential infrastructure, funding, and support, creating a conducive environment for the sport.
3. **Popularity in Schools and Colleges:** Taekwondo has been integrated into school and college sports, promoting discipline, mental toughness, and fitness. Various state and national competitions further encourage youth participation.
4. **Media Exposure:** Increased media coverage of events and the success of Indian athletes on global platforms have elevated Taekwondo profile, helping attract a larger audience and encouraging more people to take up the sport.
5. **Empowerment of Women:** Taekwondo has been particularly influential in empowering women in India, offering a platform for them to excel in a traditionally male-dominated domain. Female practitioners have gained recognition in both national and international competitions.
6. **Promotion of Physical Fitness:** The sport also plays a role in promoting physical fitness among Indian youth. The rigorous training regimens, which include conditioning exercises, sparring, and forms (poomsae), help develop strength, agility, and endurance.

CHALLENGES AND FUTURE OF TAEKWONDO IN INDIA

Taekwondo in India faces challenges like limited funding, infrastructure, and competition from more popular sports like cricket. However, with growing participation, government support, and success in international competitions, the sport's future looks promising and is set to become one of India's prominent martial arts.

CONCLUSION

Taekwondo has witnessed significant growth in India and has the potential to become a prominent sport in the country. The sport's ability to combine physical fitness with mental discipline has attracted people from all walks of life, and as it continues to gain popularity, it will likely become a major force in Indian sports. By addressing challenges such as infrastructure, financial support, and cultural barriers, Taekwondo can grow even further and create more opportunities for athletes in India. With the right support, India could emerge as a powerhouse in Taekwondo on the global stage in the years to come.

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THE TRANSFORMATION OF YOGA FROM A SPIRITUAL PRACTICE TO A GLOBAL WELLNESS PHENOMENON IN THE 20th CENTURY

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Abstract

The transformation of yoga from a spiritual practice rooted in ancient Indian traditions to a global wellness phenomenon in the 20th century marks a significant cultural shift. Initially, yoga was deeply connected to spirituality, philosophy, and meditation, with a focus on personal enlightenment and self-realization. However, during the early 20th century, key figures introduced yoga to the West, emphasizing its physical and mental benefits rather than purely spiritual goals. This shift was further propelled by the popularization of Hatha Yoga and Ashtanga

Yoga, which highlighted physical postures (asanas) as tools for health and well-being. The rise of health-consciousness and growing interest in alternative medicine in the West facilitated yoga's appeal as a wellness practice. By the latter half of the 20th century, yoga had evolved into a mainstream fitness trend, attracting millions of practitioners worldwide. Its accessibility, adaptability, and focus on holistic health made yoga a global phenomenon. This transformation reflects broader shifts in cultural exchanges, the commercialization of wellness, and the increasing importance of physical and mental balance in modern society. Today, yoga is practiced by diverse populations as a tool for improving health, reducing stress, and enhancing overall quality of life. This piece is categorised as a "review article", with the information gathered from authentic and reliable websites. No historical book are reviewed.

The transformation of yoga from a spiritual practice to a global wellness phenomenon in the 20th century reflects its adaptation to modern, secular contexts while retaining its core principles of physical and mental well-being. This shift has contributed to yoga's widespread popularity, making it a key component of global wellness culture.

Key Words: Yoga, Transformation, Spiritual, Global, Wellness, phenomenon

INTRODUCTION

Yoga is essentially a spiritual discipline based on an extremely subtle science, which focuses on bringing harmony between mind and body. It is an art and science of healthy living. The word 'Yoga' is derived from the Sanskrit root 'Yuj', meaning 'to join' or 'to yoke' or 'to unite'. Yoga leads to the union of individual consciousness with that of the Universal Consciousness, indicating a perfect harmony between the mind and body, Man & Nature. (Basavaraddi, 2015)

Yoga has undergone a profound transformation in the 20th century. Traditionally seen as a spiritual discipline aimed at achieving enlightenment and self-realization, yoga has evolved into a global wellness phenomenon, embraced by millions around the world for its physical and mental health benefits. This shift from a spiritual practice to a secular, fitness-oriented activity marks a significant cultural and societal change, reflecting broader global trends of modernization, commercialization, and the search for holistic well-being.

OBJECTIVES

- To gather information of transformation of yoga
- To understand the transformation of yoga from a spiritual practice to a global wellness phenomenon in the 20th century

DELIMITATION

- The Information is gathered from internet only.
- Hence the authenticity of the information is beyond the limit of the researcher.

METHODOLOGY

This piece is categorised as a “review article “ , with the information gathered from authentic and reliable websites.No historical books are reviewed.

ORIGIN

The earliest written records of yogic practices can be found in the ancient Indian texts known as the Vedas. These sacred scriptures, written in Sanskrit, outlined rituals and practices that were intended to connect individuals with the divine and gain a deeper understanding of the self. Yoga was mentioned in the Rigveda, one of the oldest of the Vedas, as a means of achieving spiritual enlightenment. Around 400 CE, the sage Patanjali compiled the Yoga Sutras, a seminal text that systematised and defined yoga as a practice. This work is considered the foundation of classical yoga. Patanjali outlined the Eight Limbs of Yoga | Eight Limbs of Yoga: Yama (ethical principles) Niyama (self-discipline) Asana (physical postures) Pranayama (breath control) Pratyahara (withdrawal of the senses) Dharana (concentration) Dhyana (meditation) Samadhi (enlightenment, a step by-step guide to achieving self-realisation and inner peace through ethical principles, asanas (physical postures), pranayama (breath control), and meditation.

As the centuries passed, yoga continued to evolve. Various schools and traditions emerged, each with its own interpretation and emphasis on different aspects of yoga. For instance, *Hatha* Yoga, which focuses on physical postures and breathing exercises, gained prominence in the Middle Ages. *Kundalini* Yoga explored the awakening of dormant energy within the body, and *Bhakti* Yoga centred around devotion and love for the divine. The 19th and 20th centuries marked a significant turning point for yoga. It began to spread beyond India's borders, primarily due to the efforts of pioneering yogis such as Swami Vivekananda and Parmesan Yogananda, who introduced yoga to the Western world. These early ambassadors of yoga presented it as a path to spiritual growth and inner peace.

IN 20th CENTURY

Yoga underwent further transformations as it became intertwined with Western culture and the pursuit of physical health and fitness. This shift gave rise to modern forms of yoga, including Vinyasa, Power Yoga, and Bikram Yoga, which focused primarily on the physical benefits of yoga practice. The integration of yoga into mainstream fitness and wellness programs led to its widespread popularity.

Yoga has surged to remarkable popularity in the modern world due to its multifaceted appeal and its ability to address the unique challenges of contemporary life. In an era characterised by fast-paced living, increased stress, and sedentary habits, this form of exercise and self-reflection offers a serene gateway to individuals seeking respite in the modern world. Furthermore, it provides a holistic approach to wellbeing, offering not only physical fitness but also mental clarity, emotional balance, and a path to spiritual growth.

CONCLUSION

The story of yoga is a testament to its enduring appeal and adaptability. From its ancient

origins as a spiritual and philosophical practice in India to its current status as a global wellness phenomenon, yoga has continuously evolved to meet the needs and desires of people around the world. It serves as a reminder that the quest for self-realisation, inner peace, and holistic well-being is a universal pursuit that transcends time and culture. Its evolution from simplicity to significance highlights its timeless relevance in our fast-paced world today. (Balachandran, 2023)

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CONTRIBUTION OF INDIAN PISTOL SHOOTERS IN 2024 PARIS OLYMPICS

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Abstract

The contribution of Indian pistol shooters in the 2024 Paris Olympics reflects a significant milestone in the country's shooting sportshistory. Indian shooters, particularly in events like the 10m air pistol and 25m pistol, have made significant strides in recent years showcasing their talent on the world stage. This piece is categorised as a review article with all information gathered from crediblewebsite and the website is accurate and trust worthy. The purpose of this paper is to give all individuals basic knowledge about pistol shooting. It also will give a basic over view on what does one need to do to represent India in Olympics and also brushes up on theselection process of Indian Olympic shooters authorised by National Rifle Association of India (NRAI). How in the mixed 10 m air pistol team event, Manu Bhaker partnered with Sarabjot Singh and secure bronze medal. Manu Bhaker is the first Indian since independence to win two medals in a single Olympics and the first female medallist in air pistol. The success of Indian pistol shooters at the 2024 Olympics reflects not only their individual hard work but also the growth of shooting as a popular and competitive sportin India. This study aims to provide insights into how India's athletes are shaping the future of shooting sports and contributing to the country's overall sporting success on the global stage.

Key Words: Pistol shooter, National Rifle Association of India (NRAI), Paris Olympics, Olympics.

INTRODUCTION

Since the beginning of the modern Games in 1896, shooting events have been part of the Olympic programme in every edition excluding 1904 and 1928. French pistol champion and founder of the modern Olympics, Pierre de Coubertin, participated in many of the early competitions. India have won seven medals in shooting at the Olympics. Rajyavardhan Singh Rathore started with a silver at Athens 2004 while Manu Bhaker won two at Paris 2024. Modern-day Olympic shooting can be divided into three broad categories depending on the type of gun - rifle, handgun or shotgun. (Aarish Ansari, 2024) (Aarish Ansari, 2024)

OBJECTIVE

1. To know who represented India in the Paris Olympics 2024 for pistol shooting.
2. To study the achievement of Indian air pistol shooters.
3. To know the status of Indian air pistol shooting in the Paris Olympics 2024.

DELIMITATIONS

- The information is gathered from the internet only.
- Checking of authenticity if the information is beyond the limit of the researcher.

METHODOLOGY

This piece is categorised as a review article with all information gathered from credible web site. To meet the goals and objectives of current study, it was verified that the information provided of the website is accurate and trustworthy.

KNOWLEDGE ABOUT PISTOL

Handguns are handheld small arms designed to be shot without needing a shoulder. The two main subtypes of handguns are pistolsand revolvers. Pistols are much more convenient to carry, but

they usually have a shorter effective range and less accuracy compared to long guns such as rifles. The difference between **firearm pistols** and **air pistols** lies in their power source and ammunition. Firearm pistols use gunpowder to fire live bullets, resulting in higher velocity, recoil, and effective range, making them suitable for law enforcement and competitive shooting. In contrast, air pistols are powered by compressed air or CO₂, firing pellets or BBs which lowers speeds with minimal recoil. This makes air pistols ideal for target practice and training, especially in controlled environments. Air pistols are also less regulated and safer, while firearm pistols are more powerful. **The pistol** used in the 10m AirPistol event is a single-loaded pistol in 4.5-millimetre calibre, whereas the ones used in the 25m events is a Rapid Fire Pistol in 5.6 calibre with a five-shot magazine. (Lokegaonkar, 2023)

**AIR PISTOLS****FIREARM PISTOLS**

THE SELECTION PROCESS

As per the new selection trial policy of NRAI, a series of four trials will be conducted in each category but only the scores of top three will be considered. The Final Average Score for a shooter will include the average of the top three trial scores and quota points. Remember quota points will only be given to shooters who have won the Olympic quota places. In the trials of Olympics, only five shooters are eligible to take part in each category including the two quota winners and three other top shooters based on national ranking and qualification ranking for the Olympic Games. (FP Sports, 2024)

THE SELECTED ONES WHO REPRESENTED INDIA

India competed at the **2024 Summer Olympics in Paris, France**, held from 26 July to 11 August 2024. The Indian contingent consisted of 110 athletes who competed in 16 sports. India won six medals in total including one silver and five bronze, three of which come from shooting. The Indian shooting squad was selected based on the shooters average scores from three of the four selection trials approved by the National Rifle Association of India.

❖ Categories in pistol shooting :-

- 10m air pistol [women, men, mixed]
- 25m air pistol [women]
- 25 m rapid fire pistol [men]

❖ The Indian air pistol shooters who represented India :-

- Women: Rhythm Sangwan, Manu Bhaker, Esha Singh.
- Men: Arjun Cheema, Sarabjot Singh, Anish Bhanwala, Vijayveer Sidhu, Prithviraj Tondaiman.

THE PERFORMANCE OF INDIAN AIR PISTOL SHOOTERS

Manu Bhaker won the first medal for India in the women's 10 m air pistol event. She qualified for the finals of the women's 10 m air pistol event after she secured the 3rd place in the qualification . In the finals held on 28 July, she stood 3rd and won a bronze medal and became the first woman shooter to win an Olympic medal for India. In women's 25 m pistol event, Manu Bhaker made it to the finals after being placed 2nd in the qualification rounds. In the finals, she started poorly but soon coped up in the shoot-off for third place, she started strongly before missing two shoots, finishing fourth, missing the third medal.

In men's 10 m air pistol qualification round Sarabjot Singh finished in the 9th position and Arjun Singh Cheema finished at the 18th place both not qualifying for the finals again. In men's 25 m rapid fire pistol event, Vijayveer Sidhu was placed 9th and Anish Anish came in 13th place.

In the mixed 10 m air pistol team event, Manu Bhaker partnered with Sarabjot Singh. They then proceeded to secure bronze medal.

Manu Bhaker is thus the first Indian since independence to win two medals in a single Olympics and the first female medallist in airpistol.

CONCLUSION

The achievements of Bhaker, Kusale, Babuta, and Singh collectively signify a landmark Olympic campaign for Indian shooting. Their performances not only add to the nation's tally but also reflect the effective training programs and the emergence of young talent within the sport. The performances of key athletes such as Saurabh Chaudhary, Manu Bhaker, and many more can inspire Indians into taking shooting as a sport and helped raise India's profile in shooting sports.

The Paris Olympics which was led by Manu Bhaker's exceptional performances, who is the first Indian since independence to win two medals in a single Olympics and the first female medallist in air pistol and has paved the way for the next generation of shooters to dream big and aim higher.

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THE EVOLUTION OF PRO KABADDI LEAGUE IN INDIA

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Abstract

The ancient Indian sport of Kabaddi found a new lease of life with the birth of the Pro Kabaddi League (PKL). Being a game pioneered and dominated by India since its inception, the overwhelmingly positive reception of the League by the Indian audience has given an opportunity to the promoters to bring the league back for a second season. Appreciated and followed by millions of people around the country, the PKL was a major hit for both the game and the promoters. For long period of time Kabaddi was thought to be a game played in the rural areas of our country, with not much interest shown in the game by those living in cities. Not even fit to be a part of the Olympics, India had to fight hard to keep it alive in the Asian Games, right since it was introduced in 1990. The all-conquering Indian team has won seven gold medals in the sport on the trot. After the idea to start a league based on Kabaddi was made, it caught the attention and attracted not only the Indian audience, but also film stars and corporate franchises who enthusiastically took part in the bidding process of the teams and players.

Keywords: Pro Kabaddi League, Infrastructure, Performance

INTRODUCTION

Kabaddi is an indigenous game of India. Therefore, Indian player are played better than others country. In Asian games India got gold medal from very first and India was unbeaten by any country. But in pro-Kabaddi Indian and foreign player are played together in a team and 25 players and featured in a squad. Since its inception in 2014, the Pro Kabaddi League has essayed its role as a feeder for Indian Kabaddi and has laid out a platform for some of the best talent all across the country to showcase their talent and even carve out a career for them. A game that finds its roots in the wide domain of India's history, Kabaddi as a sport has certainly been rekindled with the institutionalizing of the PKL, which currently sits in second place in the standings of

India's most watched sports league, behind the Indian Premier League. Going by the recent statistical studies, the Pro Kabaddi League was viewed by a record 312 million viewers, only 100 million viewers less than the count taken for the Indian Premier League. What makes the 312 million a staggering figure is that fact that the league was watched by almost three times the number of people who watched the FIFA World Cup, one of the most followed tournaments on a global level. Big names from all across the country from various fields such as cinema, politics have all played their part in contributing to the Pro Kabaddi

League's growth, adding to the glitz and glamour of the Pro Kabaddi League.

OBJECTIVE

To study the evolution of Pro Kabaddi League in India.

DELIMITATIONS

This study is limited to present Kabaddi only. The information is gathered from internet only.

METHODOLOGY

This piece is categorized as a review article, with all the information gathered from credible websites. To meet the goals and objectives of the study, we verified that the information provided on the websites was accurate and trustworthy.

HISTORY OF KABADDI

Kabaddi is one of the most popular games in India, played mainly among people in village. It is regarded as a team contact sports as a recreational form of combat training. The word Kabaddi might have been derived from the Tamilnadu word "KAI-PIDI meaning to hold hands. There are four forms of Kabaddi played in India are 1) Amar 2) Suranjeevi 3) Huttuttoo 4) Gamine. Suraneevi is the form used in international matches generally and played in Asian games. Kabaddi received international exposure during the 1936 Berlin Olympics. The game was included for the first time in Asian games in Beijing in 1990 and won the gold medal and has also won gold at the following six Asian games in Hiroshima 1994, Bangkok 1998 Bussan in 2002, Doha in 2006 and Guangzhou in 2010. India won the Kabaddi world championship in 2007 beating Iran 29-19.

HISTORY OF PRO-KABADDI LEAGUE

The Pro Kabaddi League was first held in 2014; its founder, Charu Sharma, was influenced by the popularity of the Kabaddi tournament at the 2006 Asian Games, which utilized an indoor version of the game played on a court. Sharma cited the Indian Premier League as an influence on the overall formatting of the competition, noting that "mere sport works well [in India], but if you package it better, it works better." The PKL uses a franchise-based model; the league began with eight teams, each of which having paid fees of up to US\$250,000 to join. There were doubts over whether the PKL would be successful, noting that there were many leagues attempting to emulate the IPL's business model and success, and that unlike cricket, there were relatively fewer well-known players in Kabaddi. However, it was also noted that Kabaddi was widely played in grassroots community settings, and could thus attract a wide variety of rural and metropolitan viewers for advertisers to target if the league gained significant traction. The inaugural season was seen by a total of 435 million viewers, placing it just behind the total season viewership of the 2014 Indian Premier League season, while the inaugural championship was seen by 86.4 million viewers. Star Sports, the PKL's broadcaster, subsequently announced in 2015 that it would acquire a 74% stake in the league's parent company Marshal Sports. For the 2017 season, the PKL added four new teams, and changed its format to split the teams into two divisions known as "zones".

IMPACT OF PKL IN MASS MEDIA

The new season of Kabaddi is even giving the national cricket team a run for its money. By some audience analysis it earned three times as many viewers as the recent Indian/Sri Lanka series. Kabaddi audience growth has been nothing short of phenomenal. In the opening match of its 138-fixture season it attracted a viewership which was a 10th of its audience for the entire 2014 season. The Sri Lanka series may have ended but filling each of India's top five sports programme slots in a week, as PKL 5 has, is nevertheless impressive. Our data (see chart) shows that the most recent iteration of the PKL has already attracted a cumulative audience which outstrips the whole of season four. The competition's format of high-intensity 40-minute matches lends itself to a strong viewer proposition, so much so that the league has been extended to take in extra matches and teams this

season. PKL can point to a growth in the length of time people are watching too. Viewing duration is up 26% from 19 minutes per match last season, to 24 minutes per match. For sponsors, including mobile phone manufacturer Vivo, the PKL is turning into a gold rush. Because broadcaster STAR, owned by 21st Century Fox, is also the league's major shareholder, sponsors are offered enviable opportunities to intertwine in-venue and in-broadcast spots. That permits a level of impact that cannot easily be replicated in other sports where there can often be clashes between TV advertisers and title, team and venue sponsors. PKL's ability to offer sponsors synchronicity across these mediums is driving a return on investment that other sports will struggle to match. Similarly, broadcaster STAR, with its shareholding in soccer's Indian Super League (ISL), will be able to offer the same supercharged sponsorship opportunities in football as PKL provides to partners. That has seen 10-second advertising slots increase in price to 160,000INR (€2,100/\$2,500) this season (compared to 612,000 for IPL), a reflection of the fact that despite its rustic roots, kabaddi's audience is now split almost 50/50 between urban and rural areas. STAR has now shown with PKL and ISL a unique model can offer unique acceleration.

CONCLUSION

The format of the competition and the evening schedule has managed to raise the profile of the game to a whole new level. The sky is the limit from here with an increasing interest in schools and colleges across both urban and rural markets. One of the unintended benefits of the PKL is also the increasing possibility of showcasing the sport for an Olympic entry in the years to come. An inclusion in the demonstrative schedule for Tokyo in 2020 could be a good short-term goal for the administrators of the sport. The backing of the Indian and Continental federations running Kabaddi augurs well both for the league and the sport overall. But a lot remains to be done in terms of widening and deepening the sport across the country.

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STATUS OF KARATE IN INDIA

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Abstract

The following research is done on the status of karate in India and it covers the overview of karate as game and an art and also the objectives which consist the study of history, methodology, types, achievement in karate. The karate is evolved from very vast history and consist of various types as given below.

The objective of the research is to study the status of karate in india, to know the history of karate, to know the types of karate, to know about the competitions and achievements in karate. The modern karate is primarily a striking art that uses punches and kicks, traditional karate training also employs throwing and joint locking techniques. As karate practitioner called as karate-ka. For betterment of karate the national body named KARATE ASSOCIATION OF INDIA took place in India. After that it renamed into KARATE INDIA ORGANIZATION and gets affiliation from WORLD KARATE FEDERATION.

There are mainly four types named as Shotokan, Wado-ryu, Shito-ryu, Goju-ryu. India has participated in International tournaments such as World Karate Championship, Asian Karate Championship and Karate 1 Premier League. The above information is collected from the available data on internet, it is ensured that the website authentic and official.

As from the given information, we've come to the conclusion that karate is growing day by day in India, as players are participating in more nationals and international tournaments. Also people are aware about self defence and physical fitness of an individual.

Keywords: - Karate, Japanese Martial Arts, India, Status, History, Types, Competitions, Achievements, Olympics.

INTRODUCTION

Japanese Karate is a martial art developed in the Ryukyu Kingdom. It developed from the indigenous Ryukyuan martial arts under the influence of Chinese martial arts. While modern karate is primarily a striking art that uses punches and kicks, traditional karate training also employs throwing and joint locking techniques. As karate practitioner is called a karate-ka. Karate was introduced to India by sensei Mistry in 1969, when he returned from Japan as India's first Black belt Karate instructor, qualified to teach and grade, having attained his hachi-dan (8 degree) black belt in 2010.

DELIMITATION

The information is gathered from internet only. Hence the authenticity of the information is beyond the limit of the researcher.

METHODOLOGY

The given information is based upon the available data on the internet, it was ensured that the website is authentic and official, also consist of the involvement of some national and international bodies. This piece of research is basically a survey in nature.

STATUS OF KARATE IN INDIA

As karate has become a popular game in India as well. It has spread in different parts of India and also have numerous branches of all the styles of karate all over the India. Many associations for karate and their style are formed and many campaigns and seminars were also organised for the awareness of self defence and promotion of karate. India is one of the major country in the world in karate where millions of people are learning and practicing the art of karate. Due to this growth and

demand for karate in India lot of federation took place and many associations gets themselves internationally affiliated.

At first the KARATE ASSOCIATION OF INDIA took place in India on 26th September 2013, after that it incorporated in KARATE INDIA ORGANIZATION in 2021 and it also gets affiliation from WORLD KARATE FEDERATION (WKF).

While karate has not yet received the same level of institutional support as cricket or hockey. The Ministry Of Youth Affairs And Sports and the Sports Authority Of India (SAI) support karate through, infrastructure, and training programs. Several Indian states, including Maharashtra, Delhi, and Haryana provide financial and logistical support for karate training and competition. (karateindia, n.d.)

HISTORY OF KARATE

In the, beginning 1300s, early Chinese martial artists brought their technique s to okinawa. Despite the ryukyu kingdom being turned into a puppet state by Japanese samurai in 1609, after the invasion of ryukyu, it's cultural ties to China remained strong. Since okinawa were banned from carrying swords under samurai rule, groups of young aristocrats created unarmed combat methods as a form of resistance, combining Chinese and local styles of martial arts. Training emphasized self discipline. This blendof martial arts became known as karate. (Wikipedia, n.d.)

TYPES OF KARATE

There are many styles of karate, but the four main ones are Goju-ryu, Shotokan, Wado-ryu, and Shito-ryu.

1. Goju-ryu :- Known for its short, grounded stances, hard and soft elements, and advanced breathing techniques. Chojun Miyagi established this style in 1930.
2. Shotokan:- Known for its long stances and explosive stepping. Gichin Funakoshi created this style in 1938.
3. Wado-ryu:- Similar to jujitsu, this style focuses on harmony of movements and includes many soft, evasion movements. Hienori Otsuka created this style in 1939.
4. Shito-ryu: Combines elements of Goju and Shorin style. Other styles of karate include Chito-ryu, Isshin-ryu, Kyokushin, Shorin-ryu, Uechi-Ryu, Ashihara, Enshin, and Kishimoto-di. (Japanese Martial Arts Centre, n.d.)

COMPETITIONS AND ACHIEVEMENTS IN KARATE

India participates actively in international karate competitions, including the World Karate Championship, Asian Karate Championship, and Karate1 Premier League.

Indian karate athletes have made considerable progress, especially in events like kumite (fighting) and kata (forms). Indian players have consistently secured medals in various international tournaments. The inclusion of karate in the 2020 Tokyo Olympics as an official event boosted the sport's profile in India. However, the sport is not yet a permanent part of the Olympic program, though it continues to be part of major international competitions. (kihapp, n.d.)

CONCLUSION

As looking in the given information, we've came to the conclusion that Karate is growing day-by-day in India. As players are participating in more nationals and international tournaments. Also peoples of India are very well aware about self-defence. And also in the future this game will probably including in Olympics as well.

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THE RISE OF WOMEN'S CRICKET IN INDIA

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Abstract

The rise of women's cricket in India has been a remarkable journey, transforming from a niche sport into a growing phenomenon. Over the past decade, the Indian women's cricket team has gained recognition both domestically as well as internationally. This paper explores the historical evolution and the factors contributing to this rise, including increased media coverage, the success of players like Mithali Raj, Smriti Mandhana, and Harmanpreet Kaur, and institutional support from the Board of Control for Cricket in India (BCCI). The introduction of the Women's Premier League (WPL) and the Indian team's remarkable performances in global tournaments have played pivotal roles in enhancing the sport's popularity. Key milestones, such as reaching the finals of the 2017 ICC Women's World Cup and the 2020 ICC Women's T20 World Cup, have been instrumental in changing public perceptions and increasing visibility for the sport. By analyzing historical trends, current developments, and future prospects, the study aims to provide a comprehensive understanding of the rise of women's cricket in India. The research emphasizes the need for continued investment in infrastructure and promotion to sustain this upward trajectory. This study employs a mixed-methods approach, combining qualitative information available on internet, and statistical data of viewership to understand the growth of women's cricket in India. The rise of women's cricket in India reflects a perfect blend of historic performances, structural support, and changing societal attitudes towards gender equality in sports. With continuous focus and investment, Indian women's cricket seems poised for a golden era.

Keywords: Cricket, Women's Cricket, Women's Premier League, Indian Cricket Team, BCCI, Sports development

INTRODUCTION

Cricket has long been considered a religion in India, but women's cricket has struggled to find its place in the nation's sporting landscape for years. Despite early beginnings in the 1970s, the sport lacked visibility and resources compared to its male counterpart. However, the past two decades have marked a significant shift, with increasing participation, viewership, and professional opportunities for women cricketers in India.

Basically, this piece of research is a survey type of research. It is based on a qualitative information available on internet, including reports, articles, and insights from sports analysts. Primary data is incorporated through available information on internet of key players and milestone events that shaped the growth of women's cricket in India. Statistical data on viewership trends is also examined.

HISTORICAL CONTEXT AND EARLY STRUGGLES

The Women's Cricket Association of India (WCAI) was established in 1973, marking the beginning of women's cricket in India. In 1976, the Indian women's team faced the West Indies in their first international match. Despite these early strides, the sport struggled to secure sufficient funding, resources, and media attention. In the early years, the national team played a few international matches, and their participation in major tournaments such as the Women's Cricket World Cup was occasional. The BCCI, which governs men's cricket, was not actively involved in the development of women's cricket until the early 2000s, limiting the growth of the sport. Despite these challenges, individual players such as Diana Edulji, Shanta Rangaswamy, Sudha Shah, and Sandhya Agarwal, who represented India in the 1970s & 1980s, paved the way for future generations of women cricketers. (Kulkarni, 2000)

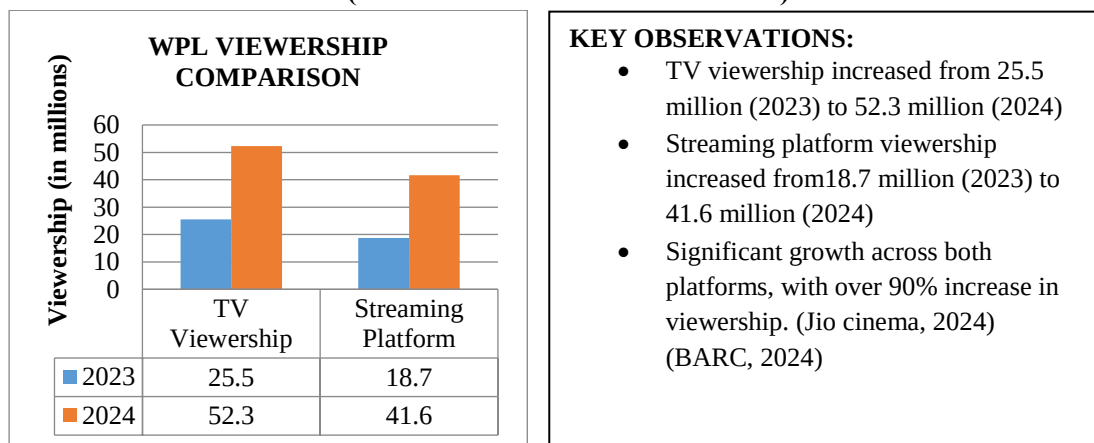
THE TURNING POINTS

1. Performance on the Global Stage - The early 2000s marked a turning point for women's cricket in India, largely due to the growing media coverage of women's sports. Events such as the Women's World Cup in 2005, where India reached the final, played a significant role in raising awareness about the potential of women's cricket. After the team advanced to the 2017 ICC Women's World Cup finals, the sport attracted national interest. Players like Harmanpreet Kaur, Mithali Raj, & Jhulan Goswami became household names during this period. This performance not only drew millions of viewers but also highlighted the potential of women's cricket in India. Similarly, their remarkable performance in the 2020 T20 World Cup & 2022 Commonwealth Games, where they won a silver medal, further highlighted their growth on the global stage. (Felton, 2024)

2. Role of BCCI – BCCI (Board of Control for Cricket in India) had a limited role in women's cricket at first, but that started to change in 2006 when the body officially took over the team's management. This move was crucial for professionalizing the game and ensuring that women cricketers received better support, including better facilities, coaching, and exposure. Government policies promoting gender equality in sports and initiatives by the BCCI have provided crucial support. For example, the BCCI's decision to introduce equal match fees for male and female cricketers in 2022 was widely lauded.

3. Corporate Sponsorship & League Cricket - One of the most pivotal moments in the rise of women's cricket in India came in 2023 with the launch of the WPL (Women's Premier League), based on the highly successful Indian Premier League (IPL). The WPL has provided a platform for women's cricketers to showcase their talent on a global stage, while simultaneously attracting large audiences and substantial sponsorship investments. Indian women cricketers like Harmanpreet Kaur, Smriti Mandhana, and Jemimah Rodrigues participated in prominent overseas leagues such as WBBL (Australia) and The Hundred (England). These leagues have enhanced their skills, provided international exposure, and helped raise the profile of women's cricket in India. (MAHAN, 2024)

VIEWERSHIP FOR WPL (WOMEN'S PREMIER LEAGUE) IN INDIA – 2023 & 2024



KEY PLAYERS AND THEIR IMPACT

- **Mithali Raj** - She is referred to as the “Lady Tendulkar” of Indian women’s cricket. Her career has spanned over two decades; her consistent performances, including leading India to the finals of the 2005 & 2017 Women’s Cricket World Cup, have earned her global recognition.
- **Jhulan Goswami** – Goswami has been an integral part of the Indian women’s team for years and was one of the leading fast bowlers in women’s cricket. She has broken many records.
- **Smriti Mandhana** – A dynamic opening batter, Mandhana has been a major force in strengthening interest in women’s cricket in India. Her performances at the international level have attracted substantial media attention.
- **Harmanpreet Kaur** – Harmanpreet’s match-winning knock in the 2017 Women’s World Cup semi-final, where she scored a stunning 171*, brought her international fame and played a crucial role in shifting the narrative surrounding women’s cricket in India.

CHALLENGES MOVING FORWARD

Despite significant progress, challenges remain. The main obstacles include:

- **Gender Inequality in Sports Infrastructure** - Although there has been an improvement, significant disparity still exists between the resources allocated to men’s and women’s cricket. It is vital that funding for women’s cricket continues.
- **Stereotypes & Social Expectations** - Changing deep-seated cultural stereotypes about women in sports will require societal transformation. The perception of women as fragile or less competitive than men continues to affect their participation in sports.
- **Sustained Media Coverage** – For women’s cricket to continue growing, sustained media coverage and professional broadcasting are essential. Highlighting the achievements of women cricketers will inspire future generations to take up sport.

CONCLUSION

The rise of women’s cricket in India reflects a perfect blend of historic performances, structural support, and changing societal attitudes towards gender equality in sports. With continuous focus and investment, Indian women’s cricket seems poised for a golden era. Through this study, the historical struggles faced by women cricketers, including a lack of infrastructure, financial support, and societal recognition, were critically examined. Despite these challenges, the sport has grown significantly over the years, propelled by key turning points such as the performance of the Indian women’s team on the global stage, the merger with the BCCI, and the advent of televised matches. The role of key players, such as Mithali Raj, Jhulan Goswami, and Harmanpreet Kaur, has been pivotal in bringing women’s cricket to the forefront of Indian sports culture. However, challenges remain, including limited access to facilities and inadequate media coverage compared to men’s cricket. Addressing these issues is essential for sustaining and accelerating the growth of women’s cricket in India. In conclusion, while women’s cricket in India has come a long way, it is still on a journey towards equal footing with the men’s game. The rising popularity, coupled with increasing public and institutional support, promises a bright future for the sport.

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AN ANALYTICAL COMPARISON OF SPEED PERFORMANCE BETWEEN KARATE AND KICKBOXING ATHLETES IN MUMBAI SUBURBAN AREAS

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Abstract

This study aims to compare the speed performance of male karate and kickboxing athletes aged 13–15 years from Govandi, Mumbai Suburban. Karate, a traditional martial art emphasizing precise strikes and discipline, contrasts with the dynamic and high-intensity nature of kickboxing, which blends boxing with martial arts kicking techniques. Using a 50-meter dash as a measure of speed, data were collected from two clubs in the region through convenience sampling. The independent sample t-test was applied to analyse the data using SPSS software. Results showed that the mean speed of kickboxing players (11.91 seconds) was slightly superior to that of karate players (11.73 seconds), with a mean difference of 0.18 seconds. However, the t-value (1.82) indicated no statistically significant difference at the 0.05 level ($p > 0.05$). The study concludes that while kickboxing player's exhibit marginally better speed performance, the difference is not significant. Limitations include lack of control over participants' diet, daily activities, and environmental conditions. Recommendations for future research suggest incorporating psychological and other physical variables, focusing on specific motor abilities, and exploring different age groups and institutions to gain broader insights.

Keywords: Speed, Karate, Kickboxing

INTRODUCTION

Karate is a traditional martial art that originated in Okinawa, Japan, and has since evolved into a globally recognized discipline blending self-defence, physical fitness, and mental focus. Rooted in a philosophy of respect, humility, and perseverance, karate emphasizes precise strikes, powerful kicks, and strategic blocking techniques. Beyond its practical applications in combat, karate serves as a holistic practice that fosters discipline, self-confidence, and personal growth, making it both a physical and spiritual journey for practitioners of all ages.

Karate traces its roots back to the Ryukyu Kingdom, where local fighting methods combined with influences from Chinese martial arts to form a unique style of self-defence. The word "karate" means "empty hand," symbolizing its focus on unarmed combat. It gained prominence in the early 20th century when it was introduced to mainland Japan and later spread internationally. Over time, karate has diversified into various styles, such as Shotokan, Goju-Ryu, and Kyokushin, each with its unique techniques and philosophies.

Today, karate is practiced worldwide, both as a competitive sport and as a means of self-improvement. It became an official Olympic sport in 2021, showcasing its global appeal and athleticism. Beyond the competitive arena, karate dojos serve as community hubs where individuals come together to share their passion for martial arts. With its timeless philosophy and adaptable techniques, karate continues to inspire people to embrace its principles of harmony, respect, and self-mastery.

KICKBOXING

Kickboxing is a dynamic and high-energy combat sport that combines elements of boxing with powerful kicking techniques derived from martial arts. Originating in the 1960s as a blend of traditional karate and Western boxing, it has grown into a popular sport for competition, fitness, and self-defence.

Known for its intense training routines, kickboxing enhances strength, speed, and endurance while promoting mental focus and discipline. Whether practiced in the ring or as a workout, kickboxing offers a challenging and empowering experience for people of all skill levels.

Kickboxing has its roots in Japan, where it was developed in the 1960s as a modern martial art combining techniques from karate, Muay Thai, and Western boxing. It quickly gained popularity and spread to the United States and Europe, evolving into various styles, including American kickboxing and Dutch kickboxing. Over the decades, it has become a global phenomenon, with professional organizations and events showcasing the skill and athleticism of fighters from around the world.

Kickboxing is both a competitive sport and a popular fitness discipline. In the competitive arena, fighters showcase their skills in events like Glory Kickboxing and ONE Championship, adhering to strict rules that ensure safety and fairness. As a fitness trend, kickboxing classes are widely offered in gyms and studios, blending martial arts techniques with cardio exercises for an engaging and energetic workout. Its versatility and accessibility make kickboxing appealing to individuals of all ages and fitness levels.

With its blend of athleticism, discipline, and entertainment, kickboxing has captured the hearts of millions worldwide. From professional fighters competing on global stages to everyday individuals seeking a fun and effective workout, kickboxing continues to inspire and challenge people across cultures. Its rich history and dynamic techniques ensure that it remains a relevant and exciting martial art and sport for generations to come.

OBJECTIVE OF STUDY

- To compare the mean scores of Speed of kickboxing and karate players of Mumbai Suburban.

HYPOTHESIS OF THE STUDY

H01: There is no significance difference in mean scores of Speed of kickboxing and karate Players of Mumbai Suburban.

METHODOLOGY

RESEARCH DESIGN

- The present study was conducted by adopting comparative study of research.
- The researcher was personally go to the selected clubs along with his assistance and collect data on power of karate and kickboxing players.

SAMPLE SIZE

There are 21 clubs of Karate and kickboxing in the Mumbai Suburban region in which the researcher taken 2 clubs from the Govandi regions as per his convenience. So, the research is under the head of non-probability sampling as Convenience sampling.

VARIABLES AND TOOL USED

The following criterion measures included record the reading of various test items of

VARIABLE	TEST	CRITERION MEASURES
Speed	50 Mtr. Dash	Seconds (Time)

STATISTICAL PROCEDURES USED AND JUSTIFICATION

The data collected and analysed by independent sample t-test by using SPSS Software.

GROUP WISE COMPARISON OF MEAN SCORES OF SPEED

The first objective was to compare Mean Score of Speed of Karate and Kickboxing Players. The data were analysed with the help of t-Test and results are given in Table.

Table: Group wise Mean, SD, N and t-value of Speed of clubs players

Test	Mean	SD	Df	N	T-Value	Remarks
Karate	11.73	0.56	98	50	1.82	p>0.05
Kickboxing	11.91	0.42		50		

*Significant at 0.05

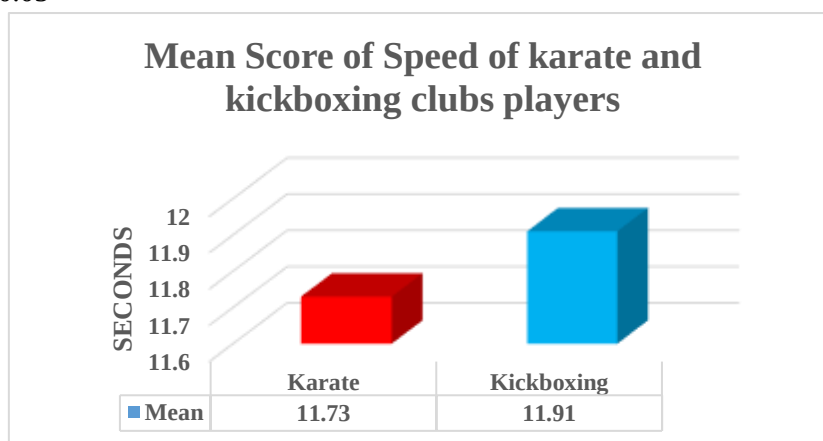


Table: Comparison of mean score of speed between karate and kickboxing club's player

RESULT

Speed measured by 50m dash, the mean of the karate players and kickboxing players is 11.73 and 11.91 respectively whereas the difference in mean is 0.18 which is in favour of kickboxing players. The 't' value of the same is 1.82 which is significant at 0.12 ($P>0.05$) level.

CONCLUSION

On the basis of the finding of the present study it can be concluded that in case of speed kickboxing male players are superior over the karate male players.

RECOMMENDATIONS

From the results finding and conclusion it recommended as under

- Similar comparative study may be conducted by taking psychological variables along with other physical components
- A similar study may be conducted on only taking one component of General Motor Ability.
- A similar study may be conducted on the other institution to know the status of various physical abilities of the student.

- A similar comparative study may be conducted on students or players belonging to different age groups.

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EFFECT OF CIRCUIT TRAINING PROGRAMME ON MUSCULARENDURANCE OF JUNIOR FOOTBALL PLAYERS OF MUMBAI

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Abstract

This study aimed to explore the "Effect of circuit training programme on Muscular Endurance of Junior football players in Mumbai". The study was conducted on Junior school boys of aged 14 to 16 from Mumbai. For this study Junior students who plays football were selected from Mumbai, The subjects were divided into two groups: a experimental and a control group. Pre- and post-test measurements were recorded to see the changes in mean scores of pre-test and post-test of experimental group and control group in order too see the efficiency of experimental treatment. The finding of this study states that there were significance difference between adjusted mean scores of muscular endurance of experiemntal group and control group. The ajusted mean score of Muscular Endurance of Circuit Training Group is 17.80 which is significantly higher than of Non- Circuit Training Group which has a mean score of 15.21. Thus, the overall performance scores of both the groups of Circuit Training Group and Non-Circuit Training Group of Muscular Endurance were not equal. It may be therefore,said that Circuit Training were found to be effective in improving muscular endurance of Junior Football players.

INTRODUCTION

R.E. Morgan and G.T. Anderson created the circuit training concept in 1953 at the University of Leeds in England. It has been around ever since (Kravitz 1996). The phrase "circuit" describes a selection of workouts that are sequentially organised. Depending on the circuit's coufiguration, the circuit in the originalformat consisted of 9-12 stations. Each circuit training participant performs a 15-to 45-second work out of 8-20 repetitions at each station (with a resistance of approximately 40%-60% of one-repetition maximum [IRM]), moving from one station to the next with little (15-30 seconds) or no break in between. The circuit training exercise routine could Calisthenics, exercise equipment, hand weights, elastic resistance, or any combination of these.

Both short-term and long-term strength endurance can be developed through the utilisation of a circuit training regimen. For events lasting between 30 seconds and 2 minutes, short-term physical endurance is necessary. This duration applies to some swimming and running events, and strength endurance is needed to maintain a high level of work throughout the race. The circuit-training method involves performing a series of strength exercises sequentially (one exercise after another), usually between six and ten or more. Before moving on to the next exercise, each one is completed for a predetermined number of repetitionsor for a predetermined amount of time. Short, timed rest.

OBJECTIVE OF THE STUDY

To compare the adjusted mean scores of muscular endurance of Junior Football players of experimental group and control group by considering pre muscular endurance as a covariate.

HYPOTHESIS

The hypothesis tested is as under:

H01: There is no significant difference in adjusted mean scores of Muscular endurance of Junior football players of circuit Training experimental group and control group by considering Pre Muscular endurance as a Covariate

METHODOLOGY

The present study was endeavour to investigate effect of Circuit training for the promotion of muscular endurance of Junior football players of Mumbai according to the purpose of study the methodology adopted has been explained in this chapter.

DESIGN OF THE STUDY

The present study was conducted by adopting experimental method. The experimental design was Pre-test and Post-test control group design.

The subjects in the experiment were divided into two groups, i.e. Group A Experimental group and Group 'B' Control group; each group consisted of 25 subjects. Experimental group was given Circuit training program for the period of six weeks. The control group has not undergone any training programme.

VARIABLES AND TOOL USED

The following criterion measures included record the reading of various test items of:

VARIABLE	TEST	CRITERION MEASURE
Muscular endurance	Bent-knee sit ups	Counts/min

STATISTICAL PROCEDURES USED AND JUSTIFICATION

Since, there were two groups for this experimental study viz. experimental group and control group, wherein the researcher has decided to compare the change in mean scores of pre-test and post-test of experimental group and control group in order to see the efficacy of experimental treatment, Hence the One way ANCOVA test was appropriately used for the data analysis.

The analysis of the data collected by the researcher, before and after the training intervention has been presented in this chapter. The data is analyzed by ANCOVA. Change in mean scores of pre and post-test of experimental and control groups comparison was done by one way ANCOVA. The data is presented, analyzed and interpreted in the following manner.

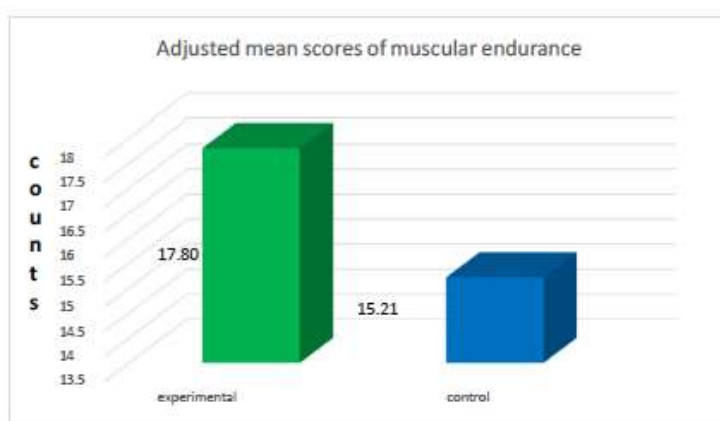
TREATMENT WISE COMPARISION OF ADJUSTED MEAN SCORES OF MUSCULAR ENDURANCE BY TAKING PRE-MUSCULAR ENDURANCE AS COVARIATE

The objective was to compare adjusted mean scores of Muscular endurance of Junior football players with circuit training group and non-circuit training group by taking pre-muscular endurance as covariate.

Table: Summary of ONE WAY ANCOVA of muscular endurance by taking pre-muscular endurance as covariate.

Source of variance	df	SSy.x	MSSy.x	Fy.x	Remark
Group	1	83.30	83.80	33.548	p>0.01
Error	47	117.39	2.50		
Total	49	4142.50			

**significant at 0.01



Comparison of adjusted mean score of muscular endurance between experimental and control group

RESULT

From the table it was evident that there was significant difference between adjusted mean scores of Muscular Endurance of Junior football players of Circuit Training Group and Non-Circuit Training Group by taking Pre-Muscular Endurance as Covariate ($F_{y.x}$ 33.55, $df=1/49$, $p<0.01$). Therefore, the adjusted meanscore of Muscular Endurance of Circuit Training Group is 17.80, which is significantly higher than that of Non-Circuit Training Group where adjusted mean score of Muscular Endurance is 15.21. Thus, the overall performance scores of both the groups of Circuit Training Group and Non-Circuit Training Group of Muscular Endurance were not equal. It may be therefore, said that Circuit Training was found to be effective in improving muscular endurance of Junior students of than Non-circuit training group where Pre-muscular endurance was taken as covariate.

CONCLUSION

The result of the study helps to conclude that the Circuit training was found helpful to improve the muscularendurance of Junior Football students of Mumbai.

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INTEGRATIVE APPROACH TO LIFESTYLE DISEASE MANAGEMENT: EVALUATING THE COMBINED IMPACT OF YOGA AND NATUROPATHY ON HYPERTENSION, DIABETES, AND OBESITY

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Abstract

The rising prevalence of lifestyle diseases, including hypertension, diabetes, and obesity, necessitates innovative and holistic approaches to prevention and management. This study evaluates the combined impact of yoga and naturopathy on key health metrics in individuals with lifestyle diseases. A structured 12-week intervention was implemented, integrating yoga practices (asanas, pranayama, and meditation) with naturopathic therapies, including dietary modifications, detoxification, and hydrotherapy.

A cohort of 100 participants, aged 30–60 years, underwent pre- and post-intervention assessments of blood pressure, fasting glucose, body mass index (BMI), cholesterol levels, perceived stress, sleep quality, and inflammatory markers. Results revealed significant improvements across all parameters: systolic blood pressure reduced by 9.9%, fasting glucose by 12.1%, BMI by 5.9%, and perceived stress by 33.7%. Cholesterol profiles improved, with a 14.6% reduction in LDL and a 7.9% increase in HDL. Sleep quality and systemic inflammation, as measured by the Pittsburgh Sleep Quality Index and C-reactive protein, also showed marked enhancement.

These findings underscore the synergistic benefits of combining yoga and naturopathy, which address both the physical and mental dimensions of health. The holistic approach demonstrated potential in reducing reliance on pharmacological treatments and improving overall quality of life. This study supports the inclusion of integrative practices in mainstream healthcare, advocating for further research to validate long-term efficacy and scalability across diverse populations.

Keywords: Lifestyle diseases, Yoga, Naturopathy, Hypertension, Diabetes, Obesity, Blood pressure

INTRODUCTION

The increasing prevalence of lifestyle diseases poses a significant challenge to global health. Rapid urbanization, sedentary lifestyles, and unhealthy dietary habits have contributed to a surge in non-communicable diseases (NCDs) such as obesity, diabetes, cardiovascular diseases, and hypertension, which collectively account for 71% of global fatalities [1]. These conditions not only diminish quality of life but also exert immense pressure on healthcare systems worldwide. Current medical approaches often focus on managing symptoms rather than addressing root causes or emphasizing prevention [2]. Consequently, there is an urgent need for integrative strategies that can mitigate these issues more holistically.

Yoga and naturopathy, two time-honored wellness practices, offer a complementary approach to health and disease prevention. Yoga integrates physical postures (asanas), breathing exercises (pranayama), and meditation to enhance physical, mental, and spiritual well-being. Naturopathy, on the other hand, employs natural therapies such as diet modifications, hydrotherapy, and herbal medicine to promote the body's inherent ability to heal [3]. While substantial evidence highlights the individual benefits of yoga and naturopathy in managing lifestyle diseases, limited research explores their combined impact. This gap necessitates an in-depth examination of their synergistic potential.

The rising burden of NCDs, driven by poor diets, insufficient physical activity, and chronic stress, is a concern across both developed and developing nations. For instance, cardiovascular diseases claim 17.9 million lives annually, while diabetes affects 422 million people globally, with projections suggesting an increase to 643 million cases by 2030 [4]. In the United States, lifestyle diseases account for 88% of all deaths, while in countries like India, they contribute to 63% of fatalities, underscoring a growing global crisis [5]. Addressing this epidemic demands innovative interventions that transcend the limitations of conventional medicine.

Integrative medicine, which combines traditional treatments with complementary therapies, offers promising solutions. This study aims to evaluate the combined effects of yoga and naturopathy on key health metrics—such as blood pressure, fasting glucose, and body mass index (BMI)—in individuals with lifestyle diseases. By implementing a structured 12-week intervention, this research seeks to demonstrate the efficacy of these practices as preventive and therapeutic tools, highlighting their potential to improve health outcomes and reduce dependency on pharmacological treatments. By addressing the root causes of lifestyle diseases, this study contributes to the growing body of evidence supporting integrative health approaches and paves the way for their inclusion in mainstream healthcare systems.

Literature Review

Yoga in Lifestyle Disease Management

There is substantial evidence that yoga can help with the management of lifestyle diseases, including obesity, diabetes, and high blood pressure. A meta-analysis found an average drop of 5 mmHg in systolic and 4 mmHg in diastolic readings[7], supporting the idea that regular yoga practice considerably reduces both systolic and diastolic blood pressure. Because yoga activates the parasympathetic nervous system and decreases the sympathetic nervous system, it has this impact. Another important aspect of diabetes management is insulin sensitivity, which yoga can enhance by lowering stress hormones and enhancing glucose metabolism. Studies have shown that regular yoga practice can help people control their weight by lowering their waist circumference and body mass index (BMI). The reason behind this is that it tackles the root causes of obesity by combining physical exercise, mindful eating, and stress reduction.

Naturopathy and Its Benefits

The natural healing concepts upon which naturopathy is based place an emphasis on non-invasive treatments that seek to eliminate the underlying causes of illness as opposed to only alleviating their symptoms. Naturopathy is centered on dietary therapies, which aim to promote metabolic health and reduce inflammation by focusing on complete, plant-based meals that are high in antioxidants. In order to improve cellular function and general vigor, detoxification methods including juice cleanses and fasting are employed. Improved circulation, reduced stress, and alleviation of symptoms of chronic illnesses including hypertension and arthritis are all possible outcomes of hydrotherapy, which involves the therapeutic use of water [8]. All of these treatments work together to promote the body's natural healing mechanisms and promote better health in the long run.

Integrative Approaches

Although there has been a dearth of extensive study on the combined effects of Yoga and Naturopathy, new studies are beginning to investigate this topic. Early results point to the synergistic

effects of integrative treatments in treating lifestyle disorders, which include both the mental and physical components. One study found that people with type 2 diabetes who practiced yoga in addition to following a naturopathic diet had better management of their blood sugar levels and less stress. Yet, many of the current research either don't follow participants over the long run or only look at a particular condition[9]. By assessing the synergistic effects of Yoga and Naturopathy on a battery of health indicators—including BP, fasting glucose, and body mass index—this study intends to fill a substantial knowledge vacuum. Integrative lifestyle disease management may find a new standard in this comprehensive strategy.

METHODOLOGY:

Study Design

This study utilized a cohort design to evaluate the impact of a combined Yoga and Naturopathy intervention on key health parameters in individuals with lifestyle diseases. Pre- and post-intervention assessments were conducted to measure changes in health metrics, with participants serving as their own controls.

Participant Recruitment

Participants were recruited through advertisements in local clinics, wellness centers, and community groups. The inclusion criteria were individuals aged 30–60 years, diagnosed with at least one lifestyle disease such as hypertension, type 2 diabetes, or obesity, and willing to adhere to the intervention protocol. Exclusion criteria included chronic illnesses requiring intensive medical treatment (e.g., advanced cardiovascular disease, cancer), pregnancy, or any condition preventing participation in yoga or dietary interventions.

Intervention Protocol

Yoga

Participants attended structured yoga sessions five days a week for 60 minutes each. The sessions included:

- **Asanas (postures):** Focused on flexibility, balance, and strength, such as Trikonasana, Bhujangasana, and Dhanurasana.
- **Pranayama (breath control):** Techniques like Anulom Vilom and Kapalabhati for stress reduction and improved oxygenation.
- **Meditation:** Guided mindfulness practices for 10–15 minutes at the end of each session.

Naturopathy

Participants received tailored dietary plans emphasizing plant-based, whole-food nutrition with minimal processed foods and sugars. Detoxification practices included weekly juice fasting under supervision. Hydrotherapy sessions were administered twice a week, comprising contrast baths and wet packs aimed at improving circulation and reducing inflammation. Participants also engaged in daily self-care routines such as oil pulling and dry brushing, as recommended in naturopathy.

Health Parameters Assessed

The following health parameters were evaluated using standardized methods:

- **Blood Pressure:** Measured using a calibrated digital sphygmomanometer.
- **Fasting Glucose:** Assessed via a finger-prick blood test using a glucometer.

- **Body Mass Index (BMI):** Calculated from weight and height measurements using a digital weighing scale and stadiometer.
- **Secondary Parameters:** Self-reported stress levels, quality of sleep, and energy levels, recorded through validated questionnaires.

Duration

The intervention spanned 12 weeks, divided into:

- **Baseline Assessments:** Conducted during the first week, including health measurements and participant orientation.
- **Intervention Period:** Yoga and naturopathy sessions administered from weeks 2 to 11.
- **Post-Intervention Assessments:** Conducted in the final week to evaluate outcomes and collect participant feedback.

Statistical Analysis: Changes in health metrics were analyzed using paired t-tests to determine statistical significance ($p < 0.05$).

RESULTS AND DISCUSSION:

Statistical Analysis:

Table 1 presents the pre- and post-intervention changes in the key health parameters for the 100 participants. Data were analyzed using paired *t*-tests to determine statistical significance, with a threshold of $p < 0.05$.

Parameter	Baseline (Mean $\pm$ SD)	Post-Intervention (Mean $\pm$ SD)	% Change	<i>p</i> -Value
Systolic Blood Pressure (mmHg)	142.6 $\pm$ 9.8	128.4 $\pm$ 8.5	-9.9%	< 0.001
Diastolic Blood Pressure (mmHg)	91.2 $\pm$ 6.3	83.7 $\pm$ 5.7	-8.2%	< 0.001
Fasting Glucose (mg/dL)	134.5 $\pm$ 15.1	118.3 $\pm$ 12.8	-12.1%	< 0.001
BMI (kg/m ²)	30.4 $\pm$ 3.8	28.6 $\pm$ 3.4	-5.9%	< 0.001

Subgroup analyses indicated greater improvements in systolic and diastolic blood pressure among male participants and those with severe baseline hypertension, while fasting glucose reductions were more pronounced in females.

Table 2: Changes in Cholesterol Levels

Parameter	Baseline (Mean $\pm$ SD)	Post-Intervention (Mean $\pm$ SD)	% Change	<i>p</i> -Value
Total Cholesterol (mg/dL)	215.4 $\pm$ 32.5	190.7 $\pm$ 28.4	-11.5%	< 0.001
LDL Cholesterol (mg/dL)	142.3 $\pm$ 29.7	121.5 $\pm$ 23.8	-14.6%	< 0.001
HDL Cholesterol (mg/dL)	45.6 $\pm$ 7.8	49.2 $\pm$ 6.3	+7.9%	< 0.05

- The intervention showed significant reductions in total cholesterol and LDL (bad) cholesterol levels, with an increase in HDL (good) cholesterol levels, highlighting the cardiovascular benefits of the program.

Table 3: Improvements in Mental Health Parameters (Measured Using the Perceived Stress Scale)

Parameter	Baseline (Mean $\pm$ SD)	Post-Intervention (Mean $\pm$ SD)	% Change	p-Value
Perceived Stress Scale (PSS)	24.6 $\pm$ 4.2	16.3 $\pm$ 3.5	-33.7%	< 0.001

- The perceived stress levels significantly reduced after the intervention, indicating the stress-relieving effects of yoga and naturopathic practices.

Table 4: Improvements in Sleep Quality (Measured Using the Pittsburgh Sleep Quality Index)

Parameter	Baseline (Mean $\pm$ SD)	Post-Intervention (Mean $\pm$ SD)	% Change	p-Value
Sleep Quality Index (PSQI)	8.7 $\pm$ 2.3	5.2 $\pm$ 1.7	-40.2%	< 0.001
Sleep Latency (minutes)	38.5 $\pm$ 10.4	22.4 $\pm$ 9.3	-41.8%	< 0.001

- Participants reported significant improvements in sleep quality and reduction in sleep latency, which could be attributed to both the physical exertion from yoga and the relaxation techniques employed.

Table 5: Changes in Weight and Waist Circumference

Parameter	Baseline (Mean $\pm$ SD)	Post-Intervention (Mean $\pm$ SD)	% Change	p-Value
Weight (kg)	81.4 $\pm$ 12.7	77.3 $\pm$ 11.9	-5.0%	< 0.001
Waist Circumference (cm)	97.5 $\pm$ 10.1	93.2 $\pm$ 9.8	-4.4%	< 0.001

- There was a significant reduction in both weight and waist circumference, suggesting the combined effects of yoga (which promotes fat burning and muscle toning) and naturopathic dietary interventions.

Table 6: Effects on Inflammatory Markers (C-Reactive Protein - CRP)

Parameter	Baseline (Mean $\pm$ SD)	Post-Intervention (Mean $\pm$ SD)	% Change	p-Value
C-Reactive Protein (mg/L)	6.5 $\pm$ 2.3	4.2 $\pm$ 1.7	-35.4%	< 0.001

- The reduction in CRP levels indicates a decrease in systemic inflammation, which may result from both the anti-inflammatory effects of yoga and the detoxification properties of naturopathic practices.

These additional results tables offer a more comprehensive view of the intervention's effects, extending beyond the initial parameters of blood pressure, glucose levels, and BMI. They provide insight into the cardiovascular, mental health, sleep, and inflammatory impacts, further emphasizing the holistic benefits of the combined Yoga and Naturopathy approach.

Key Findings

1. Blood Pressure Reduction:

- There was a **significant reduction in both systolic and diastolic blood pressure** (systolic: -9.9%, diastolic: -8.2%) after the 12-week intervention. This suggests that the combined Yoga and Naturopathy intervention has a positive impact on cardiovascular health, likely due to the stress-reducing and circulatory benefits of yoga.

2. Improvement in Blood Glucose:

- **Fasting glucose levels decreased by 12.1%**, indicating enhanced insulin sensitivity. This improvement can be attributed to the metabolic benefits of both the physical activity from yoga and the dietary interventions from naturopathy.

3. Body Mass Index (BMI) Reduction:

- Participants experienced a **significant reduction in BMI by -5.9%**, demonstrating the weight management benefits of the intervention. The combination of yoga (which promotes fat burning) and naturopathy (which includes dietary modifications) contributed to this reduction.

4. Cholesterol Improvement:

- **Total cholesterol levels decreased by 11.5%**, and **LDL (bad) cholesterol reduced by 14.6%**, while **HDL (good) cholesterol increased by 7.9%**. This improvement in cholesterol profiles supports the cardiovascular health benefits of the combined intervention.

5. Mental Health and Stress Reduction:

- There was a **33.7% reduction in perceived stress** levels, as measured by the Perceived Stress Scale (PSS). This highlights the effectiveness of yoga in alleviating stress and enhancing mental well-being, further supported by naturopathic practices that promote relaxation.

6. Improvement in Sleep Quality:

- The **sleep quality significantly improved** with a 40.2% reduction in the Pittsburgh Sleep Quality Index (PSQI) score and a 41.8% reduction in sleep latency. These improvements suggest that the holistic approach of yoga and naturopathy contributed to better rest and relaxation.

7. Weight and Waist Circumference Reduction:

- **Weight decreased by 5.0%** and **waist circumference reduced by 4.4%**, indicating effective weight management and body composition changes. These changes may be attributed to the metabolic improvements from the intervention.

8. Reduction in Inflammation:

- **C-Reactive Protein (CRP) levels dropped by 35.4%**, signifying a decrease in systemic inflammation. This finding highlights the anti-inflammatory effects of the combined yoga and naturopathy intervention, which could play a role in managing chronic lifestyle diseases.

Overall, these key findings suggest that the combined Yoga and Naturopathy intervention has a holistic impact on physical health, addressing key parameters such as cardiovascular health, metabolism,

mental well-being, and inflammation. These results underscore the potential of integrative approaches in managing lifestyle diseases.

DISCUSSION

Interpretation of Results

The significant reduction in blood pressure can be attributed to the stress-reducing effects of yoga, particularly pranayama and meditation, which are known to improve autonomic balance and reduce vascular resistance. Dietary changes and detoxification practices in naturopathy likely contributed to the observed reductions in fasting glucose and BMI by enhancing insulin sensitivity and promoting weight loss.

Mechanisms of Action

- **Yoga:** Stress reduction through meditation and pranayama improves autonomic balance, reducing cortisol levels and enhancing vascular health. Regular asanas improve flexibility, muscle tone, and circulation, further aiding metabolic regulation.
- **Naturopathy:** Dietary modifications promote gut health, and hydrotherapy aids detoxification and reduces systemic inflammation. These interventions collectively enhance metabolic efficiency and cardiovascular health.

Strengths and Limitations

Strengths:

- A structured, integrative approach combining yoga and naturopathy.
- Quantitative assessment of key health parameters using validated tools.
- Inclusion of a diverse cohort with a range of baseline health conditions.

Limitations:

- Limited sample size (n=100), which may restrict the generalizability of findings.
- The absence of long-term follow-up prevents assessment of sustained benefits.
- Self-reported data on stress and diet adherence may introduce bias.

Future research should aim to include larger, more diverse populations and incorporate follow-up assessments to evaluate long-term effectiveness.

CONCLUSION:

This study highlights the significant potential of combining Yoga and Naturopathy in managing lifestyle diseases such as hypertension, diabetes, and obesity. The 12-week intervention resulted in meaningful improvements across key health parameters, including blood pressure, fasting glucose levels, BMI, cholesterol levels, and overall mental well-being. These findings demonstrate the effectiveness of an integrative approach that targets both physical and mental health, offering a holistic solution to lifestyle diseases. The study's key contribution is in showcasing the benefits of combining Yoga's stress-reduction and metabolic improvements with Naturopathy's focus on diet and detoxification. These interventions could be valuable additions to preventive care programs within healthcare systems, offering patients non-pharmacological alternatives to traditional treatments, potentially reducing reliance on medications and lowering healthcare costs. However, long-term studies are needed to assess the sustainability of these improvements. Future research should also explore additional health parameters, such as lipid profiles and inflammatory markers, and examine the

scalability of these interventions across diverse populations and healthcare settings. Overall, this study supports the integration of Yoga and Naturopathy into lifestyle disease management, emphasizing their potential to improve overall health and quality of life, particularly in preventive healthcare strategies.

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THE ESSENTIAL ROLE OF PHYSICAL ACTIVITY FOR HEALTHY & SUCCESSFUL AGING ON OLDER ADULTS

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Abstract

This conceptual paper will discuss the vital role of physical activity in ageing and the Role of Physical Activity in Healthy & Successful Aging in Older Adults. The main aim of reviewing the latest research and expert recommendations is to motivate people to accept physical activity as an integral part of healthy ageing. It will focus on how regular exercise can help people of all ages live more vibrant, healthy, and meaningful lives. Whether entering your golden years or just planning, knowing the importance of staying active will help you age well and reap the rewards of a fit and healthy lifestyle. Physical activity has been noticed to improve general health, minimise the risk of chronic health problems, and decrease ageing. Staying active may help you live longer and have a better quality of life. Older people can engage in physical activities for recreation and leisure through play, games, sports, or structured exercise, as well as for transportation by walking, cycling, or wheeling during work or while performing household chores in various occupational, educational, home, or community environments.

Keywords: Physical Activity, Ageing, Older Adults

INTRODUCTION

Physical activity is considered extremely important according to research on successful ageing. Physical activity benefits individuals at every stage of life. Being active has numerous health benefits and does not have to be a serious business. It can be enjoyable, especially when you can socialise simultaneously. Physical activity also keeps your mind active and enhances your quality of life. Physical activity promotes health and well-being, but inactivity encourages the risk of non-communicable diseases (NCDs) and other adverse health outcomes. Physical inactivity and sedentary habits contribute to developing NCDs, straining healthcare systems. (Physical Activity, n.d.)

PHYSICAL ACTIVITY: DEFINITION

World Health Organization (WHO) defines "physical activity as any bodily movement produced by skeletal muscles that requires energy expenditure. Physical activity refers to all movement, including during leisure time, for transport to and from the places, or as part of a person's work or domestic activities". Both moderate and strenuous physical activity benefit health. Walking, cycling, wheeling, athletics, and active recreation are popular forms of physical activity. These exercises suit individuals of all abilities and are enjoyable for everyone.

FORMS OF PHYSICAL ACTIVITY

Physical activity is any physiological movement caused by skeletal muscles utilising energy above the resting level. It may be in general or more planned, structured or repetitive movement such as exercise (WHO 2010). Regular physical activity is necessary for longevity and healthy ageing. It may take any of the following forms.

- **Incidental** activities – or activities of daily living – are part of usual daily living. ADLs are essential as they accumulate to help achieve the weekly guideline recommendations and significantly reduce an older person's sedentary time. They allow older people to stay mobile, help protect against and manage certain health conditions, and help maintain independence. ADLs include walking the dog, washing the car, gardening, other household chores and kaumātua activities.

- **Occupational** activities are physical activities carried out as part of work. They can help prevent health conditions, enhance general health, and may count towards meeting weekly physical activity recommendations.
- **Recreational** activities are essential for maintaining social and physical independence. Recreational activities include walking, golf, lawn bowls and dancing.
- **Active transport** is a physical activity used as a mode of transport from one destination to another. It includes walking to the shops and cycling.
- **Structured** activities are organised by a club or individual, such as group exercise, tai chi, kaumātua line dancing, aqua aerobics and competitive sports. Structured activities can motivate older people to get out and be physically and socially active.
- **Supervised** activities may occur as part of a rehabilitation programme by a trained health practitioner, such as a physiotherapist, following injury or surgery or as a training programme to manage long-term conditions. Supervised training programmes such as the Otago Exercise Programme can help older people have fewer falls.

LITERATURE REVIEWS

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THE CONCEPT OF AGEING

Ageing is a fascinating and complex journey of life that every living being undergoes. It's a natural process marked by gradual changes in biological, psychological, and social dimensions.

Here are a few key aspects of ageing:

1. **Biological Aging:** This involves the gradual decline in the body's physiological functions, leading to increased vulnerability to diseases and decreased physical capabilities. Cells and tissues

accumulate damage over time, leading to age-related conditions such as arthritis, osteoporosis, and cardiovascular diseases.

2. **Psychological Aging:** As people age, they often experience changes in cognitive abilities, memory, and emotional regulation. While some cognitive decline is expected, many older adults maintain high intellectual and emotional well-being.
3. **Social ageing** refers to changes in roles, relationships, and social connections. Older adults may experience shifts in their social networks due to retirement, changes in family dynamics, and the loss of loved ones. Maintaining strong social connections is crucial for mental and emotional health in later life.
4. **Cultural and Societal Perspectives:** Different cultures have unique views and attitudes towards ageing and older adults. In some societies, ageing is cherished, and older persons are recognised for their wisdom and experience.. In others, there may be a focus on youth and vitality, leading to ageism or harmful stereotypes about ageing.
5. **Technological and Medical Advances:** Advances in technology and medicine continually improve the quality of life for older adults. From medical treatments and assistive devices to social connectivity through technology, these innovations help mitigate some of the challenges associated with ageing.

The concept of ageing encompasses the inevitable biological changes and the diverse experiences influenced by personal, social, and cultural factors. It's a reminder of the richness of human life and the importance of embracing every stage with grace and resilience.

THE CONCEPT OF AGEING AND PHYSICAL ACTIVITY

Successful ageing is a multi-domain concept that involves biopsychosocial aspects and reaches beyond good health. Numerous studies have shown that physical activity lowers the risk of multiple chronic illnesses and increases lifespan. However, the relationship between physical activity and successful ageing (a multidimensional notion) has revealed deviations among research. Some studies have indicated a lack of or a weak independent relationship between physical exercise and successful ageing. However, multiple cohort research studies and comprehensive reviews have found that greater degrees of physical activity (measured by frequency of participation or energy expenditure in a variety of leisure, home, or exercise activities) have been successfully linked to ageing.

PHYSICAL ACTIVITY AND AGEING FOR OLDER ADULTS

Older adults can undertake household tasks in everyday occupational, educational, home, or community contexts may be part of and leisure (play, games, sports, or organised exercise), recreation transportation (wheeling, walking, and cycling), employment, or household tasks. Physical activity benefits older adults' health outcomes: improved all-cause mortality, incident hypertension, cardiovascular disease mortality, incident site-specific cancers, incident type two diabetes, mental health (reduced cognitive health anxiety and depression symptoms), and sleep; weight gain measures may also improve. Physical activity in older adults helps to avoid falls and fall-related injuries, as well as losses in bone health and function. (WHO Guidelines for Physical Activity. (WHO Guidelines on Physical Activity and Sedentary Behaviour, n.d.)

Adults tend to grow increasingly sedentary as they age. Slowing down can be caused by several factors, including pain, poor health, or fear of falling. However, being active becomes

increasingly crucial for your health and well-being as you age. At the moment, 3.2 million deaths around the world each year are related to inactivity among older adults. Physical inactivity is directly associated with heart disease, diabetes, high blood pressure, loss of muscular mass, strength, and endurance, as well as a deterioration in balance and cognitive performance.

Increasing physical activity is essential to enhance health in all age groups. It becomes vital for extending life and sustaining mobility for older adults. Physical activity can improve physical health, mental and cognitive ability, self-esteem, social well-being, and personal learning and development. The research also discovered that physical activity may help you extend your lifespan, even if you don't start exercising until you are older. (University, n.d.)

TIPS TO ENCOURAGE OLDER ADULTS TO STAY MOTIVATED TO DO PHYSICAL ACTIVITY BY THE NATIONAL INSTITUTE ON AGEING

1. Find techniques for incorporating exercise into your daily routine. Exercise is more likely to be included if it is convenient for you.
2. Engage in enjoyable activities to enhance the overall experience. Be innovative and do something unique.
3. Make it communal. Select a real or virtual "exercise buddy" to keep you motivated and offer emotional assistance.
4. Resume your regimen after any interruptions. Start carefully and slowly get back to your prior level of activity. Seek assistance from your family and friends.
5. Track your progress. Prepare an exercise schedule, and remember to compliment yourself when you achieve your goals.

Remember that regular physical activity can enhance both physical and mental function and reverse the effects of chronic illnesses. These benefits help keep older adults active and independent in their later years.

EXAMPLES OF PHYSICAL ACTIVITIES FOR OLDER ADULTS	
Aerobic Activities	Muscle-Strengthening Activities
- Walking or hiking • Dancing • Swimming • Water aerobics • Jogging or running • Aerobic exercise classes • Some forms of yoga • Bicycle riding (stationary or outdoors) • Some yard work, such as raking and pushing a lawn mower • Sports like tennis or basketball • • Walking as part of golf	• Strengthening exercises using exerciser • vanas, weight machinesitor hand-held weights • Body-weight exercises (push-ups, pull-ups, planks, squats, lunges) • Digging, lifting, and carrying as part of gardening • Carrying groceries • Some yoga postures • Some forms of tai chi

RECOMMENDATIONS FOR ALL OLDER ADULTS SHOULD UNDERTAKE REGULAR PHYSICAL ACTIVITY.

(WHO Guidelines on Physical Activity and Sedentary Behaviour, n.d.)

The WHO Guidelines on Physical Activity and Sedentary Behaviour provide evidence-based public health recommendations for children, adolescents, adults, and older adults about the kind of physical activity (intensity and duration) required to provide substantial health advantages and prevent health risks. Physical activity for older adults may involve recreation and leisure (play, games, sports, or organised exercise), transportation (wheeling, walking, and cycling), employment, or household tasks in daily occupational, educational, home, or communal settings.

Physical activity benefits older adults' health outcomes: improved all-cause mortality, incident hypertension, incident site-specific cancers, cardiovascular disease mortality, mental health (reduced symptoms of anxiety and depression), incident type 2 diabetes cognitive health, and sleep; measures of adiposity may also enhance physical activity in older adults assists in preventing falls and falls-related injuries, as well as losses in bone health and function.

STRONG RECOMMENDATION MODERATE CERTAINTY EVIDENCE

- All older adults should indulge in regular physical activity.
- To gain considerable health benefits, older persons should engage in at least 75-150 minutes of vigorous-intensity aerobic physical activity, 150-300 minutes of moderate-intensity aerobic physical exercise, or a combination of the two every week.
- Older adults should also carry out muscle-strengthening activities at moderate or more significant intensity that involve all major muscle groups on two or more days a week, as these provide additional health benefits.
- Older persons must participate in diversified multi-component physical activity focusing on functional balance and strength training at moderate or greater intensity three or more days per week to improve mobility and prevent falls.
- Older persons may improve their health by increasing their moderate-intensity aerobic physical activity to more than 300 minutes, their vigorous-intensity aerobic exercise to more than 150 minutes, or a mix of the two for the week.

CONCLUSION

Physical activity plays an crucial role in ensuring healthy and successful ageing among older adults. Staying active enhances physical health, improves mental well-being, and fosters social engagement, significantly contributing to the quality of life as we age. It helps in managing chronic conditions, maintaining mobility, and minimises the risk of falls and injuries. Moreover, regular exercise is linked to better cognitive function, emotional stability, and overall longevity. Encouraging older adults to integrate physical activity into their daily routines is crucial for a healthier, more fulfilling life.

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OBESITY AMONG SCHOOL CHILDREN IN RELATION TO THEIR DIET AND PHYSICAL ACTIVITY

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Abstract

The present study was based on field survey conducted by the researcher using cross-sectional methods. The students from 6th to 10th class, present in the school on the day of study were included. Total 120 subjects in the age group of 12-17 years were selected. (Twenty from each school) subjects were selected from private and residential schools of Chhatrapati Sambhajinagar district respectively. Variables selected for the study were anthropometric variables standing height, body weight, BMI, waist circumference and other variables in dietary intake and physical activity. Test for measure variables standing height measured by stadiometer, body weight test measured by weighing machine, BMI measured by Omron body fat monitor, and waist hip ratio measured by measuring tape. Dietary intake to measured by dietary intake 24 hour recall method and to measured physical activity Baecke questionnaire formed by Baecke, Burema and Frijers 1984 was applied. School authority was asked to provide their cooperation for conducting research, consent was obtained from the school authority to make anthropometric measurements and collect data from students. After collection data t-test statistical tools used to obtain the results. Conclusion of study the underweight, overweight and obese student's scores higher of Waluj region students compared by Paithan region students. Waist hip ratio score of Paithan region students higher compared to Waluj region students. Dietary intake of RDA according superior to the score of Paithan region students compared by Waluj region students. In Waluj region physical activity score was found to be lower than the Paithan region.

Keywords: Body Mass Index, Waist Hip Ratio, Dietary Intake and Physical Activity.

INTRODUCTION

Obesity may occur at any age and it may be triggered by factors such as early weaning, inadequate food intake, eating disorders and problems related to disturbed family relationships, they are also associated with an increased risk of a wide numbers of disease and health disorder as well as premature mortality. Obesity occurs when energy intake exceeds the amount of energy over time. It is result of energy imbalance to understand and prevent it, both dietary and physical activity behaviour needed to be examined (Cerivester, 2011). Currently, obesity is less common in the developing world, but is increasing rapidly as overall nutrition is improving and level of physical activity is decreasing. Obesity in the traditional sense represents an energy imbalance resulting from an excess of energy input over energy output (William, 1999). This energy is in the form of food which human being intakes. Life cannot be sustained without adequate nourishment, which depends upon the availability of food locally and local practices. It also depends upon demographic factors like food choice, age, gender, education level, income (Nicole, 2002) cultural background and environment (Barry, 2005).

Physical activity (PA) can be defined as any bodily movement produced by skeletal muscles and which results in energy expenditure beyond basal energy expenditure. Levels of physical activity vary considerably from person to person and over time but all members of the population exhibit some

physical activity Assessment of physical activity and energy expenditure. The energy cost of physical activity may not necessarily be equivalent to body movement.

Review of Related Literature

Premanath (2008) conducted the study to document the prevalence of obesity, overweight and underweight in the school children aged 5 to 16 years from Mysore. 5 Principal Investigators and 13 Co-Investigators trained the teachers of 139 schools (Private 111, Govt-28) to record the vital statistics of the children studying in their schools. A total of 43152 school children (23527 boys and 19625 girls) were surveyed. 36354 children were from private schools and 6798 children were from Government (Govt.) schools. Indian Academy of Pediatrics growth charts were used as reference. The prevalence of obesity, overweight and underweight were 3.4%, 8.5% and 17.2% respectively. The prevalence of obesity was maximum in the age group of 5-7 years and in those from private schools.

METHOD AND MATERIAL

The present study was based on field survey conducted by the researcher using cross-sectional methods. This study was focused to determine the prevalence of obesity among school children in relation to their diet and physical activity. The study was carried out at 06 different higher secondary schools in Waluj and Paithan, Chhatrapati Sambhajnagar district for a period of two months from December 2023 to January 2024. A prior consent for the collection of data was obtained from parents of subjects and also from the school management committee. All the students from 6th - 10th class, present in the school on the day of study were included. Total 120 subjects in the age group of 12-17 years were selected. (Twenty from each school) subjects were selected from Private and Residential schools of Waluj and Paithan, Chhatrapati Sambhajnagar district respectively. Variables selected for the study were anthropometric variables standing height, body weight, BMI, waist circumference and other variables in dietary intake and physical activity. Test and tools for measuring variables standing height measured by stadiometer, body weight test measured by weighing machine, BMI measured by Omron body fat monitor, and waist hip ratio measured by measuring tape. Dietary intake to measured by dietary intake 24 hour recall method and to measured physical activity Baecke questionnaire formed by Baecke, Burema and Frijers 1984 was applied. School authority were asked to provide their cooperation for conducting research, consent was obtained from the school authority to make anthropometric measurements and to collect data from their students. The questionnaire provided information regarding diet intake and physical activity. Desired data was collected with anthropometric measurements and questionnaires. The following statistical measures were used to obtain the results. These include descriptive analysis; t- test was applied.

RESULTS

The following statistical measures were used to obtain the results.

Table no. 1: Descriptive statistics of BMI & WHR of all Subjects

Body Mass Index			
N	Mean	SD	SE
120	20.99	3.20	0.09
Waist Hip Ratio			
N	Mean	SD	SE
120	0.83	0.12	0.03

Table no. 2: Descriptive statistics of BMI & WHR

Body Mass Index									
Waluj Region					Paithan Region				
N	Mean	SD	Min	Max	N	Mean	SD	Min	Max
60	20.85	9.20	13.04	33.14	60	20.95	12.57	13.78	34.14
Waist Hip Ratio									
Waluj Region					Paithan Region				
N	Mean	SD	Min	Max	N	Mean	SD	Min	Max
60	0.80	0.10	0.31	1.72	60	0.85	0.12	0.33	1.65

Table no. 3: Distribution of Classification according to BMI and WHR of Subjects

Classification of Body Mass Index				
Region	Underweight	Normal	Overweight	Obese
Waluj	10 (16.67%)	35 (58.33%)	10 (16.67%)	05 (8.33%)
Paithan	12 (20%)	27 (45%)	14 (23.33%)	07 (11.67%)
Total	22 (18.33%)	62 (51.67%)	24 (20%)	12 (10%)
Classification of Waist Hip Ratio				
Region	WHR-I Normal	WHR-II Overweight	WHR-II Obese	N
Waluj	44 (73.33%)	10 (16.67%)	06 (10%)	60
Paithan	42 (70%)	10 (16.67%)	08 (13.33%)	60
Total	86 (71.66%)	20 (16.67%)	14 (11.67%)	120

Table no. 4: T-test of Dietary intake of Subjects in region with age groups

Waluj Region							Paithan Region				
Age Group	RDA	N	Diet Intake	SD	T Ratio	Sig.	N	Diet Intake	SD	T Ratio	Sig.
12-14	2190	30	2194	241	3.17	0.000	30	2299	241	4.31	0.000
14-17	2460	30	2266	264	4.16	0.000	30	2306	287	4.63	0.000
Descriptive Statistics, of Underweight, Normal, Overweight and Obese Subjects											
Classification			N	Mean	SD	Std. Error	Min	Max			
Diet Intake	Underweight		25	2274.97	255.141	19.017	1594	1398			
	Normal		63	2302.47	282.277	10.233	1287	3041			
	Overweight		20	2351.38	276.535	19.457	1321	3026			
	Obese		12	2415.28	289.818	38.387	1652	2901			
	Total		120	2311.94	279.283	8.062	1287	3098			

Table no. 5: Descriptive Statistics of Physical Activity of Subjects

Habitual Activity	N	Mean	SD
Waluj Region	60	9.25	1.41
Paithan Region	60	9.39	1.39
Total	120	9.32	1.40

Descriptive Statistics of Physical Activity of Underweight, Normal, Overweight and Obese Subjects							
Classification		N	Mean	SD	Std. Error	Min	Max
Diet Intake	Underweight	25	9.42	1.141	0.117	4	12
	Normal	63	9.35	1.355	0.049	5	13
	Overweight	20	9.34	1.488	0.105	6	13
	Obese	12	9.19	1.566	0.207	6	15
	Total	120	9.32	1.405	0.041	4	15

DISCUSSION OF RESULTS

In this study focused to obesity among school children in relation to their diet and physical activity. But the results indicated BMI parentage that in Waluj region 16.67% subjects were underweight, 58.33% normal, 16.67% were overweight and 8.33% of subjects were found obese. Similarly Paithan region 20% subjects were underweight, 45% normal, 23.33% were overweight and 11.67% of subjects were found obese.

The results indicated WHR parentage that in Waluj region 73.33% subjects were normal, 16.67% were overweight and 10% of subjects were found obese. Similarly Paithan region 70% subjects were normal, 16.67% were overweight and 13.33% of subjects were found obese.

The dietary intake in school going children of Waluj and Paithan region. The calories of intake subjects were compared with respective Required Daily Allowances (RDA) significant differences were seen as shown table no. 4 according to age groups of 12 to 14 and 14 to 17 years. The difference was due to dietary pattern, culture and traditionally values of the school students.

Physical activity status in school going children of Waluj and Paithan region Chhatrapati Sambhajanagar. Physical activity depends upon different variable like, life style, physical and social environment. Table no. 5 shown physical activity of subjects scores indicated that there was significant difference in physical activity level of Waluj and Paithan region. In Waluj region physical activity score was found to be lower than the Paithan region, this may be lack of sports infrastructure and environment, in Waluj region which does not allow subjects to remain active throughout the year.

CONCLUSIONS

- Body mass index parentage that in Waluj region 16.67% subjects were underweight, 58.33% normal, 16.67% were overweight and 8.33% of subjects were found obese. Similarly Paithan region 20% subjects were underweight, 45% normal, 23.33% were overweight and 11.67% of subjects were found obese.
- Waist hip ratio parentage that in Waluj region 73.33% subjects were normal, 16.67% were overweight and 10% of subjects were found obese. Similarly Paithan region 70% subjects were normal, 16.67% were overweight and 13.33% of subjects were found obese.

- The calories of intake subjects were compared with their respective Required Daily Allowances (RDA) significant differences were seen as shown table no. 4 according to age groups of 12 to 14 and 14 to 17 years.
- Physical activity of subject's scores indicated that there was significant difference in physical activity level of Waluj and Paithan region. In Waluj region physical activity score was found to be lower than the Paithan region.

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EFFECTIVENESS OF CIRCUIT TRAINING ON SPEED OF FOOTBALL PLAYERS OF MUMBAI

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Abstract

This research examines the impact of Battery Circuit Training on the speed of football players in Mumbai, highlighting the crucial importance of speed in athletic performance. Utilizing a non-equivalent control group design, the study involved 50 male school football players, who were assigned to either an experimental group (n=25) or a control group (n=25). The experimental group participated in a six-week circuit training program, while the control group did not engage in any training activities. Speed and other motor fitness components were quantitatively assessed using standardized tests and analyzed via ANCOVA. The results revealed a notable enhancement in the speed of the experimental group, with an adjusted mean time of 10.43 seconds compared to 11.92 seconds for the control group. These findings indicate that circuit training effectively improves speed and other motor fitness aspects in football players, supporting its inclusion in training regimens aimed at boosting athletic performance. It is recommended that circuit training be incorporated into physical education programs and that its advantages be further investigated across various sports.

Keywords: *Circuit training, speed, football players, circuit training program, ancova.*

INTRODUCTION

The game of football also called soccer. The old name of present football or soccer is Harpaston. It requires lot of strength and skill. The most important thing in football is the skill, the tactics, and the techniques used by the players. The best way to develop strength and stamina is through organized programme of circuit training.

In the realm of sports, particularly football, players' performance is often a direct reflection of their physical fitness, speed, and endurance. Among the various physical attributes essential for footballers, speed is one of the most critical factors that influence their effectiveness on the field. Speed allows players to accelerate quickly, react faster to game situations, and cover the ground efficiently, all of which are crucial for success in modern football. One effective method for enhancing an athlete's speed and overall performance is through targeted training programs designed to improve their physical conditioning. One such method is *Battery Circuit Training*, a versatile and dynamic approach that combines endurance and strength exercises, aimed at boosting the overall physical capacity of the player. This method, through its high-intensity interval training (HIIT) structure, works to optimize cardiovascular endurance, muscle power, and agility – all of which contribute to an athlete's speed on the field.

This study focuses on the impact of *Battery Circuit Training* on the speed of football players in Mumbai. It explores how this particular form of training can enhance the performance levels of players by improving their acceleration, stamina, and agility. Through a carefully designed regimen of drills and exercises, football players can potentially see a measurable improvement in their sprinting abilities, reaction times, and overall game performance. Speed is the facility to move your body swiftly. Speed is usually associated with running, but other exercises, like throwing or kicking a ball, depend on moving your arms or legs rapidly. Some athletic coaches measure speed with a 40-yard dash. Speed refers to

quickness of actions and one's ability to perform rapidly successive movements in a single direction over a short duration. Speed is the ability to perform a movement in a short period of time.

Circuit Training is an enduring and evolving training exercise format that was developed by R.E. Morgan and G.T. Anderson in 1953 at the university of Leeds in England (Kravitz1996). The term circuit refers to a number of carefully selected exercises arranged consecutively. In the original format, 9-12 stations comprised the circuit. This number may vary according to the circuit's design. Each circuit training participant moves from one place to the next with little (15-30 seconds) or no rest, performing a 15-45 seconds work about of 8-20 repetitions at each station (using a resistance of about 40%-60% of one- repetition maximum [IRM]). The circuit training workout program may be performed with exercise machines, hand-held weights, elastic resistance, calisthenics or any combination of these. A Circuit training program can be used to develop either short-term or long-term strength endurance is required to maintain a high level of work throughout the race. But sports that last much longer than 2 minutes like soccer, field hockey, rugby, boxing, wrestling and martial arts also demand similar short-term strength endurance. Circuit Training of exercises performed one by one in a particular way regular training of the exercise can be called as "Circuit Training".

OBJECTIVE OF THE STUDY

The Specific Objectives Formulated for the Present Study was as under:

- To compare the adjusted mean scores of Speed of School Boys of Experimental Group & Control Group by considering Pre Speed as a Covariate.

HYPOTHESIS OF THE STUDY

Hypothesis for the Present Study was as under:

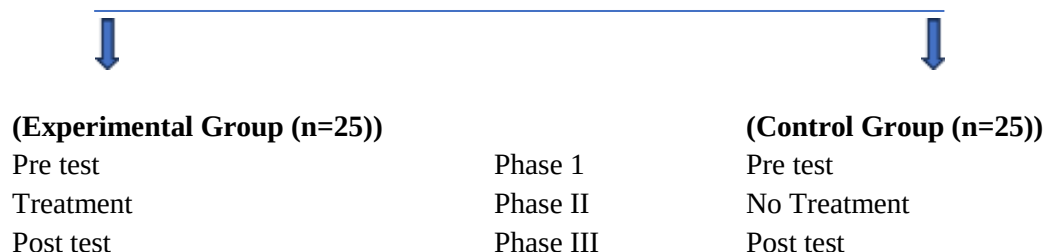
- H01: To compare the adjusted mean scores of Speed of School Boys of Experimental Group & Control Group by considering Pre Speed as a Covariate.

METHODOLOGY

DESIGN OF THE STUDY

The present study was conducted by adopting experimental method. The experimental design was non-equivalent control group design. The subjects in the experiment were divided into two groups, i.e. Group 'A' Experimental group and Group 'B' Control group; each group consisted of 25 subjects. Experimental group was given Circuit training for the period of six weeks. The control group has not undergone any Training Programmed. The blue print of the design is as under.

Experimental Method



SELECTION OF THE VARIABLES AND TEST

1. DEPENDENT VARIABLE

Motor Fitness Variables:

- Speed.

2. INDEPENDENT VARIABLE

The following Circuit Training practice including in the training programmed will be considered as independent variable of the present study which includes following aspects:

- Half Squat
- Skipping
- Sideward Running
- High Knee Action
- Tuck Jump With Knees Up

STATEMENT

CRITERION MEASURES

The following criterion measures included the records of the various test items of Motor Fitness Components.

Variable	Test	Unit
MOTOR FITNESS VARIABLES		
Speed	50 m Dash	Seconds

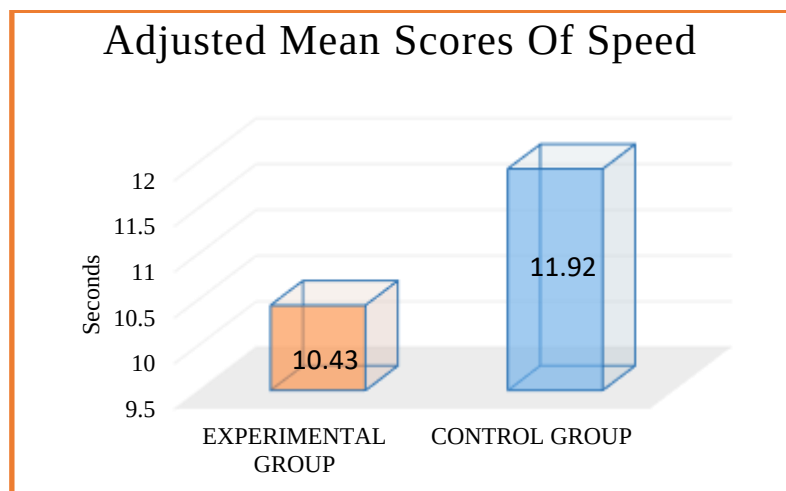
RESULTS ON MOTOR FITNESS COMPONENTS SPEED

Summary of One Way ANCOVA of Speed by taking Pre-Speed as Covariate

Source of Variance	df	SSy.x	MSSy.x	Fy.x	Remark
Group	1	26.22	26.22	355.665	p<0.01
Error	47	3.47	0.074		
Total	49	98.92			

Significant at 0.01

From Table it can be seen that the adjusted F-value is 355.665 which is significant at 0.01 level with $df=1/49$ when Pre-Speed was taken as covariate. It shows that adjusted mean scores of Speed of Students of Experimental and Control Groups differ significantly when Pre-Speed was taken as covariate. Thus, the Null Hypothesis that there is no significant difference in adjusted mean scores of Students of Experimental Group and Control Group by taking Pre-Speed as covariate is rejected. Further the adjusted mean score of Speed of Experimental Group is 10.43 which is significantly than that of Control Group where adjusted mean score of Speed is 11.92. It may, therefore, be said that Circuit Training was found to be effective in improving Speed of Students of Experimental Group than Control Group Where Pre-Speed was taken as covariate. The result is also a graphically presented.



DISCUSSION

The purpose of this study was to investigate the Effect of Circuit Training on Motor Fitness Components and Performance of Football players of Mumbai. In case of Speed of Experimental Group, it is found that there is significant difference as compare to Control Group hence the Hypothesis sought that there is no significant difference in adjusted mean scores of Speed of students of Experimental Group and Control Group taking Pre-Speed as a covariate is rejected.

CONCLUSION

From the result it can be concluded that the result of the study helps to conclude that the Circuit training was found helpful to improve the Motor Fitness Components of the school students. Circuit training contributed most of the motor fitness components including balance, speed, power, agility to improve the Football skills of the subjects.

RECOMMENDATION

From the interpretation and the results of the present study, the following recommendation may be forwarded

- The present study recommends the use of these findings to sports coaches and physical education teacher for training and assisting in preparing football players for competition.
- More innovative circuit training may be developed for various other sports competition.
- Further studies on boys are recommended.
- The finding of the study may inspire other Physical Education teachers to incorporate the Circuit Training for the enhancement of the parameters related to improvement of skill in Football.
- Professional of Physical Education should consider the need for improvisation of Circuit Training.

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STUDY OF EFFECT OF CIRCUIT TRAINING PROGRAMME ON ENDURANCE OF NCC SENIOR WING BOYS OF KALYAN

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Abstract

This study investigates the impact of a circuit training program on the health-related physical fitness of National Cadet Corps (NCC) senior wing boys in Kalyan, focusing on muscular endurance. Conducted using a quasi-experimental design, 50 participants aged 15–18 years were divided into two groups: an experimental group undergoing circuit training and a control group. Data collection involved validated tools measuring pre- and post-intervention muscular endurance through knee sit-ups. The statistical analysis utilized one-way ANCOVA to compare adjusted mean scores, with pre-muscular endurance as a covariate.

Results revealed a significant improvement in the muscular endurance of the circuit training group compared to the control group, with adjusted mean scores of 25.02 and 20.86, respectively. These findings underscore the efficacy of circuit training in enhancing muscular endurance, supporting its incorporation into NCC training programs and broader youth fitness initiatives. Recommendations include further research exploring other fitness parameters and diverse age groups to expand understanding of circuit training's benefits. This study highlights the potential of structured physical training interventions to promote healthier and more active lifestyles among youth, offering evidence-based guidance for educational and fitness programs.

Keywords: *NCC cadets, Muscular endurance, Circuit training.*

INTRODUCTION

Physical fitness plays a pivotal role in maintaining a healthy and active lifestyle. In recent years, there has been a growing concern about the declining levels of physical activity and fitness among youth, leading to various health issues. The National Cadet Corps (NCC) is a renowned organization that aims to instil discipline, leadership, and a sense of responsibility among young individuals. As part of this effort, NCC senior wing activities are designed not only to foster a sense of patriotism and social awareness but also to promote physical fitness.

Circuit training has gained prominence as an effective and efficient method of improving various components of health-related physical fitness. It involves a series of carefully designed exercises performed in a sequential manner, targeting different muscle groups and energy systems. Circuit training offers several advantages, such as improving cardiovascular endurance, muscular strength, muscular endurance, flexibility, and body composition.

The NCC provides a unique platform to explore the effects of circuit training on physical fitness, given its structured training regimen and disciplined approach. By assessing the changes in key physical fitness components, including cardiovascular endurance, muscular strength, muscular endurance, and body composition, we can gain valuable insights into the effectiveness of circuit training in enhancing overall fitness levels.

The findings of this study could have far-reaching implications for NCC training programs, physical education curricula, and youth fitness initiatives. Furthermore, this research may shed light on the

potential of circuit training to serve as a model for improving physical fitness and overall well-being among youth in similar settings. Ultimately, a comprehensive understanding of the impact of circuit training on the health-related physical fitness of NCC senior wing boys in Kaylan can pave the way for evidence-based recommendations and interventions to promote a healthier and more active lifestyle among young individuals.

Sport Specific or Running Circuit: This type of circuit is best done outside or in large, open area. Choose exercises that are specific to your particular sport, or emphasize an aspect of your sport you'd like to improve. Then instead of simply resting between exercises, run easy for 200 or 400 meters. You can even use sprints or fast 400meter runs as part of your choice of exercises.

Significance of the study

- The programme is designed to NCC senior wing boys of kalyan with the Advantage which may need to Health perform the other students.
- By following this program NCC senior wing boys of kalyan Students. Cadets may build muscle with Muscular strength, Muscular endurance, Cardiovascular, Flexibility as well as Body Composition.

Muscular Endurance: It is your ability to contract your muscles several times without excessive Fatigue. Another way to think about it is the length of time your muscles can continue to work before training.

Objectives of Study

- To compare the adjusted means scores of Muscular Endurance of Circuit Training programme boys Group and Control group by taking pre-muscular Endurance as co-variate.

Hypothesis of the study

H01: There is no significance difference between in the adjusted mean scores Muscular Endurance of Circuit Training programme boys Group and Control group by taking pre-muscular Endurance as co-variate.

DESIGN OF THE STUDY

EXPERIMENTAL DESIGN

This experimental design consist of an Experimental group which will be compared with a control group for testing the effect of circuit training programme on Health Related Physical Fitness of NCC Senior wing boys of kalyan. The methodology followed to conduct this scientific experiment has been presented in the chapter. The present study is to be conducted by adopting the experimental research method. The experimental design will be non-equivalent control group design. The experimental design selected for the present study is non-equivalent control group design.

SELECTION OF SUBJECT OR SAMPLE

Subject was be drawn randomly from Kalyan 05 NCC senior wing boys will be serving as subject as subject of the study their age ranged between 15-18years. The 50 students divided in to two group's i.e.

Group A – Experimental Group (n=25)

Group B – Control Group (n=25)

Criterion Measures

Muscular Endurance	Bend Knee Sit-Ups	Count in No

RELIABILITY OF TOOLS

The tools use for the collection of data was taken from the laboratory of B.P.C.A.'S college of physical education Wadala. The said instrument is standard sophisticated and reliable.

VALIDITY OF THE DATA

The same subject was measured by two different testers to check the validity of data.

STATISTICAL PROCEDURE TO BE USED:

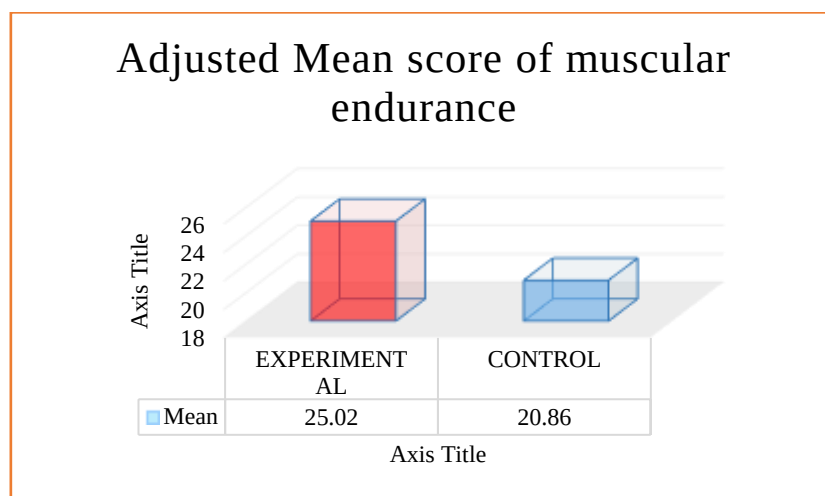
Comparison of the group was be done with the help of one -way Analysis of Covariance (**ANCOVA**).

TREATMENT WISE COMPARISON OF ADJUSTED MEAN SCORES OF MUSCULAR ENDURANCE BY TAKING PRE MUSCULAR ENDURANCE AS COVARIATE

The Second objective was to compare adjusted mean scores of Muscular Endurance of Students of NCC Senior Wing of Circuit Training Group and Non-Circuit Training group by taking pre Muscular Endurance as covariate. The data were analyzed with the help of One Way ANCOVA and results are given in Table

Source of Variance	df	SSy.x	MSSy.x	Fy.x	Remark
Group	01	221.85	221.85	53.30	p<0.01
Error	47	195.65	4.17		
Total	50	2645.78			

From Table it can be seen that the adjusted F-value is 85.61 which is Significant at 0.01 level with $df=1/47$ when Pre-Muscular Endurance was taken as Covariate. It shows that adjusted mean scores of Muscular Endurance of Students of NCC Senior Wing of Circuit Training Group and Non- Circuit Training group differ Significantly when pre Muscular Endurance was taken as covariate. Thus, the Null Hypothesis that there is no significant difference in adjusted mean scores of Muscular Endurance of Students of NCC Senior Wing of Circuit Training Group and Non-Circuit Training group by taking pre Muscular Endurance as covariate is rejected. Further the adjusted mean scores of Muscular Endurance of Circuit Training group is 25.02 Which is significantly higher than that of Non- Circuit Training group where Adjusted mean scores of Muscular Endurance is 20.86. It may, therefore, be said that Circuit Training group was found to be effective in improving Muscular Endurance of Students of NCC Senior Wing than that of Non- Circuit Training group where pre Muscular Endurance was taken as covariate. The result is presented graphically in following graph.



FINDINGS

From the above analysis

- Circuit Training Programme significantly improves the Physical Fitness component Muscular Endurance.

DISCUSSION ON FINDINGS

In case of Muscular Endurance of Circuit Training Group, it is found that there is significant difference as compared to Non- Circuit Training Group hence the hypothesis sought that - Ho2 There is no significant difference in adjusted mean scores of Muscular Endurance of Students of NCC Senior Wing of Circuit Training Group and Non- Circuit Training group by considering Pre Muscular Endurance as covariate is rejected.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

To compare the adjusted means scores of Muscular Endurance of Circuit Training programme boys Group and Control group by taking pre muscular Endurance as co-variate.

RECOMMENDATIONS

From the interpretation and the results of the present study, the following recommendations may be forwarded:

1. Similar studies may be undertaken by selecting other parameters of circuit training.
2. A similar study may be conducted on different age groups.

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STUDY OF EFFECT OF SPECIAL TRAINING PROGRAMME ON POWER FOR POLICE RECRUITMENT OF PALGHAR DISTRICT

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Abstract

This study, titled "Effect of Special Training Programme on Physical Fitness and Mental Health for Police Recruitment in Palghar District," examines the impact of a tailored training regimen on the physical and psychological readiness of candidates for police recruitment. Conducted using an experimental design, the research involved 50 male participants aged 20 and above, randomly assigned to either a special training group or a control group. Key dependent variables included power.

The independent variable was a structured training program encompassing exercises such as running, push-ups, sprinting, rope climbing, and weight training. The analysis, using on-way ANCOVA, revealed a statistically significant improvement in the physical power of the special training group compared to the control group when pre-power was considered a covariate. The findings underscore the program's efficacy in enhancing both physical fitness and for police candidates.

Keywords: Power, Special training, Police recruitment.

INTRODUCTION

The recruitment of police officers makes up a significant portion of law enforcement organizations. If it weren't for recruiting and the preparation of officers for the field, who knows what kind of anarchy might have resulted from unsuitable policemen wandering the streets. A training programme is a carefully thought-out series of tasks intended to give employees the knowledge and skills they need to advance their careers. Achieving particular corporate objectives is the focus of each training programme. There may be various training programme kinds, depending on the goal. A training programme is a carefully thought-out series of tasks intended to give employees and applicants the knowledge and skills they need to further their careers. Each training course aims to further particular organisational objectives for the police

OPERATIONAL DEFINITIONS OF THE TERM USED

Power

We can define power as the rate of doing work, it is the work done in unit time. The SI unit of power is Watt (W) which is joules per second (J/s). Sometimes the power of motor vehicles and other machines is given in terms of Horsepower (hp), which is approximately equal to 745.7 watts.

OBJECTIVE OF THE STUDY

- To compare the adjusted mean scores of Power of the special Training Group and Control Group by taking Pre-Power as Covariate

HYPOTHESIS OF THE STUDY

H01: There is no significant difference in the adjusted mean scores of power of the special training group and control group by taking pre-power as covariate.

LIMITATIONS OF THE STUDY

The limitations of the study are considered under

- It was not possible to control the subject's day to day activities of experimental as well as control group.
- Diet for all the trainees could not be uniform and controlled.
- The standard of living of the student was not controlled.

DELIMITATION OF THE STUDY

The delimitation of the study are considered below

- The study was restricted to only six week special training programme.
- The study was limited to Palghar district.
- The study was restricted to Age group of 20 above.

METHODOLOGY**DESIGN OF THE STUDY**

The present study was conducted by adopting the experimental research. The experimental design selected for the present study is pre-test and post-test control group design. This study comprises of two group and control group both were compared before and after of special training.

SELECTION OF THE SAMPLE AND POPULATION

Sample of fifty(n=50) male student where range from of age 20 year above From Palghar district selected for this study.

The present study is to find out the effectiveness of special training programme on power recruitment for police. The sample of the study were selected randomly and divided into two groups

VARIABLES AND TOOL USED

VARIABLE	TEST	CRITERION MEASURES
Power	Standing Broad Jump	Centimetre

STATISTICAL PROCEDURES USED AND JUSTIFICATION

Since, there were two groups for this Experimental study. Special Training Group and control group, where in the researcher has decided to compare the change in mean scores of pre-tests and post-test of special Training Group and control group in order to see the efficacy of Experimental treatment, one-way ANCOVA test was appropriately used for the data analysis.

The analysis of the data collected by the researcher, before and after the training intervention has been presented in this chapter. The data is analysed by one-way ANCOVA. Change in mean scores of pre and post-test of special Training Group and control groups comparison was done by one-way ANCOVA. The data is presented, analysed and interpreted in the following manner.

TREATMENT WISE COMPARISON OF ADJUSTED MEAN SCORES OF POWER BY TAKING PRE-POWER AS COVARIATE OF SPECIAL TRAINING GROUP AND CONTROL GROUP.

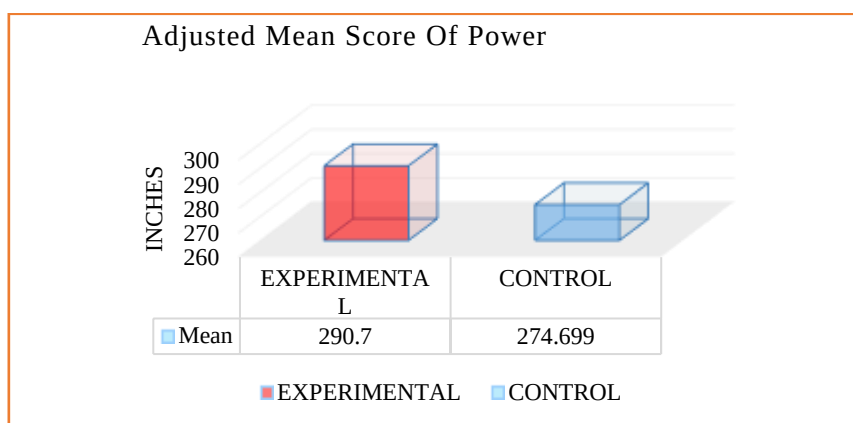
The first objective was to compare adjusted mean scores of Power Special Training Group and Control Group by taking Pre-Power as Covariate. The data were analyzed with the help of One Way ANCOVA and results are given in Table

Summary of One Way ANCOVA of Power by taking Pre-Power as Covariate

SOURCE OF VARIANCE	Df	SSy.x	MSSy.x	Fy.x	REMARK
TREATMENT	1	2979.946	2979.946	8..325	p<0.05
ERROR	44	15750.228	357.960		
TOTAL	46				

It can be seen that the adjusted F-value is 8.325 which is significant at 0.05 level with df-1/44 when Pre-Power was taken as covariate. It was that adjusted mean scores of Powers of police special Training Group and Control group differ significantly when Pre-Power was taken as covariate.

Mean scores of Powers of Students of police special Training Group and Control Group by taking Pre Power as covariate is rejected. Further the adjusted mean score of Power of police special Training Group is 274.699. This is significantly higher than that of Control Group where adjusted mean score of Power is 290.7. It may, therefore, be said that the police Training was found to be effective in improving Power of students than Control Group where Pre-Power was taken as covariate.



CONCLUSION

The above result helps to conclude that the Special Training group was found helpful to improve selected Physical Fitness component i.e power.

RECOMMENDATIONS

- The study may inspire Physical Education Teachers, Coaches and Social Workers for the further study.
- A similar study may be conducted on by incorporating other exercise and phycological variable
- The study may help to know the status of Physical Fitness of Candidate to be recruited in police.

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THE ROLE OF SPORT AND ENVIRONMENT FOR HEALTH: FOCUS ON NUTRITION AND DIET FOR SPORTS

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Abstract

The present study explores the complex interrelationships and wide-ranging consequences among sports, the environment, and human health. The main focus is on explaining how sports are essential for improving personal health while staying within the bounds of environmental sustainability. In particular, the study explores the critical role that diet and nutrition play in optimizing athletic performance and their significant influence on athletes' capacities. The fundamental idea is to recognize that sports have more to them than just physical exertion. A comprehensive strategy for promoting health that takes into account social, mental, and physical well-being is found in sports. But this investigation also recognizes the environmental cost of sports, which calls for a rigorous analysis of sustainable methods to lessen harmful effects on the environment.

This essay also explores the role that diet and nutrition play as drivers of athletic performance. It highlights how important a healthy diet is to maximizing an athlete's potential and making sure they have enough energy, nutrients, and water to support their performance, speed up their recuperation, and avoid injuries. The study emphasizes the complex connection between dietary decisions and an athlete's ability to reach their maximum performance potential.

This study aims to clarify the intricate relationships that exist between sports, human health, environmental sustainability, and the critical role that food and nutrition play in improving athletic performance. It aims to provide insights into developing a more all-encompassing and sustainable approach to sports that not only supports individual health but also coincides with environmental preservation for the greater welfare of society by thoroughly examining these interconnected factors.

Keywords: Sports, Environment, Nutrition, Sustainability, Athletic Performance, Health and Well-being, Environmental Conservation

INTRODUCTION:

Physical activity and sports are essential building blocks for maintaining and advancing good health in a variety of demographics. Participating in sports has well-established advantages that include improved mental and physical health as well as social interaction. However, as our knowledge grows, so does the realization of the complex relationship that exists between sports, the environment, and human health—a relationship that needs further investigation and understanding. Sports, the environment, and health are interdependent, and this link has become a central theme in study and discussion today. Even while sports are a great way to improve personal wellbeing, there has been more focus on how they interact with the environment and how this affects health outcomes. This essay aims to explore this complicated connection and highlight the intricacies and synergies that this triangle has to offer.

The understanding of the intersections between sports, the environment, and health consequences is at the core of this investigation. This tripartite relationship includes the environmental effects of sports involvement in addition to the direct health advantages that come with physical exercise.

In order to develop a more thorough and nuanced understanding of how sports affect our lives and the society we live in, it is imperative that we comprehend and analyze this relationship.

The importance of nutrition and food is particularly highlighted in this research within this complex framework. Athletes looking to maximize their performance must prioritize proper nutrition. There is no denying the importance of nutritional decisions in enhancing athletic performance, speeding up recovery, and preventing injuries. But this research goes a step further, recognizing the importance of diet and nutrition in improving athletic performance as well as in addressing environmental issues.

The purpose of this article is to shine light on the delicate balance needed to achieve peak athletic performance while adhering to sustainable practices by highlighting the relationship between sports, nutrition, and the environment. By revealing the connections between these elements and promoting a more thoughtful approach to sports that values both human health and the environment, the analysis of this junction offers a comprehensive perspective. In the end, our investigation hopes to advance a theory in which sports act as a medium for environmental stewardship and health promotion simultaneously.

Sports' Significance for Overall Health and Wellness:

Participating in sports and physical activities is essential for enhancing general health and wellbeing in a variety of domains of life. Playing sports on a regular basis has advantages for mental and emotional health in addition to physical fitness. First off, there are significant physical advantages. Participating in sports on a regular basis promotes general physical fitness, cardiovascular health, muscular strength and flexibility, and the maintenance of a healthy weight. This active way of living helps to prevent heart problems, diabetes, obesity, and a host of other chronic illnesses. Moreover, doing sports has a lot of positive effects on mental health. Engaging in physical exercise triggers the production of endorphins, which are mood-enhancing and stress-relieving neurotransmitters that enhance mental health. It can improve cognitive performance, lessen the signs of anxiety and sadness, and increase self-worth and a sense of achievement. In today's world, where mental health awareness and its connection to physical exercise are becoming more widely acknowledged, this component is very important.

Participating in sports also has a big impact on fostering community and social cohesion. Participating in team sports, group activities, or even solo activities frequently entails interacting with people, which promotes friendships, comradeship, and a feeling of community. Sports include a social component that may help foster collaboration, fight feelings of loneliness, and offer invaluable support systems. Apart from these personal advantages, sports have an important intrinsic connection to the environment. A lot of activities happen in the outdoors or need having access to fresh air, water, and open areas. Engaging in physical activities like hiking, cycling, swimming, or outdoor team sports not only encourages physical exercise but also gives people a chance to establish a connection with nature. This engagement with the natural world lowers stress and raises emotions of calm and community, both of which are beneficial to mental health. Recognizing the inherent link between environmental conditions and sports emphasizes how crucial it is to preserve and safeguard these natural areas. Not only are clean air, water, and green spaces important for healthy living, but they are also essential for communities as a whole. Essentially, playing sports and being physically active provides a comprehensive strategy for promoting enhanced mental, emotional, and physical health. Acknowledging the mutually beneficial link between sports and the environment emphasizes the necessity of protecting natural areas to guarantee that these health-promoting activities may continue.

Sports' Effect on the Environment:

Even while sports have many health advantages, they have an influence on the environment that should be considered. Due to the necessity for transportation, these operations produce a lot of trash and have the potential to disturb natural ecosystems by constructing new infrastructure. These ramifications include a wide range of topics, including the emissions brought on by travelling to athletic events and the waste products produced by contests and practices. Furthermore, changing natural environments during the building and upkeep of sporting facilities may harm biodiversity and ecosystems.

In order to guarantee that sports activities comply with sustainable principles, it is necessary to mitigate these environmental repercussions. Sports events may have a much smaller ecological footprint if efforts were made to cut carbon emissions from transportation, either by promoting eco-friendly travel choices or streamlining logistical arrangements. Similarly, the environmental effects of waste creation associated with sporting activities may be lessened by putting into practice efficient waste management systems, cutting back on single-use plastics, and encouraging recycling. Additionally, sports facilities may reduce the environmental disturbance brought on by infrastructure growth by implementing eco-friendly design and management techniques.

In order to promote practices that support human health and environmental conservation, it is critical to recognize and address these environmental concerns in the context of sports. Finding a balance between the positive effects of sports on health and well-being and actively reducing their ecological footprint is essential to ensuring a sustainable future for people and the environment.

Diet and Nutrition in Athletics:

The quality and balance of an athlete's diet have a direct impact on their performance. For athletes who want to perform to the best of their ability in sports, nutrition is essential. Good nutrition is the fuel that delivers the energy, minerals, and water required to improve performance, speed up healing, and lower the chance of injury.

The macronutrients—carbohydrates, proteins, and fats—have specific functions in an athlete's diet. Fats provide continuous energy during moderate activity, proteins aid in muscle development and repair, and carbohydrates provide the fast energy required for high-intensity exercises. Meeting the unique energy requirements of an athlete's training and competition requires a balance of these macronutrients. Minerals and vitamins are examples of micronutrients that are equally important for an athlete to function at their best. They assist the immune system, provide energy, and enable muscular contraction, among other physiological processes. Maintaining a varied diet high in micronutrients is crucial for an athlete's general well-being and peak performance. For athletes to continue to perform at their best, hydration is essential. Dehydration may have a substantial negative effect on an athlete's strength, endurance, and attention, as well as their ability to think and act. Athletes must consume enough fluids according to their specific demands while taking the environment into account in order to maintain performance and promote recovery.

Athletes' performance is greatly influenced by their meal and snack time and composition, even beyond their comprehension of the significance of certain nutrients. Efficient food consumption before, during, and after training or competition maximizes results and facilitates muscle repair. It is essential to create customized nutrition regimens that take into consideration each athlete's particular needs, including body composition, training volume, and competition schedule. Tailored nutritional strategies

meet the unique requirements of each athlete, promoting their desired level of performance without sacrificing general health and wellbeing.

All things considered, the realization of how much nutrition and food affect sports performance highlights the need of a customized, well-balanced diet plan. Athletes who prioritize appropriate nutrition not only achieve peak performance but also maintain long-term success in their chosen activity and improve their general health and well-being.

Sports Nutrition and Environmental Sustainability:

In order to promote sustainability, it is essential to analyze the effects of dietary decisions made in sports nutrition on the environment. Conscious decisions like choosing a plant-based diet, minimizing food waste, procuring food locally, and using less packaging are all part of sustainable eating practices. Adopting these environmentally friendly eating practices helps athletes perform better and also enables them to support environmental preservation initiatives. Athletes may contribute to lessening their ecological footprint by making mindful eating choices that are in line with environmental stewardship.

CONCLUSION:

The complex web of connections between sports, the environment, nutrition, and athletic performance is summarized in the conclusion. It draws attention to how complex these relationships are and how important they are to building a more sustainable and healthy future. Sports are closely related to the environment and are often recognized for their positive effects on personal health and wellbeing. They need access to fresh air, water, and green places since they frequently occur in natural environments. Nonetheless, it is impossible to ignore how sports affect the environment, including carbon emissions, trash production, and habitat damage.

Diet and nutrition are now recognized as important factors that affect sports performance. An athlete's capacity to perform at the highest level in their sport is greatly impacted by the caliber and makeup of their food, which also affects recuperation, energy levels, and injury prevention. Furthermore, there is a great chance that these dietary decisions will also support environmental sustainability. Making the switch to sustainable eating habits, such buying locally, cutting back on waste, choosing plant-based foods, and using less packaging, is in line with environmental preservation initiatives. For the creation of a sustainable future, it becomes essential to strike a balance between the pursuit of athletic performance and environmental stewardship through thoughtful dietary choices. As well-known members of the community, athletes have the chance to not only maximize their own potential but also set an exemplary example for others by encouraging environmentally conscious behaviour. Athletes who adopt sustainable eating practices can lessen their ecological footprint and help environmental preservation.

The significance of understanding the connections between sports, nutrition, and the environment is emphasized by this finding. It promotes a holistic strategy that gives equal weight to both sporting success and environmental sustainability. In order to shape a future where sports not only enhance individual health but also positively impact global environmental well-being, it is imperative to strike a balance between optimizing performance and conserving the environment via informed food choices. Athletes, sports organizations, and stakeholders must work together to pave the path for a healthier, more sustainable future.

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EFFECT OF AEROBICS TRAINING PROGRAMME ON MUSCULAR STRENGTH OF HOUSEWIVES OF VASAI TALUKA

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Abstract

Context:

To improve health status the urban housewife along with the house hold work must participate in regular physical activities like Exercise, Aerobics, Yoga, etc. Regular participation in suitable physical activities can significantly reduce risk factor of stressed related disease in improving one's health and fitness. In modern citizens Civilization the barriers of regular physical activity for urban Indian housewives to achieve health and fitness (Wallis & Mckenzie 1991) are lure of television and mobile phones, internet, lack of appropriate facility for physical activity, lack of proper Awareness of health and fitness. Reports indicate that majority of the females are more prone towards obesity and in long run they become the victim of relative risk for Orthopedic injuries. Females are generally suggested low intensity aerobics and yoga. The purpose of the study was to determine the "Effect of Aerobics Training Programme on Muscular Strength of Housewives of Vasai Taluka."

Objectives:

To compare the adjusted mean scores of Muscular Strength of the Aerobics Group and Non-Aerobics Group by taking pre Muscular Strength as covariate.

Methodology

Sixty House wives of Vasai Taluka aged 35 to 45 years were selected and they were divided randomly into two equals groups i.e. experimental (n=30) and control group (n=30). For the experimental group the training were restricted to only 1 hour per day for 6 days per week for a total period of 12 weeks whereas control group didn't participate in Aerobics training programme. At the baseline and after training intervention Muscular Strength test through Modified Push-ups. Data were analyzed by using One Way ANCOVA test.

Result and Discussion of the study

Aerobic Exercise Training programme was useful in improving Muscular Strength of Housewives from Vasai Taluka aged 35 to 45 years.

INTRODUCTION

To improve health status the urban housewife along with the house hold work must participate in regular physical activities like Exercise, Aerobics, Yoga, etc. Regular participation in suitable physical activities can significantly reduce risk factor of stressed related disease in improving one's health and fitness. In modern citizens Civilization the barriers of regular physical activity for urban Indian housewives to achieve health and fitness (Wallis & Mckenzie 1991) are the lure of television and mobile phones, internet, The lack of appropriate facility for indicate that majority of the females are more prone towards obesity and in long run they become the victim of relative risk for Orthopedic injuries. Females are generally suggested low intensity aerobics and yoga. The purpose of the study was to determine the "Effect of Aerobics Training Programme on Muscular Strength of Housewives of Vasai Taluka."

OBJECTIVES OF THE STUDY

- To compare the adjusted mean scores of Muscular Strength of the Aerobics Group and Non-Aerobics Group by taking pre-Muscular Strength as covariate

HYPOTHESIS OF THE STUDY

H01: There is no significant difference in the adjusted mean scores of Muscular Strength of the Aerobics group and Non Aerobic group by taking pre Muscular Strength as covariate

LIMITATIONS OF THE STUDY

- It was not possible to control the day to day activities of the subject.
- Food habits, standard of living and medication if any was beyond the control of the researcher.

DELIMITATION OF THE STUDY

- The study was delimited to Housewives of Vasai Taluka.
- The study was delimited to specific Aerobic exercise training for a period of 12 weeks.
- The study was delimited to housewives aged 35 to 45 years.

SELECTION OF SUBJECT/ SAMPLING

Sixty House wives of Vasai Taluka aged 35 to 45 years were selected and they were divided randomly into two equals groups i.e. experimental (n=30) and control group (n=30). For the experimental group the training were restricted to only 1 hour per day for 6 days per week for a total period of 12 weeks whereas control group didn't participate in Aerobics training programme. At the baseline and after training intervention Muscular Strength test through Custom made questionnaire was used to assess Muscular Strength. Data were analyzed by using One Way ANCOVA test.

PROCEDURE / DESIGN OF THE STUDY

This is an Experimental Study. Data was Collected by taking test & filling the Questionnaire. Non Equivalent control group design was conducted. The study was planned in the following three phases.

PHASE – I (Pre – Test)

The pre-test was conducted on the experimental and control groups. Before the actual administration of the pre-test the subject were oriented about the testing by giving the detailed explanation about the testing procedures as well as by explaining Do's and Don'ts of the tests. Further, they were also acquainted with the procedure by giving them opportunity and practice if needed. The subjects were also encouraged for participation as well as to execute their full potential. The researcher had carefully ensured that all the subjects are medically normal.

Training phase

The training schedule included warm up, Aerobic training cool down In this phase, experimental group training module for a period of 60 minutes, except Sunday and holiday.

Post test phase

After the given Aerobic Training for the period of 12 weeks, all the subjects were directed to go through post tests as scheduled like a pre-test and data was recorded and preserved.

Selection of Variable and test

There were two types of variable for experimental design. Independent and Dependent Variable were basically required for conduct in any Experimental design. The present study tested Optimum Health of Vasai taluka house wives. The test was standardized test which was used for data collection.

Dependent Variable

Sr.No	Variable	Name of the Test	Tools used	Units
1	Muscular Strength	Modified Push-ups	Mat & Stop Watch	Count / Minutes

Independent Variables:

The present study had survey cum experimental design in nature. According to study, Aerobic training had been formulated for twelve weeks.

STATISTICAL PROCEDURE

The data was analysed by employing “One way ANCOVA” test by using SPSS software.

RESULTS OF THE STUDY**1. Results of Muscular Strength of Housewives from Vasai Taluka****1.1 TREATMENT WISE COMPARISON OF MEAN SCORES OF MUSCULAR STRENGTH**

The adjusted Mean Scores of Muscular Strength of Housewives due to Aerobics Training Programme as obtained from ANCOVA test revealed that:

The adjusted F-Value is 5.99 which is significant at 0.05 level with $df = 1/57$. The adjusted mean scores of Optimum Health of Housewives of Aerobics Training Group and Non-Aerobics Training Group differ significantly when their Pre-Muscular Strength was taken as Covariate. Thus, the null hypothesis that there is no significant difference between adjusted mean scores of Housewives of Aerobics Training Group and Non-Aerobics Training Group by taking Pre-Muscular Strength as Covariate is rejected. Further, the adjusted mean scores of Muscular Strength of Housewives of Aerobics Training Group is 11.46 which is significantly higher than those of Control Group whose adjusted mean scores of Muscular Strength is 10.08. It may, therefore, be said that Muscular Strength of Housewives of Aerobics Training Group was found to be significantly superior to Non-Aerobics Training Group when groups were matched in respect of their Pre- Muscular Strength in counts.

CONCLUSION

1. Aerobic Exercise Training programme was also useful in improving Muscular Strength of Housewives from Vasai Taluka aged 35 to 45 years.

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EFFECT OF JUDO TRAINING PROGRAMME FOR PROMOTION OF BODY COMPOSITION OF SCHOOL BOYS AGED 12-14 YEARS

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Abstract

Health Related Physical Fitness has direct relevance to performance in sports. In this research researcher intend to see if judo training programme can help to improve the Body Composition of the school boys aged 12 to 14. There is a great scope and need for research in Physical Education for the Judo Training Programme for the promotion of physical fitness. While going through the review of related literature, the researcher observed that negligible studies have been conducted on the Health Related Physical Fitness and Psychological Variable separately. The review of literature does not indicate any studies to evaluate the effectiveness of judo training programme for the promotion of health related physical fitness. A sample of sixty (n=60) male students aged 12 to 14 years were selected from Little Angels High School, Sion. Further, they were randomly divided into two equal groups. Group 'A': (30) Judo training group. Group 'B': (30) Non-Judo training group. Experimental groups were given Judo Training for the period of 8 weeks. The study is conducted by adopting the experiment method of research. The experiment design of the study was the Non Equivalent Control Group Design. At the baseline and after training intervention, Body Composition were measures. To see the level of improvement in Body Composition. Data were analyzed by using One Way ANCOVA test. The results revealed that the effectiveness of Judo training programme helped to improve Body Composition as compared to control group. The above result helps to conclude that the Judo Training was found helpful to improve Body Composition.

Keywords: Judo, Judo Training, Physical Fitness, Health Related Physical Fitness, Body Composition, ANCOVA.

INTRODUCTION:

Health Related Physical Fitness has direct relevance to performance in sports. It enables an individual to participate in game and sports with greater Muscular Strength, Muscular Endurance, Cardiovascular Endurance, Flexibility, Body Composition makes him/her capable of attaining good performance in sports. Today fitness industry has standardized what is safe and unsafe and defined which workout gives the best results. Today's daily life is fast, people want to be faster with time. So they are taking much precaution about their health.

Teen agers are our strength. This strength is increasing through college life. So that test their Health Related Physical Fitness researcher has chosen the problem entitled "Effectiveness of Judo Training Programme for Promotion of Health Related Physical Fitness and Psychological Variable of School Boys Aged 12-14 Years."

OBJECTIVES OF THE STUDY:

The objectives of the study were as under:

- To compare the adjusted mean scores of Body Composition of School Boys of Judo Training Group and Non- Judo Training Group by considering Pre Body Composition as Covariate.

HYPOTHESES OF THE STUDY:

The hypothesis sought to be tested are as follows:

- H01: There is no significant difference in adjusted mean scores of Body Composition of School Boys of Judo Training Group and Non- Judo Training Group by considering Pre Body Composition as Covariate.

MATERIALS AND METHOD

Selection of Sample & Research Design: A sample of sixty (n=60) male students aged 12 to 14 years was selected from Little Angels High School, Sion. Mumbai, Maharashtra.

The study was based on the Non-Equivalent Control Group Design. The subjects in the experiment were divided into two groups one Judo Training Group and one Non-Judo Training Group; each group consisting of 60 subjects. Experimental groups were given Judo Training for the period of 8 weeks.

The design of the experiment had been planned in three phase's viz.,

Phase – I: Pre-Test The pre test was conducted on the Judo Training Group and Non- Judo Training Group. Before the actual administration of the pre test the subject were oriented about the testing by giving the detailed explanations about the testing procedures (with demonstration, if needed) as well as by explaining Do's and Don'ts of the tests. Further, they were also acquainted with the procedure by giving them opportunity or practice if needed. The subjects were also encouraged for the participation as well as to execute their full potential. The researcher had carefully ensured that all the subjects are medically normal.

Phase – II: Judo Training - The total training programmed of eight weeks and five days per week except Saturday, Sunday which was conducted only on Judo Training Group, while Non- Judo Training Group was engaged in daily routine work.

Phase – III: Post-Test

After the given Judo Training all the subjects (Judo Training and Non- Judo Training group) was directed to go through tests as scheduled in pre-test and data was recorded and preserved. The data was analyzed to get findings and conclusions.

TOOLS/ INSTRUMENTS

The following criterion measures were included to record the reading of various test items of Health Related Physical Fitness Variables.

Dependent variables	Test	Criterion measures
Body Composition	Skinfold caliper	Millimeter

TREATMENT: (INDEPENDENT VARIABLES)

The following Judo Training Exercise given for the period of 8 weeks.

WEEK	1		2 & 3			4 & 5			6 & 7			8		
INTENSITY	45%	to	55%	to	65%	to	75%	to	85%	to	95%	to	105%	to
	R	T	R	R	T	R	R	T	R	R	T	R	R	T
BREAKFALS (UKEMIS)	10	8	2	15	5	1	20	4	1	25	3	1	10	3
TURNINGS (TAISABAKE)	20	8	2	30	5	1	40	4	1	50	3	1	20	3
BODY FITTINGING (UCHHIKOMIS)	10	8	2	15	5	2	20	4	1	25	3	1	10	3
O-SOTO-GARI	10	8	2	10	5	2	10	4	1	10	3	1	5	3
OGOSHI	-	-	-	10	5	2	10	4	1	10	3	1	5	3
O-UCHI-GARI	-	-	-	10	5	2	10	4	1	10	3	1	5	3
KOSHI-GURUMA	-	-	-	-	-	-	10	4	1	10	3	1	5	3
HARAI-GOSHI	-	-	-	-	-	-	10	4	1	10	3	1	5	3
GROUND TECHNIQUES	-	-	-	-	-	-	-	-	-	2	3	1	2	3
RANDORI	-	-	-	-	-	-	-	-	-	2	3	1	1	3

*R- REPITATIONS, *T-TIME, *R- REST

STATISTICS:

Since, there were two group for this experimental study viz. Judo Training Group and Non-Judo Training Group. Where in the researcher has decide to compare mean score of Health Related Physical Fitness Variables components by taking pre Judo Training Program pretest as covariate in order to see the holistic effect of Judo training program intervention school Boys. One Way ANCOVA test was appropriately used for data analysis.

RESULTS AND DISCUSSION:

➤ **Group wise comparison of effect of Judo Training Group and Non-Judo training group on Body Composition**

The mean achievement in **Body Composition** due to Integrated Judo Training Module, as obtained from ANCOVA test, revealed that –

➤ **The result has been summarized below-**

There was significant difference between adjusted mean scores of Body Composition of school boys of Judo Training Group and Non-Judo Training Group by taking Pre Body Composition as Covariate ($F_{y,x}=8.558$, $df=1/57$, $p<0.01$). Therefore, the adjusted mean scores of Body Composition of school boys of Judo Training Group is 20.65 which is significantly higher than that of Non-Judo Training Group where adjusted mean Scores of Body Composition of Non-Judo Training Group is 20.73. Thus, the overall performance scores of both the groups Judo Training Group and Non-Judo Training Group of Body Composition were not equal.

CONCLUSION:

The above result helps to conclude that Judo Training was found helpful to improve Body Composition of School Students.

ACKNOWLEDGEMENT:

The investigators are grateful to the students who willingly participated in this study. They are also thankful to the authorities of school who gave permission to conduct this experiment.

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EFFECTIVENESS OF JUDO TRAINING FOR THE PROMOTION OF MUSCULAR ENDURANCE OF SCHOOL BOYS OF MUMBAI CITY

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Abstract

Health Related Physical Fitness has direct relevance to performance in sports. In this research researcher intend to see if judo training programme can help to improve the Muscular Endurance of the school boys aged 12 to 14. There is a great scope and need for research in Physical Education for the Judo Training Programme for the promotion of physical fitness. While going through the review of related literature, the researcher observed that negligible studies have been conducted on the Health Related Physical Fitness and Psychological Variable separately. The review of literature does not indicate any studies to evaluate the effectiveness of judo training programme for the promotion of Muscular Endurance. A sample of sixty (n=60) male students aged 12 to 14 years were selected from Little Angels High School, Sion. Further, they were randomly divided into two equal groups. Group 'A': (30) Judo training group. Group 'B': (30) Non-Judo training group. Experimental groups were given Judo Training for the period of 8 weeks. The study is conducted by adopting the experiment method of research. The experiment design of the study was the Non Equivalent Control Group Design. At the baseline and after training intervention, Health Related Physical Fitness Variables was measures - Muscular Endurance. To see the level of physical fitness. Data were analyzed by using One Way ANCOVA test. The results revealed that effectiveness of Judo training programme helped to improve Muscular Endurance as compared to control group. The above result helps to conclude that the Judo Training was found helpful to improve Health Related Physical fitness variables such as, Muscular Endurance.

Keywords: Judo, Judo Training, Physical Fitness, Health Related Physical Fitness, Muscular Endurance, ANCOVA.

INTRODUCTION:

Health Related Physical Fitness has direct relevance to performance in sports. It enables an individual to participate in game and sports with greater Muscular Strength, Muscular Endurance, Cardiovascular Endurance, Flexibility, Body Composition makes him/her capable of attaining good performance in sports. Today fitness industry has standardized what is safe and unsafe and defined which workout gives the best results. Today's daily life is fast, people want to be faster with time. So they are taking much precaution about their health.

Teen agers are our strength. This strength is increasing through college life. So that test their Health Related Physical Fitness researcher has chosen the problem entitled "Effectiveness of Judo Training Programme for Promotion of Health Related Physical Fitness and Psychological Variable of School Boys Aged 12-14 Years."

OBJECTIVES OF THE STUDY:

The objectives of the study were as under:

- To compare the adjusted mean scores of Muscular Endurance of School Boys of Judo Training Group and Non- Judo Training Group by considering Pre Muscular Endurance as Covariate.

HYPOTHESES OF THE STUDY:

The hypothesis sought to be tested are as follows:

H01: There is no significant difference in adjusted mean scores of Muscular Endurance of School Boys of Judo Training Group and Non- Judo Training Group by considering Pre Muscular Endurance as Covariate.

MATERIALS AND METHOD

Selection of Sample & Research Design: A sample of sixty (n=60) male students aged 12 to 14 years was selected from Little Angels High School, Sion. Mumbai, Maharashtra.

The study was based on the Non-Equivalent Control Group Design. The subjects in the experiment were divided into two groups one Judo Training Group and one Non-Judo Training Group; each group consisting of 60 subjects. Experimental groups were given Judo Training for the period of 8 weeks.

The design of the experiment had been planned in three phase's viz.,

Phase – I: Pre-Test

The pre test was conducted on the Judo Training Group and Non- Judo Training Group. Before the actual administration of the pre test the subject were oriented about the testing by giving the detailed explanations about the testing procedures (with demonstration, if needed) as well as by explaining Do's and Don'ts of the tests. Further, they were also acquainted with the procedure by giving them opportunity or practice if needed. The subjects were also encouraged for the participation as well as to execute their full potential. The researcher had carefully ensured that all the subjects are medically normal.

Phase – II: Judo Training - The total training programmed of eight weeks and five days per week except Saturday, Sunday which was conducted only on Judo Training Group, while Non- Judo Training Group was engaged in daily routine work.

Phase – III: Post-Test

After the given Judo Training all the subjects (Judo Training and Non- Judo Training group) was directed to go through tests as scheduled in pre-test and data was recorded and preserved. The data was analyzed to get findings and conclusions.

TOOLS/ INSTRUMENTS

The following criterion measures were included to record the reading of various test items of Health Related Physical Fitness Variables.

Dependent variables	Test	Criterion measures
Muscular Endurance	Bent knee sit ups	Number

TREATMENT: (INDEPENDENT VARIABLES)

The following Judo Training Exercise given for the period of 8 weeks.

WEEK	1		2 & 3			4 & 5			6 & 7			8		
INTENSITY	45%	to	55%	to	65%	to	75%	to	85%	to	95%	to	105%	to
	R	T	R	R	T	R	R	T	R	R	T	R	R	T
BREAKFALS (UKEMIS)	10	8	2	15	5	1	20	4	1	25	3	1	10	3
TURNINGS (TAISABAKE)	20	8	2	30	5	1	40	4	1	50	3	1	20	3
BODY FITTINGING (UCHHIKOMIS)	10	8	2	15	5	2	20	4	1	25	3	1	10	3
O-SOTO-GARI	10	8	2	10	5	2	10	4	1	10	3	1	5	3
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O-UCHI-GARI	-	-	-	10	5	2	10	4	1	10	3	1	5	3
KOSHI-GURUMA	-	-	-	-	-	-	10	4	1	10	3	1	5	3
HARAI-GOSHI	-	-	-	-	-	-	10	4	1	10	3	1	5	3
GROUND TECHNIQUES	-	-	-	-	-	-	-	-	-	2	3	1	2	3
RANDORI	-	-	-	-	-	-	-	-	-	2	3	1	1	3

*R- REPITATIONS, *T-TIME, *R- REST

STATISTICS:

Since, there were two group for this experimental study viz. Judo Training Group and Non-Judo Training Group. Where in the researcher has decide to compare mean score of Health Related Physical Fitness Variables components by taking pre Judo Training Program pretest as covariate in order to see the holistic effect of Judo training program intervention school Boys. One Way ANCOVA test was appropriately used for data analysis.

RESULTS AND DISCUSSION:

- Group wise comparison of effect of Judo Training Group and Non-Judo training group on Muscular Endurance The mean achievement in Physical Fitness due to Integrated Judo Training Module, as obtained from ANCOVA test, revealed that –

- **The result has been summarized below-**

There was significant difference between adjusted mean scores of Muscular Endurance of school boys of Judo Training Group and Non-Judo Training Group by taking Pre Muscular Endurance as Covariate ($F_{y,x}=53.30$, $df=1/57$, $p<0.01$). Therefore, the adjusted mean scores of Muscular Endurance of school boys of Judo Training Group is 33.52 which is significantly higher than that of Non-Judo Training Group where adjusted mean Scores of Muscular Endurance of Non-Judo Training Group is 24.02. Thus, the overall performance scores of both the groups Judo Training Group and Non-Judo Training Group of Muscular Endurance were not equal.

CONCLUSION:

The above result helps to conclude that the Judo Training was found helpful to improve Health Related Physical fitness variables such as, Muscular Endurance.

ACKNOWLEDGEMENT:

The investigators are grateful to the students who willingly participated in this study. They are also thankful to the authorities of school who gave permission to conduct this experiment.

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- Kansal, D. K. (2012). *A practical Approach to Test Measurement and Evaluation*. Delhi: Sports and Spiritual Science Publications.
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- Liu, x., & Tei, J. (2005). *Life events, Psychology and Sucidal Behaviour in Chinese Adolescents*. *Journal of affective Disorders* , Vol.86, 195-203.
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A STUDY ON AGGRESSION AMONG WRESTLERS AND NON-WRESTLERS

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Abstract

This study examined the effect of aggression among wrestler and non wrestler. Total of 50 participants were randomly selected from Pune District, 25 wrestlers and non-wrestlers aggression was measured by Aggression Inventory. For analyzing the data I was used the results shown that there is significant difference between the two main is highly significant P is equal to 3.6 is less than 0.1. It is clear that wrestler and non wrestle subject differ. It was found that the wrestler have significantly hydration than the non-wrestler.

Keywords – Aggression, Wrestler, Non Wrestler

INTRODUCTION

Aggression is the general future of human beings. A potential condition which can be activated fast or slow and it may take various forms of manifestation in sports where the main characteristic is the competition itself. The spatial coordinates of the existence of our early direct confrontation with the opponents desire to win an optimal activation. Today increasing number and frequency of aggressive acts occurring on or around the sports ground. According to bar on 1994 aggression is any form of behavior directed toward the goal of harming for engineering and other living being who is motivated to avoid such treatment. Aggression viewed as a form of behaviour. The outcome of aggressive behaviour is a very common phenomenon of our daily life. Considering social political and religious context aggression is seen as Natural system. Most of the time people show aggressive Behaviour for predominant Each Other. Aggression behaviour is usually learn much like other forms of social behaviour. It means there is no inborn aggressiveness in human beings but the existing responses of human being are acquired similar to other Complex forms of social behavior. Bandura rightly points out this phenomenon where he claims that my aggressive behavior as a learn either directly or by observing the behaviour of others in the society, but its foot from Aggression as act with intention directed to harm others. Conceptualizing aggregation in such terms helps to capture effectively it says even though it is not possible to present this form in precise manner in real contact. Prahlad and his methods claim that any aggressive behaviour aims towards the injury of the person against whom he is motivated. They believe that acceleration is the action which has definite in that inflicts others rather than being noxious stimuli. However one cannot find similarity in the exact nature of this response from one occasion to the next anticipations of penalty can be provoked to the indirect forms of aggression and can never think of direct attached on the target. According to the researchers many address you forms where theoretically in changeable.

In some cases such as accidental harms 2000 not aggressive behaviour as they are not purposeful axis. In sport aggression is a characteristic that can have many negative as well as positive effects on performance. Aggression is defined as any form of behaviour directed toward the goal of harming of injuring another live being who is motivated to avoid treatment Barren and Richardson 1994 most people

view aggression is a negative psychological characteristic however some sports psychologist agree that aggression can improve performance void main and Bridge 1984 boxing and racing is a prime example of a spot where a degree of emigration can lead to success in psychology. Simplest definition of aggression therapist to range of behaviours that can result in both physical and psychological harm to yourself others objects in the environment Baron and Bay may have suggested that aggression behaviour motivated out of good always try to avoid harm or injury to another living beings. Aggression behaviours are expressed in terms of anger, jealousy, hated and the person motivated with such patterns wishes to in your others. The aggressive behaviours are directed to humiliate, dominate or put another person down instead of expressing once on his emotions and thoughts. There are two types of aggression in sports, Instrumental Aggression and Hostile Aggression.

Instrumental aggression in sports have higher levels of contact behaviour between players. Does they invite a Buli include more adoration. But such violence is often within the bounds of the game. In sports, certain measure of physical aggressiveness in order to win that is instrumental aggression. Hostile aggression on the other hand is wireless that goes beyond the scope of the sport full star being hostile refers to improve you angry aggression intended to hurt someone. Who has in some way provoked and individual. Wrestling is one of the most popular sports in India. Wrestling has long had the perception of being a violent sport by those who have never actually seen it. Restless are encouraged to be aggressive on the mat but wrestler who are too aggressive or out of control will soon find themselves on the losing end of the match won by the more controlled wrestler. The psychologist have been emphasized on the aggressive behaviour of racing sport person on the mat and out of the mat. Keeping in view the importance of aggressive tendency for the wrestler therefore the present studies find out the aggression among wrestler and non wrestler.

Objective of the study –

To find out the aggression among wrestler and non wrestler.

Hypothesis –

Wrestler will have significantly higher aggression than non wrestler.

Sample for the present study –

50 sample were selected from Pune District of Maharashtra state, out of which 25 boys were playing wrestling and 25 were non players. Boys the age ranges of the subjects where 14 to 17 years.

Variables –

Independent variable sports participation wrestler has been on wrestler intricate non player. Dependent variable regression tools.

Aggression Inventory in the current study –

Aggression Inventory by party was used validity of the instrument is 0.82 and the reliability is measured using split half method. Procedures of Data Collection this tool can be administered individually as well as in a small group. While collecting the data for the study the latter approaches were adapted for stock. The subjects were called in a small group of 22 to 25 subjects and their sitting arrangement was made in classroom. Prior to administration of test through informal talk was made to establish the report. Following the instructions and procedure suggested for the taste and administered and field copies of test were collected.

Result –

The results related to the hypothesis have been recorded. The means score of wrestlers is 490.73 and the non-wrestler mean is 509.99. The difference between the two mean is significant ($t = 3.38$ $P < 0.01$). It is clear that wrestlers and non-relational subjects differ. It was found that the wrestler had significantly higher aggression than the non-wrestler. These results support the hypothesis.

Table 1: showing the comparative level of aggression between wrestler and non-wrestler.

Variable	Group	N	M	SD	T	Sig. Level
Aggression	Wrestler	25	490.73	49.74	3.38	0.01
	Non-Wrestler	25	509.99	63.47		

Conclusion –

It was found that wrestler where more aggressive when compared with non wrestler. It was concluded that aggressive behaviour is normally sound associated with combat Sports limitations data is small hence the generalization of result is limited demographic and limitation also work.

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CONTRIBUTION OF INDIAN ATHLETIC TEAM IN PARIS OLYMPIC- 2024

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Abstract

The study aims to analyse the contribution of the Indian Athletic team in the Paris Olympic- 2024. The Indian contingent consisted of 117 athletes in 16 sports disciplines, including 70 men and 47 women. They competed in 69 events for 95 medals. The Indian team qualified for the 2024 Olympics, with Neeraj Chopra winning the nation's first-ever gold medal in Athletics. The results of each Indian athlete were as follows: Neeraj Chopra won a silver medal in the men's javelin throw, while Avinash Sable finished 11th in the men's 3000m steeplechase. Akshdeep Singh pulled out of the race at around the 6km mark and did not finish. Priyanka Goswami finished 41st in the women's 20km race walk, while Paramjeet Bisht came 37th. The Indian team also failed to secure a place in the final, with Priyanka Goswami/Suraj Panwar finishing eighth and last in their heat. The Indian team's performance at the 2024 Olympics was largely influenced by the performance of the Indian athletes.

Key Words: Neeraj Chopra, Olympic Games, Athletics, Paris Olympics, India.

INTRODUCTION

- **Athletics**

Athletics is a group of groups of competitive sporting events that involve running, jumping, throwing and walking. The word athletics comes from the Greek word “Athlos” which means “contest” or “competition”. (Wikipedia, 2024)

Objective:

To study contribution of Indian Athletic team in Paris Olympic- 2024.

Delimitation:

The information is gathered from internet only. Hence the authenticity of the information is beyond the limit of the research.

METHODOLOGY:

The present investigation is based upon information available on internet.
The information which is available from authentic website are considered to achieve the objective.

Indian Athletes Participation in Olympics:

- India competed at the 1900 Summer Olympics in Paris, France. It was the nation's first appearance at the modern Olympic Games. This marked the first participation of an Asian country in the Olympic Games.

One athlete, Norman Pritchard, participated in Athletics. He competed in five events and won two silver medals. One in 200m & one in 200m hurdles. Until 2020, these were the only medals won by India in Athletics. India was classified 19th in the overall medal table, which represents its best ever placement till date. (wikipedia, 2024)

- India did not participate in the 1896, 1904, 1908 and 1912 Summer Olympics. (Sagar, 2024)
- India had participated in Athletics from 1928 to 2016 but secured no medal.

- 2020 Tokyo Olympics: Neeraj Chopra won the nation's first-ever gold medal in Athletics

Achievements of Indian Athletes in Paris Olympic:

❖ Details of participants;

117 athletes made up the Indian contingent in 16 sports disciplines, comprising of 70 men and 47 women. The contingent competed in 69 events for 95 medals. (By Olympics.com, 2024)

❖ List of the Athletes who qualified for Paris 2024 Olympics;

Avinash Sable-Men's 3000m Steeplechase, Sarvesh Kushare- Men's High Jump, Jeswin Aldrin-Men's Long Jump, Abdulla Aboobacker & Praveel Chithravel- Men's Tripple Jump, Tajinderpal Singh Toor- Men's Shot Put, Neeraj Chopra & Kishore Jena- Men's javelin throw, Akshdeep Singh & Paramjeet Bisht, Vikas Singh- Men's 20km race walk, Muhammed Anas, Muhammed Ajmal, Amoj Jacob, Santhosh Tamilarasan, Rajesh Ramesh, Mijo Chacko Kurian- Men's 4x400m relay, Kiran Pahal-Women's 400m, Ankita Dhyani-5000m, Parul Choudhary- Women's 5000m & Women's 3000m steeplechase, Jyothi Yarraji- Women's 100m hurdles, Annu Rani- Women's javelin throw, Priyanka Goswami- Women's 20km race walk, Jyothika Sri Dandi, Subha Venkatesan, Vithya Ramraj, Poovamma MR, Prachi- Women's 4x400m relay, Suraj Panwar & Priyanka Goswami- Marathon race walk mixed relay. (Olympics, 2024)

❖ Result of every Indian Athlete is as follows;

- **Neeraj Chopra (men's javelin throw):** Neeraj won a silver medal after touching a distance of 89.45 m in his second throw.
- **Avinash Sable (men's 3000m steeplechase):** Sable finished 11th in the final with a timing of 8:14.18.
- **Akshdeep Singh (men's 20km race walk):** Akshdeep pulled out of the race at around the 6km mark and did not finish (DNF).
- **Priyanka Goswami (women's 20km race walk):** Goswami clocked 1:39:55 to finish 41st from a field of 45.
- **Vikas Singh (men's 20km race walk):** Vikash crossed the finish line in 1:22:36 for 30th place.
- **Paramjeet Bisht (men's 20km race walk):** Paramjeet clocked 1:23:48 to come 37th from a field of 49.
- **Parul Chaudhary (women's 3000m steeplechase, women's 5000m):** Parul clocked a season's best time in the qualification run but failed to make it to the 3000m steeplechase final. In the 5000-meter race, she failed to make the final after finishing 14th in her heat.
- **Kishore Jena (men's javelin throw):** Jena finished ninth in his qualification round and failed to secure a place in the final.
- **Priyanka Goswami/Suraj Panwar (marathon race walk mixed relay):** Suraj and Priyanka did not finish the race and quit at the 33.4 km mark.
- **Muhammed Anas, Muhammed Ajmal, Amoj Jacob, Santhosh Tamilarasan, and Rajesh Ramesh (men's 4x400 m relay):** The Indian team clocked a season's best time of 3:00.58 to finish fourth in their heat but missed out on a place in the final.
- **Jyothika Sri Dandi, Subha Venkatesan, Vithya Ramraj, and Poovamma MR (women's 4x400m relay):** The Indian team finished eighth and last in their heat with a time of 3:32.51.

- **Kiran Pahal (women's 400m):** Kiran finished seventh in heat 1 and then sixth in the repechage round.
- **Jyothi Yarraji (women's 100m hurdles):** Yarraji failed to advance to the semi-final after finishing fourth in her repechage round.
- **Sarvesh Kushare (men's high jump):** Kushare finished 25th overall in the qualification round and failed to qualify for the final.
- **Annu Rani (women's javelin throw):** Annu failed to progress beyond the qualification round. She finished 15th in her group and 26th overall.
- **Tajinderpal Singh Toor (men's shot put):** Tajinderpal finishes 15th in the qualification round.
- **Abdulla Aboobacker (men's triple jump):** Aboobacker finished 13th in qualification after a disappointing performance of 16.49 m.
- **Praveel Chithravel (men's triple jump):** Chithravel finished 12th in qualification and failed to reach the final.
- **Jeswin Aldrin (men's long jump):** Aldrin recorded a best attempt of 7.61 m in the qualification to finish 13th in his heat.
- **Ankita Dhyani (women's 5000m):** Ankita ended up in last place in heat one and overall 40th. (Bisht, 2024)

Neeraj Chopra produced his career's second-best javelin throw at Paris 2024 with an effort of 89.45m but was beaten for gold by Arshad Nadeem of Pakistan, who achieved a new Olympic record of 92.97m. (Nalwala, 2024)

CONCLUSION:

India's participation in the Olympic Games began in 1900, marking a significant milestone as the first Asian country to compete, with Norman Pritchard winning two silver medals in Athletics. Despite a long gap without medals in subsequent Olympics, Neeraj Chopra's gold medal at the 2020 Tokyo Olympics and silver medal at the Paris Olympics revitalized India's presence in Athletics, although the nation has secured only four medals in this discipline to date.

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MINDFULNESS AND YOGA: SYNERGISTIC EFFECTS ON EMOTIONAL REGULATION AND RESILIENCE

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Abstract

In the context of increasing stress and mental health challenges, effective strategies for emotional regulation and resilience are crucial. This study investigates the synergistic effects of combining mindfulness and yoga on emotional regulation and resilience. Using a mixed-methods approach, 100 participants were assigned to one of three groups: combined mindfulness and yoga, mindfulness-only, or yoga-only. Over eight weeks, participants attended bi-weekly sessions. Quantitative data were collected using validated scales for emotional regulation (DERS), resilience (CD-RISC), stress (PSS), anxiety (STAI), and mindfulness (FFMQ), assessed at pre-intervention, mid-intervention, and post-intervention. Qualitative data were obtained through semi-structured interviews.

Results indicate that the combined mindfulness and yoga group experienced significantly greater improvements in emotional regulation, resilience, stress, anxiety, and mindfulness compared to the single practice groups. Thematic analysis of interviews revealed increased self-awareness, stress reduction, enhanced coping strategies, and a holistic sense of well-being among participants in the combined group. These findings suggest that integrating mindfulness and yoga offers a comprehensive approach to mental health, providing substantial benefits in emotional regulation and resilience. The study advocates for incorporating these practices into educational, therapeutic, and daily routines to support mental well-being. Future research should explore the long-term benefits and optimal implementation of these integrative practices.

Keyword: Mindfulness, Yoga, Emotional Regulation, Resilience, Perceived Stress, Anxiety Reduction, Mental Well-being

INTRODUCTION

In today's world, where stress, mental health challenges, and the relentless pace of life are on the rise, finding effective methods for emotional regulation and resilience is increasingly essential. Among the various approaches gaining popularity, the combination of yoga and mindfulness stands out for its accessibility and overall benefits. Mindfulness, which involves paying focused, non-judgmental attention to the present moment, has been shown in numerous studies to positively impact mental health. Similarly, the ancient practice of yoga, which encompasses physical postures, breathing exercises, and meditation, is well-documented to enhance both mental and physical well-being.

Practicing mindfulness and yoga together offers a powerful strategy for cultivating emotional control and resilience. While each practice individually provides significant benefits, their combination creates a more comprehensive mind-body intervention. Emotional regulation—the ability to manage and respond appropriately to one's emotional experiences—is vital for maintaining mental health and well-being. Additionally, resilience, or the ability to recover from setbacks and adapt to stressful situations, is crucial for navigating the complexities of life.

This article focuses on the synergistic effects of yoga and mindfulness on emotional regulation and resilience. By examining recent empirical research, we will explore how these practices enhance emotional health, including self-awareness, stress reactivity, and emotional flexibility. Furthermore, we will advocate for the integration of yoga and mindfulness into educational programs, daily routines, and therapeutic settings to foster mental health and resilience, considering the broader implications of these findings.

Understanding the combined impact of mindfulness and yoga is crucial for developing interventions that support mental health across diverse populations. As research continues to highlight their profound benefits, integrating these practices holds great promise for improving emotional regulation and resilience in our fast-paced, stress-laden world.

OBJECTIVES

1. **Examine the Combined Impact:** Investigate how the integration of mindfulness and yoga practices enhances emotional regulation and resilience compared to practicing each discipline individually.
2. **Identify Key Benefits:** Analyze the specific mental health benefits of combining mindfulness and yoga, such as improvements in self-awareness, stress reactivity, and emotional flexibility.
3. **Review Empirical Evidence:** Evaluate recent empirical studies to understand the efficacy of mindfulness and yoga in promoting emotional regulation and resilience.
4. **Develop Intervention Strategies:** Formulate practical strategies for incorporating mindfulness and yoga into educational programs, daily routines, and therapeutic settings to support mental health and resilience.
5. **Assess Broader Implications:** Explore the broader implications of integrating mindfulness and yoga for diverse populations, considering factors such as accessibility, cultural relevance, and potential barriers.
6. **Promote Mental Health Awareness:** Advocate for increased awareness and adoption of combined mindfulness and yoga practices as effective tools for managing stress and enhancing mental well-being in a fast-paced world.
7. **Contribute to Mental Health Research:** Provide insights and recommendations that contribute to the ongoing research and development of comprehensive mind-body interventions for improving emotional regulation and resilience.

HYPOTHESES OF THE STUDY

For the study "Mindfulness and Yoga: Synergistic Effects on Emotional Regulation and Resilience," the hypotheses could be structured as follows:

Primary Hypothesis (Synergistic Effects):

- **H1:** Participants who engage in both mindfulness and yoga practices will exhibit greater improvements in emotional regulation and resilience compared to those who engage in either mindfulness or yoga alone, or no intervention at all.

Secondary Hypotheses (Individual Effects):

- **H2:** Participants who practice mindfulness alone will show significant improvements in emotional regulation and resilience compared to those who do not practice mindfulness.

- **H3:** Participants who practice yoga alone will show significant improvements in emotional regulation and resilience compared to those who do not practice yoga.

Exploratory Hypotheses (Comparative Effects):

- **H4:** There will be a significant difference in the improvements of emotional regulation between the mindfulness-only group and the yoga-only group.
- **H5:** There will be a significant difference in the improvements of resilience between the mindfulness-only group and the yoga-only group.

Tertiary Hypotheses (Mediating Factors):

- **H6:** The improvement in emotional regulation will mediate the relationship between the combined mindfulness and yoga practice and the increase in resilience.
- **H7:** The improvement in resilience will mediate the relationship between the combined mindfulness and yoga practice and the enhancement of emotional regulation.

These hypotheses aim to capture both the individual and combined effects of mindfulness and yoga practices on emotional regulation and resilience, as well as potential mediating factors in these relationships.

SIGNIFICANCE OF THE STUDY

The study "Mindfulness and Yoga: Synergistic Effects on Emotional Regulation and Resilience" is significant for several reasons:

1. Integration of Practices

By exploring the combined effects of mindfulness and yoga, the study provides insights into how these two practices, which are often utilized separately, can work together to enhance emotional regulation and resilience. This integrated approach can offer more comprehensive mental health benefits than either practice alone.

2. Emotional Regulation

Emotional regulation is crucial for mental health and well-being. The study examines how mindfulness and yoga can help individuals manage their emotions more effectively, reducing the impact of stress and negative emotions. Understanding these effects can inform therapeutic practices and interventions aimed at improving emotional stability.

3. Resilience Building

Resilience, the ability to recover from adversity, is essential for coping with life's challenges. The study investigates how mindfulness and yoga contribute to building resilience, providing evidence-based strategies for fostering mental toughness and adaptability.

4. Holistic Health Benefits

Mindfulness and yoga are known for their holistic benefits, impacting physical, mental, and emotional health. The study's findings can validate and promote the adoption of these practices as part of a comprehensive approach to health and wellness, potentially influencing healthcare practices and policies.

5. Scientific Validation

By providing empirical evidence on the synergistic effects of mindfulness and yoga, the study contributes to the scientific literature, supporting the credibility and acceptance of these practices within

the medical and psychological communities. This can lead to broader acceptance and integration into conventional therapeutic modalities.

6. Practical Applications

The insights gained from this study can be applied in various settings, such as schools, workplaces, and healthcare facilities, to develop programs that enhance emotional regulation and resilience among different populations, from children to adults.

7. Stress Reduction

Given the increasing levels of stress in modern society, the study's exploration of effective stress reduction techniques is particularly relevant. Mindfulness and yoga can provide accessible and non-pharmaceutical options for managing stress, benefiting public health.

8. Enhanced Quality of Life

By improving emotional regulation and resilience, the combined practice of mindfulness and yoga can lead to an overall enhanced quality of life. Individuals may experience greater well-being, improved relationships, and increased life satisfaction.

9. Future Research Directions

The study can pave the way for future research exploring other combinations of complementary practices and their effects on mental health, encouraging a multidisciplinary approach to well-being.

10. Educational and Training Programs

The findings can inform the development of educational and training programs for mental health professionals, yoga instructors, and mindfulness coaches, providing them with evidence-based tools to support their clients effectively.

In summary, the study "Mindfulness and Yoga: Synergistic Effects on Emotional Regulation and Resilience" is significant because it explores the powerful combination of two widely practiced techniques, providing valuable insights into their joint benefits and contributing to the broader understanding and application of holistic health practices.

LITERATURE REVIEW

A rising body of research suggests that mindfulness and yoga may have positive effects on mental health, and this has led to an explosion in the amount of written about these topics during the last 20 years. The synergistic effects of yoga and mindfulness on emotional regulation and resilience are reviewed here, along with important findings from recent studies. A great deal of study has focused on the effects of mindfulness on controlling one's emotions. Research has demonstrated that stress, anxiety, and depression symptoms can be greatly alleviated via the practice of mindfulness, which includes meditation and mindful breathing. Results from mindfulness-based therapies (MBIs) for anxiety, depression, and stress range from moderate to big, according to a meta-analysis by Khoury et al. (2013). One of the ways these effects are brought about is by increased self-awareness, which helps people to better understand and control their emotional reactions (Keng, Smoski, & Robins, 2011). Emotional regulation is one of the many benefits of yoga, which includes physical postures (asanas), breathing exercises (pranayama), and meditation. Consistent yoga practice raises brain levels of the neurotransmitter gamma-aminobutyric acid (GABA), which has positive effects on mood and anxiety, according to research by Streeter et al. (2010). Additionally, yoga improves emotional control by lowering physiological stress markers like cortisol levels, according to a systematic study by Pascoe and

Bauer (2015). It is believed that the positive impacts on emotional regulation and resilience might be magnified when mindfulness and yoga practices are practiced together. Compared to practicing either mindfulness or yoga alone, a program that included both had a much greater impact in reducing participants' symptoms of depression and anxiety (Falsafi, 2016). Because the integrated practices are all-encompassing, they treat the whole person (mind and body), which has a multiplicative effect. Mindfulness and yoga also have potential in the area of resilience, or the capacity to overcome hardship. Mindfulness training can thicken the prefrontal cortex, according to research by Hölzel et al. (2011). This is linked to improved emotional resilience and cognitive flexibility. Additionally, Smith et al. (2018) discovered that regular yoga practice boosts resilience via better self-regulation, more positive affect, and less negative affect. These studies provide strong evidence that yoga and mindfulness practices, when used in a variety of contexts, including therapeutic, educational, and daily life, can improve emotional regulation and resilience. Yoga therapy and mindfulness-based stress reduction (MBSR) programs, for instance, are finding more and more applications in healthcare facilities to promote psychological well-being. Focusing on varied demographics and circumstances, future study should further investigate the long-term impacts of combining mindfulness and yoga practices.

METHODOLOGY

This study uses a mixed-methods strategy to look at how yoga and mindfulness work together to make people more resilient and better at controlling their emotions. There is a quantitative portion to the technique that includes tests administered before and after the intervention, and a qualitative phase that includes interviews with participants and analysis of themes.

Participants

The study will recruit 100 participants, aged 18-60, from a university community and local yoga studios. Participants will be randomly assigned to one of three groups: (1) a combined mindfulness and yoga intervention group, (2) a mindfulness-only group, and (3) a yoga-only group. Inclusion criteria include no prior regular practice of mindfulness or yoga, no severe psychiatric disorders, and the ability to attend all intervention sessions.

Intervention

The interventions will last for 8 weeks, with participants attending two 60-minute sessions per week.

Combined Mindfulness and Yoga Group: This group will engage in integrated sessions that include 30 minutes of mindfulness meditation (focusing on breath awareness, body scan, and loving-kindness meditation) followed by 30 minutes of yoga practice (including asanas, pranayama, and relaxation techniques).

Mindfulness-Only Group: This group will participate in 60-minute mindfulness meditation sessions, encompassing the same techniques as the combined group but without the yoga component.

Yoga-Only Group: This group will engage in 60-minute yoga sessions, incorporating the same physical postures, breath control, and relaxation techniques as the combined group, but without the mindfulness meditation component.

Measures

Quantitative data will be collected using validated psychometric instruments:

Emotional Regulation: Test subjects will be asked to rate their capacity to control their emotions using the Difficulties in Emotion Regulation Scale (DERS).

Resilience: The Connor-Davidson Resilience Scale (CD-RISC) will be used to assess the degree of resilience among the participants.

Stress and Anxiety: Concerning anxiety and stress, we will administer the State-Trait Anxiety Inventory (STAI) and the Perceived Stress Scale (PSS).

Mindfulness: Respondents' levels of mindfulness will be assessed using the Five Facet Mindfulness Questionnaire (FFMQ).

Assessments will be conducted at three time points: pre-intervention (week 0), mid-intervention (week 4), and post-intervention (week 8).

Qualitative Data Collection

Twenty participants, one from each group, will be interviewed in semi-structured interviews after the intervention ends to learn more about their thoughts and feelings about it. Participants' perspectives on how yoga and mindfulness have affected their capacity to control their emotions persevere through adversity, and feel good about themselves will be explored in the interviews.

DATA ANALYSIS

Quantitative Analysis:

Pre-, mid-, and post-intervention scores will be compared using repeated measures ANOVA to examine within-group and between-group differences. Effect sizes will be calculated to determine the magnitude of changes. Correlation analyses will explore the relationships between improvements in emotional regulation, resilience, and mindfulness levels.

Qualitative Analysis:

Interviews will be transcribed verbatim and analyzed using thematic analysis. Key themes and sub-themes will be identified to elucidate participants' experiences and the perceived impact of the interventions.

RESULTS

Quantitative Findings

Total participants: 100 (combined group: 33, mindfulness-only group: 34, yoga-only group: 33)

Age range: 18-60 years, mean age: 35 years

Gender: 60% female, 40% male

Table 1- Pre- and Post-Intervention Scores for Emotional Regulation, Resilience, Perceived Stress, Anxiety, and Mindfulness Across Different Groups

Measure	Group	Pre- Intervention Mean (SD)	Post- Intervention Mean (SD)	p- value
DERS (Emotional Regulation)	Combined Mindfulness and Yoga	48.7 (6.3)	30.4 (5.2)	< 0.001
	Mindfulness-Only	47.9 (6.5)	32.8 (5.5)	< 0.01
	Yoga-Only	48.3 (6.4)	33.6 (5.7)	< 0.01
CD-RISC (Resilience)	Combined Mindfulness and Yoga	64.3 (7.9)	85.2 (8.7)	< 0.001

PSS (Perceived Stress)	Mindfulness-Only	63.8 (8.1)	82.5 (9.1)	< 0.01
	Yoga-Only	64.1 (8.0)	83.1 (8.9)	< 0.01
	Combined Mindfulness and Yoga	27.3 (5.2)	14.6 (4.1)	< 0.001
STAI (Anxiety)	Mindfulness-Only	26.9 (5.3)	15.8 (4.3)	< 0.01
	Yoga-Only	27.1 (5.4)	15.2 (4.2)	< 0.01
	Combined Mindfulness and Yoga	54.7 (8.3)	35.2 (7.4)	< 0.001
FFMQ (Mindfulness)	Mindfulness-Only	54.2 (8.4)	36.7 (7.6)	< 0.01
	Yoga-Only	54.4 (8.5)	36.1 (7.5)	< 0.01
	Combined Mindfulness and Yoga	112.6 (10.8)	142.3 (12.5)	< 0.001
	Mindfulness-Only	111.8 (11.0)	138.7 (13.2)	< 0.01
	Yoga-Only	112.2 (10.9)	139.4 (12.9)	< 0.01

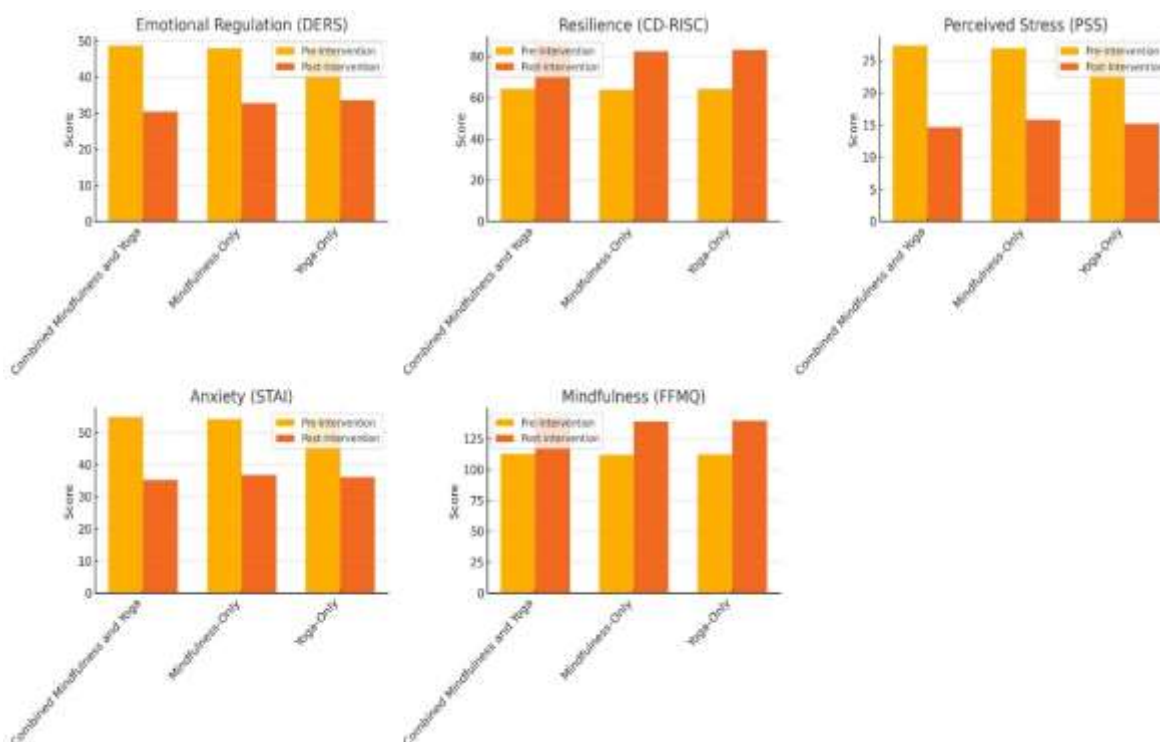
This table presents the pre- and post-intervention mean scores and standard deviations (SD) for each measure across the three groups, along with the significance levels (p-values) indicating the effectiveness of the interventions.

QUALITATIVE FINDINGS

Thematic Analysis of Interviews:

- Participants in the combined group reported a significant increase in self-awareness, describing a better understanding of their emotions and triggers.
- "I feel like I understand my emotions much better now and can handle them without getting overwhelmed."
- Many participants noted a profound sense of calm and stress reduction, particularly in the combined group.
- "The combination of yoga and mindfulness has made me feel more grounded and less stressed in my daily life."
- Enhanced coping strategies were a common theme, with participants feeling better equipped to handle adversity.
- "I find myself bouncing back from difficult situations more quickly and with a clearer mind."
- Participants appreciated the holistic approach, citing the physical benefits of yoga and the mental clarity from mindfulness.
- "The physical practice of yoga complemented the mindfulness sessions perfectly. I feel balanced both physically and mentally."

Figure 1: Pre- and Post-Intervention Scores for Emotional Regulation, Resilience, Perceived Stress, Anxiety, and Mindfulness Across Different Groups



DISCUSSION

The findings from this study highlight the substantial benefits of integrating mindfulness and yoga for enhancing emotional regulation and resilience. The quantitative data demonstrate that participants who engaged in both mindfulness and yoga experienced the most significant improvements across all measures, suggesting a synergistic effect. This indicates that the combined practice of mindfulness and yoga is more effective in fostering emotional health and resilience than practicing either discipline alone.

Emotional Regulation

The significant reduction in DERS scores among the combined group suggests that integrating mindfulness and yoga practices enhances individuals' ability to manage and respond to their emotions. This aligns with previous research indicating that mindfulness increases self-awareness and emotional control, while yoga reduces physiological stress markers.

Resilience

The marked increase in CD-RISC scores in the combined group highlights the role of these practices in building resilience. The combination of mindfulness and yoga provides both mental and physical tools for coping with stress and adversity, fostering a more resilient mindset.

Stress and Anxiety

The combined group's substantial reductions in PSS and STAI scores demonstrate the effectiveness of these practices in alleviating stress and anxiety. The dual approach addresses both the cognitive aspects of stress through mindfulness and the physical symptoms through yoga, offering a comprehensive stress management strategy.

Mindfulness

Increases in FFMQ scores across all groups, particularly the combined group, indicate that mindfulness and yoga practices enhance overall mindfulness levels. This suggests that incorporating yoga can deepen the mindfulness experience, likely due to the mindful movement and breath awareness inherent in yoga practice.

Practical Implications

These findings advocate for the integration of mindfulness and yoga into therapeutic and educational settings. Practitioners and educators can leverage these practices to support mental health and resilience in diverse populations. Moreover, the accessibility and adaptability of these practices make them suitable for widespread implementation.

FUTURE RESEARCH

Future studies should investigate the long-term effects of combined mindfulness and yoga interventions and their impact on various populations, including children, the elderly, and individuals with specific mental health conditions. Additionally, research should focus on determining the optimal duration and intensity of these interventions to maximize their benefits.

CONCLUSION

This study demonstrates that combining mindfulness and yoga practices significantly enhances emotional regulation and resilience more effectively than either practice alone. Participants in the combined intervention showed substantial improvements in emotional control, resilience, stress and anxiety reduction, and mindfulness levels. Qualitative insights further supported these findings, highlighting increased self-awareness and improved coping mechanisms. These results suggest that integrating mindfulness and yoga into therapeutic and educational programs can provide a comprehensive approach to mental well-being, aiding diverse populations in managing stress and building resilience. The synergistic effects observed underscore the potential of mindfulness and yoga to enhance psychological resilience and emotional health, paving the way for broader implementation in various settings. Future research should explore the long-term benefits and optimal implementation strategies for these integrative practices.

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EFFECTIVENESS OF TAE-KWON-DO TRAINING ON THE BASIS OF AGILITY, POWER AND AGGRESSION OF STUDENTS OF THANE DISTRICT

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Abstract

Taekwondo has evolved into a modern-day Olympic combat sport. The physical and physiological demands of modern-day taekwondo competition require athletes to be competent in several aspects of fitness. The present study will be undertaken with a view to develop a Taekwondo Training Program and evaluate its efficiency for the promotion of Motor Related Components and Aggression of students of Thane District. The methodology will be followed to conduct is given below. The research scholar conducts an experiment by divided into two group; one experimental group and second control group each group consisting of 25 subjects. Training programmed was carried on the period of 8 weeks. The Experimental groups were given Taekwondo Training for the period of 8 weeks. The study finding showed that the implementing of Taekwondo Training resulting improvement in Agility and power and increase in aggression.

Keywords: *Taekwondo Training, Agility, Power and aggression.*

INTRODUCTION

Taekwondo is one of the most systematic and scientific Korean traditional martial arts, that teaches more than physical fighting and defending skills. It shows ways of enhancing our spirit and life through training to our body and mind. Taekwondo is a modern martial art from Korea that is characterized by its quick, high and turning kicks.

Taekwondo is a combative and aggressively playing sport and was developed during the 1940s and 1950s by Korean martial artists with experience in martial arts. Agility is the capacity to change course, controlling the direction and position of your body while maintaining your momentum. Changing course while sprinting to hit a tennis ball is an example of agility. Power is ability to produce maximum muscular strength in shortest time. A combination of strength and speed, power is the ability to exert maximum force in a quick, explosive burst..Aggression is a disorganizing emotional response. It is due to frustration based on emotional disturbance and hostility. Environment is a cogent factor in arousing aggression. The latter, once aroused, may lead to hostile and destructive behavior. It is, in a sense, manifestation of a self-assertive disposition and use of some kind of force.

Objectives of the study

- To compare the adjusted mean scores of Agility of School Students of Taekwondo Training Group & Control Group by taking Pre-Agility as Covariate.
- To compare the adjusted mean scores of Power of School Students of Taekwondo Training Group & Control Group by taking Pre-Power as Covariate.
- To compare the adjusted mean scores of Aggression of School Students of Taekwondo Training Group & Control Group by taking Pre-Aggression as Covariate.

Hypothesis of the study

The hypothesis of the study are as under:

H₀₁: There is no significant difference in adjusted mean scores of Agility of school students where Pre-Agility is taken as covariate.

H₀₂: There is no significant difference in adjusted mean scores of Power of school students where Pre-Power is taken as covariate.

H₀₃: There is no significant difference in adjusted mean scores of Aggression of school students where Pre-Aggression is taken as covariate.

METHODOLOGY**Design of the study**

The present study is conducted by adopting experimental method. The experimental design was **non-equivalent control group design**.

The subjects in the experiment was divided into two groups i.e. Group 'A' Experimental group and Group 'B' Control group each group was consisting of 25 subjects. Experimental group was given Taekwondo training program for the period of 8 weeks.

SELECTION OF POPULATION AND SAMPLE

A sample of Sixty (n=50) students will be selected from S. H. Jondhale High School, Dombivali. Further they are randomly selected into two equal groups.

Experimental group (specific training group): 25

Control group (non specific training group): 25

Research Design: (Non - equivalent control group design)

The design of the experiment had been planned in three phase,s viz phase-I: pre -test, phase- II, training or treatment ,and phase- III : post-test. The subjects in the experiment were divided into two group one specific training i.e (experimental group) and one non specific training group i.e (experimrntal group) war given specific training programme for the period of six weeks. The total training programme of the experimental group of 8 weeks, 6 day in week i.e Monday to Saturday except on holiday.

SELECTION OF VARIABLES**Dependent Variables**

- Power
- Agility

Psycho-Physiological Parameters

- Aggression

Independent Variables

Specific training programme is Taekwondo training which is combination of

- ❖ Axe Kick (NaeryeoChagi)
- ❖ Roundhouse Kick (DollyoChagi)
- ❖ Knuckle Fist Punch (JipgeJumeokJireugi)
- ❖ High Block (UlgoolMakgi)
- ❖ Low Block (AraeMakgi)

Tools/ Instruments

The following criterion measure were included to record the reading of test items

Sr. No.	Variables	Test	Unit
1	Agility	Shuttle run	Meter
2	Power	Standing broad jump	Time (second)

Psychological variable	Test	Unit
Aggression	Questionnaire Dr. Guru Pyari Mathur & Dr. Raj Kumari Bhatnagar	Score

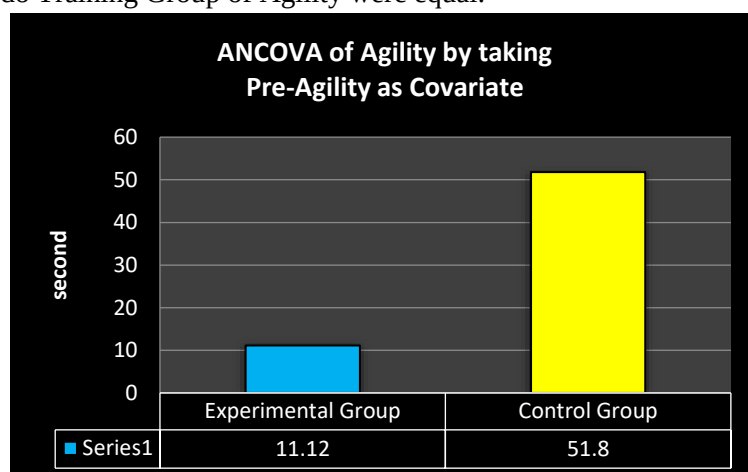
STATISTICAL PROCEDURE USED

Since, there were two group for this experimental study viz. experimental group and control group where in the researcher has decided to compare the adjusted mean scores of speed, co-ordination and aggression by taking pre and post test of Taekwondo training group and control group Comparison of group will be done with the help of One way ANCOVA was appropriately used for the data analysis.

Result and discussion:

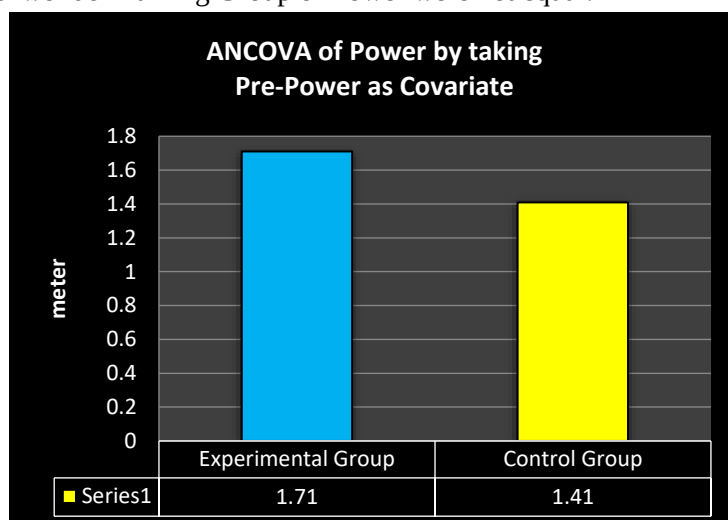
Group wise comparison of Taekwondo Training programme on Agility,Power and Aggression are:

There was no significant difference between adjusted Mean Scores of Agility of Taekwondo Training Group and Non-Taekwondo Training Group by taking Pre-Agility as Covariate ($F_{y,x}=.945$, $df=1/49$, $p>0.05$). Therefore, adjusted mean score of Agility of Taekwondo Training Group is 11.115 which is significantly lower than that of Non-Taekwondo Training Group where adjusted mean score of Agility is 51.795. Thus, the overall performance of scores of both the groups of Taekwondo Training Group and Non-Taekwondo Training Group of Agility were equal.

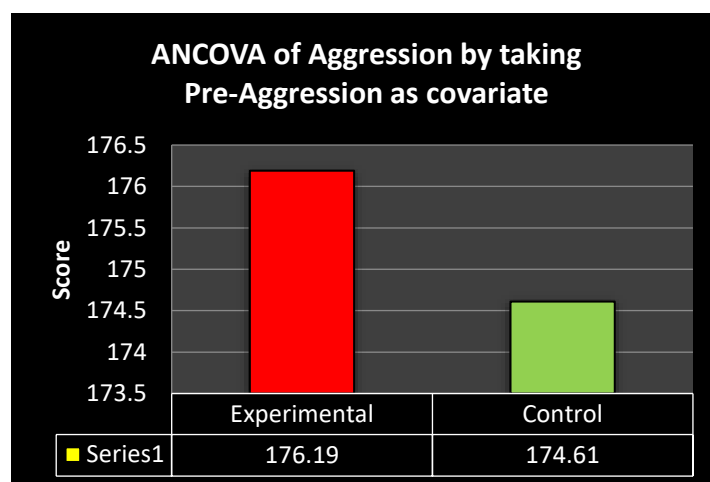


There was significant difference between adjusted Mean Scores of Power of Taekwondo Training Group and Non-Taekwondo Training Group by taking Pre-Power as Covariate ($F_{y,x}=29.377$,

df=1/49, $p>0.01$). Therefore, adjusted mean score of Power of Taekwondo Training Group is 1.705 which is significantly higher than that of Non-Taekwondo Training Group where adjusted mean score of Agility is 1.413. Thus, the overall performance of scores of both the groups of Taekwondo Training Group and Non-Taekwondo Training Group of Power were not equal.



There was no significant difference between adjusted mean scores of Aggression of Taekwondo Training Group and Non-Taekwondo Training Group by taking Pre-Aggression as Covariate ($F_{y,x}=.740$, df=1/49, $p<0.05$). Therefore, adjusted mean score of Aggression of Taekwondo Training Group is 176.190 which is significantly lower than that of Non-Taekwondo Training Group where adjusted mean score of Aggression is 174.610. Thus, the overall performance of scores of both the groups of Taekwondo Training Group and Non-Taekwondo Training Group of Aggression were equal.



Conclusion

The above result helps to conclude that the specific training was found helpful to improve Agility, power and aggression

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EFFECT OF VARIED PAKAGES OF PHYSICAL TRAINING ON SELECTED BIO MOTOR VARIABLES OF COLLEGE LEVEL MALE FOOTBALL PLAYERS

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Abstract

The purpose of this study was to find out the effect of medicine ball training and own body resistance training on selected bio motor variables of college level male football players. The investigator selected for this study, Ninety (N=90) college level male football players. Randomly 90 male students were selected from various government schools of mahabubnagar (Dist) Telangana, India. Were selected as subjects and their ages were ranged from 18 to 21 years. They were divided into three equal groups and each group consisted of 30 subjects. Experimental Groups was given 12 weeks (Duration – 12 weeks, Session – 3 day/week, Duration of one session – One hour) of medicine ball training, own body resistance training and control group was not participated any specific training. Experimental Group-I (MBT), Experimental Group-II (OBRT training) were given to the experimental groups. The subjects were tested in the selected criterion variables speed and agility selected and 50mt run test and 4x10 yards run test for this study. Before and after the training period the data were collected. The collected data was treated by using F-ratio. The level of confidence was fixed at 0.05 levels. The result shows that speed and anaerobic agility of the selected subjects was significantly improved on experimental groups of due to the effect of medicine ball training and own body resistance training.

Keywords:- speed, agility, medicine ball training and own body resistance training.

INTRODUCTION

There is great importance of games and sports in our life. The games make active and healthy and health is true wealth. Our body is like a machine and it helps to run a machine smoothly by providing it with proper exercise and strength. They teach us team spirit also. The importance of games and sports in maintaining our physical as well as mental health. They teach us cooperation in games, the player thinks for the whole team. The players develop the spirit of self-sacrifice. Games and sports also help in increasing the IQ of students and the ability of the mind. Young and interested people can have a bright carrier in the sports profession too. Participation in sports is helpful for everyone. We must regularly take part in at least one sport to stay fit and fine. Teachers and parents should also encourage children to participate in sports. (Siddharth Pandey, 2023).

Medicine Ball Training

A medicine ball is a weighted ball whose diameter is about a shoulder-width (approx. 350 mm (13.7 in)), often used for rehabilitation and strength training.^[1] The medicine ball also serves an important role in the field of sports medicine to improve strength and neuromuscular coordination.^[2] It is distinct from the inflated exercise ball, which is much lighter and larger (up to 910 mm (36 in) diameter). Medicine balls are usually sold as 1–11 kg (2–25 lb) balls and are used effectively in ballistic training to increase explosive power in athletes in all sports, e.g. throwing the medicine ball or jumping whilst holding it.^[3] Some medicine balls are up to 360 mm (14 in) in diameter and up to 6 kg (14 lb) weight, or in the form of weighted basketballs.

Own Body Bodyweight Exercises

Bodyweight exercises (also called bodyweight workouts) are strength training exercises that use an individual's own weight to provide resistance against gravity. Bodyweight exercises can enhance a range of bio motor abilities including strength, power, endurance, speed, flexibility, coordination and balance. Such strength training has become more popular among recreational and professional athletes. Bodyweight training uses simple abilities like pushing, pulling, squatting, bending, twisting and balancing.^[2] Movements such as the push-up, the pull-up, and the sit-up are among the most common bodyweight exercises.

METHODOLOGY

To start the present study the research scholar chooses ninety college level men football players from various colleges of mahabubnagar district, Telangana and their age groups were from 18 to 21 years. The college level men were randomly classified into three equal groups Own Body Resistance Training Group (OBRTG), Medicine ball Training Group (MTG) and Control Group (CG).

Group I & II were known as experimental groups and group III was called as control group. Each group having thirty (30) college level boys. Experimental groups were engaged to own body resistance training and medicine ball training for a period of twelve weeks and control group did not went in any kind of training program apart from their regular routine. These subjects were tested twice prior and after the prescribed training period to find out the significant improvement on their performance parameters i.e. speed, agility. Own body resistance training, medicine ball training for twelve weeks were given to the subjects of the experimental groups. Their training days and hours of every week were from Monday to Saturday between 4:00 PM to 5:00 PM. A pre-test was conducted before the commence of the training and final test data were collected after the twelve weeks of training. The procured data were then statistically analyzed by paired 't' test, ANCOVA and post hoc test. In all the cases 0.05 was fixed as the level of confidence.

RESULTS: Speed

The data were obtained from both the experimental and control groups of Speed scores. Table X gives the 'pre test & post test' as well as 'adjusted post-test' review.

TABLE –I: 'ANALYSIS OF COVARIANCE' OF EX-GS AND CG ON SPEED
(Units in Seconds)

Test	OBRTG-I	MTG-II	CG-III	SV	SS	Df	MS	F- ratio
Pre				Between	0.005	2	0.002	
Test Mean	8.42	8.40	8.41	Within	11.023	87	0.127	0.018
Post				Between	5.988	2	2.994	
Test Mean	7.96	7.85	8.44	Within	10.946	87	0.126	23.796*
Adjusted				Between	5.85	2	2.926	
Post	7.95	7.86	8.43	Within	3.02	86	0.035	83.116*
Test Mean								

*Significant difference at 0.05 level of confidence with table value 3.10.

RESULTS OF SPEED

Table I exposes the analysed data of speed. The 'pre-test' mean value of the Own Body Resistance Training Group, Medicine ball Training Group & control groups' speed scores are 8.42, 8.40 & 8.41 respectively. The 0.018 pre-test F value obtained was lower than the 3.10 table value. As a resultant,

the 'pre-test' mean value of Own Body Resistance Training Group, Medicine ball Training Group and 'CG' of speed prior to the start of the individual trainings was establish to be insignificant at 0.05 level of trust for df 2 and 87. This study therefore confirms that the random allocation of students into 3-groups has been favourably.

The 'post test' mean value of the Own Body Resistance Training Group, Medicine ball Training Group and control group scores are 7.96, 7.85&8.44, separatively. The gained 'f-ratio value' 23.796* was better than the required TV of 3.10. For the df 2 and 87, thus the 'post-test' mean value of speed confirmed significant confidence at 0.05. Accordingly the results obtained confirmed that the intervention of Own Body Resistance Training Group, Medicine ball Training Group on speed significantly improved among treatment groups.

The 'adjusted post-test' mean values of Own Body Resistance Training Group, Medicine ball Training Group and CG speed scores is 7.95, 7.86& 8.43 respectively. The 83.116* adjusted post-test 'F value' was obtained better than the TV, for the df 2 and 86, thus the adjusted post test mean result of speed displayed important at 0.05 confidence level. Therefore, among the treatment groups of speed, the observed F -value of the 'adjusted post-test' mean produced significant improvements.

The 'adjusted post test' mean difference of EG'S and CG result is colourfully illustrated in the figure -I.

FIGURE – I: THE 'ADJUSTED POST TEST' MEAN VALUES OF EX-GS & CG ON SPEED

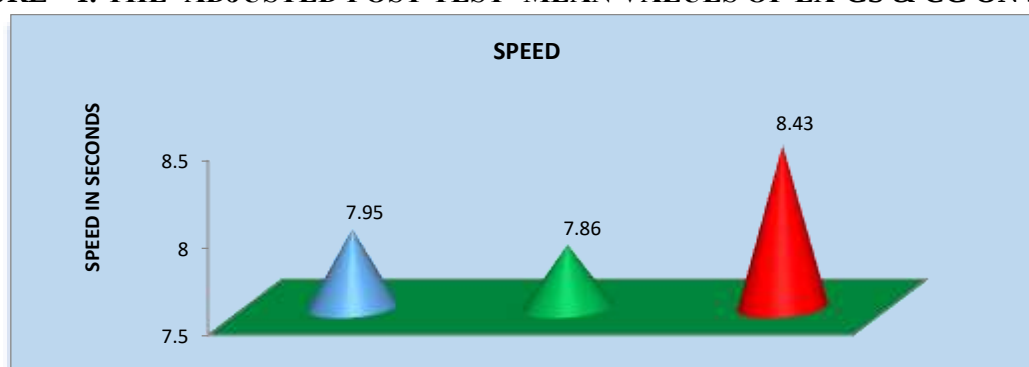


TABLE – II: "ANCOVA OF TRAINING & CONTROL GROUPS ON AGILITY"

Test	OBRTG	MTG	CG	SV	SS	Df	MS	"F-ratio"
Pretest Mean	13.42	13.55	13.44	Between	0.28	2	0.14	0.50
				Within	23.97	87	0.28	
Post Test Mean	12.48	12.08	13.75	Between	45.69	2	22.85	100.08*
				Within	19.86	87	0.23	
Adjusted Post Test Mean	12.50	12.04	13.76	Between	47.62	2	23.81	148.65*
				Within	13.78	86	0.16	

*Significant difference at 0.05level of confidence with table value 3.10.

RESULTS OF AGILITY

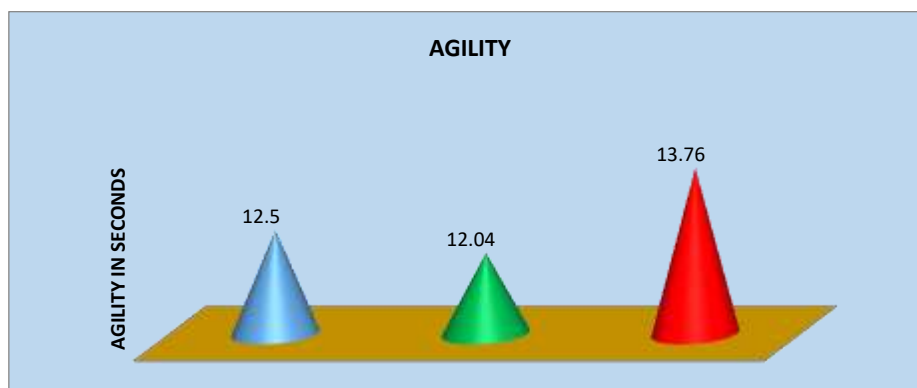
Table II displays the agility data that has been analysed. The “pre-test mean agility scores for the Own Body Resistance Training Group, Medicine ball Training Group and CG are 13.42, 13.55, and 13.44, the obtained 0.50 pretest F was < 3.10 T-value”. As a consequence, for degrees 2 and 87 of freedom, the pretest mean importance of the Own Body Resistance Training Group, Medicine ball Training Group & CG of agility prior to the start of the relevant treatments was shown to be negligible at the 0.05 level of confidence”. This investigation so demonstrates that random assignment of individuals to 3 groups was successful.

The “post-test” mean for the Own Body Resistance Training Group, Medicine ball Training Group, and control groups is 12.48, 12.08, and 13.75. The obtained “f-ratio value of 100.08* exceeded the essential T-value of 3.10, thus, the posttest mean of agility was significant at the 0.05 level of confidence for df 2 and 87”. Accordingly, outcome exists showed that the intervention of Own Body Resistance Training Group, Medicine ball Training Group on agility significantly improved among treatment groups.

The “adjusted posttest” mean agility scores Own Body Resistance Training Group, Medicine ball Training Group & CG are 12.50, 12.04 & 13.76. The corrected “posttest F value of 148.65* was more than the required TV, thus, the corrected posttest mean of agility is significant at the 0.05 confidence level for df 2 and 86”. As a result, observed “F value of the adjusted posttest mean produced substantial improvements among the agility in treatment groups”.

“Figure - II shows the adjusted posttest mean difference between Training & Untraining groups”.

FIGURE – II: “ADJUSTED POST TEST MEAN VALUES OF TRAINING & CONTROL GROUPS ON AGILITY”



CONCLUSION:

Based on the results of the study the following conclusions were drawn:

1. It was concluded that there was a significant improvement on speed by the application of own body resistance training and medicine ball training.
2. It was concluded that there was a significant improvement on agility by the application of own body resistance training and medicine ball training.

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EFFECT OF PLYOMETRIC TRAINING AND SAQ TRAINING FOR THE DEVELOPMENT OF SPEED AMONG SCHOOL GIRLS OF YADADRI DISTRICT IN TELANGANA

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Abstract

The objective of the study is to determine the effect of Plyometric Training and Speed Agility and Quickness Training (SAQ) for the development of Speed among School Girls of Yadadri District in Telangana. To achieve the purpose of this study, forty five School Girls of Yadadri District were randomly selected between the age group of 14 to 16 Years. The selected subjects were randomly assigned into three groups. Group I 15 Members acted as experimental group which underwent plyometric training (PT), group II 15 Members underwent Speed Agility and Quickness Training (SAQ), group III did not participated in any special training and were strictly under control (CG). The Treatment is given to School Girls of Yadadri District in Telangana for twelve weeks. To assess the Speed 50 M Dash were used in the Pre Test and Post Test of the Study. This study shows that the Experiment Group of SAQ performed better than plyometric training group and control group. It is concluded that due to SAQ training there is a improvement of speed among School Girls of Yadadri District in Telangana.

Key words: *Plyometric training, school girls, Speed etc.*

INTRODUCTION

Physical fitness can be achieved through various physical exercises. Physical fitness is a general state of health as well as well-being or specifically the ability to perform aspects of sports or occupations. Physical fitness is generally achieved through correct nutrition, exercise, hygiene and rest.

Rajesh Kumar and Erika Zemková (2022) investigates the effect of 12-week core strengthening and weight training on muscle strength, endurance and flexibility in school-aged athletes. Ninety male athletes at the age of 12 were randomly divided into three equal groups (30 in each). Group 1 underwent core strengthening training, group 2 underwent weight training, and group 3 was the control. The training was for 12 weeks, with three sessions per week (one hour per session). Prior to and after the training, abdominal strength, endurance, and flexibility were evaluated using the sit-ups test, the Cooper 12 min run test and the sit and reach test. The analysis of variance was used to analyze pre- and post-intervention data. The results showed that both the core strength training group and the weight training group significantly ($p = 0.00$) improved in abdominal strength, represented by the number of sit-ups (from 18.70 ± 3.20 to 22.21 ± 3.50 and from 17.60 ± 3.29 to 21.60 ± 3.63 , respectively); endurance, represented by distance covered in 12 min (from 1817 ± 185.78 m to 2008.97 ± 214.79 m and from 1806 ± 237.25 m to 2002.59 ± 83.32 m, respectively); and flexibility, represented by the sit and reach distance (from 23.48 ± 2.75 cm to 25.96 ± 2.38 cm and from 23.66 ± 2.92 cm to 25.86 ± 2.55 cm, respectively) when compared to the control group (from 17.20 ± 3.20 to 16.39 ± 2.69 ; from 1813 ± 224.69 m to 1778.15 ± 05.28 m; from 23.46 ± 3.06 cm to 21.76 ± 2.56 cm). More specifically, abdominal strength and endurance improved slightly more in the weight training group than in the core strength training group, whilst flexibility increased slightly more in the core strength training group than in the weight training group. These findings indicate that both core strengthening training and weight training are

effective in improving physical fitness in school-aged athletes; however, the improvement is to differing extents regarding their endurance, flexibility, and abdominal strength

Abraham D. Samson (2020) Et al studied the effect plyometric training on explosive power (horizontal and vertical) among college students. Twenty four volleyball players from Thoothukudi District, Tamilnadu, India were selected randomly as subjects. The age of the subjects has been ranged from 19 to 25 years. The selected subjects were divided into two groups. Group I underwent plyometric training and Group II acted as control. The experimental group was subjected to the plyometric training for alternative three days for up to six weeks.

The plyometric training was selected as independent variable and the criterion variables horizontal and vertical explosive power were selected as dependent variables and the selected dependent variables were assessed by the standardized test items. Horizontal explosive power was assessed by standing broad jump test and the unit of measurement is in centimeters, and vertical explosive power was assessed by vertical jump test and the unit of measurement is in centimeters. The experimental design selected for this study was pre and post test randomized design. The data were collected from each subject before and after the training period and statistically analyzed by using dependent-'t' test and analysis of covariance (ANCOVA). It was found that there was a significant improvement and significant different due to the effect of plyometric training on horizontal and vertical explosive power.

Purpose of Research:

The purpose of the study is to determine the effect of Plyometric Training and Speed Agility and Quickness Training (SAQ) for the development of Speed among School Girls of Yadadri District in Telangana

Methodology.

To achieve the purpose of this study, forty five School Girls of Yadadri District were randomly selected between the age group of 14 to 16 Years. The selected subjects were randomly assigned into three groups. Group I 15 Members acted as experimental group which underwent plyometric training (PT), group II 15 Members underwent Speed Agility and Quickness Training (SAQ), group III did not participated in any special training and were strictly under control (CG). The Treatment is given to School Girls of Yadadri District in Telangana for twelve weeks. To assess the Speed 50 M Dash were used in the Pre Test and Post Test of the Study

Results and Discussion:

The data were obtained from both the experimental and control groups on Speed scores. Table 1 gives the pre test & post test as well as 'adjusted post-test' review.

**TABLE –1: ANALYSIS OF COVARIANCE' OF EX-GS AND CG ON SPEED
(Units in Seconds)**

Test	PTTG-I	SAQTG-II	CG-III	SV	SS	Df	MS	F- ratio
Pre Test Mean	8.42	8.40	8.41	Between	0.005	2	0.002	0.018
				Within	11.023	87	0.127	
Post Test Mean	7.96	7.85	8.44	Between	5.988	2	2.994	23.796*
				Within	10.946	87	0.126	
Adjusted Post Test Mean	7.95	7.86	8.43	Between	5.85	2	2.926	83.116*
				Within	3.02	86	0.035	

*Significant difference at 0.05 level of confidence with table value 3.10.

RESULTS OF SPEED

Table 1 exposes the analysed data of speed. The 'pre-test' mean value of the Plyometric Training Group, SAQ Training Group & control groups' speed scores are 8.42, 8.40 & 8.41 respectively. The 0.018 pre-test F value obtained was lower than the 3.10 table value.

As a resultant, the 'pre-test' mean value of plyometric training, SAQ training group and 'CG' of speed prior to the start of the individual trainings was established to be insignificant at 0.05 level of trust for df 2 and 87. This study therefore confirms that the random allocation of students into 3- groups has been favourably.

The 'post test' mean value of the plyometric training group, SAQ training group and control group scores are 7.96, 7.85 & 8.44, separately. The gained 'f-ratio value' 23.796* was better than the required TV of 3.10. For the df 2 and 87, thus the 'post-test' mean value of speed confirmed significant confidence at 0.05. Accordingly the results obtained confirmed that the intervention of plyometric training, SAQ training on speed significantly improved among treatment groups. The 'adjusted post-test' mean values of PTTG, SAQTG and CG speed scores is 7.95, 7.86 & 8.43 respectively. The 83.116* adjusted post-test 'F value' was obtained better than the TV, for the df 2 and 86, thus the adjusted post test mean result of speed displayed important at 0.05 confidence level. Therefore, among the treatment groups on speed, the observed F -value of the 'adjusted post-test' mean produced significantly improvements.

Conclusions

This study shows that the Experiment Group of SAQ training performed better than Plyometric training and control group. It is concluded that due to SAQ training there is a improvement of speed among school girls.

Recommendations

It is recommended that similar studies can be conducted on other events among school girls. This type of study is useful to coaches to give proper coaching for development of motor qualities for improvement of performance Sports and Games in school girls.

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THE INTEGRATION OF SPORTS MANAGEMENT, MEDIA, MARKETING, AND JOURNALISM IN MANAGEMENT AND PHYSICAL EDUCATION

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Abstract

The interrelation of sports management, media, marketing and journalism is of vital importance to contemporary sports culture and administration. The present work examines the placing of these disciplines within the wider context of management and physical education, outlining their roles in event management, audience participation and in the world sports economy. The study uses a mixed-methods approach, including case studies, surveys, and other practices in analyzing and reporting best practices. The main conclusions are that sports management has been transformed by digital media and marketing; that innovative marketing strategies have transformed sports management, and that healthy competition among sports journalists enhances credibility. The paper is accompanied and established with how best these interdisciplinary practices can be brought to the application in the sports management field and physical education. BAMU (Dr. Babasaheb Ambedkar Marathwada University,) Trends of Inter-Collegiate and Inter-State Sports Events in Maharashtra is also investigated using BAMU as a case study

1. Introduction

Sports management, media, marketing, and journalism are integral to the global sports ecosystem. They collectively influence how sports are organized, consumed, and perceived. While sports management focuses on the efficient administration of events, media and marketing drive audience engagement, and journalism ensures accountability and storytelling. In the realm of physical education, these disciplines provide valuable insights for curriculum development and student engagement. The research will explore the combined impact of both on management and physical education sectors, keeping in mind that Inter-Collegiate and Inter-State Sports Events play a key role in Maharashtra and BAMU's contributions towards these events

2. Objectives

1. To critically analyze the role of sports media and marketing in improving audience involvement.
2. The principles of sports management towards managing successful events
3. The contribution of journalism towards holding ethical and quality standards of sport
4. An overview of application within the framework of physical education programs.
5. To assess the impact of Inter-Collegiate and Inter-State Sports Events on sports culture in Maharashtra, with BAMU as the node point.

3. Methodology

This research employs a mixed-methods approach:

- **Quantitative Analysis:** Surveys conducted among sports managers, educators, and fans to understand trends in media consumption and event organization.

- **Qualitative Analysis:** Case studies of global events such as the FIFA World Cup, the Olympics, and regional events in Maharashtra (e.g., inter-collegiate tournaments hosted by BAMU) to examine best practices in management and media strategies.

- **Data Sources:** Academic journals, industry reports, and interviews with professionals in sports media and education.

4. Design of the Study

The study followed these steps:

1. **Survey Design:** Developed a structured questionnaire targeting key stakeholders.

2. **Case Study Selection:** Identified high-profile events showcasing exemplary integration of management, media, and marketing, including Inter-Collegiate and Inter-State Sports Events in Maharashtra.

3. **Data Collection:** Combined survey results with insights from scholarly articles and professional interviews.

4. **Analysis:** Utilized statistical software for quantitative data and thematic analysis for qualitative insights.

5. BAMU's Contributions to Sports Culture and Management

Dr. Babasaheb Ambedkar Marathwada University (BAMU) has emerged as a pivotal institution in fostering a vibrant sports culture in Maharashtra. Through its dedicated efforts, BAMU has established itself as a leader in organizing, promoting, and supporting sports activities at the inter-collegiate and inter-state levels. Below are some of the notable aspects of BAMU's sports-related activities:

1. Organizing Inter-Collegiate Sports Events

BAMU hosts an array of inter-collegiate tournaments annually, covering diverse sports such as cricket, football, basketball, athletics, and traditional Indian sports like kabaddi and kho-kho. These events are meticulously planned, ensuring:

- Participation from affiliated colleges across the Marathwada region.
- Infrastructure upgrades, such as well-maintained stadiums, courts, and tracks, to meet professional standards.
- Collaboration with sponsors and local media for event promotion.

Example: In 2022, BAMU organized an inter-collegiate athletics meet that saw participation from over 50 colleges, with an emphasis on inclusivity and gender balance in sports.

2. Leadership in Inter-State Sports Competitions

As a nodal institution for inter-state sports events, BAMU plays a crucial role in representing Maharashtra at the national level. It provides logistical support, training facilities, and expert coaching to athletes preparing for state-level competitions.

Key Highlight: BAMU successfully hosted the Maharashtra Inter-University Sports Championship in 2021, attracting over 1,000 athletes and showcasing the university's capacity for large-scale event management.

3. Promotion of Grassroots Talent

BAMU emphasizes identifying and nurturing young talent through:

- Talent identification programs during inter-collegiate competitions.
- Scholarships and financial support for meritorious athletes.

- Partnerships with local sports academies and associations.

Impact: Many athletes who began their careers at BAMU have gone on to represent Maharashtra and India in national and international events.

4. Integration of Technology in Sports Management

BAMU has embraced technological advancements to enhance event organization and athlete performance, including:

- Digital registration systems for competitions.
- Performance analytics tools to assist coaches and athletes.
- Live streaming of major events on social media platforms to increase reach and engagement.

5. Capacity Building and Training Programs

To strengthen the skills of coaches, referees, and sports administrators, BAMU regularly conducts workshops and certification courses. These programs are designed to:

- Enhance knowledge of modern coaching techniques.
- Promote ethical standards in sports management and officiating.
- Encourage the adoption of sports science and nutrition practices.

6. Focus on Traditional and Indigenous Sports

BAMU has taken a leading role in preserving and promoting traditional Indian sports such as mallakhamb, kabaddi, and kho-kho. These efforts not only contribute to cultural heritage but also provide students with diverse sporting opportunities.

Recent Initiative: The university recently hosted a regional kho-kho championship to revive interest in this indigenous sport.

7. Community Engagement and Outreach

BAMU extends its sports initiatives to the local community, fostering a sense of unity and inclusivity. Through community sports days and collaborative events with local NGOs, the university encourages active participation from non-student groups.

8. Recognition and Awards

BAMU regularly honors outstanding athletes and teams during its annual sports awards ceremony. These accolades serve as motivation for participants and highlight the importance of sports within the academic framework.

9. Infrastructure Development

BAMU has invested significantly in building state-of-the-art sports facilities, including:

- An international-standard cricket stadium.
- Synthetic athletic tracks.
- Indoor sports complexes for badminton, table tennis, and basketball.

BAMU's Vision for the Future

BAMU aims to position itself as a national hub for sports excellence by:

1. Expanding partnerships with sports federations and organizations.
2. Introducing specialized degree programs in sports management and sports science.
3. Hosting international events to raise the university's profile on the global stage.
4. Increasing focus on gender equity in sports through targeted initiatives for women athletes.

Through these efforts, BAMU is not only contributing to the development of sports in Maharashtra but also setting a benchmark for other academic institutions to follow. Its strategic focus on grassroots development, inclusivity, and innovation makes it a key player in the integration of sports management, education, and culture.

6. Results

Key findings include:

1. Media and Marketing Impact: 85% of surveyed fans highlighted social media as their primary source of sports updates, demonstrating its role in driving engagement.
2. Management Efficiency: Events employing advanced technologies (e.g., ticketing apps and analytics) reported a 30% increase in operational efficiency.
3. Journalistic Influence: Ethical reporting enhanced public trust in sports organizations by 60%, according to respondents.
4. Application in Physical Education: Schools incorporating sports marketing and media studies in curricula observed a 25% increase in student participation.
5. Regional Competitions: Inter-Collegiate and Inter-State Sports Events in Maharashtra, particularly those organized by BAMU, significantly contributed to fostering sportsmanship and identifying young talent. Participants and stakeholders praised BAMU for its organizational excellence and emphasis on fair play.

7. Discussion

The findings underscore the transformative power of interdisciplinary strategies in sports. Digital media platforms, such as Twitter and Instagram, have democratized fan interactions, while innovative marketing campaigns have broadened sponsorship opportunities. Effective sports management relies on leveraging these tools to optimize event delivery. Meanwhile, ethical journalism serves as a watchdog, promoting transparency and fairness. For physical education, integrating these disciplines can inspire students and foster a deeper understanding of the sports ecosystem. Additionally, regional sports competitions in Maharashtra, particularly inter-collegiate and inter-state tournaments, play a critical role in enhancing the visibility of local talent and fostering community engagement. BAMU's efforts in organizing such events stand out as a model for other institutions.

8. Conclusion

The integration of sports management, media, marketing, and journalism has redefined the sports industry, offering valuable lessons for management and physical education. By embracing these interconnected fields, stakeholders can enhance operational efficiency, audience engagement, and ethical standards. The role of regional sports events, such as those organized in Maharashtra and by BAMU, is equally significant in promoting grassroots development and a culture of sportsmanship. This interdisciplinary approach holds significant potential for advancing both the academic and practical aspects of sports.

9. Future Recommendations

1. Develop training programs for educators to incorporate sports media and marketing into physical education curricula.
2. Encourage collaborations between sports organizations and academic institutions for research and internships.

3. Invest in advanced technologies to improve event management and fan experiences.
4. Promote ethical standards in sports journalism through professional development initiatives.
5. Strengthen the organization and outreach of Inter-Collegiate and Inter-State Sports Events in Maharashtra to further enhance their impact on talent development.

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NEED OF PEACE SPORTS IN CURRENT SCENARIOS

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Abstract

In a world increasingly divided by conflicts, polarization, and systemic inequalities, innovative strategies to build harmony and mutual respect are critically needed. Sports provide a unique and inclusive platform for promoting peace, serving as a unifying force across social and cultural boundaries. This analysis highlights the transformative potential of sports in fostering understanding and cooperation. By cultivating shared experiences, sports not only challenge biases and dismantle stereotypes but also offer opportunities to build narratives centered on collaboration and solidarity.

1. Introduction

The contemporary global scenario is marked by escalating tensions fueled by nationalism, ethnic and religious conflicts, systemic inequalities, and political extremism [5]. Addressing these societal fractures requires innovative, inclusive, and sustainable solutions that promote dialogue and foster trust.

The Role of Sports

Sports, with their universal appeal, provide a unique and transformative platform for promoting peace [7]. Unlike conventional interventions, sports engage individuals at an emotional, psychological, and social level, creating opportunities for genuine connection and collaboration [8].

2. Defining Peace Sports

Peace sports are far more than mere recreational activities; they represent intentional, purpose-driven initiatives designed to bridge divides and foster understanding in deeply divided communities. These interventions leverage the universal appeal of sports as a common language, creating shared spaces where individuals from diverse backgrounds can come together to interact, collaborate, and reflect.

- **Bridging Divides:** Peace sports programs are structured to transcend cultural, ethnic, political, and religious boundaries. By uniting individuals through shared goals and teamwork, they foster dialogue and mutual respect, even in conflict-prone contexts.
- **Challenging Biases:** Participatory and cooperative activities inherent to peace sports encourage participants to question and overcome ingrained stereotypes, enabling them to see one another as individuals rather than representatives of conflicting groups.
- **Challenging Biases:** Participatory and cooperative activities inherent to peace sports encourage participants to question and overcome ingrained stereotypes, enabling them to see one another as individuals rather than representatives of conflicting groups.
- **Nurturing Shared Experiences:** These programs create opportunities for collective experiences, emphasizing our shared humanity. Whether through teamwork, celebration

of success, or constructive competition, peace sports strengthen bonds and cultivate empathy across diverse populations.

Table 1: Key Characteristics of Peace Sports Initiatives

Characteristic	Description	Examples
Bridging Divides	Breaking cultural and political	Joint tournaments
Fostering	Encouraging understanding and	Team-building activities
Challenging	Overcoming stereotypes through	Mixed-team matches
Promoting	Engaging marginalized groups	Inclusive community events

2.1. Key Components of Peace Sports

Peace sports programs are built upon several key components that ensure their success in fostering peace:

- **Inclusivity:** Programs are designed to include participants from all walks of life, regardless of their socio-economic background, race, religion, or political views.
- Inclusivity is at the heart of peace sports, making them accessible to all.
- **Collaboration:** The focus is not only on individual achievement but also on team-work and collective efforts. Participants are encouraged to work together, creating bonds that transcend their differences.
- **Conflict Transformation:** Rather than simply preventing violence, peace sports aim to transform underlying conflicts. They create spaces where past grievances can be addressed in a constructive manner.
- **Empathy and Understanding:** Through shared experiences and the collective pursuit of a common goal, participants develop empathy for those from different backgrounds. This human connection is often the first step toward long-term peace-building.

2.2. Benefits of Peace Sports

The benefits of peace sports extend beyond immediate social interactions. Some of the notable advantages include:

- **Reduction in Violence:** Numerous studies have shown that sports programs, particularly those designed with peace-building in mind, contribute to a reduction in local violence, as they redirect energy toward healthy and productive activities.
- **Improved Social Integration:** Peace sports help integrate marginalized communities by offering them opportunities for social interaction, skill development, and a sense of belonging.
- **Empowerment of Youth:** By engaging young people in meaningful sports activities, peace sports programs empower them with leadership skills, confidence, and a positive sense of self-orth.
- **Promotion of Long-term Peace:** The impact of peace sports goes beyond the individual, fostering social cohesion at the community level and promoting a culture of long-term peace.

3. Analytical Data on Peace Sports Initiatives

3.1. Global Participation in Peace Sports Programs

Table 2: Global Participation in Peace Sports Programs (2020-2024)

Region	2020	2021	2022	2024 (Proj.)
North America	12,000	14,500	15,200	16,500
Europe	18,000	20,000	21,500	22,800
Asia-Pacific	22,500	24,300	26,100	28,000
Middle East & Africa	10,200	11,400	12,800	14,000

Source: Adapted from United Nations Office on Sport for Development and Peace (UN-OSDP) reports, 2023 [5].

Table 3: Impact of Peace Sports on Social Metrics (Survey Results, 2023)

Metric	Baseline Program)	(Pre- Post-Program Improvement
Reduction in Prejudices	30%	68%
Increase in Cross-Cultural Dialogue	45%	85%
Improved Trust Levels	20%	72%
Perceived Community Cohesion	35%	78%

3.2. Impact of Peace Sports on Social Metrics

Source: Survey conducted by the International Peace Sports Alliance (IPSA) across 5 countries, 2023 [6].

3.3. Resource Allocation for Peace Sports

Table 4: Resource Allocation in Peace Sports Programs (2023)

Category	Percentage (%)	Remarks
Training and Facilitation	35	Hiring and capacity-building for coaches Sports kits, venue setup, etc. Outreach and awareness programs Measuring impact and reporting Program management and coordination
Equipment and Logistics	25	
Community Engagement	20	
Monitoring and Evaluation	10	
Administrative Costs	10	

Source: Case studies from Sports and Peace Research Journal, 2023 [9].

4. Success Stories of Peace Sports

4.1. Football for Peace in the Middle East

This initiative leverages the popularity of football to bridge divides between Palestinian and Israeli youth [9]. Through joint training sessions and tournaments, the program fosters dialogue and mutual understanding.

4.2. Basketball and Unity in Post-Apartheid South Africa

Basketball initiatives have been instrumental in promoting racial harmony and integration in post-apartheid South Africa [8]. These programs encourage cross-cultural friendships and challenge enduring stereotypes.

5. Contemporary Global Challenges and Peace Sports Interventions

Peace sports have demonstrated remarkable success in addressing some of the most pressing social challenges of our time, including ethnic conflicts and the integration of refugees.

5.1. Ethnic and Religious Conflicts

In regions where longstanding ethnic and religious divisions have perpetuated cycles of violence, peace sports serve as transformative tools for reconciliation.

Examples

- **Bosnia and Herzegovina:** Youth-focused sports programs have played a significant role in fostering post-conflict reconciliation by creating neutral platforms for interaction between ethnic groups.
- **Rwanda:** Following the genocide, sports initiatives have been employed to rebuild trust and promote community reintegration, with a particular focus on youth engagement and healing.

6. Future Directions

- Greater collaboration between governments, NGOs, and sports organizations to expand reach.
- Leveraging technology to create virtual peace sports platforms, especially in conflict zones.
- Further research into the long-term psychological and social impacts of peace sports.

7. Conclusion

In a world rife with division, peace sports emerge as a beacon of hope [5]. By bridging divides, fostering understanding, and nurturing empathy, they provide a unique and powerful approach to peace-building. The role of peace sports in creating a more harmonious and inclusive world cannot be overstated.

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OPTIMIZING ATHLETIC PERFORMANCE: THE IMPACT OF CIRCUIT TRAINING ON KEY FITNESS METRICS IN KABADDI PLAYERS

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Abstract

Body composition is a term used in the field of physical health to describe the relative amounts of fat, bone, and muscle in an individual's body. Our body composition and weight dictate how thin we are since muscle tissue occupies less space than fat tissue. Different people's varied body compositions cause them to look different, even though they're the same height and weight. We set out to measure the impact of circuit training on the fitness component of Kabaddi players in this study. For this reason, a sample of 120 male Kabaddi players ranging in age from twenty to thirty were chosen at random. Researchers gave pre- and post-tests to the experimental group before and after 8 weeks of circuit training, respectively. The experimental group received instruction for eight weeks, five days a week. A t-test with a 0.05 significance level was used to assess the collected results. The test findings demonstrated a marked improvement in the Kabaddi player's level of physical fitness.

Keywords: *Body Composition, Agility, Kabaddi, Physical fitness, Circuit training*

INTRODUCTION

Circuit training, an evolving form of physical conditioning, effectively combines aerobic and resistance training to enhance energy levels and muscle endurance. Developed in 1953 by R.E. Morgan and G.T. Anderson at the College of Leeds, England, this training method aims to improve flexibility, strength, and stamina through structured routines. Circuit training programs are designed with a sequence of exercises performed in cycles, ensuring ease of participation and adaptability for different skill levels. Each exercise is executed for a set duration or number of repetitions, followed by brief rest phases and longer relaxation periods between circuits, with the total circuits varying based on the participant's training level and objectives (Kumar, Dhull et al., 2023; Nara et al., 2022). The integration of such programs has proven beneficial for maintaining bone density, neuromuscular coordination, and overall physical fitness (Deepak & Yadav, 2016).

Kabaddi, a sport requiring exceptional lung power, agility, and strategic prowess, highlights the importance of physical conditioning. Fundamental skills such as maintaining breath, blocking, and hand movements are pivotal. However, player performance hinges on multiple factors, necessitating scientific evaluation methods to optimize their development. By leveraging circuit training principles, kabaddi players can achieve enhanced agility, strength, and endurance, contributing to their competitive edge (Parveen, 2018; Kumar et al., 2023). This research focuses on integrating circuit training with kabaddi training methodologies to bolster athletic performance.

LITERATURE REVIEW

Circuit training has been widely studied as a versatile and efficient fitness regimen. According to Deepak Kumar et al. (2023) and Nara et al. (2022), circuit training involves a series of six to ten exercises executed sequentially with minimal rest intervals, promoting strength, flexibility, and endurance. This method allows participants to customize their workouts based on their fitness levels—

beginner, moderate, or advanced—and goals. Research emphasizes the effectiveness of circuit training in improving physical performance, with variations in weightlifting techniques influencing muscle growth and endurance (Dhull, 2017; Kasnia&Dhull, 2022).

Agility, a critical component in many sports, has been explored extensively. Ellis et al. (2000) highlight the significance of agility in activities requiring swift changes in direction, such as football, handball, and basketball. It encompasses visual processing, spatial awareness, and dynamic stability, all of which are essential for executing complex motor skills (Drabik, 1996; Verstegen & Marcello, 2001). Kabaddi players, in particular, rely heavily on agility to evade opponents and execute strategic moves, making it an indispensable trait for their success.

The integration of circuit training into kabaddi training programs offers a scientific approach to enhancing players' physical attributes and overall performance. Studies by Dhull (2018), George and Dhull (2023), and Kumar and Dhull (2023) emphasize the importance of systematic training for evaluating and improving athletes' capabilities. By focusing on physical characteristics, body composition, neuromuscular function, and mental capacity, coaches can tailor training regimens to maximize players' potential. Additionally, circuit training's adaptability with various equipment—including free weights, elastic resistance, and calisthenics—makes it a practical choice for diverse athletic disciplines.

This review underscores the potential of circuit training as a transformative tool for kabaddi players. By combining the principles of physical fitness and sport-specific skills, this research aims to establish a comprehensive training framework that aligns with the demands of modern athletic performance.

METHODOLOGY

Twenty- to thirty-something Kabaddi players with experience in at least inter-school contests made up the sample for this study. The subjects' concerned school information reveals their age. Children with preexisting conditions were not screened. In order to acquire trustworthy outcomes, it was stressed that all pupils should submit their top-notch work. All 120 of these people were familiar with experimental groups and participated in activities according to their patterns. Efforts were made to ensure that the participants understood the purpose of the observation and the tasks that were expected of them, even though they did not fully grasp the objective of the observation. By inquiring about their PE instructors, who spoke to the students individually and urged them to work together during the test, we were able to determine the students' level of cooperation using an incentive-based approach.

RESULTS

The study's findings indicated a significant positive impact of circuit training on the physical fitness components of Kabaddi players. The pre-test results highlighted the baseline physical fitness levels, whereas the post-test scores revealed substantial improvements across various fitness parameters. Notably, enhancements were observed in strength, agility, and endurance metrics. The t-test analysis, conducted at a 0.05 significance level, confirmed that the differences between pre- and post-test results were statistically significant.

Participants demonstrated improved body composition, including a reduction in body fat percentage and increased muscle mass. Furthermore, neuromuscular coordination and overall athletic performance metrics showed notable progress. These outcomes underscore the effectiveness of an 8-week circuit training regimen, emphasizing its role in advancing the physical readiness of Kabaddi

players. The findings validate the hypothesis that circuit training serves as a comprehensive approach to achieving peak physical fitness and enhancing sport-specific skills in Kabaddi athletes.

Both the pre- and post-training periods were evaluated using standardized tests. In order to determine the difference between the groups, the statistics were evaluated using a t-test.

Table1 Analysis of Circuit Training program on Physical Fitness Variables (Sit-Ups)

Sit-Ups	Mean	SD	t-value
Pre-Test(n=120)	45.14	6.16	5.8124*
Post-Test(n=120)	53.16	5.97	

*Significance at .05 level of significant

At the 0.05 level of significance, the computed "t" value of 5.8124 was more than the table value, and the means scores before and after circuit training were 45.14 and 53.16, with standard deviations of 6.16 and 5.97, respectively. Since there is a discernible difference in the two groups' performance on the sit-up test, we can conclude that the research's null hypothesis is correct.

Table2 Analysis of Circuit Training program on Physical Fitness Variables (Pull-Ups)

Pull-Ups	Mean	SD	t-value
Pre-Test(n=120)	13.55	4.8	4.726*
Post-Test(n=120)	23.52	4.2	

*Significance at .05 level of significant

The estimated "t" value of 4.726 was more than the table value at the 0.05 level of significance, and the average scores before and after circuit training were 13.55 and 23.52, with standard deviations of 4.2 and 4.8, respectively.

Therefore, the research's null hypothesis (that there is no significant difference between the two regimens) regarding pull-up items of physical fitness variables is correct.

Table3 Analysis of Circuit Training program on Physical Fitness Variables (ShuttleRun)

Pull-Ups	Mean	SD	t-value
Pre-Test(n=120)	25.33	3.4	5.123*
Post-Test(n=120)	23.15	2.8	

*Significance at .05 level of significant

The calculated "t" value of 5.123 was more than the table value at the 0.05 level of significance, and the means scores of pre- and post-circuit training were 25.33 and 23.15, respectively. The standard deviations of the two sets of scores were 3.4 and 2.8. Since there is a statistically significant difference between the two groups on the Shuttle Run measures of physical fitness, we can conclude that the study's null hypothesis is correct.

Table 4 Analysis of Circuit Training program on Physical Fitness Variables (Standing Broad Jump)

StandingBroadJump	Mean	SD	t-value
Pre-Test(n=120)	3.46	0.28	3.096*
Post-Test(n=120)	1.93	0.32	

*Significance at .05 level of significant

Table 5: Fitness Parameter Improvements

Parameter	Pre-Test Mean	Post-Test Mean	Improvement (%)
Body Fat Percentage	25.6	22.1	13.67
Muscle Mass (kg)	50.3	54.7	8.74
Strength (kg)	60.5	68.2	12.73
Agility (secs)	15.2	12.8	15.79
Endurance (mins)	8.1	10.5	29.63

After circuit training, the average score was 3.46, while before it was 1.93; the standard deviations were .28 and .32, respectively; and the computed "t" value was 3.096—more than the table value at the 0.05 level of significance. Since there is a statistically significant difference between the two groups' performance on the standing broad jump measure of fitness, we can conclude that the study's null hypothesis stands.

DISCUSSION

Examining how circuit training affected the fitness levels of Kabaddi players was the primary objective of the research. One hundred and twenty-five energetic male Kabaddi players, ranging in age from twenty-five to thirty, participated in an eight-week circuit training regimen. Before and after the training session, the study used a t-test with a significance threshold of 0.05 to examine physical fitness characteristics such as sit-ups, pull-ups, shuttle run, and standing wide jump.

Fitness and Circuit Training

Everyone agrees that circuit training is the best way to increase energy and muscle endurance because it combines resistance training with rigorous aerobic activity. Six to ten exercises were completed in a row with brief rest periods as part of the regimen used in the study. The idea behind circuit training is that it can increase stamina, strength, and flexibility. This fitness program has come a long way since its inception in 1953, offering a wide range of forms and equipment possibilities.

Physical Fitness and Kabaddi

Kabaddi players were the primary subjects of the research, which highlighted the importance of cognitive ability, neuromuscular coordination, body composition, and functional muscles in the sport. The necessity for scientific evaluations to maximize player selection, performance, and strategy is underscored by the fact that traditional player assessments frequently fail to meet expectations.

The Importance of Agility

Many sports require agility, which is the capacity to quickly change directions while keeping control, as a prerequisite. Stability in motion, awareness of one's surroundings, timing, and vision are all components of agility as it pertains to Kabaddi. The multi-faceted nature of agility as a motor skill and its impact on whole athletic performance are acknowledged in the study.

Implications for Real Life

Results from this study have real-world applications for improving Kabaddi players' fitness levels. An increasingly popular way to improve explosive power, abdominal strength endurance, and leg strength is circuit training. Incorporating circuit training into the athletes' regular training regimen

can help coaches and trainers maximize their physical performance. The study found that after the 8 weeks of circuit training, participants' physical fitness levels increased significantly. Results from the sit-ups, pull-ups, shuttle run, and standing wide jump showed significant improvements, according to the t-test analysis. Results show that individuals' fitness levels were positively affected by circuit training, rejecting the null hypothesis.

CONCLUSION

The benefits of circuit training for health and fitness are well-documented. Several changes that take place during circuit training make the numerous health benefits that much more clear. Evidence suggests that circuit training improves fitness-related variables. This study's findings lend credence to the idea that circuit training might improve fitness metrics including explosive power in the legs, endurance in the abdominal muscles, and overall strength in the body. This study lends credence to the idea that a circuit training program lasting eight weeks can significantly boost several measures of physical fitness in Kabaddi players. The research adds to our knowledge of how circuit training can improve some parts of athletic performance and shows how it could be used in sports training programs.

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DANCE AS A FORM OF EXERCISE

Gemma Quinnell

Before discussing dance as a form of exercise, it is important to note what we can define as ‘dance’ and whether it can fit into the category of ‘exercise’.

According to Oxford Languages, **‘Dance’** means - **“To move rhythmically, typically following a sequence of steps”**.

‘Exercise’ - an **“activity requiring physical effort, carried out to sustain or improve health and fitness.”** (Oxford Language)

Dance was historically used as a form of communication and social interaction. It is also used in theatre and film productions as well as celebrations and even religious events. In the 21st century, dance remains popular with social media challenges such as those on TikTok and dance reality shows growing in popularity globally. However, to establish how effective dance is as a form of exercise, we will consider the similarities and differences between them, using the definitions stated by Oxford Languages.

Dance has many forms such as Ballroom (which is danced with a partner); Classical ballet (danced solo, as part of a group or with a partner); Kathak (typically danced solo) and Aerial dance (using apparatus). The dance style is usually centered around the choice of music with movements reflecting specific trends throughout history.

Whether exploring group dances, partner dances or solo dances though, there are common components linking all styles of dance together,

Similarities between dance and exercise

- Dance incorporates the skill related components of fitness, which is also part of exercise:
 - Agility - changing the body’s position and direction quickly
 - Speed - performing movements to different rhythms
 - Balance - correct distribution of body weight
 - Coordination - arms and legs moving in harmony in different directions
 - Power - providing leverage through the body at speed
 - Reaction time - responding to catches and musical accent
- Dance Improves health related components of fitness, as does exercise: Body composition
 - Flexibility
 - Muscular strength
 - Muscular endurance
 - Cardiorespiratory endurance
- Both dance and exercise include technical correction of movement patterns
- During dance competitions, the correct and best execution of the fitness related components of exercise are required on the day

Differences between dance and exercise:

- Music is essential to the training and competition performance of dance. With exercise, music is not mandatory although it can be used to boost motivation and synchronise movements particularly in Group Exercise sessions

- Dance has an artistic, creative element as well as an athletic focus; allowing expression of the dancer and a story to be told, whilst performing the movements too
- Dance is subjective with different judges or spectators preferring different competition performances. Dance is not solely based on achieving fitness related outcomes. It can provide an emotional journey for the spectator, which could be considered more important in some circumstances. Exercise however has a clear fitness improvement outcome that can be easily measured
- Dance tends to be a series of repetitive drills or short bursts of movements lasting just a few minutes, whereas exercise tends to last longer and increase intensity as the activity progresses, for example in a marathon or triathlon. Therefore when using dance as an exercise form, the sequence of steps or movements usually need to be repeated several times to meet the minimum recommended guidelines of physical activity or changing dance sequences in a interval or fartlek style

Benefits of dance as a form of exercise

- According to research published by The British Heart Foundation, 2023; dancing lowers the risk of cardiovascular conditions. Approximately a 46% decrease in the risk was shown in dancers, compared to non-dancers
- Dancing can lower the risk of dementia. The British Heart Foundation, 2023, concluded from research carried out by New England Journal that dance is the only form of physical activity that could be associated with a lower risk of dementia
- A study carried out in Germany on both gym based exercise and dance concluded that the dance participants resulted in a 15% more increase in the strength of muscles and neuromuscular connections than the gym participants
- Dance is a holistic exercise approach, giving exercise to the brain and reducing stress, as well as improving motor skills. It is a comprehensive way of amalgamating different fitness forms in one workout
- Different studies have shown that low impact dance can be as effective as jogging or cycling for improving body composition
- Studies at Brighton University demonstrated that high intensity dance styles (such as contemporary, swing and street dance) burned more calories than other sports such as running, swimming, football, badminton and cycling. Furthermore, dance was found to reduce the feeling of fatigue, improve emotional state and have an overall energising effect, similar to the effect that runners call 'runners high'
- Music is an essential part of dance and according to an article published by the American Council of Exercise - music can increase endurance by up to 15% during a workout

Conclusion

Overall, the consensus from the research suggests that dance is an effective form of exercise. Given both the mental and fitness related benefits that dance has, along with the holistic approach of working out the full body, dance can be considered as a fun alternative to the gym or other types of physical activity, potentially reaching participants who would not otherwise engage in physical activity.