

Physical Exercise: A Tool for Children's Development

Prof. Rajesh Kumar

Senior Professor and Head, Department of Physical Education, Osmania University, Hyderabad, Telangana, India

Abstract

Physical exercises for kids include aerobic activities like running, swimming, and dancing, and muscle and bone-strengthening activities such as climbing, push-ups, squats, and jumping. Physical exercise is a vital tool for children's development, fostering growth in physical, cognitive, emotional, and social areas. Regular physical exercise is necessary to help develop a strong heart and lungs. Starting early will set a good foundation that children can maintain throughout their lives. Running, swimming, jumping and other dynamic movements will strengthen the heart, improve blood circulation, improve mood and reduce the risk of disease. Physical Exercise within schools play a crucial role in establishing a solid foundation for the development of comprehensive physical abilities and creating opportunities for recreational engagement among Indian school students. Physical exercise helps prevent childhood obesity by burning calories and regulating metabolism. Sports and physical activities are often performed alongside other children, offering the chance to build friendships and develop social skills. Key Words: Physical Exercise, running, swimming, jumping etc.

Introduction

Physical Exercises in schools is a valuable fitness tool, promoting physical health, developing motor skills, and fostering social-emotional growth, ultimately contributing to a child's overall well-being and academic performance. Physical education and sports have always been an integral part of human civilization, evolving from basic survival activities to structured programs that enhance well-being. In the modern school system, however, the significance of physical activity often competes with academic priorities. The truth remains that physical education and sports are not just an extracurricular activity but a fundamental pillar of holistic development. Schools must recognize their role in fostering not only intellectual growth but also physical and mental well-being.

The idea that education is confined to books and classrooms is outdated. A child's development is incomplete without the balance of physical activity, discipline, teamwork, and resilience—all of which sports and physical education provide. Whether it is running on the track, playing a team sport, practicing yoga, or engaging in structured physical education classes

Physical Exercise during school years is critical for holistic child development and for building a robust foundation for sports excellence. In India, the absence of structured physical activity programs within school systems has contributed to delayed athlete development, limited talent identification, and rising sedentary lifestyles among children. This paper reviews the current state of physical activity in Indian schools, analyzes global and Asian models of athlete development, and identifies the structural and pedagogical gaps in the Indian approach. Drawing on insights from physical literacy and long-term athlete

development frameworks, the study argues for a school-centered strategy to develop future sports persons. Comparisons with Japan, South Korea, and China reveal that integrated school-based physical education can successfully nurture elite-level athletes while promoting public health. Recommendations include implementing a national physical literacy framework, mandatory daily activity periods, qualified physical educators, and partnerships with kinesiology departments to ensure age-appropriate and scientifically informed sports training. The paper concludes that embedding structured physical activity into the education system is not only essential for sports development but also for building a healthier, more resilient generation.

India's underperformance in global sports events has often been linked to late-stage athlete development and a weak grassroots sports ecosystem. Despite being one of the world's youngest populations, India has yet to systematically utilize its school network to nurture sports talent. The foundational years of a child's life, especially between the ages of 5 to 16, are when motor skills, movement confidence, and athletic habits are formed. However, physical education in India is largely neglected, inconsistently implemented, or overly focused on annual events and competitive outcomes rather than continuous skill development.

Literature Review

Prof. Rajesh Kumar (2025) Physical education in schools is a valuable fitness tool, promoting physical health, developing motor skills, and fostering social-emotional growth, ultimately contributing to a child's overall well-being and academic performance. Physical Education activities play an important role for foundation of physical abilities among Children's in Schools. Many Schools recognized it is essential component of education which helps a child to promote physical and mental health. Physical education classes within schools play a crucial role in establishing a solid foundation for the development of comprehensive physical fitness and creating opportunities for recreational engagement among school students in India. Physical Education activities include Team Sports such as foot ball, basket ball, Volley ball, cricket etc. Individual sports such as athletics, swimming, cycling etc. promotes all round development of the childrens. The physical education classes include Traditional Sports, Yoga, Kabaddi, Kho, Mass Drill exercises etc. Promotes healthy life style, mental health and also helps in talent identification among children's to train in different sports and games. The school Physical education Programme is foundation stone for athlete development.

International research consistently highlights that early and structured engagement in physical activity leads to better athletic outcomes and healthier adult lifestyles. The Long-Term Athlete Development (LTAD) model, first introduced in Canada by Balyi and Hamilton, emphasizes age-appropriate stages of athletic development, beginning from early childhood. It includes stages such as Active Start, Fundamentals, Learn to Train, and Train to Train, each with specific focus areas like agility, balance, coordination, and sport-specific techniques.

Countries like Australia and the UK have adapted LTAD models into their school systems through physical literacy programs. These programs ensure that children learn basic movement skills, gain confidence in physical environments, and are exposed to a variety of sports before specialization. Physical literacy is now globally recognized as a critical developmental phase that must precede competitive sports training.

India's National Education Policy (NEP) 2020 and initiatives such as Khelo India and Fit India attempt to bring attention to physical education. However, implementation challenges, lack of qualified physical educators, and absence of a unified curriculum reduce the impact of these policies. A study by NCERT

(2021) noted that less than 40 percent of government schools in India have full-time PE instructors, and most schools conduct physical education only once or twice a week.

In contrast, Japan's Ministry of Education mandates daily physical education, and students are trained in both individual and team sports from primary levels. South Korea has institutionalized school sports clubs that are integrated with the academic curriculum. These clubs offer a non-competitive but skill-focused environment where students receive guided instruction in various physical disciplines. China operates a three-tier talent identification model, starting from schools, feeding into district academies, and eventually to national-level sports institutes.

These nations show that physical education is not seen as supplementary but as a core academic responsibility. Their success in international sports reflects decades of investment in school-based physical activity rooted in scientific principles, structured pedagogy, and long-term planning.

The Role of Physical Exercise in Schools

Physical exercise in schools is more than just a break from academics. It is a scientific, structured approach to movement, fitness, and lifelong health. Through carefully designed activities, students develop motor skills, coordination, and endurance. It serves as the foundation for:

Physical Exercise: Children need at least 60 minutes of moderate-to-vigorous activity every day. Physical education provides a structured way to meet this requirement, improving cardiovascular health, muscle strength, and overall fitness.
Mental Well-being: Exercise is a natural stress reliever. It reduces anxiety, enhances mood, and improves concentration. In fact, studies show that students who participate in regular physical activity perform better academically.
Cognitive Development: Movement-based activities stimulate brain function, increasing memory retention and problem-solving abilities. Exercise promotes neuroplasticity, making learning more effective.
Social and Emotional Growth: Sports and physical education promote teamwork, leadership, resilience, and respect—qualities essential for success in any field.

Unfortunately, many schools still view physical education as secondary to core academic subjects. It is often the first to be reduced when there is a time constraint. But the question we must ask is: Can we afford to compromise on a child's physical and mental health for the sake of extra classroom time? The answer is clear—we cannot.

Physical Exercise as a Fitness Tool and Character Builder

Physical Exercise go beyond fitness—they shape character, discipline, and perseverance. Every sport, whether individual or team-based, teaches valuable lessons.

Discipline and Routine: Training schedules, practice sessions, and game strategies require commitment and time management. Children learn to balance priorities, a skill that benefits them for life.

Teamwork and Leadership: Sports cultivate communication, cooperation, and leadership skills. Being part of a team teaches students the importance of collective success over individual performance.

Handling Success and Failure: Sports prepare children for the realities of life—one cannot win all the time. Learning to accept defeat with grace and victory with humility is an essential life lesson.

Developing a Growth Mindset: Athletes continuously work on improving their performance. They push their limits, learn from setbacks, and build mental toughness—an attitude that is essential for lifelong success.

Physical Exercise act as a fitness tool by encouraging habitual movement, cardiovascular endurance, and strength development. Whether it's through structured games like football and basketball or individual activities like swimming and gymnastics, children develop physical literacy, meaning they gain confidence in using their bodies efficiently.

The Rising Health Concerns Among School Children

Today, lifestyle-related diseases are no longer limited to adults. Obesity, diabetes, posture issues, and anxiety disorders are rising among school children at alarming rates. The root cause? Sedentary lifestyles, excessive screen time, and lack of physical activity.

The World Health Organization (WHO) reports that over 80% of adolescents globally do not get enough physical activity.

Childhood obesity is becoming a major concern, with poor dietary habits and lack of movement playing a significant role.

Increased screen time is leading to poor posture, vision problems, and digital addiction.

Mental health issues, including stress and depression, are linked to inactivity and lack of outdoor exposure. If we continue on this path, we risk raising a generation that is physically weak, mentally exhausted, and socially disconnected. Schools, parents, and policymakers must come together to ensure that physical education is not just a class but an essential part of daily life.

Integrating Fitness into the School Curriculum

How do we ensure that sports and physical education remain an integral part of the school curriculum? It starts with policy changes, awareness, and commitment.

Mandatory Physical Education Periods: Schools must allocate dedicated, non-negotiable physical education sessions daily. It should be given the same importance as subjects like mathematics and science.

Diversified Physical Activities: Not all children enjoy the same sports. Schools should offer a variety of activities including athletics, martial arts, yoga, dance, adventure sports, and fitness training to cater to different interests.

Encouraging Outdoor Play: Traditional outdoor play should be encouraged instead of excessive reliance on technology-driven entertainment.

Integration of Health Education: Schools should educate students about nutrition, the impact of a sedentary lifestyle, and the importance of movement.

Involvement of Teachers and Parents: Educators and parents must lead by example, promoting fitness as a lifestyle rather than a task.

The education system should evolve from exam-oriented success to health-oriented holistic development. When students leave school, they should not just carry knowledge but also a strong, healthy body and a resilient mind.

Conclusions

Regular physical exercise 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.

Physical activity programs in schools play a crucial role in developing potential sports persons by fostering physical fitness, enhancing motor skills, and promoting essential psychological and social attributes. These programs provide a foundation for future athletic success by building a love for physical activity, developing fundamental skills, and instilling important values like teamwork and discipline.

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.

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.

References:

1. **Balyi, I., & Hamilton, A. (2004).** Long-Term Athlete Development. Canadian Sport for Life
2. **Basch C. (2010)** Healthier children are better learners: A missing link in school reforms to close the achievement gap.
3. Fisher A., Boyle J. M., Paton J. Y., et al (2011). Effects of a physical education intervention on cognitive function in young children: randomized controlled pilot study. *BMC Pediatrics*. 11(1):p. 97. doi: 10.1186/1471-2431-11-97.
4. Gao Z., Pope Z., Lee J. E., et al. (2017) Impact of exergaming on young children's school day energy expenditure and moderate-to-vigorous physical activity levels. *Journal of Sport and Health Science*. 2017;6(1):11–16. doi: 10.1016/j.jshs.2016.11.008.
5. Gao Z., Zhang T., Stodden D (2013). Children's physical activity levels and psychological correlates in interactive dance versus aerobic dance. *Journal of Sport and Health Science*. ;2(3):146–151. doi: 10.1016/j.jshs.2013.01.005. [CrossRef] [Google Scholar]

6. Kwak L., Kremers S. P. J., Bergman P., Ruiz J. R., Rizzo N. S., Sjöström M.(2009) Associations between physical activity, fitness, and academic achievement. *Journal of Pediatrics*. 155(6):19–24. doi: 10.1016/j.jpeds.2009.06.019.
7. Lee, S. H. (2018). Integrating Physical Education in Korean Schools. *Asian Journal of Kinesiology*.
8. Ministry of Youth Affairs and Sports. (2022). Khelo India Guidelines.
9. NCERT. (2021). Physical Education and Health Curriculum.
10. Strong WB, Malina RM, Blimkie CJ, Daniels SR, Dishman RK, Gutin B, Hergenroeder AC, Must A, Nixon PA, Pivarnik JM, Rowland T, Trost S, Trudeau F.(20025) Evidence based physical activity for school-age youth. *Journal of Pediatrics*. 146(6):732–737.
11. Zan Gao, Senlin Chen, Haichun Sun, Xu Wen, and Ping Xiang (2018)“Physical Activity in Children's Health and Cognition”.*Biomed Res Int.*: 8542403, Published online 2018 Jun 25. doi: 10.1155/2018/8542403
12. Zhou, W. (2019). Physical Education in China: Policy and Practice. *International Review of Sport Studies*.