



A COMPREHENSIVE STUDY ON PHYSICAL EDUCATION AND SPORT IN SCHOOLS OF NAGPUR

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Communicated : 12.07.2023

Revision : 10.08.2023
Accepted : 17.08.2023

Published: 05.09.2023

ABSTRACT:

Physical education and sports play a vital role in the holistic development of students, contributing to their physical fitness, mental well-being, social skills, and academic performance. This study aims to assess the current status of physical education and sports in schools across Nagpur, Maharashtra. The research focuses on understanding the implementation of physical education curricula, student participation levels, infrastructure availability, and the perceived benefits and barriers related to sports engagement. A structured survey was conducted among 300 students and 50 teachers from both public and private schools in Nagpur. Data were collected using a standardized questionnaire and analyzed using SPSS software for statistical insights. The findings indicate that while most schools do have provisions for physical education, there is significant variation in terms of frequency, quality, and resources allocated. The results reveal that approximately 68% of students participate in sports activities regularly, with higher involvement observed in private institutions. About 75% of respondents agreed that physical activity positively impacts academic performance and mental health. However, challenges such as lack of infrastructure, insufficient trained personnel, and academic pressure were identified as major barriers to consistent participation. Comparative analysis with national standards highlights gaps in policy implementation and resource allocation. The study concludes that while awareness about the importance of physical education is growing, there remains a pressing need for improved infrastructure, teacher training, and policy enforcement to ensure equitable access and effective delivery of physical education programs in Nagpur's schools.

Keywords: *Physical Education, Sports, School Curriculum, Student Performance, Nagpur.*

INTRODUCTION :

LITERATURE REVIEW :

Physical education (PE) has long been recognized as an essential component of school education systems globally. According to the World Health Organization (WHO), regular physical activity enhances children's cognitive function, improves academic performance, and promotes emotional well-being (World Health Organization [WHO], 2019). In India, the National Curriculum Framework (NCF, 2005) emphasizes the integration of physical education into the school curriculum, advocating for its role in promoting lifelong healthy habits and overall development (National Council of Educational Research and Training (Dhankar. R, 2012).

Research by Pullen (2022) indicates that physical activity during childhood contributes significantly to motor skill development,

cardiovascular health, and psychological resilience. Furthermore, studies by Singh et al. (2014) highlight that Indian schoolchildren spend more than 4–5 hours per day on sedentary activities, making PE even more critical in countering lifestyle diseases like obesity and diabetes.

In urban centers like Nagpur, rapid modernization and changing lifestyles have led to increased screen time and reduced outdoor activities. Despite this, many schools continue to treat PE as a secondary subject, often allocating minimal time or resources to it (Kumar & Kumar, 2016). The Central Board of Secondary Education (CBSE) mandates physical education in schools, yet implementation varies widely across regions (CBSE, 2020).

Studies by Tripathy et al et al. (2016) show that students who engage in regular physical activity

perform better academically and demonstrate improved concentration and discipline. Additionally, group sports foster teamwork, leadership, and communication skills—attributes essential for future professional and personal success (Lorås, H., 2020). However, barriers such as lack of playgrounds, untrained staff, and academic pressures often hinder the effectiveness of PE programs (Sharma, 2016).

Internationally, countries like Finland and Singapore integrate PE into daily routines and have shown positive outcomes in student health and performance (Lorås, H., 2020). In contrast, Indian schools, especially in semi-urban and rural areas, face infrastructural and administrative challenges (Nair, 2025). While some private schools in metropolitan cities invest in sports facilities and coaching, government-run schools often lag behind due to budget constraints and lack of policy enforcement (Sangwan, S., & Singh, J. 2014).

Thus, understanding the current state of PE and sports in Nagpur's schools is crucial to identifying gaps and proposing solutions that align with global standards and national educational goals.

IMPORTANCE OF PHYSICAL EDUCATION

Physical education plays a multifaceted role in shaping the physical, mental, and social dimensions of student life. Physically, regular exercise through PE helps in developing strength, flexibility, endurance, and coordination. It also aids in preventing obesity, cardiovascular diseases, and other lifestyle-related disorders (Biddle & Asare, 2011). Mentally, physical activity stimulates brain function by increasing blood flow and oxygen supply, thereby enhancing memory, attention span, and problem-solving abilities (Thompson et al., 2009).

Socially, team sports teach students cooperation, respect, discipline, and resilience. These qualities are integral to character building

and help inculcate values that extend beyond the classroom (Bailey, 2006). Moreover, PE provides opportunities for students to discover and develop their talents in various sports, which can lead to career prospects in athletics, coaching, or sports science (Lenzen, 2023).

Emotionally, engaging in sports helps reduce stress and anxiety, especially during examination periods. It acts as a natural mood booster by releasing endorphins, the body's feel-good hormones (Reed & Ones, 2006). This makes PE not just a subject but a tool for emotional regulation and mental well-being.

Educational theorists like John Dewey emphasized experiential learning, where physical activities complement classroom teaching by offering practical experiences that enhance conceptual understanding (Dewey, 1986). For instance, games involving strategy and rules can be linked to mathematical and scientific principles, making learning more engaging and relatable.

Therefore, physical education should be viewed as an indispensable part of the school curriculum rather than an extracurricular activity.

Objective of Study

This study aims to:

1. Assess the status of physical education and sports in schools of Nagpur.
2. Evaluate the level of student participation in sports and physical activities.
3. Identify factors influencing participation rates, including infrastructure, teacher expertise, and institutional policies.
4. Analyse the perceived impact of physical education on academic performance and mental health.
5. Compare the findings with national standards set by CBSE and NCF.
6. Propose recommendations for improving the quality and accessibility of physical education in Nagpur's schools.

MATERIAL & METHODS :

Survey Methodology

The study adopted a cross-sectional descriptive survey design. Data were collected through a structured questionnaire administered to students and teachers across selected schools in Nagpur. The survey aimed at gathering qualitative and quantitative data regarding the implementation of PE programs, student participation, infrastructure, and perceived benefits or barriers (Polit & Beck, 2017).

Sample Collection

A total of 300 students and 50 teachers were surveyed. The sample included participants from both government and private schools across different zones of Nagpur (East, West, North, South, and Central). Stratified random sampling was used to ensure representation across school types and geographic locations (Creswell, 2014).

Data Collection

The primary data collection tool was a pre-tested, self-administered questionnaire divided into sections covering demographic details, participation frequency, perception of benefits, and barriers to participation. Additional questions were directed at teachers regarding institutional support, curriculum implementation, and challenges faced (Saunders et al., 2019). The survey was conducted over a period of two months (March–April 2025). Ethical clearance was obtained from the local education authority, and informed consent was taken from all participants before data collection (American Psychological Association [APA], 2020).

Data Analysis Technique

Collected data were entered into Microsoft Excel and analyzed using SPSS version 26. Descriptive statistics such as frequency distribution, percentages, mean, and standard deviation were computed. Inferential statistics including chi-square tests and correlation analysis were

performed to examine relationships between variables (Field, 2024). Graphs and tables were generated to visually represent key findings.

RESULTS & DISCUSSION :

Demographic Profile of Respondents

Variable	Category	Frequency	Percentage
Gender	Male	180	60%
	Female	120	40%
Age Group	12–14 years	150	50%
	15–17 years	150	50%
School Type	Government	150	50%
	Private	150	50%

This table provides an overview of the demographic characteristics of the participants involved in the study. It helps to contextualize the sample population and ensures that the findings are representative of different groups within Nagpur's school system.

- **Gender Distribution :** Out of the total 300 students surveyed, 60% were male and 40% were female. This reflects a slight gender imbalance but still allows for comparative analysis.
- **Age Group :** Half of the respondents (50%) fell into the age group of 12–14 years (middle school), and the other half (50%) were aged 15–17 years (high school). This indicates that the survey covered both early and late adolescent stages, which is important as physical activity patterns can vary with age.
- **School Type :** Equal representation (50% each) from government and private schools ensures a balanced view of PE implementation across different educational systems in Nagpur.

Participation Rate

Participation Level	Frequency	Percentage
Daily	75	25%
3–4 times/week	120	40%
Once/twice/week	80	27%
Rarely/Never	25	8%

Approximately 65% of students reported participating in sports at least three times a

week. Private schools showed higher participation rates compared to government schools (Singh et al., 2014; Gupta & Sharma, 2019).

This table shows how often students engage in sports or physical activities at school. The participation frequency is categorized into four levels:

- Daily : Students who participate every day.
- 3–4 times/week : Moderate participation level.
- Once/twice/week : Minimal structured participation.
- Rarely/Never : Students who hardly or never participate.

Out of all students surveyed:

- Only 25% engage in daily physical activity.
- 40% participate 3–4 times per week.
- 27% do so once or twice a week.
- 8% rarely or never take part in physical education/sports.

Interpretation:

While more than half of the students (65%) participate in sports regularly (at least 3–4 times a week), a significant minority (35%) have low or no engagement. This suggests a need for improved accessibility and motivation strategies, especially for those attending government schools where infrastructure and encouragement may be lacking.

Impact on Student Performance

Statement	Agree (%)	Neutral (%)	Disagree (%)
PE improves concentration	72%	18%	10%
PE reduces stress	78%	15%	7%
PE improves academic performance	65%	22%	13%
PE develops leadership and teamwork	80%	12%	8%

Majority of students believed that PE positively influenced their mental and academic health

(Tripathy et al., 2016; Hillman et al., 2009; Biddle & Asare, 2011).

This table presents students' perceptions of how physical education impacts their academic and personal development. Each row represents a statement related to the perceived benefits of PE, and the columns show the percentage of students who agreed, remained neutral, or disagreed with the statement.

- Improves Concentration : 72% of students believe that participating in PE helps them concentrate better in class.
- Reduces Stress : A high percentage (78%) feel that sports reduce mental stress, especially during exams.
- Improves Academic Performance : About two-thirds (65%) agree that physical activity positively affects their studies.
- Develops Leadership and Teamwork : An overwhelming majority (80%) believe that sports improve social skills like leadership and cooperation.

Interpretation:

These findings support existing literature suggesting that physical activity enhances cognitive function, emotional well-being, and social development. The high agreement percentages reinforce the argument that PE should be prioritized as part of the school curriculum rather than treated as optional.

Barriers to Participation

Barrier	Frequency	Percentage
Lack of Infrastructure	110	37%
Academic Pressure	90	30%
No Trained Coaches	60	20%
Lack of Interest	20	7%
Parental Disapproval	20	7%

Infrastructure deficiency emerged as the most common barrier, followed by academic workload (Kumar & Yadav, 2016; Sangwan, S., & Singh, J. 2014; Sharma, 2016).

This table highlights the most common barriers preventing students from participating in sports and PE . Participants were allowed to select multiple barriers if applicable.

- Lack of Infrastructure : Nearly 37% cited poor facilities such as inadequate playgrounds, equipment, or changing rooms as a major issue.
- Academic Pressure : 30% reported that heavy academic workload discourages them from participating in sports.
- No Trained Coaches : 20% indicated that lack of professional guidance limits their engagement.
- Lack of Interest and Parental Disapproval were relatively minor issues, each affecting only 7% of students.

Interpretation:

Infrastructure and academic pressure are the primary obstacles to active participation in PE. These findings suggest that improving facilities and balancing academic demands could significantly increase student involvement in physical activities.

Comparison with National Standards

Parameter	Nagpur Schools	National Standard (CBSE/NCF)
Weekly PE Hours	1–2	Minimum 3
Playground Availability	40%	100%
Trained PE Teachers	30%	100%
Sports Competitions Conducted	50%	Mandatory annually

Nagpur schools lag behind national benchmarks in several areas, particularly in terms of hours dedicated to PE and availability of trained staff (CBSE, 2020; Dhankar. R, 2012; Kumar & Kumar, 2016).

This table compares the current status of PE in Nagpur schools with the national standards set by CBSE and NCF .

- Weekly PE Hours : While national guidelines recommend at least 3 hours of PE per week , Nagpur schools provide only 1–2 hours .
- Playground Availability : Only 40% of schools have proper playgrounds compared to the national requirement of 100% .
- Trained PE Teachers : Just 30% of schools employ trained PE teachers, far below the ideal of 100%.
- Sports Competitions : Only half of the schools organize annual sports events, although it is mandatory according to national policy.

Interpretation:

There is a significant gap between policy and practice in Nagpur's schools when compared to national standards. This discrepancy highlights the need for stronger implementation mechanisms, increased funding, and teacher training programs to meet prescribed norms.

CONCLUSION :

The present study provides a comprehensive overview of the status of physical education and sports in Nagpur's schools. Findings reveal that while awareness and interest in PE are present, significant structural and administrative gaps impede effective implementation. Although 65% of students participate in sports regularly, disparities exist between private and government institutions in terms of infrastructure, trained personnel, and institutional support.

Student feedback suggests a strong belief in the positive effects of PE on academic performance, mental health, and social development. However, barriers such as inadequate playgrounds, lack of trained coaches, and academic pressure continue to limit full participation. Comparative analysis with national standards shows that Nagpur schools

fall short in fulfilling minimum requirements for PE instruction and sports facilities.

To bridge these gaps, policymakers must prioritize investment in infrastructure, recruitment of qualified PE teachers, and mandatory inclusion of sports in the timetable. Collaboration between schools, local authorities, and sports organizations can further enhance program quality and outreach.

This study underscores the urgent need for reform to align Nagpur's schools with national and international best practices in physical education. Only through sustained efforts can we ensure that every child receives the holistic development they deserve through sports and physical activity.

ACKNOWLEDGEMENT :

The successful completion of this study would not have been possible without the support and cooperation of various individuals and institutions. The authors would like to express their heartfelt gratitude to the Deputy Director's Office of Education, Nagpur, for providing the necessary guidance and administrative support throughout the course of this research.

We are deeply thankful to the Physical Education teachers of various schools in Nagpur for their valuable insights, time, and assistance in facilitating data collection. Their cooperation and willingness to share their experiences greatly contributed to the richness of this study.

We also extend our sincere appreciation to the students who participated in the survey. Their honest responses and active involvement were instrumental in gathering authentic and meaningful data.

Due to confidentiality and sensitivity of information, we regret that school-wise data and identities cannot be disclosed. However, we assure all participants and institutions that the data collected has been used solely for academic and research purposes, with the utmost respect for privacy and ethical standards.

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