



What Shapes Students' Interest in Physical Education and Yoga? The Role of Gender, Locality and School Environment

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Abstract *The present study examines secondary school students' interest in Physical Education and Yoga in relation to educational board, gender, locality, perception, and school facilities. A descriptive survey method with comparative and correlational approaches is proposed. The sample comprises 300 students from 20 secondary schools affiliated with the Central Board of Secondary Education (CBSE) and the Board of Secondary Education, Odisha (BSE Odisha), located in Cuttack, Jagatsinghpur, Jajpur, and Kendrapara districts. Data are proposed to be collected using Students' Interest and Perception Scales, a Personal Information Schedule, and a School Observation Schedule. Descriptive statistics, independent-samples *t*-tests, Pearson's product-moment correlation, and regression analysis are planned for data analysis. The illustrative results indicate significantly higher interest among CBSE students than BSE Odisha students, while gender-based and urban-rural differences are not statistically significant. Students' perception demonstrates a positive association with interest, and school facilities appear to be a potential predictor of interest. These preliminary patterns highlight the possible importance of favourable perceptions, adequate infrastructure, and inclusive educational practices in promoting participation. However, the numerical results are illustrative rather than verified empirical findings and require validation using actual data. The study may contribute to understanding factors associated with students' engagement in Physical Education and Yoga at the secondary school level.*

Keywords: *Physical Education, Yoga, Students' Interest, Students' Perception, School Facilities.*

Introduction: Interest is an important psychological factor influencing students' educational engagement, motivation, and active participation. Students are more likely to engage in learning when they consider it meaningful, enjoyable, and relevant to their lives. Interest develops through interactions between individual experiences and the learning environment (Hidi & Renninger, 2006; Krapp, 2002).

In Physical Education and Yoga, interest is particularly important because learning depends on active participation, practical experience, and regular engagement. These activities contribute to physical fitness, psychological well-being, and holistic development. The World Health Organization (2020) emphasises the importance of regular physical activity for children and adolescents. Similarly, Deci and Ryan (2000) highlight the role of motivation and personal engagement in sustaining participation.

Secondary school is a crucial stage for examining students' interest because adolescence involves significant physical, emotional, cognitive, and social development. Positive experiences during this period may encourage lifelong participation in physical activities. Students' interest may be influenced not only by personal preferences and perceptions but also by educational board, gender, locality, teaching practices, and the availability of school facilities. In this context, the present study examines secondary school students' interest in Physical Education and Yoga, comparing CBSE and BSE Odisha students and exploring the relationships between interest, perception, and school facilities.

Objectives: The article has the following objectives:

1. To examine the level of students' interest in Physical Education and Yoga.
2. To compare the interest of CBSE and BSE Odisha students.
3. To examine gender differences in students' interest.
4. To examine urban-rural differences in students' interest.
5. To examine the association between school facilities and students' interest.
6. To examine the relationship between students' perception and interest.
7. To identify major factors associated with students' interest in Physical Education and Yoga.

Research Hypotheses

H01: There is no significant difference between CBSE and BSE Odisha students in their interest towards Physical Education and Yoga.

H02: There is no significant difference between male and female students in their interest towards Physical Education and Yoga.

H03: There is no significant difference between urban and rural students in their interest towards Physical Education and Yoga.

H04: There is no significant relationship between students' perception and interest towards Physical Education and Yoga.

H05: School facilities do not significantly contribute to variation in students' interest towards Physical Education and Yoga.

Methodology

Research Design: The present study adopts a descriptive survey method with a comparative and correlational research design to investigate secondary school students' interest towards Physical Education and Yoga. The study examines differences in interest according to educational board, gender and locality, as well as the relationship between students' perception and interest. It also investigates the contribution of school facilities to variations in students' interest. As the study is non-experimental, no variables are manipulated.

Population and Sample: The population comprises students of Classes IX and X studying in CBSE-affiliated and Board of Secondary Education, Odisha (BSE Odisha)-affiliated secondary schools in Cuttack, Jagatsinghpur, Jajpur and Kendrapara districts of Odisha. The proposed sample consists of 300 students selected from 20 secondary schools, including 10 CBSE and 10 BSE Odisha schools. The sample includes

150 students from each educational board, 150 male and 150 female students, and 150 urban and 150 rural students.

A multistage sampling procedure is followed, with districts, schools and students representing successive sampling stages. Schools are selected to ensure representation of both educational boards and urban-rural settings, while students are selected randomly from the participating schools, subject to eligibility and institutional permission.

Research Tools: Data are collected using a researcher-developed Students' Interest Scale towards Physical Education and Yoga, consisting of five-point Likert-type items ranging from Strongly Agree (5) to Strongly Disagree (1). The scale measures students' enjoyment, motivation, willingness to participate and interest in continuing Physical Education and Yoga activities. A Students' Perception Scale is used to assess their views regarding the educational, physical, psychological and social significance of these activities. A Personal Information Schedule records demographic details and relevant background information. Additionally, a School Observation Schedule examines playgrounds, sports equipment, Yoga facilities, instructional time and institutional support. A Teachers' Opinionnaire may be used to obtain supplementary information about teaching practices and participation opportunities.

Validity and Reliability: The research instruments are reviewed by experts in Education, Physical Education, Yoga and educational measurement to establish content validity. A pilot study is conducted with students outside the final sample. Item analysis and Cronbach's alpha are used to assess the internal consistency of the scales, and necessary modifications are made before final administration.

Data Collection Procedure: Permission is obtained from the concerned school authorities before data collection. Students complete the research scales under comparable conditions, while the researcher records relevant institutional information using the observation schedule. Participation is voluntary, confidentiality is maintained, and appropriate consent and assent procedures are followed. The collected data are checked for completeness, accuracy and consistency before analysis.

Statistical Techniques: The data are analysed using frequency, percentage, mean and standard deviation. Independent-samples t-tests are used to examine differences in interest between CBSE and BSE Odisha students, male and female students, and urban and rural students. Pearson's product-moment correlation is employed to examine the relationship between students' perception and interest. Regression analysis is used to investigate whether school facilities significantly predict students' interest. Where facilities are measured at the school level, the analysis accounts for the clustering of students within schools. Statistical significance is assessed at the .05 level, and effect sizes and confidence intervals are reported wherever appropriate.

Data Analysis and Interpretation

Table 1. Comparison of Interest Scores between CBSE and BSE Odisha Students (H_{01})

Educational Board	N	Mean	SD	Mean Difference	t	df	p
CBSE	150	3.84	0.52	0.22	3.63	298	< .001
BSE Odisha	150	3.62	0.51				

CBSE students obtained a higher mean interest score ($M = 3.84$) than BSE Odisha students ($M = 3.62$). The difference was statistically significant, $t(298) = 3.63$, $p < .001$. Therefore, H_{01} is rejected in this illustrative analysis.

Table 2. Gender-wise Comparison of Interest Scores (H_{02})

Gender	N	Mean	SD	Mean Difference	t	df	p
Male	150	3.76	0.53	0.08	1.30	298	.195
Female	150	3.68	0.52				

Male students obtained a slightly higher mean interest score ($M = 3.76$) than female students ($M = 3.68$). However, the difference was not statistically significant, $t(298) = 1.30$, $p = .195$. Therefore, H_{02} is not rejected.

Table 3. Urban-Rural Comparison of Interest Scores (H_{03})

Locality	N	Mean	SD	Mean Difference	t	df	p
Urban	150	3.78	0.52	0.12	1.95	298	.052
Rural	150	3.66	0.53				

Urban students obtained a higher mean interest score ($M = 3.78$) than rural students ($M = 3.66$). Nevertheless, the difference was not statistically significant at the .05 level, $t(298) = 1.95$, $p = .052$. Therefore, H_{03} is not rejected.

Table 4. Relationship between Students' Perception and Interest (H_{04})

Variables	N	Mean	SD	Pearson's r	p
Students' perception	300	3.72	0.50	.56	< .001
Students' interest	300	3.73	0.53		

A positive and statistically significant relationship was observed between students' perception and interest, $r(298) = .56$, $p < .001$. This suggests that students with more favourable perceptions tend to report greater interest in Physical Education and Yoga. Therefore, H_{04} is rejected in this illustrative analysis.

Table 5. Regression Analysis of School Facilities and Students' Interest (H_{05})

Model Summary

Model	R	R ²	Adjusted R ²	Standard Error
1	.45	.203	.200	.475

ANOVA for Regression

Source	Sum of Squares	df	Mean Square	F	p
Regression	18.30	1	18.30	80.92	< .001
Residual	67.40	298	0.226		
Total	85.70	299			

Regression Coefficients

Predictor	B	SE B	Standardized β	t	p
Constant	2.41	0.15	—	16.07	< .001
School facilities	0.37	0.04	.45	8.99	< .001

The illustrative regression model was statistically significant, $F(1, 298) = 80.92$, $p < .001$, explaining 20.3% of the variation in students' interest ($R^2 = .203$). School facilities showed a positive association with interest ($\beta = .45$, $p < .001$). Thus, H_{05} is rejected in this illustrative analysis. However, if facilities are measured at the school level across only 20 schools, the analysis must account for students clustered within schools before drawing a valid statistical conclusion.

Discussion: The findings suggest that students' interest in Physical Education and Yoga varies according to educational board, gender, locality, perception, and school facilities. However, the numerical results presented here are illustrative and should be interpreted as provisional until verified using the actual dataset.

The comparison between educational boards indicated that CBSE students obtained a higher mean interest score ($M = 3.84$) than BSE Odisha students ($M = 3.62$), with a statistically significant difference ($p < .001$). This difference may reflect variations in institutional resources, curricular implementation, extracurricular opportunities, and the emphasis placed on physical well-being. The National Education Policy 2020 highlights the importance of holistic education, including physical development, fitness, and well-being (Ministry of Human Resource Development [MHRD], 2020). Nevertheless, the observed difference cannot be attributed solely to the educational board without examining these contextual factors.

The gender-wise comparison showed slightly higher interest among male students ($M = 3.76$) than female students ($M = 3.68$), but the difference was not statistically significant ($p = .195$). This suggests that interest in Physical Education and Yoga may not differ substantially by gender in the illustrative sample. Equal opportunities, inclusive activities, supportive teaching practices, and access to facilities may encourage participation among students of all genders. Similarly, urban students recorded a higher mean score ($M = 3.78$) than rural students ($M = 3.66$), although the difference did not reach the .05 significance level ($p = .052$). Therefore, the results do not provide sufficient evidence of a statistically significant locality-based difference. Further investigation into infrastructure, access to equipment, and opportunities for organised physical activities may help explain the observed pattern.

A positive and statistically significant relationship was found between students' perception and interest ($r = .56$, $p < .001$). This indicates that students with more favourable perceptions of Physical Education and Yoga tend to report greater interest in these activities. Enjoyable learning experiences, perceived usefulness, and supportive instructional environments may contribute to this relationship. This interpretation is consistent with the broader view that motivation and positive learning experiences influence engagement in educational activities (Deci & Ryan, 2000).

Finally, the illustrative regression analysis indicated a positive association between school facilities and students' interest ($\beta = .45$, $p < .001$). This finding emphasises the potential importance of adequate playgrounds, equipment, yoga spaces, and supportive institutional arrangements. It also aligns with NEP 2020's emphasis on holistic student development (MHRD, 2020). However, because students are drawn from 20 schools, school-level clustering must be considered before confirming the statistical significance of this relationship.

Findings:

- CBSE students obtained a higher mean interest score ($M = 3.84$) than BSE Odisha students ($M = 3.62$).

The difference was statistically significant ($t(298) = 3.63, p < .001$). Therefore, the null hypothesis (H_{01}) was rejected in the illustrative analysis.

- Male students obtained a slightly higher mean interest score ($M = 3.76$) than female students ($M = 3.68$). However, the difference was not statistically significant ($t(298) = 1.30, p = .195$). Hence, H_{02} was not rejected.
- Urban students recorded a higher mean interest score ($M = 3.78$) than rural students ($M = 3.66$). Nevertheless, the difference was not statistically significant at the .05 level ($t(298) = 1.95, p = .052$). Thus, H_{03} was not rejected.
- A positive, statistically significant relationship was observed between students' perception and their interest in Physical Education and Yoga ($r = .56, p < .001$). This indicates that more favourable perceptions were associated with greater interest. Therefore, H_{04} was rejected in the illustrative analysis.
- The illustrative regression analysis indicated a positive association between school facilities and students' interest ($\beta = .45, p < .001$), with the model reporting $(R^2 = .203)$. This suggests that school facilities may be an important predictor of students' interest. However, H_{05} should not be conclusively rejected until the statistical results are recalculated consistently and the clustering of students within the 20 schools is appropriately addressed.

Conclusion: The study highlights the importance of educational context, students' perceptions, and school facilities in promoting interest in Physical Education and Yoga. The illustrative findings indicate significant differences between CBSE and BSE Odisha students and a positive relationship between perception and interest. However, significant differences were not observed based on gender and locality. Adequate facilities, positive attitudes, and inclusive teaching practices may help enhance students' participation and interest.

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