

Factors Influencing the Sports Participation among Second Middle School Students of Nanchang City, China

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Abstract:

Physical activity and sports participation are essential components of students' physical, mental, and social development. This study examines the levels of physical activity and sports participation among middle school students in Nanchang City, China, and identifies the key factors influencing their engagement. A mixed-methods approach was employed, combining quantitative surveys and qualitative open-ended responses to gather comprehensive data from student respondents across multiple schools. This study examined the levels of physical activity and sports participation among middle school students in Nanchang City, China, and identifies the factors influencing their engagement. Data were collected through surveys and open-ended responses, assessing participation frequency, duration, types of sports, forms of engagement, overall satisfaction, and demographic variables such as gender and grade level. Findings reveal moderate overall activity levels, with male students and lower-grade students showing higher participation, and highlight key influencing factors including school facilities, teacher and family support, peer influence, and intrinsic motivation. The study also identified barriers such as limited sports options, safety concerns, and academic workload. The results provided valuable insights for school administrators and educators to promote student engagement in sports, improve physical activity levels, and foster long-term healthy habits.

Keywords: Physical activity, Sports participation, Middle school students, Influencing factors, Demographic variables

Introduction:

Sports participation plays a crucial role in the holistic development of students, particularly in the second middle school stage where adolescents are experiencing rapid physical and emotional changes. The middle school years represent a pivotal stage in adolescents' physical and mental development. Physical activity during this period not only shapes physical fitness but also plays a vital role in academic adaptation, social skills, and personality formation. Against the backdrop of escalating academic pressures in China's basic education system and growing public concern over adolescent health, understanding current sports participation patterns and influencing factors among middle school students holds significant importance for enhancing physical education quality and promoting holistic youth development.

As the capital of Jiangxi Province, Nanchang has achieved remarkable progress in educational reform and sports development in recent years. Nanchang No.2 High School, a renowned local institution, exemplifies its exemplary practices in physical education. However, systematic research on student participation levels and influencing factors in specific high schools like Nanchang No.2 remains limited, particularly lacking detailed analysis of physical activity behaviors during this critical educational phase. Therefore, this study focuses on students at Nanchang No.2 High School to investigate their sports participation levels and influencing factors, which hold significant practical value. Recent literature has highlighted the declining trend of sports participation among adolescents in China, particularly in urban areas like Nanchang City. Factors such as academic pressure, lack of time, and competing interests have been identified as barriers to sports participation among students. Recent studies have begun to explore how globalization affects sports culture and influences sports participation among various social groups (Dong, et al., 2023). Additionally, there has been an increased focus on the role of gender studies in physical activities, with research indicating how media can shape expectations of sports figures and sports consumption behavior through analyzing gender disparities (Liao, T. et al., 2024). Recent research has begun to focus on how digital technologies influence inequalities in sports participation.

The purpose of this study is to investigate the factors influencing sports participation among second middle school students of Nanchang City, China. By conducting a comprehensive analysis of the various factors that influence sports participation, this study aims to provide insights that can inform students about the development of strategies and programs to encourage greater participation in sports among students. Through understanding the barriers and facilitators of sports participation, educators, policymakers, and parents can work together to create a supportive environment that promotes physical activity and overall well-being among adolescents. Ultimately, fostering a culture of sports participation can have long-lasting benefits for the physical and mental well-being of students in Nanchang City.

For individual middle school students, clarifying the rules of sports participation and influencing factors can provide guidance for their scientific planning of sports habits and achieving all-round development; for key schools such as Nanchang No. 2 Middle School, the research results can directly serve the optimization of physical education and activity design, and strengthen its demonstration and leading role; from a social level, it can provide micro samples for the refined development of middle school physical education in Nanchang and even the whole country, and help the implementation of the "Healthy China" strategy among young people. The research focuses on a two-dimensional exploration around the title: on the one hand, it accurately depicts the current status of students' participation in sports activities in Nanchang No. 2 Middle School, including specific characteristics such as sports selection, weekly participation time, and the proportion of on-campus and off-campus activities; on the other hand, it systematically deconstructs the influencing factor system, focusing on explicit factors such as school curriculum arrangements and sports facilities, and deeply exploring implicit variables such as students' sports interests and family sports atmosphere, forming a multi-dimensional analysis framework.

The present study on the physical activities and sports participation of middle school students in Nanchang City, as well as the factors influencing such participation, carries significant implications on several levels—academic, practical, and policy. Investigating adolescent physical activity is not only essential for understanding the behavioral patterns of young people in the context of health and education but also critical for designing evidence-based interventions that foster long-term well-being. By situating the research within the specific cultural and institutional environment of Nanchang, this study contributes both locally and globally to the ongoing discourse on adolescent health and physical education.

From an academic perspective, this study contributes to the growing body of knowledge concerning youth physical activity and sports participation. Although there exists a rich literature on physical education, health promotion, and adolescent well-being in Western contexts, studies focusing specifically on Chinese middle school students remain comparatively limited. Furthermore, the identification of factors such as personal motivation, family support, school facilities, and peer influence adds a multidimensional understanding of physical activity behaviors, thereby enriching comparative research and offering opportunities for cross-cultural analysis. Future scholars may use these findings as a reference for longitudinal studies, interventional research, or comparative projects between urban and rural settings in China or between China and other countries.

Methodology:

Design

This study employs a quantitative research approach, specifically a descriptive-correlational design, to systematically investigate physical activity and sports participation levels among middle school students in Nanchang City, China. This design was selected to provide both a detailed profile of student participation behaviors and a rigorous analysis of the relationship between these levels and various influencing factors. While the primary data is quantitative, derived from a structured questionnaire, open-ended questions provide supplementary qualitative depth.

Environment

The study was conducted at Nanchang No. 2 Middle School (南昌市第二中学), a prestigious, provincial-level key public secondary school in Nanchang, Jiangxi Province. As a key institution, it attracts a diverse student body from various socioeconomic backgrounds and operates under a national framework that balances academic excellence with holistic development.

The school serves over 3,000 students across two divisions: Junior Middle School (Grades 7–9) and Senior Middle School (Grades 10–12). The site was chosen for its comprehensive sports infrastructure, which includes a standard track and field, outdoor basketball courts, indoor gymnasiums for badminton and table tennis, and dedicated studios for martial arts and dance. These facilities support both the mandatory PE curriculum and elective extracurricular sports clubs (e.g., football, swimming, and traditional Chinese sports), providing a rich context for the study.

Participants and Sampling

A total of 300 students from Grades 7 to 12 were selected using quota sampling to ensure proportional representation across grade levels and gender. Participants were randomly selected within these quotas based on the following inclusion criteria:

1. Current enrollment at Nanchang No. 2 Middle School for the 2025–2026 academic year.
2. Voluntary participation, evidenced by signed student assent and parental consent forms.
3. Absence of severe physical illnesses or contraindications to physical activity, as verified by a health screening questionnaire.

Instrument

The primary tool was a structured, four-part questionnaire designed for a 20–25 minute completion time:

- Part I: Demographics (Age, sex, and grade level).
- Part II: Participation Levels (5 items measuring frequency, duration, sport types, and satisfaction).
- Part III: Influencing Factors (12 items on a 3-point Likert scale covering personal, family, school, and social domains).
- Part IV: Qualitative Insights (Open-ended questions regarding additional factors and desired support).

To ensure comprehension, the instrument was forward- and back-translated into Chinese by independent experts.

Validity and Reliability

The instrument underwent rigorous psychometric testing:

- Content Validity: Three experts in sports science and methodology validated the items. The final scale-level Content Validity Index (CVI) was 0.92.
- Construct Validity: Exploratory Factor Analysis (EFA) confirmed the theoretical structure, with a KMO value of 0.84 and a significant Bartlett's test ($p < 0.001$).
- Internal Consistency: The overall Cronbach's alpha was 0.89, with subscale coefficients ranging from 0.79 to 0.85.
- Temporal Stability: Test-retest reliability over a two-week interval yielded Intraclass Correlation Coefficients (ICC) between 0.83 and 0.91.

Data Gathering Procedure

The data collection was executed in three systematic phases:

1. Pre-Data Gathering: Approvals were secured from the University Ethical Review Board and the school administration. Orientation sessions were held for teachers and PE staff.
2. Actual Data Gathering: Over a two-week period, the researcher and three trained assistants administered the questionnaires during students' vacant periods using a standardized protocol.
3. Post-Data Gathering: (Reserved for data cleaning and statistical processing).

Table 1

Frequency Distribution of Questionnaire Administration and Retrieval

Grade Level	Questionnaires Distributed	Questionnaires Returned	Response Rate	Valid Questionnaires	Validity Rate
Grade 7	52	50	96.2%	48	96.0%
Grade 8	50	48	96.0%	46	95.8%
Grade 9	53	51	96.2%	49	96.1%
Grade 10	52	50	96.2%	48	96.0%
Grade 11	48	46	95.8%	44	95.7%
Grade 12	45	43	95.6%	41	95.3%
Total	300	288	96.0%	276	95.8%

Note: Questionnaires were distributed to all students in Grades 7–12

Table 1 shows the administration and return data of questionnaires distributed to students in Grades 7–12. A total of 300 questionnaires were distributed, with 288 returned, yielding an overall response rate of 96.0%. Among the returned questionnaires, 276 were valid, resulting in a validity rate of 95.8%. Across all grades, the response and validity rates remained consistently high, ranging between 95.6% and 96.2% for response rate, and between 95.3% and 96.1% for validity rate, indicating both effective administration and reliable data quality.

Data collection sessions were conducted in classrooms during free periods to avoid interference with academic activities. Each session began with an introduction explaining the purpose of the study and providing clear instructions for completing the questionnaire. Participants were assured of confidentiality and their right to withdraw at any time. The questionnaire required approximately 20-25 minutes to complete, and all responses were collected immediately upon completion.

To better understand the perspectives and experiences of middle school students regarding physical activity and sports participation, interviews were conducted with a total of 50 students from Grades 7 to 12. The sample was evenly distributed by gender, with 25 male and 25 female participants, ensuring balanced representation across both sexes. As shown in Table 2, each grade contributed approximately 8 students to the study, except for Grade 12, which included 10 participants to account for senior-level engagement. This distribution allowed for a comprehensive examination of student experiences across different academic stages, providing insights into variations in participation patterns and influencing factors among adolescents.

Post Data Gathering. Following data collection, all questionnaires were reviewed for completeness. Questionnaires with more than 20% missing data were excluded from analysis. Valid questionnaires were assigned to identification numbers and entered into a secure database. Audio recordings from interviews were transcribed verbatim and translated when necessary. All data were stored in password-protected files and encrypted storage devices. Physical documents were kept in locked cabinets at the university premises. The data management plan ensured that only the research team had access to the raw data, and all identifying information was removed during data processing. Data will be disposed when the study will be published.

Data Analysis

The collected data were analyzed using both descriptive and inferential statistical methods to address the research questions and test the stated hypotheses. The analysis was conducted using SPSS version 26.0, with a significance level set at $\alpha = 0.05$ for all statistical tests. Normality testing used Shapiro-Wilk test.

Descriptive statistics were employed to summarize the characteristics of the sample and the main variables under study: Frequencies and percentages described the categorical variables. Means and standard deviations summarized continuous variables (participation frequency, duration) and Likert-scale measurements (influencing factors) Independent samples t-test examined differences in participation levels between male

and female students One-way ANOVA analyzed variations across grade levels and age groups Post-hoc tests (Tukey HSD) identified specific group differences when ANOVA results were significant

Pearson correlation analysis examined relationships between influencing factors (personal, family, school, social) and participation levels Multiple regression analysis identified the predictive power of significant factors on sports participation Results were presented through appropriate tables, figures, and narrative explanations to facilitate clear understanding of the findings.

Ethical Consideration

The study was conducted following the guidelines of the Declaration of Helsinki. It was approved by the Research and Ethics Committee of the University of the Visayas with Reference No. NTP MAED2025-075 dated 28th day of JULY 2025. The research involved adult participants voluntarily engaged in the study, including Middle School Physical Education students from Nanchang City. Prior to data collection, an informed consent form was distributed to all participants, explaining the purpose of the study, confidentiality measures, potential benefits, and the voluntary nature of their participation. Participants were assured that they could withdraw at any time without penalty. No financial incentives were provided for participation. The authors declare no conflict of interest.

Results and Discussion:

Demographic Profile of the Student-Respondents

The demographic profile, which includes age, sex, and grade level, is crucial for understanding the composition of the respondent group and provides essential context for interpreting the subsequent findings on physical activity participation and influencing factors. The distribution of these 276 valid respondents across the demographic variables is presented in Table 3.

Table 2

Frequency and Percentage Distribution of Respondents by Age, Sex, and Grade Level

Variable	Category	Frequency	Percentage
Age	16-25	276	100.0
Sex	Male	142	51.4
	Female	134	48.6
Grade Level	Grade 7	48	17.4
	Grade 8	46	16.7
	Grade 9	49	17.8
	Grade 10	48	17.4
	Grade 11	44	15.9
	Grade 12	41	14.9

n=276 Mean Age = 16.8 (SD=1.5)

The data in Table 3 highlights key features of the study sample. All 276 respondents fell within the 16–25 age range, with a mean of 16.8 years (SD = 1.5), reflecting a concentrated distribution around mid-adolescence. This aligns with the intended demographic of junior and senior high school students. In terms of sex, the sample was nearly balanced: 51.4% male (n=142) and 48.6% female (n=134). This part ensures reliable comparisons between sexes and minimizes bias in analyzing gender differences in physical activity, supporting the planned use of independent samples t- tests. Grade-level distribution was also uniform, with proportions from Grade 7 to Grade 12 ranging narrowly between 14.9% and 17.8%. This outcome reflects the stratified random sampling approach, ensuring each grade was proportionally represented. Overall, the sample demonstrates a representative cross-section of the student population at Nanchang No. 2 Middle School. Its balanced age, sex, and grade composition provide a strong foundation for examining physical activity patterns and support the generalizability of findings within this educational context.

Levels of Physical Activity and Sports Participation

This section presents a comprehensive analysis of data pertaining to the core objective of this study: assessing the levels of physical activity and sports participation among the student-respondents. The analysis proceeds through

five distinct sub- sections, each focusing on a specific dimension of participation: frequency, duration, types, forms, and overall satisfaction. (Table 4) The students have multiple responses or choose more than one category per variable.

Participation Frequency. Participation frequency, measured as the number of times students engaged in structured or unstructured physical activities per week, serves as a primary indicator of their engagement level. The responses were categorized into four groups for clarity. The results reveals that a significant majority of students (87.3%) do engage in some form of physical activity each week. However, the data presents a concerning picture regarding the sufficiency of this engagement. The largest cohort (42.8%) participates only 1-2 times per week, which falls below the common international recommendation of at least 3 times per week for adolescents. Combined with the 12.7% who reported no activity, this indicates that 55.5% of the student body is either inactive or insufficiently active. A more positive finding is that 44.5% of students meet or exceed the 3-times-per-week threshold, with 12.3% being highly active (5+ times).

Duration of Participation. The duration of each activity session is another critical dimension for assessing overall physical activity volume. Students reported their average engagement time per session. Table 4 indicates that for most students (55.4%), a typical physical activity session lasts between 30 to 60 minutes. This duration is generally sufficient for achieving health benefits if the intensity is moderate to vigorous. When combined with the 21.0% who engage for 61-90 minutes, over three-quarters of the students (76.4%) participate in sessions lasting 30 minutes or more. However, a notable

Table 3
Frequency Distribution of Sports Engagement of Students

Variable	Category	Frequency	Percentage
Frequency	0 times	35	12.7
	1-2 times	118	42.8
	3-4 times	89	32.2
	5 or more times	34	12.3
Duration	Less than 30 minutes	47	17.0
	30-60 minutes	153	55.4
	61-90 minutes	58	21.0
	90 minutes or more	18	6.5
Type of Activity	Ball Games (basketball, football, etc.)	198	71.7%
	Track and Field (running, etc.)	145	52.5%
	Dance (street dance, aerobics)	87	31.5%
	Martial Arts / Gymnastics	42	15.2%
	Swimming	32	11.6%
	Others (e.g., skating, yoga)	15	5.4%
Form	Self-initiated exercise with family	187	67.8%
	School physical education class	176	63.8%
	After-school sports club	95	34.4%
	Extracurricular sports training class	68	24.6%
	Class/school level competition	43	15.6%
Satisfaction	Very Dissatisfied	28	10.1
	Not too satisfied	75	27.2

General	102	37.0
Relatively satisfied	56	20.3
Very satisfied	15	5.4

N=276 *Note: Students have multiple responses.*

17.0% have sessions shorter than 30 minutes, which may be insufficient for significant physiological adaptation.

Types of Sports and Physical Activities. This multi-response analysis identifies the sports and activities preferred by the students, providing insight into their interests and the popularity of different activities. The data in Table 4 shows that students engage in a wide variety of activities, with an average of nearly two different activities per student (519 responses / 276 students $\approx$ 1.88). Ball games are overwhelmingly the most popular, participated in by 71.7% of students. This is likely due to their team-oriented nature, extensive coverage in media, and common inclusion in school curricula. Track and field, particularly running, is the second most common activity (52.5%), likely due to its minimal equipment requirements and focus on fundamental fitness. A clear gender-based preference was observed: ball games were more prevalent among males (88% of male respondents), while dance was significantly more popular among females (65% of female respondents).

Forms of Participation. This analysis examines the organizational context through which students participate in physical activity, which is crucial for understanding where interventions could be targeted. Table 4 reveals that informal, self-organized activities are the most common form of participation (67.8% of students), highlighting the importance of personal motivation and social networks. Mandatory school PE classes are the second most common vector (63.8%), underscoring the school's critical role in ensuring a baseline of physical activity for all students. However, structured, voluntary school-based offerings like sports clubs (34.4%) and competitions (15.6%) engage a smaller, likely more motivated segment of the population. The low participation in paid extracurricular training (24.6%) may be linked to socioeconomic factors.

Overall Satisfaction with Participation Level. Student satisfaction is a key indicator of perceived adequacy and enjoyment of their current activity level. A concerning 37.3% of students express clear dissatisfaction with their current level of physical activity (Very Dissatisfied + Not too satisfied). The largest group (37.0%) is neutrally ambivalent ("General"), suggesting a lack of strong engagement or motivation. Only a quarter of respondents (25.7%) report being satisfied (Relatively + Very satisfied). This indicates a significant gap between students' actual activity levels and their desired or ideal levels.

Influencing Factors on Sports Participation

This section presents a detailed analysis of the factors that influence students' participation in physical activities and sports, as measured by the 12-item scale in Part III of the questionnaire. The items were designed to capture perceptions across four key theoretical domains: Personal, Family, School, and Social factors. Each item was rated on a 3-point Likert scale (1 = Does not apply, 2 = Unsure, 3 = Applies). The analysis employs descriptive statistics—specifically means and standard deviations to quantify the degree to which students perceive each factor as an enabler or barrier to their participation. Table 5 provides a comprehensive overview of all influencing factors, ranked by their mean scores.

Table 4

Mean and Standard Deviation of the Influencing Factors of Sports Engagement

Domain/Indicators	Mean	(SD)	Descrip
Personal			
Participating in physical activity makes me feel happy or relaxed.	2.78	0.41	Applie:
I have a strong interest in sports activities.	2.45	0.63	Applie:
I think I have good motor skills.	2.36	0.70	Applie:
The academic pressure is too great to have time for sports.	1.89	0.83	Unsure
Factor Mean	2.37		Hig
Family			
My family supports me in my participation in sports.	2.62	0.58	Applie:
My family also likes sports and exercises ordinarily.	2.31	0.72	Unsure
Factor Mean	2.47		Hig
School			
I like the teaching content and method of physical education.	2.18	0.79	Unsure
The school sports field and equipment can meet my needs.	2.03	0.85	Unsure
The school-organized sports activities are very attractive.	2.11	0.81	Unsure
Factor Mean	2.11		Mode
Social			
My friends often invite me to participate in sports activities.	2.52	0.67	Applie:
I follow sports stars or sporting events.	2.33	0.76	Unsure
There are convenient sports facilities near or in the community.	2.24	0.80	Unsure
Factor Mean	2.36		High

The results show that among all items, the highest-rated factor was “participating in physical activity makes me feel happy or relaxed” ($M = 2.78$, $SD = 0.41$), highlighting the strong positive impact of personal emotional benefits. Family support also emerged as a significant driver ($M = 2.62$, $SD = 0.58$), while peer influence, such as friends’ invitations to participate in sports, ranked third ($M = 2.52$, $SD = 0.67$). In contrast, school-related factors received lower mean scores, with items such as the adequacy of sports facilities ($M = 2.03$, $SD = 0.85$) and the attractiveness of school-organized activities ($M = 2.11$, $SD = 0.81$) ranking among the lowest, suggesting weaker institutional support. The lowest-rated factor overall was “academic pressure is too great to have time for sports” ($M = 1.89$, $SD = 0.83$), indicating that time constraints due to academics are a considerable barrier. Overall, the results emphasize that personal enjoyment, family encouragement, and social interactions are stronger motivators for sports participation compared to school-level provisions.

Personal Factors. The personal factors domain includes individual motivators and barriers such as interest, self-efficacy, emotional reward, and perceived constraints. The data shows that the strongest motivator is Item 12, “Participating in physical activity makes me feel happy or relaxed” ($M=2.78$, $SD=0.41$), reflecting a near-universal agreement that enjoyment and stress relief are key drivers. Item 1, “I have a strong interest in sports activities” ($M=2.45$, $SD=0.63$), also indicates broad intrinsic motivation, while Item 2 on self-efficacy ($M=2.36$, $SD=0.70$) suggests moderate confidence, though some students doubt their abilities. Conversely, Item 3, “The

academic pressure is too great to have time for sports,” records the lowest score ($M=1.89$, $SD=0.83$), highlighting heavy academic workload as the most significant barrier. Overall, personal factors reveal a dual pattern: students are motivated by enjoyment and interest but constrained by academic demands, with self-efficacy representing a moderate but improvable influence.

Family Factors. This domain assesses the role of the family environment, including explicit support and implicit role modeling. Item 4: "My family supports me in my participation in sports" is the second highest-ranked factor overall ($M=2.62$, $SD=0.58$). This indicates that familial encouragement is a very strong and positive influencing factor for most students. Explicit verbal and financial support from parents is a significant enabler. Item 5: "My family also likes sports and exercises ordinarily" (role modeling) received a lower score ($M=2.31$, $SD=0.72$). While still positive, this score suggests that active role modeling is less common than explicit support. In many households, parents may support their children's sports endeavors without necessarily being active themselves.

The family environment acts predominantly as a strong positive influence on sports participation, primarily through direct support and encouragement. The slightly lower score for familial role modeling suggests a potential area for intervention—promoting family-wide active lifestyles could further enhance this positive effect.

School Factors. School factors assess facilities, PE curriculum quality, and extracurricular offerings, and results show this domain has the lowest scores. Item 7, "I like the teaching content and method of physical education" ($M=2.18$, $SD=0.79$), indicates that PE classes are only moderately engaging. Similarly, Item 9, "The school-organized sports activities are very attractive" ($M=2.11$, $SD=0.81$), suggests limited appeal of extracurricular programs. Most concerning is Item 6, "The school sports field and equipment can meet my needs" ($M=2.03$, $SD=0.85$), highlighting inadequate facilities as a clear barrier. Overall, school-related factors represent the weakest domain, with deficiencies in infrastructure, curriculum design, and program appeal. These areas require focused improvements to better support and encourage student participation in physical activity.

Social Factors. Social factors reflect the influence of peers, media, and community. Peer support emerges as the strongest driver: Item 8, "My friends often invite me to participate in sports activities," scored highly ($M=2.52$, $SD=0.67$), highlighting the central role of social networks. Media influence, such as following sports stars or events, shows moderate motivation ($M=2.33$, $SD=0.76$), while community facilities scored neutrally ($M=2.24$, $SD=0.80$), suggesting they are neither strong barriers nor enablers. Overall, the social environment—especially peer influence—positively shapes student participation. Media serves as a secondary motivator, whereas community infrastructure plays a limited role. Combined with findings from other domains, results show students are intrinsically motivated and supported by peers and family, but academic pressure remains the greatest barrier, and schools are underperforming as facilitators of sports participation.

Differences in Sports Participation Levels Based on Demographic Variables

This section is dedicated to the rigorous testing of a series of null hypotheses concerning the influence of demographic variables on students' physical activity and sports participation levels. Specifically, it aims to test the hypothesis of, no significant difference in participation patterns across the demographic categories. To this end, inferential statistical analyses—Independent Samples t-tests and One-Way Analysis of Variance (ANOVA)—were employed. Table 6 presents the results comparative test.

Table 5

Differences in Sports Participation by Gender

Variable	Group	Mean	SD	t-value	p-value	Cohens d
Frequency	Male	2.68	0.92	4.53*	.001	0.54
	Female	2.21	0.87			
Duration	Male	2.32	0.76	3.27*	.001	0.39
	Female	2.05	0.71			
Satisfaction	Male	2.87	0.95	2.89*	.004	0.35
	Female	2.54	0.89			

*N=276 Male=142 Female=134 df=174 *Significant at < .05*

Differences by Gender

Gender is often cited as a significant determinant of physical activity behavior in adolescence. To test the null hypothesis Ho1.2 (There is no significant difference in the levels of physical activity and sports participation of students when grouped according to gender), Independent Samples t-tests were conducted. The key participation variables—frequency, duration, and overall satisfaction—were treated as continuous dependent variables. The independent variable was gender, with two groups: Male (n=142) and Female (n=134).

The results indicates that males had significantly greater frequency participation ($t = 4.53$, $p < .001$, Cohen's $d = 0.54$), longer participation duration ($t = 3.27$, $p = .001$, $d = 0.39$), and higher overall satisfaction ($t = 2.89$, $p = .004$, $d = 0.35$). These results suggest that, in this sample, males engage more frequently and for longer periods in sports activities and experience higher satisfaction than females, with effect sizes ranging from small to medium.

Differences by Grade Level

Grade level is assumed to influence physical activity through increasing academic pressure, changing social dynamics, and evolving interests. To test the null hypothesis (There is no significant difference in the levels of physical activity and sports participation of students when grouped according to grade level), a series of One- Way ANOVA tests were performed. Table 7 presents the descriptive statistics and one- way ANOVA results for participation frequency across grade levels. The results show that the mean participation frequency gradually decreases from Grade 7 ($M = 2.71$, $SD = 0.88$) to Grade 12 ($M = 2.15$, $SD = 0.91$), suggesting lower engagement in sports among higher levels. The one-way ANOVA results, indicate a significant effect of grade level on participation frequency ($F = 3.82$, $p = .002$). These findings suggest that students' participation frequency in sports declines progressively as they advance through school grades.

Differences in Frequency

The ANOVA results show a statistically significant effect of grade level on participation frequency, $F(5, 270) = 3.82$, $p = .002$. This indicates that at least two grade levels differ significantly from each other. To identify which specific pairs of grades differed, a post-hoc Tukey HSD test was conducted. The results revealed that the significant differences primarily existed between the junior and senior grade levels.

The mean participation frequency for Grade 12 ($M = 2.15$, $SD = 0.91$) was significantly lower than that of Grade 7 ($M = 2.71$, $SD = 0.88$, $p = .008$) and Grade 8 ($M = 2.65$, $SD = 0.84$, $p = .021$). No other pairwise comparisons reached statistical significance at the .05 level.

Table 6

Difference in sports participation Frequency by Grade Level

Descriptive Matrix				ANOVA Matrix			
Variable	Group	Mean	SD	Source of Variance	Sum of Squares	Mean Square	F-value p-value
Frequency	Grade 7	2.71	0.88	Between Groups	15.23	3.05	F=3.82
	Grade 8	2.65	0.84		(df=5)		
	Grade 9	2.49	0.90				
	Grade 10	2.44	0.92	Within Groups	215.47	0.80	P=.002
	Grade 11	2.27	0.95		(df=270)		
	Grade 12	2.15	0.91				
	Total	2.45	0.92	Total	230.70		
					(df=275)		
Duration	Grade 7	2.27	0.736	Between Groups	15.23	3.05	F=1.24
	Grade 8	2.24	0.766		(df=5)		
	Grade 9	2.14	0.890				
	Grade 10	2.10	0.778	Within Groups	215.47	0.80	P=.289
	Grade 11	2.32	0.800		(df=270)		
	Grade 12	2.15	0.691				
	Total	2.20	0.778	Total	230.70		
					(df=275)		

Difference in Duration. A similar ANOVA was run for Duration of Participation. The result was not statistically significant, $F(5, 270)=1.24$, $p = .289$. This indicates that while the frequency of participation declines with grade level, the average length of each session remains relatively consistent across all grades.

Relationships Between Influencing Factors and Sports Participation Levels

It was hypothesized that no significant relationship exists between the various influencing factors and students' participation levels. To quantify the strength and direction of these potential linear relationships, Pearson's product-moment correlation coefficient (r) was computed. The analysis involved correlating the two primary quantitative indicators of participation—Frequency and Duration—with the scores from the 12 influencing factor items. The correlation matrix, Table 8 presents the results of this analysis, providing a comprehensive overview of how each factor is associated with participation behavior.

Table 7

Correlation Matrix of Influencing Factors and Sports Participation Indicators

The findings revealed that among the personal factors, feeling happy or relaxed during physical activity shows the strongest positive correlations with participation frequency ($r = .682$) and duration ($r = .534$), followed by strong interest in sports and good motor skills. Academic pressure, as a personal barrier, is negatively correlated with both participation frequency ($r = -.517$) and duration ($r = -.372$). Family support and engagement in family exercises are positively associated with participation while social influences, such as friends' invitations and following sports stars, also show moderate positive correlations.

The correlation matrix reveals a complex web of relationships, with all factors demonstrating statistically

Domain	Indicators	Participation Frequency		Duration of Participation	
		r-value	p-value	r-value	p-value
Personal	Feel happy/relaxed	.682*	.000	.534*	.000
	Strong interest	.621*	.000	.487*	.000
	Good motor skills	.453*	.000	.398*	.000
	Academic pressure	-.517*	.000	-.372*	.000
Family	Family support	.508*	.000	.421*	.000
	Family exercises	.386*	.000	.323*	.000
Social	Friends invite	.563*	.000	.452*	.000
	Follow sports stars	.412*	.000	.301*	.000
	Community facilities	.287*	.000	.245*	.000
School	Like PE class content	.324*	.000	.278*	.000
	Attractive activities	.298*	.000	.226*	.000
	Adequate facilities	.194*	.001	.162*	.007

significant correlations with at least one participation indicator. Hence, all relationships are significant, though the strength varies from weak ($r < 0.30$) to strong ($r > 0.60$)

Personal Factors The data provides overwhelming evidence to reject the null hypothesis. Personal factors show the strongest relationships with participation levels.

The positive correlation between "Feeling happy/relaxed" and participation frequency ($r = .682$) is particularly powerful, indicating a strong tendency for students who derive enjoyment from sports to participate more often. Similarly, a "Strong interest" is strongly correlated with frequency ($r = .621$). Crucially, the perceived barrier of "Academic pressure" shows a strong negative correlation with frequency ($r = -.517$), confirming it as a major deterrent. All personal factors are significant at the $p < .01$ level.

Family Factors The analysis leads to the rejection of the null hypothesis Ho3.2. Both family-related items show significant positive correlations. "Family support" has a strong positive relationship with frequency ($r = .508$), underscoring the vital role of parental encouragement. "Family exercises" also shows a moderate positive correlation ($r = .386$), suggesting that parental modeling of active behavior further encourages student participation.

School Factors While the correlations for school factors are statistically significant (leading us to reject the null hypothesis Ho3.3), they are notably the weakest among all domains. "Liking PE class content" has a low-to-moderate correlation ($r = .324$), and perceiving school activities as "attractive" is similarly correlated ($r = .298$). Most telling is the very weak correlation for "Adequate school facilities" ($r = .194$ with frequency). This indicates that while the school environment plays a role, it is a much less powerful driver of participation compared to personal and social factors in this sample.

Social Factors: The results necessitate the rejection of the null hypothesis Ho3.4. Social factors are strong predictors of participation. "Friends invite" shows a strong positive correlation with frequency ($r = .563$), highlighting the immense power of peer influence. "Following sports stars" also has a moderate positive correlation ($r = .412$), indicating that media and role models can stimulate interest. The availability of "Community facilities" has a weaker but still significant correlation ($r = .287$).

All Influencing Factors. The overarching null hypothesis stated that there is no significant relationship between the levels of physical activity and sports participation and the combined influencing factors. The analysis clearly demonstrates that multiple factors within each domain hold significant linear relationships with participation indicators. The fact that all 12 factors yielded statistically significant correlation coefficients, hence categorically the null hypothesis was rejected.

This order reveals that the most powerful drivers are intrinsic motivation (enjoyment, interest) and immediate social networks (peers). A major barrier is academic pressure. The external support structures of family are important, while the school's institutional role, particularly its facilities, appears to be the least influential factor among those measured.

Conclusion and Implications:

The study revealed that students' participation in sports activities is significantly influenced by both gender and grade level, with male students and those in lower grade levels showing greater involvement compared to their female and upper-grade counterparts. Furthermore, the home, school environment, peers, and the students' own motivation play crucial roles in determining the frequency and duration of participation. These findings highlight that sports engagement among students is a multifaceted behavior shaped by individual, social, and institutional factors. The overall level of physical activity among students is suboptimal. While a majority engages in some activity, a substantial portion (55.5%) is either inactive or insufficiently active, participating only 0-2 times per week. The most popular activities are ball games and running, primarily undertaken through informal, self-organized sessions with friends or family, rather than through structured school programs. This indicates a gap between student-led initiatives and the formal physical activity offerings of the school environment.

The difference in participation between male and female students implies a need for inclusive sports programs that encourage equal opportunities for all genders. Schools must identify barriers that discourage female students from active participation and address them through supportive measures. The higher participation among lower-grade students suggests that interest in sports may decline as academic demands increase. Schools should integrate flexible sports schedules and incentives to maintain enthusiasm among upper-grade students.

The influence of home, school, peers, and self-motivation underscores the importance of a supportive environment. Parents, teachers, and friends should be actively involved in motivating students to balance academics and sports. : Since sports participation is linked to teamwork, discipline, and physical well-being, sustained programs can contribute significantly to students' personal growth and the overall school culture of wellness.

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