



Elementary School Students' Sports Participation Rates

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Abstract

Study purpose. This study aims to analyze sports participation among elementary school students in Karanganyar Regency, with a focus on comparing participation patterns between rural and urban areas.

Materials and methods. A descriptive quantitative approach was employed, involving a sample of 180 students from six schools—three in rural areas and three in urban settings—spread across three districts in Karanganyar. Data collection utilized observation, questionnaires, and interviews, with the Sport Development Index (SDI) based on the 2007 SDI KK - OIR 2006 version and an adapted Physical Literacy Knowledge Questionnaire (PLKQ) as instruments. Data analysis was conducted using the SDI to examine the dimension of sports participation, with Microsoft Excel as the analysis tool. The participation index for elementary school students was 0.622, reflecting an average level of sports engagement across the sample.

Results. According to the SDI norms, this indicates that weekly sports involvement among students falls within the moderate category. The findings highlight the need for targeted interventions to address disparities in sports participation, particularly between rural and urban areas.

Conclusions. Overall, the sports participation of elementary school students in Karanganyar Regency shows that, according to the Sports Development Index (SDI) norms, their participation is included in the moderate category.

Keywords: Sports Participation, Sport Development Index (SDI), Elementary School Students, Rural and Urban Areas, Karanganyar Regency

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Introduction

The state of sports in Indonesia remains a concern, often characterized by inadequate attention and ineffective development efforts. This issue stems from insufficient funding, weak policies, limited infrastructure, and a lack of emphasis on physical education. Compounding this, there is low public awareness of the benefits of sports, with physical education frequently perceived as unimportant or as an activity that merely causes fatigue. Such perceptions have contributed to a declining emphasis on sports and physical activity (Kurniawan et al., 2024). A noticeable increase in sedentary lifestyles has emerged over recent years, particularly before, during, and after the COVID-19 pandemic. A sedentary lifestyle among children and adolescents has led to significant physical health challenges, including rising obesity rates,

susceptibility to degenerative diseases, and increased mortality (Maidartati et al., 2022; Thompson & Wankel, 1980). Additionally, it can have psychological consequences, such as heightened risks of depression and reduced mental well-being.

Sports participation is critical to combating sedentary behavior and promoting a healthy, active lifestyle, especially among elementary school students. It fosters a sports culture within society, contributing to physical, mental, and social well-being (Oja et al., 2024; Tušak et al., 2022). Higher levels of community sports participation are associated with reduced health disturbances (Oja et al., 2024). Recognizing its importance, Presidential Regulation No. 86 of 2021 mandates the promotion of a sports culture in Indonesia, beginning at an early age. At the elementary school level, sports participation can significantly impact the development of physical fitness, good movement patterns, and positive character traits. These early experiences lay the foundation for lifelong physical activity and sports engagement (Kardiyanto et al., 2024; Mulyo, Kristiyanto, & Kiyatno, 2014).

Despite its importance, existing studies on sports participation in Indonesia remain limited, particularly concerning comparisons between urban and rural communities. Previous research has often focused on broader population groups without addressing geographic or developmental disparities. Factors such as the availability of sports facilities, environmental safety, and community support also play crucial roles in determining participation levels (Bajuri, Hidayatullah, & Kristiyanto, 2018; Wei, Su, & Hsu, 2020). For instance, access to sports fields, parks, or fitness centers can significantly influence participation, yet such resources are often unevenly distributed between rural and urban areas (Yuzela, Kristiyanto, & Riyadi, 2023).

This study seeks to address this gap by analyzing the levels of sports participation among elementary school students in Karanganyar Regency, with a specific focus on rural and urban settings. It aims to explore how environmental factors and community support contribute to participation disparities. By investigating these aspects, the research highlights the role of targeted interventions to enhance sports engagement and foster a stronger sports culture in Indonesia.

Materials and methods

Participant

In the selection of sample clusters for this study, a total of 30 students was chosen from each of the following rural elementary schools: SD Negeri 02 Jantiharjo, SD Negeri 02 Sidomukti, and SD Negeri 02 Kadipiro. Similarly, for the urban area, 30 students were selected from SD Negeri 02 Cangakan, SD Negeri 01 Balong, and SD Negeri Karangbangun. Consequently, the overall sample size for this research comprises 180 students, data is shown in table 1.

Table 1. Research Sample

No	Subdistrict	School	Area	Amount
1.	Karanganyar Subdistrict	Cangakan 02 Public Elementary School	Urban	30
		Public Elementary School 02 Jantiharjo	Rural	30
2.	Jenawi Subdistrict	Public Elementary School 01 Balong	Urban	30
		Public Elementary School 02 Sidomukti	Rural	30
3.	Jumapolo Subdistrict	Public Elementary School Karangbangun	Urban	30
		Public Elementary School 02 Kadipiro	Rural	30

Method

This study employs a descriptive quantitative methodology, characterized as an analytical type of research aimed at comprehensively depicting the current condition regarding the level of sports participation among elementary school children in Karanganyar Regency.

Variables Instrument

Participation serves as the independent variable to assess the level of sports involvement, while elementary school students are considered the dependent variable in this study conducted in Karanganyar Regency. To collect research data, instruments such as observation sheets and questionnaires were utilized. The questionnaire for assessing sports participation among elementary school students was adapted from the Physical Literacy Knowledge Questionnaire (PLKQ) by (Longmuir, Woodruff, Boyer, Lloyd, & Tremblay, 2018). This questionnaire was subsequently modified to align with the characteristics and language of the Indonesian context.

Procedure

This study aims to determine the level of sports participation among elementary school students in Karanganyar Regency using a descriptive quantitative approach. Data were collected through observation sheets and questionnaires distributed to students from three rural and three urban elementary schools across three districts. The collected data were reduced and processed using Excel 2019 for analysis.

Data Analysis

This study employs a quantitative data analysis method. This approach involves utilizing the Sport Development Index (SDI) analysis from the dimension of sports participation. The formula for assessing sports participation is as follows:

$$Index = \frac{\text{Actual Value} - \text{Minimum Value}}{\text{Maximum Value} - \text{Minimum Value}}$$

This analysis will allow for a comprehensive evaluation of the level of sports participation among the subjects studied.

$$District\ Index = \text{District Index 1} + \text{District Index 2} + \text{District Index : 3}$$

After obtaining the total index value for the regency, the final step is to determine the norms or categories corresponding to the obtained index values in order to provide an interpretation. This categorization will facilitate a clearer understanding of the level of sports participation within the community, allowing for targeted recommendations and strategies for improvement, data is shown in [table 2](#).

Table 2. Sport Development Index (SDI) Norm

Index	Norm
0.800 - 1.000	High
0.500 - 0.799	Medium
0.000 - 0.499	Low

In the data analysis phase of this research, the researcher utilized computer software, specifically Microsoft Excel. This tool facilitated the processing and analysis of the data

collected, enabling efficient computation and interpretation of the results pertaining to sports participation among the elementary school students in Karanganyar Regency.

Results

The level of sports participation can be measured by comparing the number of participants in sports activities with the total population estimated through the sample. The population in question consists of individuals aged seven years and older at the time of measurement. In this context, the focus is not on the quality of participation, but rather on the quantity or frequency of their engagement in sports activities per week. To assess participation, respondents are asked questions via a questionnaire or survey, data is shown in table 3.

Table 3. Sports participation of elementary school students in Karanganyar

Criteria	Rural			Urban		
	Sidomukti Jenawi	Kadipiro Jumapolo	Jantiharjo Karanganyar	Balongo Jenawi	Karangbangan Jumapolo	Cangkalan Karanganyar
>=1	30	29	21	28	28	23
TOTAL	30	30	30	30	30	30

From the data in the table above, it is evident that the number of elementary school students in Karanganyar who engage in sports at least once a day is indicated. This data provides insight into the frequency of sports participation among the students, reflecting their involvement in physical activities on a daily basis.

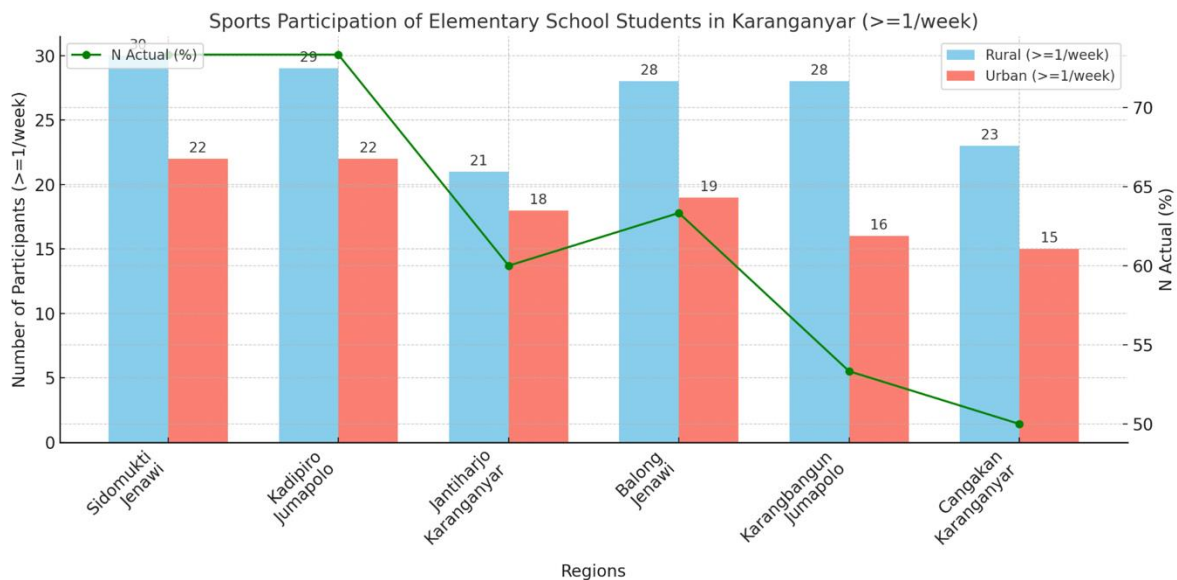


Figure 1. Sports Participation of Elementary School Students in Karanganyar

The Figure 1 compares the sports participation of elementary school students in Karanganyar, showing the number of students who engage in sports at least once a week in rural and urban areas across six regions. Rural areas generally have higher participation rates compared to urban areas, with Sidomukti-Jenawi showing the highest rural participation (30

students), while Cangkan-Karanganyar has the lowest urban participation (15 students). The accompanying line graph highlights the "N Actual" percentage, indicating the proportion of students actively participating in sports relative to the total sample in each region, with the highest percentage (73.33%) observed in Sidomukti-Jenawi and Kadipiro-Jumapolo. This visualization underscores the regional and rural-urban differences in student sports engagement.

Table 4. Sports participation of elementary school students in Karanganyar

Criteria	Rural			Balon g Jenaw i	Urban	
	Sidomuk ti Jenawi	Kadipiro Jumapol o	Jantiharjo Karanganya r		Karangbangu n Jumapolo	Cangkan Karanganya r
>=1	22	22	18	19	16	15
TOTAL N	30	30	30	30	30	30
ACTUA L	73.33	73.33	60.00	63.33	53.33	50.00

From the data collected in the [table 4](#), it can be determined that the number of elementary school students in Karanganyar Regency who engage in sports at least three times a week is detailed as follows. This information highlights the level of regular physical activity among the students, providing a basis for assessing their sports participation habits.

$$\text{Total Of N Actual} = \frac{(22+22+18+19+16+15)}{(30+30+30+30+30+30)} \times 100 = 62,22$$

After determining the actual sports participation value from the three districts, which is 62.22, the next step is to calculate the sports participation index. To compute this index, the formula previously outlined in the methodology section of the research is utilized. Applying this formula yields the sports participation index for the three districts that comprise the study area.

$$\text{Participation Index} = \frac{68,29-0}{100-0} = 0,622$$

Based on the calculations, the sports participation index for elementary school students in Karanganyar Regency is found to be 0.622. This participation index value, when referenced against the norms of the Sport Development Index (SDI), indicates that the community's involvement in sports activities over the course of a week falls into the **medium category**.

Discussion

Elementary school students in Karanganyar Regency demonstrate a strong understanding of physical literacy, particularly among children aged 7-9 years, regardless of whether they live in rural or urban areas. This understanding is crucial, as the holistic development of children in this age group highlights that a healthy body contributes to optimal growth and development ([Tinning, 2009](#)). To enhance children's involvement in sports, effective interventions are necessary. These should focus on personal attributes such as fundamental movement skills, self-efficacy, and fitness, which ensure that children are both capable of and motivated to engage in physical activities ([Liu, Luo, & Wang, 2021](#); [Tan, Oka, Dambha-Miller, & Tan,](#)

2021). Addressing sedentary lifestyles, which often involve minimal physical activity and include behaviors such as excessive screen time, is essential.

Such behaviors are frequently observed among school-aged children and adolescents. Therefore, schools must emphasize increasing physical activity instead of allowing students to spend excessive time on sedentary activities. When comparing the physical literacy of elementary school students in rural and urban areas of Karanganyar Regency, the results show no significant differences. Both groups demonstrate a high understanding of physical literacy, a result significantly influenced by physical education teachers who provide foundational instruction and promote independent engagement in physical activities (Sacheck & Brandes, 2024).

The rate of sports participation is likely to increase when stakeholders fully understand the concept of physical literacy. Community outreach about the importance of sports participation is vital, as individuals who understand physical literacy are more likely to engage in physical activities (Gu, Chen, Jackson, & Zhang, 2018). Improved physical fitness through regular activity can help mitigate health issues (Manshuralhudlori et al., 2024). Outreach efforts targeted at elementary schools can motivate children to adopt healthy lifestyles and engage in regular exercise. Insufficient physical activity can lead to rising obesity rates, degenerative diseases, and psychological effects such as depression (Rabiei, Sheikhi, & Letafatkar, 2023). These efforts align with Presidential Regulation No. 86 of 2021, which emphasizes fostering intrinsic and self-determined motivation in children to encourage sustained participation in physical activities (Bartha & Bácsné Bába, 2021; Wintle, 2022). This approach indirectly promotes sustained sports participation among children.

Conclusions

Overall, the sports participation of elementary school students in Karanganyar Regency indicates that, according to the norms of the Sport Development Index (SDI), their participation falls within the moderate category. While children's understanding of physical literacy is high, their actual sports participation remains at a moderate level. This highlights the need for targeted interventions to bridge the gap between knowledge and action. Outreach efforts emphasizing the physical and psychological benefits of exercise, coupled with support from families and schools, can significantly enhance participation rates. The family and school environments are essential in fostering consistent physical activity, as they provide both the encouragement and opportunities needed for children to engage in sports regularly. Such efforts align with the objectives of Presidential Regulation No. 86 of 2021, which aims to cultivate a culture of sports participation, ultimately promoting healthier and more active lifestyles among children.

Conflict of interest

The authors declare no competing interests related to the content of this article. Muhammad Hisyam contributed to the conceptualization, methodology, original draft preparation, writing, review, and editing. Agus Kristiyanto was responsible for supervision and formal analysis. Deddy Whinata Kardiyanto contributed to validation and investigation.

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