



Physical Fitness and Quality of Life Analysis of Junior High School

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Abstract

Adolescents tend to engage more in passive activities than in physical activities, which leads to decreased physical fitness and quality of life. This study aims to analyze the level of physical fitness, quality of life, and distribution of Body Mass Index (BMI) in Pelita Fajar Junior High School students. The study used a quantitative descriptive method with a total sampling technique involving 47 students. Physical fitness measurement uses the Indonesian Physical Fitness Test (TKJI) aged 13–15 years, which includes running 50 meters, hanging from the elbows, lying down, jumping upright, and running 800/1000 meters. Quality of life was measured using a questionnaire that included four domains, namely physical, psychological, social, and environmental. The results showed that the physical fitness level of students was dominated by medium (38.3%) and low (29.8%) categories, and there was no very good category. The quality of life of students is mostly in the moderate category (53.2%). Correlation analysis showed a strong relationship between quality of life domains with correlation coefficient values ranging from $r = 0.653$ to 0.714 . BMI distribution is dominated by underweight (40.4%) and normal (38.3%) categories. Students with normal BMI had a higher median physical fitness (≈ 14) than the underweight (≈ 13), overweight (≈ 12), and obesity (≈ 12.5) categories. These findings show that BMI balance plays a role in supporting physical fitness as well as being related to students' quality of life.

How to Cite

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INTRODUCTION

Physical fitness is a person's physical condition that allows them to perform activities optimally without experiencing excessive fatigue, so that the body still has energy to continue various other activities (Panggraita et al., 2020). Maintaining physical fitness can prevent various diseases due to a lack of movement and contribute to a person's balance or mental and emotional health (Kurnia & Wiguna Jatnika, 2022).

Physical fitness is a condition or ability of a person to carry out daily activities or work without experiencing excessive fatigue, and still have enough energy to enjoy free time to do other additional activities (Supriadi et al., 2025). To be categorized as having optimal physical fitness, every component in the body must also be in good condition. Physical fitness is a whole unit formed from various elements of physical condition. The three main aspects of such physical condition include strength, flexibility, and endurance (Aqhla, 2023).

There are five main components to support optimal physical fitness, namely muscle, heart and lung strength, flexibility, muscle endurance, and body composition (Pranata, 2022). To improve the physical fitness component, physical activity is not enough to be done only once a week but needs to be done regularly because physical fitness has an important role in supporting various daily activities, so that it is not easy to feel tired and still be able to complete many other activities (Rohmah et al., 2021).

According to the Ministry of Health (Kemenkes), physical activity is any form of physical activity that maximizes energy use and increases energy consumption or burns calories (Fadhiya Hayya et al., 2023). Regular physical activity contributes to physical health, boosts the immune system, and supports overall well-being, both physically and mentally (Oktriani et al., 2020). In doing physical activity, not only preparing optimal physical condition but also requires motivation as a psychological factors that encourage a person to engage in physical activity consistently and continuously (Putri et al., 2025).

In addition to physical fitness, quality of life is also an important thing to pay attention to in junior high school or adolescent students. Quality of life is an important aspect related to various daily human activities (Khois et al., 2024). Quality of life is closely related to subjective well-being, which includes four main components, namely positive and negative emotional experiences, life satisfaction levels, and satisfaction with certain

aspects of life. Physical activity is a major factor in shaping and maintaining a person's physical condition. High physical activity can have a positive impact on improving a person's physical fitness (Geralda Adhianto et al., 2023).

A person who has good physical fitness should have a good quality of life as well. Because a person who pays attention to his physical fitness will certainly have a good lifestyle as well, so that his quality of life is maintained (Kusumah, 2022).

According to the World Health Organization Quality of Life (WHOQOL), quality of life is defined as an individual's view or assessment of their position in life, which is influenced by the cultural context, the value system adhered to, and its relationship with aspirations, expectations, measures of achievement, and things that are prioritized by individuals (Destriande et al., 2021). Quality of life can be assessed through several aspects, namely physical health, mental health, psychological, social relationships, as well as the conditions of the surrounding environment (Rizkillah et al., 2023).

In recent decades, the prevalence of obesity has increased, especially among adolescents, due to a less active lifestyle and an unhealthy diet. Lack of physical activity is a major factor that plays a role in this problem (Amin & Sulaiman, 2025).

Physical education in schools has a role in overcoming this problem by encouraging students to be more active (Sari et al., 2024). Physical education is a field of science that focuses on learning physical activity, sports, and physical movements. Physical education aims to improve physical condition, fitness, and movement ability to form principles such as cooperation, sportsmanship, and discipline (Tri Fitrianto, 2023). Physical education includes two main aspects, namely the theoretical and practical aspects. The theoretical aspect includes understanding the structure of the body, organ function, and concepts in the field of sports. Meanwhile, the practical aspect focuses more on physical activity and various forms of sports practice carried out by students (Alfatih et al., 2025).

Students at Pelita Fajar Junior High School tend to exhibit a relatively high level of sedentary behavior, characterized by low levels of physical activity and spending more time on passive activities such as using gadgets or sitting in class for extended periods. This habit has the potential to negatively impact students' physical fitness levels and affect their quality of life, both physically and psychologically. Therefore, efforts

are needed to promote more active and structured physical activity.

This finding is consistent with previous research on physical fitness levels among students at Junior High School Negeri 1 Bangsal, which showed that the majority of students aged 13–15 had very low levels of physical fitness. The data indicated that no students were categorized as “Very Good,” only 3% were in the “Good” category, and 40% were in the “Moderate” category, while none were classified as “Poor.” However, a concerning 57% of students fell into the “Very Poor” category (Alviana Santoso et al., 2024).

The purpose of this study is to identify and analyze the level of physical fitness of students at Pelita Fajar Junior High School based on the components of physical fitness, as well as to determine the students' quality of life. In addition, this study also aims to analyze the relationship between physical fitness and quality of life, and to examine the level of physical fitness based on students' nutritional status (BMI) in order to obtain a more comprehensive understanding of their physical condition and overall well-being.

The novelty of this research lies in its specific focus on students at Pelita Fajar Junior High School, which has not been previously studied, thus providing new empirical data regarding patterns of physical fitness and quality of life within this school context. Furthermore, this study not only describes these two variables but also integrates nutritional status (BMI) and explores factors influencing physical fitness, offering a more comprehensive approach compared to previous studies.

METHOD

This study uses a quantitative descriptive research method. Quantitative descriptive research is a type of research that utilizes quantitative methods with descriptive analysis techniques to understand the meaning of data scientifically. The data collected, especially quantitative data, was obtained through the dissemination of questionnaires/questionnaires or direct observation in the field. The results of the data are then presented in the form of tables, curves, graphs, histograms, stems, and leaves (Alfatih, 2023).

The research was carried out at Pelita Fajar Junior High School with research subjects of all 47 students, consisting of 19 grade VII students, 14 grade VIII students, and 14 grade IX students. The sampling technique uses total sampling. According to Sugiyono, total sampling is a sampling

technique where all members of the population are used as research samples. This method is recommended if the population is relatively small, which is less than 100 people (Jannah et al., 2022).

The research instrument consisted of two parts. Physical fitness was measured using the Indonesian Physical Fitness Test (TKJI) for 13-15-year-olds, which included 50M running, elbow hanging, lying down, jumping upright, and running 800/1000M. Meanwhile, quality of life is measured using a quality of life questionnaire, which is compiled based on four main dimensions, namely physical health, psychological, social relations, and the environment. The questionnaire consists of 26 questions with a 5-level Likert scale.

Before being used in the research, the questionnaire instrument was tested on 80 junior or high school students age range 13-15 years to determine its validity and reliability. The results of the validity test show that all statements have a calculated *r* value greater than the *r* of the table (0.220), so that it is declared valid. The reliability test using Cronbach's Alpha coefficient obtained a value of 0.922, which indicates a very high reliability category.

RESULTS AND DISCUSSION

The results of the data obtained from the research on physical fitness and quality of life in all students at Pelita Fajar junior high school are as follows.

Table 1. Physical fitness percentage

Physical Fitness	Quantity	Percentage
Very Low	9	19,1%
Low	14	29,8%
Medium	18	38,3%
Good	6	12,8%
Excellent	0	0%

Based on the results of a **Table 1** descriptive analysis of the distribution of the physical fitness level of the respondents, it was found that most of the students were in the Medium category as many as 18 people (38.3%), and there were no respondents who reached the Very Good category (0%). These findings show that the majority of students' physical fitness levels are in the medium to low category. As well as the lack of students in the good category and the absence of the very good category indicate that most students do not have an optimal level of physical fitness.

Table 2. Quality of Life Percentage

Quality of Life	Quantity	Percentage
Low	12	25,5%
Medium	25	53,2%
Height	10	21,3%
Perfect	0	0%

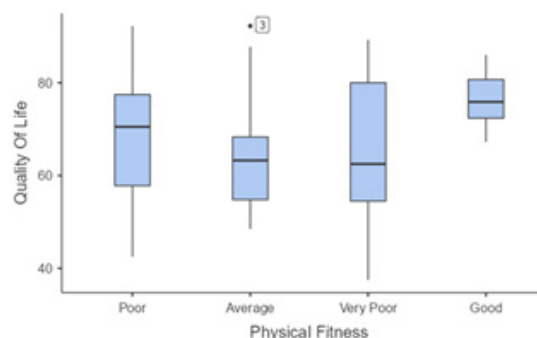
Based on the results of a **Table 2** descriptive analysis of the distribution of quality of life, it was found that most of the students were in the medium category with a total of 25 students (53.20%). Meanwhile, 12 students (25.50%) were in the low category, and 10 students (21.30%) were in the high category. No students are in the perfect category (0%). This distribution shows that the majority of students have a fairly good level of quality of life, although there are still some students who are at a low level.

Table 3. Correlation between Quality of Life domains

Matriks	Physical Health	Social Relations	Psychological	Environment
Physical Health				
Social Relations	0,675			
Psychological	0,664	0,653		
Environment	0,664	0,714	0,684	

The results of the **Table 3**. Correlation analysis showed that the value of the correlation coefficient was in the strong category ($r = 0.653-0.714$). A strong correlation between Physical Health and Psychological ($r = 0.664$) suggests that good physical condition contributes to emotional stability, life satisfaction, and mental well-being. Theoretically, individuals with good physical fitness tend to have more adaptive stress regulation and more positive self-perception. The strongest relationship was found between Social Relations and Environment ($r = 0.714$). These findings indicate that good social support is supported by a conducive environment. A supportive environment expands opportunities for meaningful social interaction, which ultimately improves the perception of overall quality of life.

Strong correlations across domains also indicate structural integration in the construct of quality of life. This means that an increase in one domain has the potential to trigger an increase in another. In the context of sports or active lifestyle interventions that are often the focus of research, the approach to improving quality of life should not only focus on physical aspects, but also consider psychological, social, and environmental aspects simultaneously.

**Figure 1.** Analysis of quality of life data based on Physical Fitness

Based on the **Figure 1**, there is a difference in the distribution of Quality of Life scores in each fitness category. The very low group had the lowest median (about 60) with a fairly wide range of values. The average group had a median of about 63–65, the low group around 68–70, and the good group showed the highest median (about 75–78) with a narrower spread.

However, the pattern is not completely linear because the median does not increase gradually from Very Poor to Good. The average group is actually lower than the Poor. However, descriptively, there is a tendency that the better the physical fitness, the higher the quality of life. This relationship is positive, but not completely linear, and is still influenced by multidimensional factors such as psychological, social, and environmental aspects.

Based on the data Present BMI, most of the respondents were in the Underweight category, as many as 19 people (40.40%), followed by the Normal category, as many as 18 people (38.30%). Meanwhile, respondents with the Overweight category amounted to 6 people (12.80%) and the Obesity category 4 people (8.50%).

These findings show that the largest proportion of respondents have a nutritional status below normal, while respondents with an overnutrition status are relatively less. This condition indicates a tendency for undernutrition problems in the study population, which can have an impact on physical health and fitness.

Based on the **Figure 2**, it can be seen that the median value of physical fitness in the normal BMI group is about 14, which is higher than the other groups, thus indicating that individuals with normal BMI have a relatively better level of fitness. The underweight group had a median of about 13, with a range of physical fitness values of about 8 to 18, while the obesity group had a median of about 12.5 with a range of about 7

to 17. These two groups also had a fairly wide variation in scores, which shows that there is a considerable difference in fitness levels within the group.

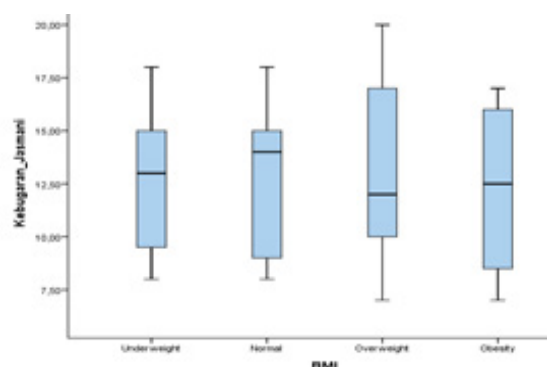


Figure 2. Distribution of physical fitness scores in each category of body mass index (BMI)

Meanwhile, the overweight group had a median of about 12 with a value range of about 7 to 20, which indicates the widest spread of data and the presence of some fairly high fitness values. However, the median value of this group is still below the normal BMI group. Thus, this graph indicates that BMI categories may be related to physical fitness levels, where individuals with normal BMI tend to have better physical fitness than other BMI categories.

The importance of understanding the special function of physical education in encouraging a healthy lifestyle, teaching students how to maintain both physical and mental health, and developing skills, confidence, and competence in carrying out various physical activities through various activities in physical learning that aim to maintain and improve students' physical fitness. According to a study that stated the level of physical freshness in SMP Negeri 17 Makassar students, it showed that 82.5% of students were in the moderate category, while 17.5% were in the good category (Mulyana et al., 2024). (Kendek et al., 2023).

According to Health-related Quality of Life (HRQoL), health-related quality of life is a concept that includes mental, physical, and social well-being. Therefore, increasing physical activity and supervision of adolescents' lifestyles is very necessary to support their quality of life. (Kevin et al., 2022)(Gumilar et al., 2024)Physical activity 3-5 days a week, with a time of approximately 60 minutes, can contribute to improving physical fitness.(Erliana et al., 2019)

The lifestyle of teenagers tends to be do-

minated by light activities such as sitting for long periods while studying (3–8 hours), playing with mobile phones, watching television, and sleeping for long periods (3–7 hours), so that their physical activity is relatively low and more passive in nature which is related to physical fitness (Ganis et al., 2023). This is in line with the results of the study showing that the physical fitness level of Pelita Fajar Junior High School students is generally in the medium to low category, with the majority of students included in the Average (38.3%) and Poor (29.8%) categories, and there are no students who reach the Very Good category. These findings indicate that most students do not yet have the optimal physical condition to support their daily activities to the maximum.

Adolescents are a group that requires serious attention because they are in a period of very rapid growth and development, so various problems, especially mental health, can arise due to various factors (Aisyaroh et al., 2022). This is in line with the results of a descriptive analysis of the distribution of quality of life of students at Pelita Fajar Middle School, which showed that the majority of students were in the medium category (53.20%), while 25.50% were in the low category and 21.30% were in the high category, and none reached the perfect category. These findings indicate that although the majority of students have a fairly good quality of life, there are still some students with a low quality of life who require more attention, especially in terms of mental health.

Quality of life analysis showed a strong correlation between the four domains, namely physical, psychological, social, and environmental ($r = 0.653-0.714$). This confirms that quality of life is a multidimensional construct that is integrated with other constructs. The strong relationship between the physical and psychological health. Physical activity plays a crucial role in maintaining mental health because it stimulates the release of endorphins, which help improve mood and reduce stress, anxiety, and depression. Furthermore, it contributes to increased self-confidence, self-esteem, and a positive body image, as well as providing opportunities for social interaction that can support students' emotional well-being (Sijabat, 2025). In addition, the highest correlation between the domains of social relations and the environment indicates that a conducive and supportive environment can strengthen the quality of students' social interactions, ultimately improving the perception of overall quality of life.

Students who have a good level of physical

fitness tend to have a higher quality of life, because they are able to carry out daily activities more effectively without experiencing excessive fatigue (Aziz et al., 2025). The score distribution in this study showed that students with good physical fitness categories had higher quality of life scores and were more homogeneous than other groups. In contrast, the Very Poor and Poor groups showed wider variation in scores, indicating an instability in the perception of quality of life in the group with low fitness. These findings reinforce the assumption that physical fitness has a tendency to positively correlate with quality of life.

If someone is physically fit, their Body Mass Index (BMI) and physical activity level tend to be good. Conversely, if someone is physically fit, their BMI and physical activity level tend to be less than optimal (Wiradika et al., 2025). Based on the results of the study, it can be concluded that Body Mass Index (BMI) is related to the level of physical fitness of students. Students who have a normal BMI tend to show a better level of physical fitness compared to students who are in the underweight, overweight, or obesity categories. This can be seen from the median value of physical fitness in the normal BMI group which is higher (about 14) than the underweight (around 13), overweight (about 12), and obesity (around 12.5) groups. These findings suggest that a balanced BMI plays an important role in supporting physical performance

The findings of this study confirm that physical fitness and quality of life are linked. Therefore, efforts to improve students' physical fitness are not enough to focus only on physical exercise, but also need to be accompanied by a psychological approach that includes psychological support, strengthening social relationships, and creating a healthy and supportive school environment. An integrated approach through structured physical education, regular physical activity programs, and balanced nutrition education is a strategic step in improving the overall quality of life of students.

CONCLUSION

Based on the research findings, it can be concluded that students' physical fitness has not yet reached an optimal level to fully support daily physical activities. Students' quality of life demonstrates a multidimensional and integrated structure, in which physical, psychological, social, and environmental aspects are interconnected in shaping overall well-being. The findings also indicate that physical fitness contributes to

quality of life, meaning that students with better physical conditions tend to have a higher level of well-being. In addition, nutritional status is one of the factors influencing both physical fitness and quality of life. Therefore, comprehensive and sustainable efforts are needed through physical, psychological, and environmental approaches to optimally support students' overall well-being.

Descriptively, students with better physical fitness tend to have a higher and more stable quality of life. In addition, the BMI distribution is dominated by the Underweight and Normal, which indicates a tendency for undernourished status, as well as suggesting that the relationship between BMI and quality of life is not entirely linear.

Schools are advised to improve physical activity and physical education learning programs that are structured, routine, and continuous to improve students' physical fitness, accompanied by balanced nutrition education and periodic monitoring of nutritional status, given the high proportion of Underweight.

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