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*by* Anonymous Anonymous

**Submission date:** 07-Dec-2023 02:26PM (UTC+0700)
**Submission ID:** 2183304065
**File name:** 3_OK.pdf (615.49K)
**Word count:** 8019
**Character count:** 43650

Edu Sportivo
Indonesian Journal of Physical Education
e-ISSN 2745-942X
Journal Homepage: https://journal.uir.ac.id/index.php/SPORTIVO

# Body mass index and physical fitness level of elementary school students

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Received 17 July 2023; Accepted 21 October 2023; Published 07 December 2023

OPEN ACCESS

**ABSTRACT**

The fitness condition of elementary school students is of particular concern in general, as today's technological advances and sedentary lifestyles greatly affect body mass index and physical fitness. This study aimed to determine the body mass index and physical fitness of elementary school students aged 10–12 years. The research method used in this study is a survey with a test approach and measurement of body condition. The subjects of this study used a population sampling technique by taking 1115 students from elementary schools in Kediri City and Regency. Research instruments used in the 2010 Indonesian Physical Fitness Test for children aged 10–12 years with 5 tests, namely 40 metres of running, bent elbow hanging test, sit-up test, upright jump test, vertical jump test, and 600-metre running test Measurement of body mass index (BMI) criteria in children aged 5–18 years based on height and weight owned by students The results of this study showed that male and female students in elementary schools in Kediri City and Regency got the results of the Body Mass Index (BMI) with a normal classification. The physical fitness results of male students in elementary schools in Kediri City and Regency show physical fitness results owned by sons with good classification. The physical fitness results of female students in elementary schools in Kediri City and Regency showed that most classifications were average. This study concludes that BMI and physical fitness must be maintained and improved. In the future, based on the results of this research, policies and methods will be needed so that BMI and student fitness will be even better.

**Keywords**: Body mass index; physical fitness; student; elementary school

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https://doi.org/10.25299/es:ijope.2023.vol4(3).13775



**How to Cite:** Allsabah, M. A. H., Putra, R. P., & Sugito (2023). Body mass index and physical fitness level of elementary school students. *Edu Sportivo: Indonesian Journal of Physical Education, 4*(3), 215-229. https://doi.org/10.25299/es:ijope.2023.vol4(3).13775

**Authors' Contribution**: a – Study Design; b – Data Collection; c – Statistical Analysis; d – Manuscript Preparation; e – Funds Collection

## INTRODUCTION

Fitness is one of the most important factors for students in carrying out all their activities. The activities that students do every day are very much, including activities at school, activities at home, and activities outside the home (Janssen & LeBlanc, 2010). Physical fitness owned by students varies. The characteristics of good physical fitness in children can consistently be seen from the child's ability to carry out activities without feeling fatigue (Pirnes et al., 2022). The importance of physical fitness starts from children by doing activities and maintaining a pattern of lifestyle and eating well, physical fitness as an important health marker in youth (Popovici et al., 2021). Previous research studies have shown that this fitness (Drenowatz et al., 2021; Ferguson et al., 2015; Rodrigues et al., 2020) very varied in each person depending on the activity carried out, the more activities carried out by children then require good physical fitness (Lupo et al.,

2023). In general, children have an emphasis on the importance of having greater fitness in order to become a habit and must have physical fitness in supporting their activities and in the next phase of development (Borrego-Balsalobre et al., 2023).

The current problem is that children ignore the problem of mastering physical fitness that children have. This is exacerbated by the results of the study by Jeki and Rizki, (2021). The main problem factors in children today are lack of physical activity and consuming unhealthy foods because it does not support the physical fitness of children. Scientific evidence shows that students' health status and quality of life are directly related to their physical fitness (Rosa-Guillamón et al., 2020). Physical fitness is understood as a set of capacities and functions that enable people to perform physical exercise and exercise-based sports and physical activity with vigor and efficiency in their daily lives (Rosa-Guillamón et al., 2020). Recent studies have shown a link between having a low level of physical fitness in life stages such as childhood and adolescence and having a higher risk of developing physiological diseases (abnormal levels in parameters such as systolic blood pressure, lipoprotein cholesterol and plasma glucose; insulin resistance; bone tissue damage; among others) and psychosocial disorders (stress, psychological distress, among others) in adulthood (Rodriguez-Ayllon et al., 2018). Given its importance for health, normative values have been established to analyze the evolution of physical fitness status in young people, finding that optimal levels have not been done much to be able to analyze the various risks that will befall.

In addition to physical fitness, body mass index also plays an important role in children's life development. Body Mass Index (BMI) is one of the nutritional status measurement indexes commonly used to measure nutritional status, nutritional status assessment with BMI or BMI is the value of the calculation between a person's weight and height. BMI is believed to be an indicator or describes the level of adiposity in a person's body. Body Mass Index (BMI) in its development becomes an important study material, because by knowing the Body Mass Index (BMI) it can be known whether a person is in the category of thin, normal, overweight or obese. By measuring body mass index, it is possible to predict nutritional status, in this case, obesity in schoolchildren (Hadi et al., 2019). Research from Idaiani et al. (2019) in Indonesia on schoolchildren aged 5–12 years showed as many as 11.2% were in the underweight category, 30.7% were normal, and 18.8% were overweight or obese. Furthermore, the results of other studies conducted on children showed that 9.9% of children were in the thin category and 12.2% were obese (Fauzan et al., 2021).

The risk of overweight and obesity that occurs in children is closely related to diet and physical activity performed. Fast food which is increasingly becoming a trigger factor for poor nutritional status and health (Nasriyah et al., 2021). The pattern of physical activity carried out by the community tends to shift into a sedentary lifestyle, the main cause of which is technological advances and results in an increased risk of obesity (Mutia et al., 2022). The rise of online games using gadgets makes the lack of physical activity as a whole, especially for children (Puspa, 2019). Changes in diet and physical activity in children make physical growth and motor development of children can be disrupted, resulting in impaired body mass index.

The results of research by Popović et al. (2020) stated that children who participated in multisport activities had an insignificant level of physical fitness compared to children who participated in football activities alone. Therefore, some sports training programmes should be considered and encouraged by parents, educators, and other training professionals. From the results of these studies and looking at the fact that children today do less physical activity and have irregular food consumption patterns, it becomes irrelevant because monitoring these activities and consumption patterns can predict low

body mass index and physical fitness. In this study, we looked at physical fitness and body mass index (BMI) in children in Kediri city and district. This study is the result of an evaluation of the implementation of normal activities for children after COVID-19. This needs to be done to be able to know the development of students after the implementation of normal activities. The results of this study can be taken into consideration by teachers to know the condition of their students.

In recent years, many studies have been conducted to investigate the complicated relationship between body mass index (BMI) and physical fitness levels across different age groups, but there is still a research void seen in primary school students. Although studies have explained the correlation in populations such as high school students (Aliriad et al., 2023), and university students (Ding & Jiang, 2020), primary school students are still underrepresented in this literature. The study begins an important exploration into primary school students' BMI and physical fitness profiles, offering a unique perspective on their mental well-being, academic performance, and overall health. The novelty of the study lies in its exclusive focus on the often overlooked demographics of primary schools, bringing together the latest insights from research on the impact of physical activity on mental health. The focus of this research is to take the subjects of elementary school students aged 10-12 years because at this age who have a lot of activities to play, and learn every day must be supported by BMI and physical fitness (de Greeff et al., 2016). Research result from Fiori et al. (2020) mentioning that better performance achieved by children in the middle range correlates with body mass index, students who have low performance are students who have a low body mass index. Students with male and female genders must have a good body mass index to support physical fitness, because in it cardiorespiratory endurance, explosive power, and flexibility in one's fitness (Lopes et al., 2019).

Physical fitness is a person's ability to maintain body conditions for a long time without experiencing fatigue (Satrio & Winarno, 2019). Physical education is an educational process through physical activity that aims to improve physical fitness, develop motor skills, sportsmanship, emotional intelligence, knowledge and healthy and active living behaviours (Rokhayati, 2016; Chen & Hypnar, 2015). According to Prativi et al. (2013), physical fitness is one of the physical aspects of total fitness. It allows a person to do productive daily work without excessive fatigue, enjoy free time well, and perform other activities with sufficient energy. The development of children's physical fitness and the effects of age and gender are related to moderation, especially differences between boys and girls (Zhang et al., 2021). Human health is significantly dependent on physical activity and healthy nutrition (Mandic et al., 2020). Physical education is one of the compulsory lessons carried out at various school levels. Physical education plays a role in helping students become healthy while in school (Dharmadi, 2016). Physical Education is one of the lessons carried out at every level of education (Sukarini, 2020). Physical education is part of the general purpose of education, which is to direct learners to change behaviour, intelligence, moral and social intelligence. Physical education is comprehensive for all dimensions of a complete human being (Shevchenko, 2022). Thus, physical fitness is a person's quality to carry out his work optimally without causing excessive health problems and fatigue.

Body Mass Index (BMI) is an important factor affecting cardiovascular fitness levels (Pradnya Andrastea et al., 2018). Body Mass Index (BMI) is body weight in kg divided by height squared in meters. BMI is one of the most common ways to estimate whether someone is overweight or has health problems (Lupo et al., 2023). It is used as, for most people, it indicates the level of body fat. In addition, Body Mass Index (BMI) is a relatively easy, inexpensive, and non-invasive method. This has several drawbacks; specifically, it did not indicate body fat and muscle mass distribution (Smetanina et al., 2015). Physical

fitness is calculated per unit of body weight so that if body fat increases, fitness will decrease (Hsu et al., 2021). The body composition in question relates to the characteristics of a person's body, including height, weight, and fat thickness. Weight and height can be used to measure the level of overweight respondents using BMI (Body Mass Index) standard body mass index = Weight (kg) Height (m). Increased BMI occurs due to an energy imbalance between food intake and energy expended, causing a build-up of energy in the form of fat which can lead to obesity or an increase in BMI (Pahkala et al., 2013). Individuals with higher BMI will risk developing the disease more (Mahiroh et al., 2019). Measuring body mass composition is more important than just looking at and calculating weight. Body composition describes the ratio between fat mass, bone mass, amount of body fluid, organs, and muscle tissue. On average, a person has between 3 – 12 per cent essential fats, 10 – 22 per cent non-essential fats in men and 20 – 32 per cent in women. Body composition can identify risk of disease and evaluate a person's nutritional status (Caldwell et al., 2020). BMI is a measure used to determine anthropometric height or weight in adults and to classify it into predetermined group norms.

Regarding the results of a study (Allsabah et al., 2022) on physical activity levels, body mass index (BMI), and sleep patterns in Kediri City and Regency students, which concluded that during the Covid-19 pandemic, it was included in the normal category, and physical fitness, the largest percentage of students had physical fitness levels in the less category. The obstacle is that students need more movement activities because during Covid 19, activities are limited, and students do not carry out many activities. Therefore, after the Covid-19 pandemic has passed, physical activity has gradually normalized; it is expected that body mass index and physical fitness can be normal so that they can support daily activities carried out by elementary school students. As discussed above, the importance of physical fitness in students and the tendency of obesity rates to increase, it is necessary to examine the assessment of body mass index on the level of physical fitness in elementary school students. In this study, the study variables were body mass index and physical fitness of elementary school students in Kediri city and regency. Therefore, this study aims to find out the body mass index and physical fitness of elementary school students in Kediri City and Regency.

## METHOD

This research was in accordance with the objectives of the problems raised, so the research design used a survey research approach. Survey research is a study that collects information from a sample by asking questions through questionnaires or interviews to describe various aspects of the population later and use questionnaires as the main data collection (Maidana, 2022). The research used in this study used surveys with test-type instruments, including Indonesian physical fitness tests for ages 10-12 years and anthropometric measurements of the body. According to the purpose of this study, it included a type of descriptive research that aimed to describe variables.

The sampling technique uses a purposive sampling technique. The consideration used is sampling with high grades, namely grades 4 to 6, in all Kediri city and regency elementary schools. Thus, the research sample amounted to 1115 male and female students. The test instruments used in this study include body mass index measurement and the Indonesian Physical Fitness Test (TKJI). The Indonesian Physical Fitness Test (TKJI) is one of the test instruments used to assess a person's physical fitness level adjusted to the age of the selected subject. The Indonesian Physical Fitness Test (TKJI) is divided into four by using age as a differentiator of test types, 6-9 years, 10-12 years, 13-15 years, and 16-19 years and adjusted for gender for the type of test in each age (Bayu et al., 2021). The types of measuring instruments can be presented from the

determination of various test equipment that can be used to measure each component. The choice of this test is because this test has been commonly used and applies to all regions of Indonesia.

Indonesian physical fitness test 2010 for children aged 10-12 years with 5 forms of tests namely 40 meters running this test aims to measure speed, the elbow flex hanging test. This test aims to measure the strength and endurance of arm muscles and shoulder muscles, lying down test sitting/sit up. This test aims to measure the strength and endurance of the abdominal muscles. This vertical jump test aims to measure explosive muscle explosive power, and the 600-meter running test aims to measure heart, circulatory, and respiratory endurance. The following are the physical fitness test norms resulting from the accumulated scores of various physical fitness tests.

**Table 1. Indonesian Physical Fitness Test Norms (Male Students and Female Students)**

| Interval | Physical Fitness Classification |
|---|---|
| 22 - 25 | Very Good |
| 18 - 21 | Good |
| 14 - 17 | Average |
| 10-13' | Less |
| 5 - 9' | Very Less |

The technique of collecting body mass index data is by taking anthropometric measurements. Then the Body Mass Index (BMI) is measured and categorized based on the status of the results that students have. How to determine body mass index is by the formula:

$$IMT = \frac{Weight\ (kg)}{(hight\ (m)^2)}$$

Measurement of Body Mass Index (BMI) criteria in children aged 5-18 years based on data can be seen in Table 2. below:

**Table 2. BMI Classification**

| Classification | Body Mass Index (BMI) (kg/m²) |
|---|---|
| Underweight | IMT < 18,5 |
| Normal | IMT 18,5 – 25,89 |
| Overweight | IMT 25,90 – 26,99 |
| Obesitas | IMT > 27 |

After the data collection process is derived from the research, the data will be analyzed using a descriptive analysis technique by describing the data that has been collected; the data used is to describe the frequency and percentage of the data. Through with the following formula:

$$P = \left(\frac{f}{N}\right) + 100\ \%$$

Information:
P = percentage searched
F = frequency
N = number of respondents

## RESULTS AND DISCUSSION

The results of the research that have been carried out are in accordance with the problem of the Body Mass Index and Physical Fitness Level survey of elementary school students in Kediri City and Regency. So all descriptive data from the study items, including height and weight results on body mass index items and push-up tests, 60-meter run, 60-second pull-ups, 60-second sit-ups, vertical jumps, and 1200-meter run exposure to the research data can be seen in each of the data descriptions below.

Body Mass Index (BMI)

The Body Mass Index (BMI) test measures a student's height and weight; this test is used to determine the value of the student's body mass index. After conducting tests on 1115 students, the following results were obtained:

**Table 3. Body Mass Index of Male Students Kediri City and Regency Elementary School**

| Classification | Body Mass Index (BMI) (kg/m²) | Frequency | Percentage |
|---|---|---|---|
| Underweight | <18,5 | 85 | 11,9% |
| Normal | 18,5 – 24,9' | 617 | 86,5% |
| Overweight | 25 – 29,9 | 2 | 0,3% |
| Obesitas | >30' | 9 | 1,3% |
| | | **713** | **100%** |

Table 3 above shows that the body mass index based on age (BMI/U) can be described by most students of Kediri city and regency Elementary School; the largest male gender is included in the normal category; this can be seen from the measurement results getting the results of 86.5% or 617 students who fall into the classification. While the underweight classification got a score of 11.9% or 85 students who were included in the classification, the overweight classification got 0.3% or 2 students who were included in the classification, and the obesity classification was 1.3% or as many as 9 students who were included in the classification.

**Table 4. Body Mass Index of Female Students Kediri City and Regency Elementary School**

| Classification | Body Mass Index (BMI) (kg/m²) | Frequency | Percentage |
|---|---|---|---|
| Underweight | <18,5 | 46 | 11,4% |
| Normal | 18,5 – 24,9' | 249 | 61,9% |
| Overweight | 25 – 29,9 | 79 | 19,7% |
| Obesitas | >30' | 28 | 7,0% |
| | | **402** | **100%** |

Table 4 above shows that the body mass index based on age (BMI / U) can be described by most students of Kediri city and regency Elementary School; the largest female gender is included in the normal classification; this can be seen from the measurement results getting the results of 61.9% or 249 students who are included in the classification. While the underweight classification got a score of 11.4% or 46 students who are included in the classification, the overweight classification got results of 19.7% or 79 students who are included in the classification and the obesity classification as much as 7.0% or 28 students who are included in the classification.

Physical Fitness Test

The Indonesian physical fitness test consists of 4 tests: a 20-meter MFT test, an excellent jump test, a 60-second sitting bed test and a 60-second Push-Up test. The following are the results of the Indonesian physical fitness test conducted on 1115 elementary school students in Kediri city and regency.

**Table 5. Physical Fitness Test Results of Male Students in Kediri City and Regency Elementary Schools**

| Classification | Interval | Frequency | Percentage |
|---|---|---|---|
| Very Good | 22 - 25 | 103 | 14,45% |
| Good | 18 - 21 | 353 | 49,51% |
| Average | 14 - 17 | 149 | 20,90% |
| Less | 10 - 13 | 89 | 12,48% |
| Very Less | 5 - 9 | 19 | 2,66% |
| | **713** | | **100%** |

Based on Table 5, it can be described that the results of physical fitness tests for male students in elementary schools in Kediri city and regency showed that the results of students who obtained a very good classification of 103 students or 14.45%, in a good classification of 353 students with a percentage of 49.51%, in the average classification of 149 students or 20.90%, in a classification of less than 89 students or 12.48%, and there was a classification of less than 19 students or 2.66%. From the overall results of physical fitness tests conducted by male students, the largest classification is good, with 353 students or 49.51%.

**Table 6. Physical Fitness Test Results of Female Students in Kediri City and Regency Elementary Schools**

| Classification | Interval | Frequency | Percentage |
|---|---|---|---|
| Very Good | 22 - 25 | 53 | 13,18% |
| Good | 18 - 21 | 107 | 26,62% |
| Average | 14 - 17 | 188 | 46,77% |
| Less | 10 - 13 | 10 | 2,49% |
| Very Less | 5 - 9 | 44 | 10,95% |
| | **402** | | **100%** |

Based on Table 6, it can be described that the results of physical fitness tests for male students in elementary schools in Kediri city and regency showed that the results of students who obtained a very good classification of 53 students or 13.18%, in a good classification of 107 students with a percentage of 26.62%, in the average classification of 188 students or 46.77%, in a classification of less than 10 students or 2.49%, and there was a classification of 44 students or 10.95%. From the overall results of physical fitness tests conducted by female students, the largest classification was average, with 188 students or 46.77%.

The results of research that has been conducted on male and female students in elementary schools in Kediri city and regency to determine body mass index and physical fitness using test procedures according to the purpose of the study. The results showed that male students in Kediri City and regency elementary schools received Body Mass Index (BMI) results with a Normal classification. The test results show that male students must maintain their body mass by balancing food consumption and physical activity so as to maintain Body Mass Index (BMI) because with programmed food patterns and physical activity, the development of the Body Mass Index (BMI) owned by students can lead to better. Meanwhile, the results of the Body Mass Index (BMI) of female students in elementary schools in Kediri City and Regency showed that most classifications were normal. These results show that female students must maintain their body mass by balancing food consumption and physical activity so as to maintain Body Mass Index (BMI) because with programmed food patterns and physical activity, the development of the Body Mass Index (BMI) owned by students can lead to better.

Previous research studies have shown that physical activity in higher children must be compared with energy intake so that students' body mass index can develop properly

(Allsabah et al., 2022). The results showed that there were results of students who had Body Mass Index (BMI) conditions at the overweight level. The tendency of overweight problems in students generally often occurs in students who are unable to balance food consumption that is greater than the activities carried out by students because in the study, there were 9 students (1.3%) in boys and 28 students (7.0%) in girls. Cases of students who gain weight due to food consumption that is not comparable to the activities carried out (Kurdanti et al., 2015), besides that in modern times today many children are spoiled with all instant activities and reduce children's activities (Yumarni, 2022). Cases of overweight elementary school students show that the lifestyle of current students can affect the level of BMI owned by children. In addition to physical activity, dietary and rest factors can also affect the occurrence of excess weight in children. Socioeconomic status factors also play a role in the results of children's body mass index (Tami, 2022). Being overweight refers to the percentage of body fat by increasing body mass to reduce speed; weight with excess fat composition can cause faster fatigue when carrying out daily activities (Barbour et al., 2020). Therefore, children need to have an ideal body weight to be able to carry out daily activities.

The main factor experienced in children who fall into the obese group is the imbalance of calories/energy consumed with energy spent (Aggarwal & Jain, 2018). This affects the low level of physical activity of children who experience obesity problems compared to friends with ideal body conditions. Prevention of childhood obesity is an international public health priority because of the very significant impact of obesity on acute and chronic diseases, general health, development and well-being (Waters et al., 2014). The cause of an increase in unhealthy body weight is increased consumption of high-calorie foods and decreased physical activity, resulting in increased excess weight/obesity (Frasca & McElhaney, 2019; Martinchik et al., 2022). Research conducted Primasoni, (2021) states that children who carry out unhealthy lifestyles result in weight gain owned by children. Currently, unhealthy lifestyle behaviour, such as consuming unhealthy and fast food, passive or limited activities, long sleep patterns, and lack of physical activity, can be found. The current diet of children who are starting to shift to the consumption of ready-to-eat foods, high carbohydrate food content that exceeds the needs of children results in the risk of obesity cases that afflict children. From the results of this study, the composition of Body Mass Index (BMI), which shows normal classification, can contribute to the activities carried out by children every day. Research Sholihah et al. (2023) shows that children who are in a condition with a body mass index in the normal category greatly contribute to supporting their activities.

In the results of physical fitness that has been carried out on male students in elementary schools, Kediri city and regency show that physical fitness results owned by sons with good classification. Physical fitness is the ability of humans to carry out activities or carry out activities without physical problems that can interfere with the activities carried out. The test results in this study show that male students must maintain or improve their physical fitness by increasing physical activity or active lifestyle. An active lifestyle by doing all kinds of physical activity will improve or maintain fitness leading to better. Meanwhile, the physical fitness results of female students in elementary schools in Kediri city and regency showed that most classifications were average. These results show that female students must improve their physical fitness; it can be done by doing an active lifestyle and doing physical activity continuously and porously. Factors that affect the level of physical fitness, especially in students, include: (i) Physical activity carried out by students is sufficient outside school activities; (ii) Adequate food and nutritional intake; (iii) Getting enough rest; and (iv) Regular and healthy lifestyle and state of the school environment. In addition, according to Primasoni (2021) that factors

that affect the physical fitness of students, including physical activity carried out by students to meet their movement needs, are still at a low level; it can occur because of the development of technology modernization that allows students to reduce students' physical movements. Seeing the current development, student mobility, especially when going to school, is a factor that affects the development of physical fitness. Currently, there are many supporting facilities in-vehicle technology to make it easier for students to travel to school. This makes the physical activity carried out when going to school greatly reduced. Obtaining good physical freshness, then what needs to be considered, and the level of activity carried out needs to be done regularly and increased (Bayu et al., 2021).

The physical activity currently carried out by students is only carried out in the implementation of physical education learning, which is only carried out once a week in each class with a limited time allocation. Physical education subjects carried out at school are programs to improve students' physical fitness. Having good physical fitness, students are expected to be able to do daily work with optimal energy and without feeling fatigued. Several factors can succeed in physical education programs, especially elementary schools, such as the availability of adequate facilities, the innovation of physical education teachers in providing learning materials and the ability to attract students to follow lessons. Having physical fitness in a good classification can appear more dynamic/enthusiastic and create productivity in carrying out activities (Aulia et al., 2022). The number of activities carried out by children is closely related to having good physical fitness, so when a student does daily physical activity, it increases the physical fitness of students. Vice versa, children who do not experience movement activities every day affect their physical fitness (Appelbaum, 2022). In essence, every human has different conditions and activities; this makes everyone's physical fitness different. In order to achieve an excellent physical fitness condition, it is necessary to get used to physical activities that involve physical fitness components. Physical activity with physical quality has a relevant relationship; a student's physical fitness certainly depends on how much they do physical activity in their daily lives (Prastyawan & Pulungan, 2022). A person's formation, change, and development cannot happen very quickly but through an active and continuous process (Ryendra et al., 2023).

Physical fitness is very important for every student to have in daily activities because, in their daily activities, students carry out activities such as learning; it must be supported by good fitness so that during the learning process, no students experience fatigue and are sick (Allsabah et al., 2019). Having physical fitness as a support in carrying out activities carried out by students can make physical fitness students can have a good level of fitness so that students will be motivated to always improve their fitness by doing good lifestyles and activities. In efforts to improve students' physical fitness, the role of a teacher in physical education learning needs to improve the form of learning so that their physical fitness can increase. Physical activities that can improve physical fitness, according to (Rozi et al., 2021), can be done in a first way, namely by modifying the time of physical education lesson hours; the time available in each session is 3x45 minutes/week and can be modified to three meetings a week. The second solution can be done by improving the strategy of physical education teachers in designing learning using the new paradigm of PE (fun, busy, whole, modified). Other forms of exercise, such as aerobic exercise that is given regularly and continuously and paying attention to exercise load, is one method that can improve physical fitness (Sukendro & Santoso, 2019). Children with a good level of physical fitness will be able to do all forms of activities without feeling tired and work optimally.

## CONCLUSION

Based on the research conducted involving the Body Mass Index and Physical Fitness Level Survey of 1115 elementary school students in Kediri City and Regency, notable findings emerge. The majority of male students exhibit a normal BMI, constituting 86.5%, or 617 students. Similarly, the largest proportion of female students falls within the normal BMI category, accounting for 61.9%, or 249 students. The importance of maintaining an ideal BMI among students is underscored, as optimal body proportions support their various activities.

Concerning physical fitness, the preeminent classification for male students is 'good,' as evidenced by 49.51%, or 353 students, meeting this criterion. Likewise, the highest number of female students falls into the 'average' category, comprising 46.77%, or 188 students. Recognising the significance of students' physical fitness, it is imperative to ensure their well-being to facilitate activities without experiencing fatigue.

However, it is crucial to acknowledge the limitations of this study, primarily stemming from its focus on specific regions that may not be representative of the national landscape. Consequently, future research should expand its scope to garner a more comprehensive understanding. This study's contribution lies in shedding light on the body mass index and physical fitness status of students, particularly in the context of normal activities during the COVID-19 pandemic. As such, the implications of these findings warrant further attention and follow-up actions.

## ACKNOWLEDGEMENTS

Researchers would like to thank the Sugito Foundations for remaining loyal to providing full support for implementing this research. The reviewer was also grateful for the participation of the Kediri city and district education offices in licensing this research activity.

## CONFLICT OF INTEREST

Clearly explain whether there are any conflicts of interest related to the reported research.

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