MOTOR SKILLS AND NUTRITIONAL STATUS PROFILE OF ELEMENTARY SCHOOL STUDENTS

Danang Fajar Rianto[1], Febrita Paulina Heynoek[2*], Rama Kurniawan[3], Fajar Raya Ferdinal Kusuma Bakti[4]

[1-4]*Department of physical education, health and recreation, Faculty of Sport Science, Universitas Negeri Malang, Malang, Indonesia*

*Email Co-author: febrita.paulina.fik@um.ac.id

Abstract. During the Covid-19 conditions, teaching and learning activities throughout Indonesia were carried out online, resulting in minimal physical movement activities normally carried out by students. This study aims to determine and obtain data on the profile of the level of gross motor skills and nutritional status of lower class public elementary school students in Kedungkandang District, Malang City. This research data was collected and designed using a survey and analysis using percentage analysis, by screening the school. Data analysis used cross sectional descriptive analysis with purposive random sampling. The instruments in this study used the Test of Gross Motor Development-2 (TGMD-2) and Body Mass Index. The final results of data analysis in the male group with a total of 60 students showed that the largest percentage of gross motor skills were classified as average with a percentage of 85% and the largest percentage of nutritional status was classified as normal with a percentage of 56.7%. In the female group with a total of 60 female students, the largest percentage of gross motor skills was classified as average with a percentage of 85% and the largest percentage of nutritional status was classified as normal with a percentage of 76.7%. Given the fact that the results of the following analysis can be used as evaluation material for teaching staff to design optimal learning by providing learning experiences as an effort to improve children's motor skills and nutritional awareness.

Keywords: early grade level; primary school; motor skills; nutritional status

1. INTRODUCTION

Early childhood is included in the productive phase, this can happen because the child's growth and development is experiencing a phase of getting to know new things [1]. In this productive phase, children tend to be active in moving and also consuming food. These two things need to be paid attention to, because if one of these two things has a deficiency or excess, it can have an impact on the child because the

N. Fitranto et al. (eds.), *Proceedings of the 2nd International Conference on Sport Science, Physical Education and Health (ICSSPEH 2024)*, Advances in Social Science, Education and Humanities Research 881,
https://doi.org/10.2991/978-2-38476-354-2_9

child can experience malnutrition or obesity. Therefore, it is important to understand motor skills and nutritional status in children. There are many driving factors in the child's growth and development process which can be obtained from the family, school and community around the child. The important role of parents and teachers in providing understanding to a child about motor skills as supporting the child to have body stability and elasticity of the child's muscles, and to have a healthy body by consuming nutritious food.

Motor skills are movement abilities that are commonly carried out by all living creatures, such as humans who need movement abilities to improve the quality of life [2]. Actions in mastering motor skills can occur in line with the development of physical growth, so that from the beginning and the formation of basic movement foundations such as walking, running, jumping, and jumping or throwing can develop along with physical growth too, motor skills are divided into three categories, namely *locomotor, non-locomotor,* and manipulative [3]. Motor development is basically the process of growth and development of a child's movement abilities. So that children's motor development can develop with help or stimulation in the maturity of the child's nerves, muscles or cognitive abilities. So efforts to stimulate a child's nerves, muscles and brain with every simple movement require complex interaction patterns from various parts and systems in the body that can be absorbed by the brain. Therefore, it is necessary to provide stimulus to children to be able to train movement skills. The aim of providing this stimulus is to be able to train children's coordination of body parts, balance, muscle strength and cognitive abilities [4].

The role of a teacher is the right one to provide a child with an understanding of movement skills in Physical Education lessons. Physical Education, Sports and Health lessons have the aim of trying to improve children's cognitive, affective and psychomotor abilities to emphasize and involve physical activity in physical education lessons which are prepared by the teacher systematically in order to achieve learning objectives [5]. The current curriculum, namely the independent curriculum, contains physical education learning outcomes to modify various basic movement patterns and movement skills demonstrated by students. This underlies the correct application of concepts and principles, as well as the use of activity concepts and principles to improve physical fitness and apply behavioral patterns. healthy living.

According to the National Sports System Law, it aims to focus on the development of abilities in forming the nation's character and cultural identity which is full of dignity, intelligence, faith and piety, noble character, skilled, creative, independent, healthy, democratic and responsible, which is structured through subjects. Physical education in forming aspects of reasoning, attitudes and skills. Physical education has three specific contributions, namely: (1) increasing students' level of health fitness, (2) developing various physical abilities, (3) deepening the concept of movement and how to apply it when training students to move. According to Nugraha basic movement abilities have a significant influence on children's academic progress, as well as making a positive contribution to children's physical growth and development [6]. Physical education itself is an important component in the learning stage with the aim of improving the quality of physical fitness and achievements in sports activities, motor skills

From the explanation above, motor skills play an important role in every child's life, enabling them to perform various movement skills. In simple terms, movement activities can improve children's movement abilities if they are carried out regularly and in a coordinated manner, this can be obtained through school in the Physical Education subject as understanding, learning and playing in the environment around the child's home. According to Hermanto, & Komaini nutritional status ensures that a child develops optimal movement skills to carry out daily activities and can be influenced by certain factors [7]. A person's nutritional health condition can depend on daily food habits, because healthy or unhealthy eating patterns can affect a person's nutritional status. During a child's growth and development period, having optimal nutritional status makes it important to improve personal qualities, including academic achievement and involvement in other activities, as well as absorbing the content of lessons at school, as well as participating in physical activities such as sports and playing.

Nutrition is the condition of the body resulting from the intake of food consumed containing nutrients [8]. Therefore, nutritional status refers to the condition of the body caused by food consumption and use of nutrients. This condition can be categorized into four parts, including poor, poor, good and very good nutrition. Stated that because children, especially at the age of elementary school, are experiencing a phase of growth and development, therefore children tend to have very active personalities and can spend their free time doing physical activities or

play [8]. When the environment around children provides stimulus or encouragement, they will be encouraged to move and choose to remain silent. There are many new things that attract children's attention, and they always have a feeling of wanting to try new things because of children's curiosity. Therefore, all elementary school age children need adequate and balanced nutritional intake, so that their bodies can work regularly and effectively by maintaining a good and strong immune system against disease through a proper diet.

The important role of parents when providing food intake to children, therefore it is important for parents to have knowledge of the quality of nutrition that will be consumed by children. The increasing understanding of a person's nutrition will also increase their ability to choose and prepare food with various combinations and variations that suit their needs [9]. The most appropriate period for a child's growth and development to develop a child's stimulus is during *The Golden Age* , because during that period all the advantages and privileges possessed during *The Golden Age* cannot be repeated by a child. Therefore, *The Golden Age* is also a golden opportunity for parents to be able to monitor and encourage the development of a child's life. If this period is not utilized properly under the supervision of parents or educators, it will usually be detrimental to the child during his growth period

According to Ulrich, TGMD-2 is a standardized test that focuses on process, reference criteria and reference norms to determine the size of the gross motor skills of children aged 3-10 years [10]. This test is also often used to identify children who are significant in the development of children's gross motor skills, plan instructional programs in the development of children's gross motor skills, assess the progress of each individual in the development of gross motor skills, and to evaluate the success of gross motor programs. The TGMD-2 was created in the United States with results proven to be a reliable, precise, and well-standardized assessment method for measuring the development of gross motor skills in children other than children with special needs [11].

From the explanation above, it can be concluded that there are several elements that influence children's motor skills and nutritional conditions, such as children's play activities, nutritional status, education for parents, and the importance of designing learning by teachers for students. The problem faced by Physical Education

teachers in several elementary schools in Kedungkandang District, Malang City is that some have under- and over-nutrition status which affects motor skills during physical education lessons.

Based on the results of observations and *screening* of schools in several cluster/core schools and impact schools in Kedungkandang District, that: there is a need for a gross motor skills test to measure the level of response of children's muscle tissue, flexibility, and endurance or consistency of children's movements using the *Gross Motor Test . Development* (TGMD). There is a need to update nutritional status data again, because several schools in Kedungkandang District have been recorded by the Malang City Health Service, most recently in 2021. Every distribution of elementary schools from cluster 1 to cluster 8 and impact schools in Kedungkandang District needs to carry out the latest data collection, based on the implementation of tests motor skills or *Test of Gross Motor Development* (TGMD) and nutritional status such as knowing the child's BMI, directly to state elementary schools around Kendungkandang District, Malang City.

Based on the context of the problem that has been described, the researcher is interested in conducting research with the title "Profile of Motor Skills and Nutritional Status of Elementary School Students in Kedungkandang District, Malang City". The aim is to find out and obtain data on the level of motor skills and nutritional status of elementary school students in Kedungkandang District.

2. METHOD

This research uses a survey method with a *cross-sectional approach*. Then for data collection using *Proportional Quota Sampling*. The variables that are the focus of this research are motor skills and nutritional status, with the dependent variable being motor skills and the independent variable being nutritional status. The subjects in this research were elementary school students from 8 representatives of 8 clusters in Kedungkandang District, Malang City. The number of lower-class students involved was 120 students aged 6-10 years, consisting of boys and girls. The survey was designed to study and understand data obtained through *sampling* the population, so as to obtain relationships between variables, distributive events, and realization [12]. 5,785 lower class elementary school students in Kedungkandang District, Malang City are the population in this study. *Sampling* was carried out using *proportional quota sampling* with a

portion of 90% (90% confidence level in sampling) so that a sample size of 98 children was obtained with an error rate of 10%.

Table 1. Sample of Lower Class State Elementary School Students Around Kedungkandang District, Malang City

No	School name	Rombel's name	The number of students
1.	SDN A	Class Grade I	5
		Class II	5
		Class III	5
2.	SDN B	Class I	5
		Class II	5
		Class III	5
3.	SDN C	Class I	5
		Class II	5
		Class III	5
4.	SDN D	Class I	5
		Class II	5
		Class III	5
5.	SDN E	Class I	5
		Class II	5
		Class III	5
6.	SDN F	Class I	5
		Class II	5
		Class III	5
7.	SDN G	Class I	5
		Class II	5
		Class III	5
8.	SDN H	Class I	5
		Class II	5
		Class III	5
Amount			120

This research has an instrument in the form of 12 TGMD-2 gross motor skills tests, which are composed of two subtest stages, namely 1) locomotor and 2) object control for children aged 3-10 years or preschool students and lower grade elementary school students. This instrument has a total of 48 criteria which are divided into 12 movements including gallop, leap, run, hop, slide, horizontal jump, strike, stationary dribble, over hand throw, catch, underhand roll, kick. TGMD-2 has a significant validity value based on the results of t count 2.27 > t table 1.65 and has a very high reliability value with a correlation coefficient of 0.765 so it has a fairly high degree of severity

and is suitable for use in children in Indonesia [13]. The skills assessment is carried out twice by giving a score of one if it meets the movement criteria and zero if it does not meet the movement criteria and body mass index in order to assess nutritional status through height and weight measurements. The results of each test instrument will be converted into a norm table as follows [14]:

Table 2. Norms for Test of Gross Motor Development-2

Standard Subtest S core	Gros Motor Quotient	Descriptive Ratings	Percentage Included
17 – 20	>130	Very good	2.34
15 – 16	121 – 130	Good	6.87
13 – 14	111 – 120	Above average	16,12
8 – 12	90 – 110	Average	49.51
6 – 7	80 – 89	Below average	16,12
4 – 5	70 – 79	Not enough	7.87
1 – 3	< 70	Very less	2.34

Table 3. Body Mass Index Norms

BMI	Nutritional status
<- Class III	Very thin
- Class III- <- Class II	Thin
- Class II - <- Class I	Normal
> Class I – Class II	Fat
> Class III	Obesity

Republic of Indonesia Ministry of Health (2019)

3. RESULTS AND DISCUSSION

3.1 Results

This research aims to update data and information related to the level of gross motor skills and nutritional status of elementary school students in Kedungkandang District, by utilizing surveys, *Test of Gross Motor Development TGMD-2,* and body mass index as methods. Based on the data analysis obtained, the level of gross motor skills and nutritional status of students was obtained. The total sample in this study was 115 elementary school students throughout Kedungkandang District, Malang City. The following is data on the results of students' gross motor skills tests and nutritional status.

Table 4. Gross Motor Skills Test Results for Male Group

No	Std Score	GMC	Frequency	Percentage	Category

1.	17-20	>130	0	0%	Very good
2.	16-16	121-130	1	1.7%	Good
3.	13-14	111-120	5	8.3%	Above average
4.	8-12	90-110	51	85.0%	average
5.	6-7	80-89	3	5.0%	Below average
6.	4-5	70-79	0	0%	Not enough
7.	1-3	<70	0	0%	Very less
	Amount		60	100%	-

Referring to the presentation of the results of the frequency distribution, it can be stated that in the gross motor skills test the male group in the average category numbered 51 students with a percentage of 85.0%, in the above category the average number was 5 students with a percentage of 8.3%, in the category below the average the number was 3 students with a percentage of 5.0%, in the good category there was 1 student with a percentage of 1.7%, in the male group there were absolutely no students in the very poor, poor and very good categories.

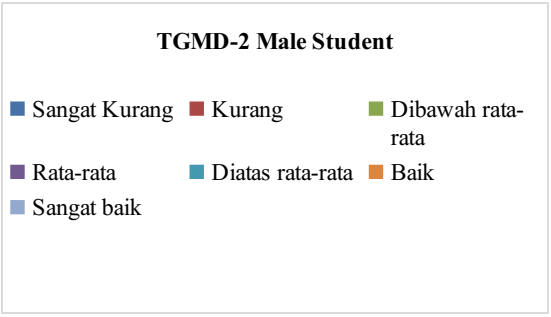

Figure 1. Portion Total Diagram of Gross Motor Skills Test Results for Men's Group

Table 5. Results of the Gross Motor Skills Test for the Female Group

No	Std Score	GMC	Frequency	Percentage	Category
1.	17-20	>130	0	0%	Very good
2.	16-16	121-130	0	0%	Good
3.	13-14	111-120	9	15.0%	Above average
4.	8-12	90-110	51	85.0%	average
5.	6-7	80-89	0	0%	Below average
6.	4-5	70-79	0	0%	Not enough
7.	1-3	<70	0	0%	Very less
	Amount		60	100%	-

Referring to the presentation of the frequency distribution results, it can be stated that in the gross motor skills test the female group in the average category numbered 51 students with a percentage of 85.0%, in the above category the average numbered 9 students with a

percentage of 15%, in the female group there were absolutely no female students. fall into the categories very poor, poor, below average, good and very good.

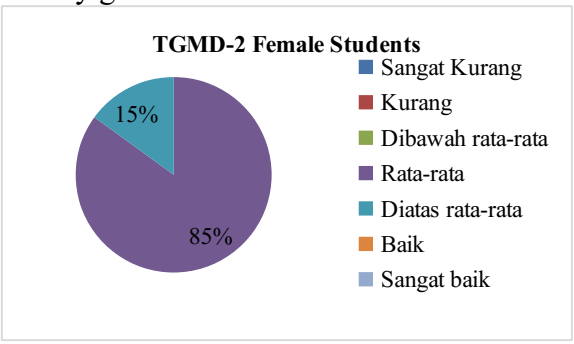

Figure 2. Portion of Total Results of Gross Motor Skills Test Results for Women's Group

The following are tables and diagrams of the results of the processing and overall TGMD-2 from male and female elementary school students in Kedungkandang District, Malang City.

Table 6. Overall Results of Motor Skills Tests for Elementary School Students in Kedungkandang District

No	Std Score	GMC	Frequency	Percentage	Category
1.	17-20	>130	0	0%	Very good
2.	16-16	121-130	1	1.7%	Good
3.	13-14	111-120	14	11.7%	Above average
4.	8-12	90-110	102	83.3%	Average
5.	6-7	80-89	3	3.3%	Below average
6.	4-5	70-79	0	0%	Not enough
7.	1-3	<70	0	0%	Very less
	Amount		120	100%	-

Referring to the presentation of the results of the frequency distribution, it can be stated that in the test measuring the motor skills of elementary school students in Kedungkandang District, Malang City with a total of 120 students, motor skills were obtained in the average category of 102 students with a percentage of 83.3%, the category above the average was 14. students with a percentage of 11.7%, the below average category had 3 students with a percentage of 3.3%, and finally the good category had 1 student with a percentage of 1.7%.

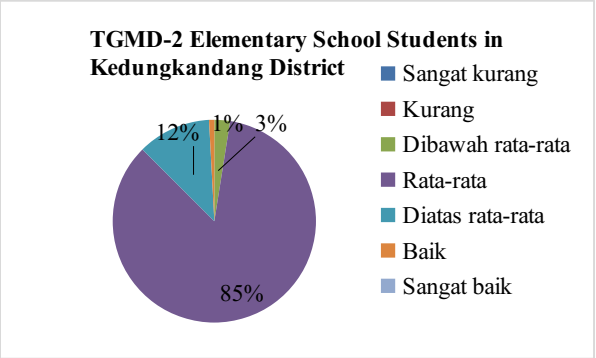

Figure 3. Portion of the Number of TGMD-2 Diagrams for Elementary School Students in Kedungkandang District

Table 7. Body Mass Index Test Results for Male Group

No	Mark	Frequency	Percentage	Category
1.	<-3 SD	6	10.0%	Very less
2.	-3 SD - <-2 SD	7	11.7%	Thin
3.	-2 SD - <-1SD	34	56.7%	Normal
4.	>1 SD – 2 SD	4	6.7%	Fat
5.	>2 SD	9	15.0%	Obesity
	Amount	60	100%	-

Referring to the presentation of the results of the frequency distribution, it can be stated that in the body mass index measurement test for the male group with a total of 60 students, the nutritional status was found to be in the normal category, totaling 34 students with a percentage of 56.7%, the obese category totaling 9 students with a percentage of 15.0%, the thin category. there are 7 students with a percentage of 11.7%, the very thin category has 6 students with a percentage of 10.0%, and the fat category has 4 students with a percentage of 6.7%.

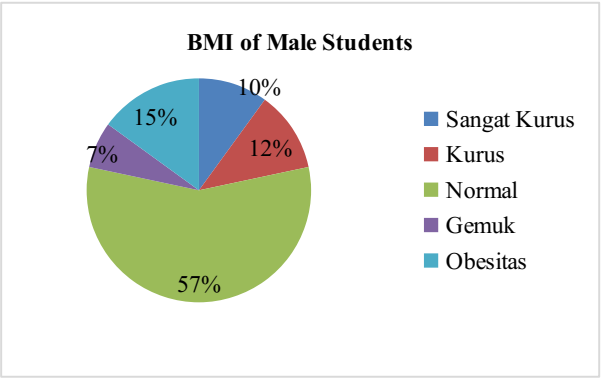

Figure 4. Portion of Total Body Mass Index Test Results Diagram for Male Group

Table 8. Body Mass Index Test Results for Women's Group

No	Mark	Frequency	Percentage	Category
1.	<-3 SD	3	5.0%	Very thin
2.	-3 SD - <-2 SD	7	11.7%	Thin
3.	-2 SD - <-1SD	46	78.3%	Normal
4.	>1 SD – 2 SD	4	5.0%	Fat
5.	>2 SD	0	0%	Obesity
	Amount	60	100%	-

Referring to the presentation of the results of the frequency distribution, it can be stated that in the body mass index measurement test for a group of 60 female students, the nutritional status was found to be in the normal category, totaling 46 students with a percentage of 78.3%, the thin category totaling 7 students with a percentage of 11.7%, the fat category totaling 4. female students with a percentage of 5.0%, in the very thin category there were 3 female students with a percentage of 5.0%, and there were no children in the obese category.

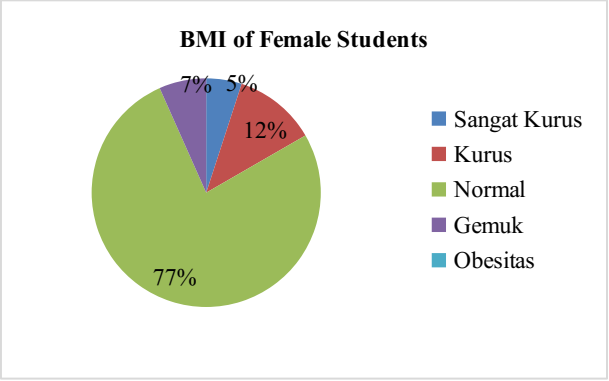

Figure 5. Portion Total Diagram of Body Mass Index Test Results for Women's Group

Table 9. Overall Results of Nutritional Status of Elementary School Students in Kedungkandang District

No	Mark	Frequency	Percentage	Category
1.	<-3 SD	9	7.5%	Very less
2.	-3 SD - <-2 SD	14	11.7%	Thin
3.	-2 SD - <-1SD	80	66.7%	Normal
4.	>1 SD – 2 SD	8	6.7%	Fat
5.	>2 SD	9	7.5%	Obesity
	Amount	120	100%	-

Referring to the presentation of the results of the frequency distribution, it can be stated that in the body mass index measurement

test of elementary school students in Kedungkandang District, Malang City with a total of 120 students, the nutritional status was found to be in the normal category of 80 students with a percentage of 66.7%, the thin category was 14 students with the percentage is 11.7%, in the very thin category there are 9 students with a percentage of 7.5%, in the obesity category there are 9 students with a percentage of 7.5%, and finally in the fat category there are 8 students with a percentage of 6.7%.

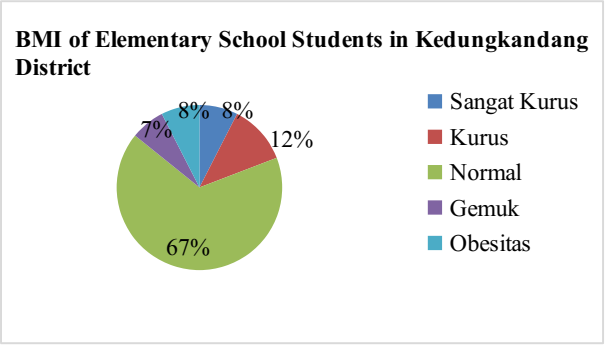

Figure 6. Portion of the Number of Nutritional Status Diagrams for Elementary School Students in Kedungkandang District

Table 10. Data Classification of Motor Skills and Nutritional Status of Elementary School Students in Kedungkandang District

Motor	**Below average**					**Average**					**Above average**				
Nutritional status	Very thin	Thin	Normal	Fat	Obesity	Very thin	Thin	Normal	Fat	Obesity	Very thin	Thin	Normal	Fat	Obesity
Amount	0	0	2	1	0	12	13	63	7	7	2	1	11	0	1

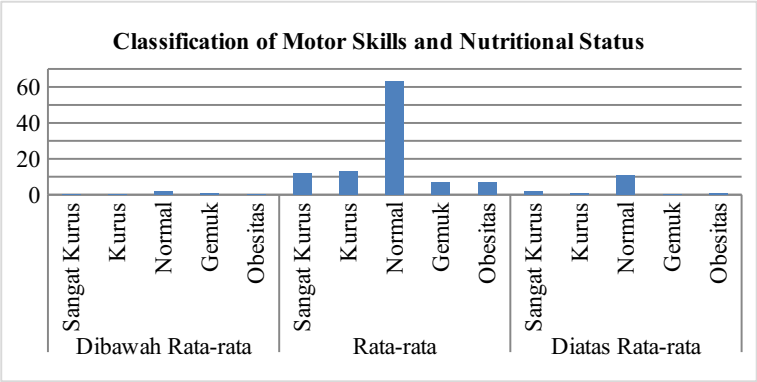

Figure 7. Graphic of Classification of Motor Skills and Nutritional Status of Elementary School Students in Kedungkandang District

The data above can be concluded that the total number of students is 120 students who have become research subjects. The results of the mapping by classifying motor skills and nutritional status, there are motor movements in the below average category with 2 children with a normal body mass index and 1 child with a normal body mass index. In terms of motor movement in the average category with a very thin body mass index, there were 12 children, 13 children were thin, 63 were normal, 7 were obese, and 7 were obese. In motor movements in the above average category with a very thin body mass index there were 2 children, 1 child was thin, 11 children were normal, and 1 child was obese.

The final results of this research illustrate that the majority of State Elementary School students in Kedungkandang District, Malang City, have average dominant movement skills and a healthy body mass index in the normal category, amounting to 63 students out of a total of 120 students, although there are still some students who have an index. fat, obese, thin and very thin body mass. Based on these data, the role of the physical education teacher is the main thing in providing knowledge and motivation to students, regarding the importance of improving motor and nutritional growth and development in students, this can be studied in the Physical Education subject, where the Physical Education subject is related to motor activities and methods. healthy living that can be done by students themselves and also requires direct knowledge guidance from teachers.

Argue that entertaining learning activities can increase students to be more actively involved in learning that uses physical activities, thus requiring adaptation of physical activities in early childhood so that

they feel motivated and interested in learning that involves physical activities [15]. it is important for teachers to implement learning activities that have elements that make children happy and at the same time encouraging. Apart from the role of teachers, the role of parents is also an important element for children, because they are the closest people after the school environment. The role of parents in children, children can learn from home and also as companions or supervisors in the child's daily life, the role of parents is also inseparable in providing food to children, therefore it is important to provide food to children to provide necessary and sufficient nutrition for them. given to children, so that in the future the child will have a balanced body height, intelligence level so that the child will develop optimally through good nutritional intake. Every individual needs adequate food intake for the body, so that the nutrients needed can support the growth, repair and maintenance of body tissue, therefore providing nutritional intake to children from a young age is very necessary so that children's growth and development can be carried out smoothly. Good.

3.2 Discussion

Motor skills are abilities in the form of movement that characterize life for living creatures by maintaining and improving movement abilities in order to improve the quality of life [16]. Gross motor skills for young children are absolutely essential in mastering gross motor movements, because the impact that can be received becomes the child's foundation for achieving future achievements. Based on the results of the analysis, regarding the growth and development of children, it can be seen from the perspective of children's gross motor movements [17]. The results of this study found that motor changes can occur along with changes in body size, body proportions, changes in old and new physical characteristics as a tool for measuring the maturity of an organ in the body. if there are errors in growth and development in movement, if they are not corrected, they will be detrimental to the child, these losses include; (1) Inefficient movements, (2) Poor mechanics during performance, (3) Increased risk of injury, (4) Increased energy consumption/waste, and (5) decreased movement quality. This is based on the development of children's movement when they reach the age of 6-7 years or what is usually called the final stage of early childhood which is in the *mature years* ,

so it must be really monitored to support all movement activities throughout their lives [3].

Based on research results on gross motor skills of elementary school students in Kedungkandang District, Malang City. In accordance with the data taken from the gross motor skills test for the male and female groups, based on the results the highest percentage was in the male and female groups with the highest percentage in the average category of 102 students with a percentage of 85%, each number The group of children consisted of 51 students and 51 female students. In the above category, the average number is 14 students with a percentage of 12%, each group of children is 5 students and 9 female students. In the category below the average there are 3 students with a percentage of 3%, each group of children has 3 students and there are no female groups. In the good category there is 1 student with a percentage of 1%, each group of children has 1 student and there are no female groups. Based on the percentage results for the two groups, there are absolutely none in the very poor, poor and very good categories. So it can be concluded from the distribution of data in the diagram that it forms a normal curve. A normal curve can be interpreted as meaning that data has more moderate values than less or more values

Literally, every child, whether male or female, has differences in terms of motor skills. This could be said to be normal or natural, because it could be influenced by learning experiences in previous age development periods. Therefore, the importance of the role of parents in supervising children's motor activities from an early age, Ability child in do movement motor rough is element fundamentals Which can support development activity physique others, so the monitoring role of parents is very important to detect children's movements early regarding the child's gross motor skills. So efforts to stimulate a child's nerves, muscles and brain with every simple movement require complex interaction patterns from various parts and systems in the body that can be absorbed by the brain. Therefore, stimuli must be given to children to practice their motor skills. This stimulus is intended to train children's body coordination, balance, muscle strength and cognitive abilities [18]. In the average category, this is the highest percentage so that it can be described as having good motor coordination skills but not yet reaching the maximum point [14].

According to Pantaleon, et al. Nutrition is the condition of the body resulting from food intake and use of nutrients [8]. Adolescents are an age group that can be categorized as vulnerable to physical changes and often exhibit unhealthy eating habits. This can be seen from actions that are always considered correct because teenagers themselves are used to it, such as: For example, going on a diet, not eating breakfast, and liking to suppress hunger. This happens a lot to teenagers so they can have a slim body without fear of gaining weight.

because at that time all the advantages and privileges that a child had during *The Golden Age* cannot be repeated. Therefore, *The Golden Age* is also a golden opportunity for parents to be able to monitor and encourage the development of a child's life. If this period is not utilized properly under the supervision of parents or educators, it will usually be detrimental to the child during his growth period

Based on the results of previous research (Sa'adah, et al., 2014), low nutritional status or unbalanced nutritional conditions of children can have a negative impact on children, especially in increasing human resources and will have a direct impact on children's learning achievement [19]. Based on the results of measuring children's body mass index in the distribution of state elementary schools in Kedungkandang District, Malang City, it is in accordance with the data that has been taken on the nutritional status of male and female students. Based on the results, the highest percentage in the male and female groups with the highest percentage was in the normal category with a total of 80 students with a percentage of 66.7%, each group of children was 34 students and 46 female students. In the underweight category there were 14 students with a percentage of 11.7%, each group of children was 7 students and 7 female students. In the very thin category there are 9 students with a percentage of 7.5%, each group of children is 6 students and 3 female students. In the obese category there were 9 students with a percentage of 7.5%, each group of children had 9 students and there were no female groups. In the obese category there were 8 students with a percentage of 6.7%, each group of children was 4 students and 4 female students. Overall, the largest percentage of body mass index test results in the male and female groups had a high percentage in the normal category. So it can be concluded from the distribution of data in the diagram that it forms a normal curve. A normal curve can be interpreted as meaning that data has more moderate values than less or more values [20]

In essence, the role of parents in paying attention to the food intake that enters the child's body for consumption by the child is very important. This action must be and has been carried out with children and at an early age. This is in line with the opinion of that balanced nutrition is how much food can be consumed every day which contains the amount of nutrients that suit the body's needs, taking into account the principles of types of food, movement activities, cleanliness, and have an ideal body weight. Furthermore, when children enter school age, children tend to be at risk of inadequate nutritional intake due to consuming food outside of parental supervision while at school. Children can become infected with snacks at school due to lack of cleanliness by the seller, so that viral bacteria and parasites can enter the child's body, resulting in malnutrition [21].

4. CONCLUSION

Based on the results of data collection and analyzing data on gross motor skills and nutritional status of lower class students in the distribution of State Elementary Schools in Kedungkandang District, Malang City, it is known that the highest percentage of gross motor skill profiles in groups of male and female students showed results the same in the average category, while the highest percentage of nutritional status profiles in the male and female groups showed the same results in the normal category.

Referring to the research results, it was still found that students had below average levels of motor skills and nutritional status in the very thin category. With limited research and suggestions for future researchers, due to the fact that the results of the analysis that have been obtained, can be used as evaluation material for teaching staff to design more optimal learning by providing learning experiences as an effort to improve children's motor skills and nutritional awareness, as well as the role of Parents are the main element in children's daily lives. In this case, cooperation between educators and parents must be given more attention to create quality human resources for the golden generation, to support children in achieving achievements and dreams. And this research article can be reused by future researchers as reading material.

So that motor skills play an important role in children's growth and development, which makes it possible to carry out various daily activities, as well as children's nutritional status to support health by

consuming nutritious food every day with foods that contain balanced nutrition.

REFERENCES

[1] M. Bayat, "Use of dialogue journals and video-recording in early childhood teacher education," *J. Early Child. Teach. Educ.*, 2010, doi: 10.1080/10901021003781247.

[2] A. W. Burton and R. W. Rodgerson, "New perspectives on the assessment of movement skills and motor abilities," *Adapted Physical Activity Quarterly*. 2001. doi: 10.1123/apaq.18.4.347.

[3] R. Kurniawan, "Analisis Gerak Dasar Anak Usia 6-7 Tahun," *J. Pendidik. Usia Dini*, vol. 12, no. 2, pp. 311–320, 2018.

[4] V. G. Puspita and H. Delyana, "Analysis of the Relationship between Nutritional Status, Play Activities and Physical Fitness of Children with Motor Ability," *SPEKTRUM J. Pendidik. Luar Sekol.*, vol. 7, no. 4, pp. 460–463, 2019.

[5] H. Haeril, S. Sulaeman, and M. A. Syafruddin, "Profil indeks massa tubuh atlet cabang bela diri Komite Olahraga Nasional Indonesia Kota Makassar," *J. Sport Sci.*, vol. 12, no. 2, p. 90, 2022.

[6] L. Nugraha, A. Mahendra, and I. Herdiyana, "Penerapan Model Pendidikan Gerak Dalam Pengembangan Pola Gerak Dasar Manipulatif Melalui Kerangka Analisis gerak (Movement Analysis Framework)," *TEGAR J. Teach. Phys. Educ. Elem. Sch.*, vol. 1, no. 2, pp. 24–32, 2018.

[7] A. Komaini, G. U. Inarta, P. Y. Kiram, and S. G. Handayani, "E-Module Development: Frog Jumping Game for Mentawai Inland Tribe Children Based on Local Wisdom," *J. Educ. Res. Eval.*, vol. 7, no. 2, pp. 267–276, 2023.

[8] M. G. Pantaleon, "Hubungan pengetahuan gizi dan kebiasaan makan dengan status gizi remaja putri di SMA Negeri II Kota Kupang," *CHMK Heal. J.*, vol. 3, no. 3, pp. 69–76, 2019.

[9] R. Kurniawan, F. P. Heynoek, F. R. F. K. Bakti, and C. N. Sigit, "Motivation in physical education for junior high school students: a gender Perspective," *J. Phys. Educ. Sport*, vol. 22, no. 12, pp. 3072–3079, 2022.

[10] N. W. Pranoto *et al.*, "Exploration of children'S motor skills with stunting vs. Non-stunting," *Retos nuevas tendencias en Educ. física, Deport. y recreación*, no. 54, pp. 224–234, 2024.

[11] J. A. . Richard and C. . Bristol, "Student Learning And Motivation In Physical Education, Strategies:," *A J. Phys. Sport Educ.*, vol. 27, no. 2, pp. 43–46, 2014.

[12] Sugiyono, *Metode Penelitian Pendidikan Pendekatan Kuantitatif, Kualitatif dan R&D*. Bandung: Alfabeta, 2015.

[13] E. Apriyani, "Problem Based Learning (PBL Model In Improving Elementary Student Learning," in *Social, Humanities, and Educational Studies (SHES): Conference Series*, 2021, vol. 4, pp. 1103–1109.

[14] W. Ulrich, "Beyond methodology choice: critical systems thinking as critically systemic discourse," *J. Oper. Res. Soc.*, vol. 54, no. 4, pp. 325–342, Apr. 2003, doi: 10.1057/palgrave.jors.2601518.

[15] K. Ramadhani and H. Khofifah, "Edukasi Gizi Seimbang sebagai Upaya Meningkatkan Pengetahuan pada Remaja di Desa Bedingin Wetan pada Masa Pandemi COVID-19," *J. Kesehat. Glob.*, vol. 4, no. 2, pp. 66–74, 2021.

[16] S. Griwijoyo, *Wanita dan Olahraga*. Bandung: FPOK UPI, 2007.

[17] A. Saripudin, "Development of Storybook to Improve Early Children's Reading Ability," *AWLADY J. Pendidik. Anak*, vol. 7, no. 2, pp. 262–273, 2021.

[18] A. M. I. Puspita, "Pengaruh penggunaan bahan ajar tematik berbasis lingkungan terhadap aktivitas dan hasil belajar siswa kelas II SDN III Tanggung," *Karya Ilm. Dosen*, vol. 3, no. 1, 2017.

[19] T. Safaria, *Terapi kognitif untuk anak*. UAD PRESS, 2021.

[20] Nuryadi, T. D. Astuti, E. S. Utami, and M. Budiantara, *Dasar-dasar Statistik Penelitian*. Yogyakarta: SIBUKU MEDIA, 2017.

[21] J. Yuwono, G. Gunarhadi, M. Yusuf, M. Supratiwi, F. Shahbodin, and C. K. Nuraini, "Measuring teachers' knowledge and skills in identification of children with autism in elementary schools," 2021, pp. 1–8.