

**Ability of Children's Gross Motor Skill Levels: Descriptive Analysis Based on
Extracurricular Student Sports****Abdur Rofiq Syafiy^{1✉}, Kartika Septianingrum², Andy Widhiya Bayu Utomo³**Departement of Physical Education, Health, and Recreation, STKIP Modern Ngawi, Indonesia¹²³**Article History**

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Abstract

Knowing students' motor skills is an integral part of an education. This study aims to determine the level of motor ability of students in the Extracurricular of State Junior High School 2 Bringin . This research is a quantitative descriptive research. The method of this research is by test and measurement techniques. The population in this study is all students of State Junior High School 2 Bringin which totals 120 students who were taken based on purposive sampling techniques, with inclusion criteria that have been determined by the researcher. So that the sample in this study amounted to 40 people. The instruments in this study used the Motor Ability Test which included the 4 x 10 meter Shuttle-run test (agility), the 1-meter distance ball throw test with a wall (coordination), the Stork Stand Positional Balance test (balance), the 30-meter sprint test (speed), with a validity value of 0.930 and reliability of 0.870. Data analysis uses descriptive analysis expressed in the form of percentages. The results of this study show that the motor skills of students in the Extracurricular of State Junior High School 2 Bringin are in the good category. This can be seen in the results of the categories "very lacking" by 6.98%, "less" by 30.23%, "sufficient" by 25.58%, "good" by 32.56%, and "very good" by 4.65%. Based on the results of the study, it can be concluded that gross motor skills in extracurricular students have a good level of skills, but there are some students who are still very lacking. So this makes the implication in this study that the role of teachers in providing stimulus in an effort to improve gross motor skills in students is very important, because the provision of motor stimuli to children will make children more active and reduce stunting rates in Indonesia.

How to Cite

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INTRODUCTION

Quality education in the practice of the learning process must be able to meet all the needs of students or in other words, the learning process is student-centered. Students must feel comfortable, happy and not stressed when engaging in learning activities (Kaplan et al., 2024). Learning must provide deep meaning and always be directed to grow and develop students, respecting the environment so that its potential can develop optimally. Functional quality education leads every individual to be able to survive, be competitive, independently in a dynamic and fast-moving life full of competition. The learning process of physical education teachers must consider the overall personality of the child, so that the measurement of processes and products has an equally important position (Sasmariato & Kamarudin, 2023). Through physical education activities, students can improve physical freshness, motor skills, and functional values that include cognitive, affective, and social. The ability to learn movement tasks is one of the factors affecting the success of children in the movement learning process, especially if the movements to be learned have a high enough complexity. Through physical education activities, it is hoped that students can grow and develop healthy and fresh physically, as well as their personal development in harmony.

Physical education is very closely related to basic movement patterns, basic movement patterns are the basic patterns of behavior that can be observed in locomotor activities such as running, jumping and manipulative activities such as throwing catches, as well as non-locomotor activities such as stretching, twisting are movement tasks (Munir et al., 2022). The improvement of basic movement skills at this age occurs gradually and gradually. Physical education in elementary school essentially has a strategic role and function as an effort to create a healthy and dynamic society, because by carrying out physical education activities will form good gross motor skills. Gross motor skills are the ability to coordinate the movements of large muscles, namely the hands, feet, and the entire body (Johan et al., 2025). Muscles are stimulated when the body performs physical activity (Shi et al., 2024). Gross motor skills allow a person to perform normal activities such as walking, running, sitting, getting up, lifting objects, throwing objects, and so on. Gross motor skills are one of the important points in the process of child growth and development (Fonvig et al., 2024). Gross motor skills are able to make children skilled and agile when adapting

to new environments (Chen et al., 2024). According to (Milne, 2024), gross motor movements are abilities that require the coordination of part of a child's body. Motor ability is the result of individual movements in performing movements, whether it is not sports movements or the maturity of the appearance of movement skills.

Based on the results of observations conducted by researchers at State Junior High School 2 Bringin found that there were several problems, namely the lack of maximum motor skills of students, it can be seen that almost 50% of students still find it difficult to perform complex movements, such as running, jumping, throwing, catching, avoiding, and others. Children feel fatigue quickly when doing these movements, because children are rarely given these movements in Physical Education, Sports, and Health learning, resulting in not maximizing children's motor skills. Another problem faced by Physical Education, Sports, and Health teachers is that students are not enthusiastic and lazy to actively do sports involving gross motor skills. It is observed that the level of willingness to compete is low, students have not found the rhythm of the steps and maximized the leg movements that should be able to be done. The condition of the child who is tired on the way to the field that is quite far away.

The direct impact felt by such a lifestyle is the decline in children's motor skills. Child development that is not properly cared for will have a bad impact on children. It can be seen that in modern times, the use of advanced technology in children is starting to increase and coupled with the lack of safe outdoor playgrounds. This can trigger children to do less movement activities, and can also reduce motivation and opportunities for children to run, jump, and move their bodies. If this happens continuously, then the child's physical-motor development does not develop properly (Khalik, 2017). Therefore, in this study, it is hoped that it can contribute to the growth process and motor development in junior high school students. The success of the extracurricular learning and training process at State Junior High School 2 Bringin is greatly influenced by many factors such as the factors of trainers, teachers, students, and facilities and infrastructure. As conveyed by (Alqahtany & Jamil, 2022) who expressed the low level of motor skills and physical fitness due to the quality of physical education teaching in schools. In the age range of 11–12 years, children experience significant physical and motor development. These developments include increased muscle strength, coordination, and better body balance. Children at this age also begin to show

the ability to perform more complex and skilled tasks, including in sports activities (Sampaio-Baptista et al., 2014). Children aged 11–12 tend to be more responsive to structured physical exercise, so their motor skills can develop more optimally if they participate in certain sports.

Motor skills are an important aspect in students' physical and cognitive development, especially in the context of physical education and sports (Kustari & Mahendra, 2020). Motor skills are divided into two main categories: gross motor and fine motor (Holisoh et al., 2024). Gross motor involves body movements that use large muscles, such as walking, running, jumping, and throwing. Meanwhile, fine motor is concerned with the coordination of small muscles used in activities such as writing, drawing, and capturing small objects. There is still a gap in research on how different sports affect students' motor skills levels, especially at the junior high school level. Most previous studies have highlighted the influence of exercise on physical fitness in general, but not many have analyzed comparatively differences in motor skills based on specific sports (Efriyansyah et al., 2022). Therefore, this study aims to fill this gap by analyzing more specifically how students' motor skills differ based on the sport they participate in. By understanding the relationship between the type of exercise and students' motor skills, this research is expected to provide insight for educators, coaches, and physical education curriculum designers in designing exercise programs that are more effective and in accordance with the developmental needs of students.

Previous research has examined the relationship between exercise participation and students' motor skills. Students who are actively involved in sports activities show better development of motor skills than those who do not participate regularly (Yoga et al. 2023). In addition, the variety of sports followed has a different impact on certain aspects of motor skills (Ali, 2018). Current research still focuses on the differences between students who are active and inactive in sports, regardless of how each sport contributes to the development of specific motor skills. So the novelty of this study lies in the gap in research on how different sports affect the level of students' motor skills, especially at the junior high school level. Most previous studies have focused more on the influence of exercise on general physical fitness, but not many have analyzed comparatively differences in motor skills based on specific sports. Therefore, this study aims to fill this gap by analyzing more specifically how students' mo-

tor skills differ based on the sport they participate in.

METHODS

This research is a quantitative descriptive research. The method of this research is by test and measurement techniques. The population in this study is all extracurricular students at State Junior High School 2 Bringin which totals 120 who were taken based on purposive sampling techniques with inclusion criteria that have been determined by the researcher. The inclusion criteria include: (1) Participants are students of State Junior High School 2 Bringin, (2) Students participate in Football, Volleyball, Badminton, and Athletics extracurriculars, (3) Participants are in physical and spiritual health, and (4) Participants are willing to participate in research until completion. So that the sample in this study amounted to 40 people.

The data collection technique in this study uses tests and measurements. The instruments in this study used the Motor Ability Test which included the 4 x 10 meter Shuttle-run test (agility), the 1-meter distance ball catch test with a wall (coordination), the Stork Stand Positional Balance test (balance), the 30-meter sprint test (speed), with a validity value of 0.930 and a reliability of 0.870. Data analysis uses descriptive analysis expressed in the form of percentages.

RESULTS AND DISCUSSION

The data in this study is in the form of test results and measurements of extracurricular students at State Junior High School 2 Bringin, which consists of a 30-meter sprint test, a 4-10-meter shuttle-run test, a 1-meter distance throw test with a wall, and a Stork Stand Positional Balance test. Then all the data is converted into T Score and summed up.

Gross Motor Ability Test and Measurement

Table 1. Descriptive Statistics of Gross Motor Ability of Extracurricular Students

Statistics	
N	40
Mean	198,23
Median	207,48
Modus	141,12a
Std. Deviation	25,63
Minimum	144,05
Maximum	239,68

Descriptive statistics of students' motor ability obtained the lowest score (minimum) 144.05, highest score (maximum) 239.68, average (mean) 198.23, middle score (median) 207.48, frequently appearing score (mode) 141.12, standard deviation (SD) 25.63. When displayed in the form of assessment norms, students' motor abilities are presented in the following **Table 2**.

Table 2. Normative Assessment of Motor Ability of Extracurricular Students

Interval	Category	Frequency	Sum
237,09 <	Excellent	3	7,5%
212,37 - 237,08	Good	14	35%
187,65 - 212,36	Enough	10	25%
162,93 - 187,64	Less	12	30%
≤ 162,92	Very Less	1	2,5%
Sum		40	100%

Based on the **Table 2** above, it shows that students' motor abilities are in the Good category. This was recorded in the very good category as much as 7.5% with a total of 3 students, the good category as much as 35% with a total of 14 students, the adequate category as much as 25% with a total of 10 students, the poor category as much as 30% with a total of 12 students, and the very poor category as much as 2.5% with a total of 1 student.

30m Running Speed Test and Measurement

Table 3. Descriptive Statistics of 30 m Running Speed for Extracurricular Students

Statistics	
N	40
Mean	6,34
Median	6,32
Modus	6,15
Std. Deviation	0.59
Minimum	5,21
Maximum	9,07

Descriptive statistics of 30 m Running Speed, students obtained the lowest score (minimum) 5.21, highest score (maximum) 9.07, average (mean) 6.34, middle score (median) 6.32, score that appears frequently (mode) 6.15, standard deviation (SD) 0.59. When displayed in the form of assessment norms, the 30 m Running Speed ability of Bringin students is presented in the following **Table 4**.

Table 4. Norms for Assessment of 30 m Running Speed for Extracurricular Students

Interval	Category	Frequency	Sum
7,20 <	Excellent	4	10%
6,65 - 7,19	Good	15	37,5%
6,10 - 6,64	Enough	12	30%
5,55 - 6,09	Less	6	15%
≤ 5,54	Very Less	3	7,5%
Sum		40	100%

Based on the **Table 4** above, it shows that the student's 30 m running speed is in the Good category. This was recorded in the very good category as much as 10% with a total of 4 students, the good category as much as 37.5% with a total of 15 students, the fair category as much as 30% with a total of 12 students, the less category as much as 15% with a total of 6 students, and the very poor category as much as 7.5% with a total of 3 students.

Agility Tests and Measurements

Table 5. Descriptive Extracurricular Student Agility Statistics

Statistics	
N	40
Mean	16,74
Median	16,59
Modus	16,56
Std. Deviation	0,88
Minimum	15,37
Maximum	19,49

Descriptive statistics of student agility obtained the lowest score (minimum) 15.37, highest score (maximum) 19.49, average (mean) 16.74, middle score (median) 16.59, score that often appears (mode) 16.56, standard deviation (SD) 0.88. When displayed in the form of assessment norms, students' agility abilities are presented in the **Table 6** as follows.

Table 6. Norms of Assessment of Extracurricular Student Agility

Interval	Category	Frequency	Sum
18,07 <	Excellent	6	15%
17,19 - 18,06	Good	12	30%
16,31 - 17,18	Enough	15	37,5%
15,42 - 16,30	Less	4	10%
≤ 15,41	Very Less	3	7,5%
Sum		40	100%

Based on the **Table 6** above, it shows that student agility is in the category of sufficient. This was recorded in the very good category as much as 25% with a total of 6 students, the good category as much as 30% with a total of 12 students, the fair category as much as 37.5% with a total of 15 students, the less category as much as 10% with a total of 4 students, and the very poor category as much as 7.5% with a total of 3 students.

Coordination Test and Measurement

Table 7. Descriptive Statistics of Extracurricular Student Coordination

Statistics	
N	40
Mean	10,67
Median	11,00
Modus	13,00
Std. Deviation	1,95
Minimum	6,00
Maximum	14,00

Descriptive statistics of student coordination obtained the lowest score (minimum) 6.00, highest score (maximum) 14.00, average (mean) 10.67, median score 11.00, frequently appearing score (mode) 13.00, standard deviation (SD) 1.95. When displayed in the form of assessment norms, students' coordination skills are presented in the following **Table 8**.

Table 8. Extracurricular Student Coordination Assessment Norms

Interval	Category	Frequency	Sum
13,61 <	Excellent	6	15%
11,66 - 13,60	Good	12	30%
9,71 - 11,65	Enough	11	27,5%
7,76 - 9,70	Less	9	22,5%
≤ 7,75	Very Less	2	5%
Sum		40	100%

Based on the **Table 8** above, it shows that student coordination is in the Good category. This was recorded in the very good category as much as 15% with a total of 6 students, the good category as much as 30% with a total of 12 students, the good category as much as 27.5% with a total of 11 students, the poor category as much as 22.5% with a total of 9 students, and the very poor category as much as 5% with a total of 2 students.

Balance Test and Measurement

Table 9. Descriptive Extracurricular Student Balance Statistics

Statistics	
N	40
Mean	27,55
Median	27,27
Modus	20,90a
Std. Deviation	10,29
Minimum	9,43
Maximum	46,12

Descriptive statistics of student balance obtained the lowest score (minimum) 9.43, highest score (maximum) 46.12, average (mean) 27.55, middle score (median) 27.27, score that often appears (mode) 20.90, standard deviation (SD) 10.29. When displayed in the form of assessment norms, students' balance abilities are presented in the **Table 10** as follows.

Table 10. Norms of Assessment of Extracurricular Student Balance

Interval	Category	Frequency	Sum
42,99 <	Excellent	3	7,5%
32,70 - 42,98	Good	19	47,5%
22,42 - 32,69	Enough	7	17,5%
12,13 - 22,41	Less	10	25%
≤ 12,12	Very Less	1	2,5%
Sum		40	100%

Based on the **Table 10** above, it shows that the balance of students is in the Good category. This was recorded in the very good category as much as 7.5% with a total of 3 students, the good category as much as 47.5% with a total of 19 students, the fair category as much as 17.5% with a total of 7 students, the less category as much as 25% with a total of 10 students, and the very poor category as much as 2.5% with a total of 1 student.

This study aims to determine the motor ability of high-class students at Gadingan Wates State Elementary School, which consists of a 30-meter sprint test, a 4-meter shuttle-run test, a 1-meter distance ball throw test with a wall, and a Stork Stand Positional Balance test. The results of the study show that the motor skills of extracurricular students are in the "good" category. From the results of the data obtained above, the diversity of students' motor ability categories can be influenced by several things, because not ev-

everyone has to master the elements of the motor ability as a whole, everyone has advantages and disadvantages to be able to master the elements of motor ability as a whole because motor ability is influenced by intrinsic factors and extrinsic factors (Zhao et al., 2024). Intrinsic factors include psychological conditions, both intellectual and non-intellectual, for example, Biomotor is the ability of human movement which is influenced by internal organ systems, including the neuromuscular system, respiratory, circulatory, energy, bones and joints (Arabi & Saberi Kakhki, 2025). Almost all movement activities in sports always contain elements of strength, speed and complex motion that require flexibility of joint movement (Iammarino et al., 2024). Thus the biomotor component is the whole of the physical condition of the athlete. The basic components of a biomotor include strength, speed, endurance, coordination and flexibility (Suir et al., 2022). The other components are a combination of several components so that they form their own term. For example, the combination or result of strength with speed, agility is a combination of speed and coordination, while extrinsic factors include the social, cultural, family, and other environments. According to (Atkinson & Forsyth, 2023) states that several environmental factors that affect physical and motor growth and development are cultural factors, natural conditions, family habits, tribal factors, and social factors.

In addition, restricting movement activities in children will be very detrimental to the development of children's gross motor skills, because children will have less movement experience (Aoyama et al., 2023). For children of the same age, boys are usually stronger and gain a lot of experience to adjust to the movement tasks that are always faced, because boys' motor skills are usually better than those of girls (Cavagnari et al., 2023). But this is not always the case, Gender is one of the factors that affect differences in motor ability but not the only one, because there are many other factors that affect children's gross motor skills (Hirwana et al., 2023). According to (Adha et al., 2023) states that a person's ability to master sports motor skills varies. These differences are due to: (1) Differences in condition and coordination abilities, (2) Age differences, (3) Differences in movement experience (a lot or little), (4) Gender differences, (5) Differences in goals and motivations in learning a motor skill, (6) Differences in cognitive abilities, (7) Differences in the frequency of exercises. For children, physical and motor development is very important, especially at school age because at this time it will affect other aspects of development because at school age the elements of children's motor abilities

are more often carried out by children such as jumping, running, and even students are able to combine skills with limb movements such as throwing and catching. Moving for children is one of the most important parts of their lives, because children in general have a tendency to want to always move.

CONCLUSION

Based on the results of the above research, it can be concluded that the ability of the child's gross motor skill level based on the sports of extracurricular students is included in the good category with a total percentage of 32.56%. The success of children in learning movement skills is determined by environmental factors that can affect the occurrence of changes in children. One of the efforts to realize the success of children in learning movement skills is through extracurricular physical education programs at school. Because it is during preschool and elementary school is an important phase for children to learn motor skills, especially gross motor skills. The results of this study are only limited to confirming that there are many elements contained in a person's motor ability, because it is possible that there are students who can master all the elements that exist in motor skills, but can also only stand out in one or two elements. So to be able to find out the motor abilities possessed by everyone can not only be seen through one factor, but also through various other factors.

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