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The Relationship Between Balance and Agility on Dribbling Ability In Futsal

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ABSTRACT

This study aims to determine the relationship between balance and agility with the ability to dribble the ball in futsal games in class X students of SMKN 4 Bone. This study uses a quantitative approach with a correlational research design. The population in this study were all 30 students of class X SMKN 4 Bone. The sampling technique used total sampling so that the entire population was used as a research sample. The instruments used in this study included a balance test using the modified bass test of dynamic balance, an agility test using a back and forth run, and a dribbling ability test using a futsal dribbling test. The data analysis technique used was descriptive statistical analysis and correlation analysis with the help of the SPSS program at a significance level of 0.05. The results showed that there was a significant relationship between balance and dribbling ability with a correlation coefficient value of r = 0.440 and a significance value of 0.015 <0.05. In addition, there was a significant relationship between agility and dribbling ability with a correlation coefficient value of r = 0.684 and a significance value of 0.000 <0.05. The results of the multiple correlation analysis showed that balance and agility together had a significant relationship with dribbling ability with an R value of 0.71 and a contribution of 50.5%. Thus, it can be concluded that balance and agility have a significant relationship with dribbling ability in futsal games for grade X students of SMKN 4 Bone.

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INTRODUCTION

Physical education is an integral part of the education system, aiming to develop the physical, mental, emotional, and social aspects of students through movement activities. Through physical education, students are not only required to understand sports concepts but also to develop basic movement skills, physical fitness, and sportsmanship in various game activities (Hardi & Mutmainna, 2024). One game that is highly sought after by students in physical education lessons at school is futsal.

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Futsal is a ball game played by two teams of five players each on a relatively small field. This game requires players to have good basic technical skills, such as passing, controlling, shooting, and dribbling (Ashar et al., 2025). Of these basic techniques, dribbling skills play a crucial role in maintaining possession, passing opponents, and creating attacking opportunities (Fazri et al., 2024). Therefore, mastery of good dribbling techniques is one indicator of futsal skills that students must possess.

Dribbling ability is influenced not only by technical skills but also by a player's physical condition. Several components of physical condition that play a significant role in dribbling skills include balance and agility. Balance is the ability to maintain a stable body position, both in static and dynamic situations (Gusmawan et al., 2023). In futsal, balance is essential when players control the ball while moving, changing direction, or avoiding pressure from opposing players.

In addition to balance, agility is also a crucial component of physical condition in futsal. Agility is the ability to change direction and body position quickly and precisely without losing balance (Mappaompo, 2024). Futsal players are required to move quickly in tight spaces, make sudden changes of direction, and control the ball effectively. Therefore, agility is a crucial factor in a player's success when dribbling or dribbling past opponents.

Several studies have shown that physical condition has a significant relationship with technical skills in sports. For example, research conducted by Anniza and Iskandar (2022) stated that physical fitness components such as agility and coordination play a crucial role in futsal player performance. Other research also shows that good body balance can help athletes maintain movement control during sports activities that require coordination and rapid changes of direction (Seran, 2024). This suggests that improving specific physical abilities can directly impact technical skills in sports.

In the context of physical education learning in schools, basic technical skills often remain a challenge for some students. This was also evident among the 10th-grade students at SMKN 4 Bone, where their dribbling ability in futsal varied. Some students were able to dribble well, but others still struggled to control the ball while moving, especially when changing direction or avoiding opponents. This situation suggests that physical condition factors such as balance and agility may influence students' dribbling ability.

However, empirical studies specifically analyzing the relationship between balance and agility and dribbling ability in futsal in vocational high school students are still needed. This research is important because it provides scientific information regarding the physical factors that contribute to students' futsal playing skills. The results are expected to serve as a basis for physical education teachers in designing more effective training and learning programs to improve basic futsal technical skills.

Based on this description, this study aims to determine the relationship between balance and agility on dribbling ability in futsal in grade X students at SMKN 4 Bone. This research is expected to contribute to the development of physical education learning, particularly in improving futsal playing skills through the development of relevant physical condition components.

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METHODS

This study used a quantitative approach with a correlational research design. Correlational research aims to determine the relationship between independent and dependent variables without providing special treatment to the research subjects (Ramadhani & Albina, 2025; Santoso & Madiistriyatno, 2021). In this study, the independent variables examined were balance (X_1) and agility (X_2), while the dependent variable was dribbling ability in futsal (Y).

The population in this study was all 30 grade X students of SMKN 4 Bone in the 2025/2026 academic year. Given the relatively small population, the sampling technique used was total sampling, which is a sampling technique that utilizes all members of the population as research samples (Asrulla et al., 2023; Suriani & Jailani, 2023). Thus, the sample size in this study was 30 students. The instruments used in this study were skills tests and physical condition tests, namely: a balance test using the modified bass test of dynamic balance, which aims to measure dynamic balance ability; an agility test using a back-and-forth running test; and a futsal ball dribbling test using a dribbling test.

Data collection was conducted in several stages: 1) The researcher coordinated with the school to determine the research schedule; 2) The researcher explained the test procedures to students; 3) Students warmed up before the test; 4) The balance test using the modified bass test of dynamic balance; 5) The agility test using the back-and-forth running test; 6) The futsal ball dribbling test using a dribbling test; 7) Each test result was recorded on a prepared data recording sheet.

Analysis of the collected data required a statistical approach, using both descriptive and inferential methods with hypothesis testing, to validate the established research hypotheses. Descriptive data analysis aims to gain a comprehensive understanding of the data characteristics, including aspects such as total number, mean, standard deviation, range, highest, and lowest values. To test the various hypotheses proposed in this study, inferential analysis methods were used. The entire statistical data analysis process applied in this study was carried out using SPSS software.

RESULTS AND DISCUSSION

Result

This study aims to determine the relationship between balance and agility and dribbling ability in futsal in grade X students at SMKN 4 Bone. Data were obtained through three types of tests: balance, agility, and dribbling ability, which were completed by 30 students.

Table 1.
Descriptive Analysis Results

Variable	N	Min	Max	Sum	Mean	Std. Deviation
Balance	30	60	100	2515	83,83	10,396
Agility	30	15	19	504,1	16,803	1,1205
Dribbling	30	11	16	404	13,467	1,4287

Table 1 shows that balance showed an average score of 83.83, with a minimum score of 60, a maximum score of 100, and a standard deviation of 1.898. The agility

variable had an average score of 16.803 seconds. The measurement results showed a minimum score of 15 seconds and a maximum score of 19 seconds. The standard deviation was recorded at 1.1205 seconds. Meanwhile, dribbling ability showed an average value of 13.467 seconds, with the lowest value being 11.0 seconds and the highest being 16.0 seconds. The data also showed a standard deviation of 0.2590 seconds.

Table 2.
Normality Test Results

Variable	Statistic	Sig.	Description
Balance	0,950	0,170	Normal
Agility	0,962	0,341	Normal
Dribbling	0,944	0,118	Normal

Based on Table 2, the significance value for all variables is greater than 0.05, thus concluding that the research data is normally distributed. Therefore, a correlation analysis can be conducted.

Table 3.
Correlation Test Results for Balance and Dribbling

Variable	R	R Square	Sig.	Description
Balance - Dribbling	0,440	0,194	0,015	Significant

The data in Table 3 shows that the coefficient of determination obtained an R value of 0.440, while the R Square value reached 0.194. This indicates that body balance contributes 19.4% to the ability to dribble in futsal among grade X students at SMKN 4 Bone.

Table 4.
Correlation Test Result of Agility and Dribbling

Variable	R	R Square	Sig.	Description
Agility - Dribbling	0,684	0,468	0000	Significant

The data in Table 4 show that the coefficient of determination shows an R value of 0.684 and an R Square of 0.468. This indicates that agility contributes 46.8% to the ability to dribble in futsal among grade X students at SMKN 4 Bone.

Table 5.
Multiple Correlation Test Result

Variable	R	R Square	Sig.	Description
Agility-Balance Dribbling	0,710	0,505	0000	Significant

The data in Table 5 shows that the coefficient of determination reached an R value of 0.710, with an R Square value of 0.505. This indicates that the simultaneous contribution of the independent variables to the dependent variable reached 50.5%.

Discussion

The results of this study indicate a significant relationship between balance and dribbling ability in futsal for tenth-grade students at SMKN 4 Bone. The correlation coefficient obtained indicates that balance contributes to students' dribbling skills. This indicates that students with good balance tend to be more able to control body movements and the ball stably while dribbling.

Balance is the ability to maintain a stable body position in both static and dynamic situations (Rosita et al., 2019). In futsal, balance is essential when players perform various movements such as running, stopping suddenly, changing direction, and avoiding pressure from opposing players. When a player has good balance, they are able to maintain a stable body position while controlling the ball, making dribbling movements more effective. The results of this study also indicate a significant relationship between agility and dribbling ability in futsal. Agility is the ability to change direction and body position quickly and precisely without losing balance (Akmal & Lesmana, 2019). In futsal, which requires relatively limited playing space, players are required to move quickly and change direction suddenly. Therefore, agility is a crucial component of physical fitness to support dribbling skills.

Students with good agility find it easier to dribble past opponents because they can quickly change direction without losing control of the ball. Conversely, students with low agility tend to struggle with quick changes of direction while dribbling, making the ball more easily dispossessed by opponents. Therefore, agility plays a crucial role in improving futsal skills, particularly dribbling techniques.

The results of this study align with research by Fallo et al. (2024), which states that physical fitness components such as agility, coordination, and balance contribute to futsal player performance. Furthermore, research by Putra et al. (2025) also suggests that good body balance can improve movement control and stability in sports activities that require complex motor coordination. This indicates that physical fitness plays a crucial role in supporting technical skills in sports.

In addition to a partial correlation, the study also shows that balance and agility together have a significant relationship with dribbling ability in futsal. The coefficient of determination indicates that these two variables contribute 50.5% to students' dribbling ability, while the remainder is influenced by other factors not examined in this study. These factors include muscle strength, coordination, speed, basic technique, playing experience, and the intensity of the students' training.

These findings indicate that dribbling skills are not solely influenced by a single component of physical fitness but are the result of the interaction of various components of physical ability and technical skills. Therefore, in physical education lessons, particularly in futsal, teachers need to provide exercises that focus not only on basic playing techniques but also on developing the physical fitness components that support these skills.

The implication of this study is that physical education teachers in schools need to design learning programs that integrate balance and agility training into the futsal learning process. Balance training can be done through various activities such as single-leg stands, body stability exercises, and coordination exercises. Meanwhile, agility training can be done through change-of-direction exercises, shuttle runs, ladder drills, and various small-game activities that require quick movement and changes of direction.

With targeted and systematic training for the balance and agility components, it is hoped that students' dribbling skills in futsal will improve optimally. Furthermore,

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developing good physical condition can also help students improve their playing performance and reduce the risk of injury during sports activities.

Overall, the results of this study indicate that balance and agility are important factors related to dribbling ability in futsal in high school students. Therefore, the development of these two components of physical fitness requires attention in physical education instruction in schools.

CONCLUSION

Based on the research results and discussion regarding the relationship between balance and agility and dribbling ability in futsal among 10th-grade students at SMKN 4 Bone, it can be concluded that balance has a significant relationship with dribbling ability. This indicates that students with good balance tend to be better able to maintain body stability while dribbling, resulting in more effective ball control. Furthermore, agility also has a significant relationship with dribbling ability in futsal. Students with good agility are better able to change direction quickly and avoid pressure from opponents while dribbling. Simultaneously, balance and agility have a significant relationship with dribbling ability in futsal among 10th-grade students at SMKN 4 Bone. Both components of physical condition contribute to improving students' dribbling skills. Therefore, it can be concluded that the better a student's balance and agility, the better their dribbling ability in futsal.

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