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Contribution of Agility to Dribbling Speed among Fifth-Grade Extracurricular Participants at SDN 07 Rantau Panjang

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Abstrak

Penelitian ini bertujuan untuk mengetahui sejauh mana kelincahan berkontribusi terhadap kecepatan menggiring bola pada siswa kelas V yang mengikuti kegiatan ekstrakurikuler sepak bola di SDN 07 Rantau Panjang. Penelitian ini menggunakan metode deskriptif dengan pendekatan korelasional. Populasi penelitian berjumlah 20 siswa yang tergabung dalam kegiatan ekstrakurikuler sepak bola. Teknik pengambilan sampel yang digunakan adalah total sampling, sehingga seluruh populasi dijadikan sebagai sampel penelitian. Instrumen yang digunakan adalah Illinois Agility Run Test untuk mengukur kelincahan dan tes menggiring bola sejauh 30 meter dengan rintangan untuk mengukur kecepatan dribbling. Data dianalisis menggunakan uji korelasi Pearson Product Moment. Hasil penelitian menunjukkan adanya hubungan positif yang signifikan antara kelincahan dan kecepatan dribbling, dengan koefisien korelasi sebesar r = 0,68 dan nilai signifikansi p < 0,05. Koefisien determinasi menunjukkan bahwa kelincahan memberikan kontribusi sebesar 46,24% terhadap kecepatan dribbling.

***Kata kunci**: Kelincahan, Kecepatan, Menggiring Bola, Sepak Bola, Siswa Sekolah Dasar, Kecepatan.*

Abstract

This study aims to determine the extent to which agility contributes to dribbling speed among fifth-grade students participating in the soccer extracurricular program at SDN 07 Rantau Panjang. The research employed a descriptive method with a correlational approach. The population consisted of 20 students who were members of the soccer extracurricular activity. The sampling technique used was total sampling; therefore, the entire population was included as the research sample. The instruments used were the Illinois Agility Run Test to measure agility and a 30-meter dribbling test with obstacles to measure dribbling speed. The data were analyzed using the Pearson Product Moment correlation test. The results showed a significant positive correlation between agility and dribbling speed, with a correlation coefficient of r = 0.68 and a significance value of p < 0.05. The coefficient of determination indicated that agility contributed 46.24% to dribbling speed.

Keyword **:** Agility, Speed, Dribbling, Soccer, Elementary School Students, Speed.

1. INTRODUCTION

Soccer is widely recognized as one of the most popular sports across various age groups, including young children in elementary schools (Yudistira et al., 2018; Pratama, 2019). Its appeal lies not only in its simplicity and accessibility but also in the opportunities it provides for structured physical activity in an engaging and competitive environment. Beyond being a recreational activity, soccer plays a key role in promoting physical, mental, emotional, and social growth in students (Yuniartik et al., 2019). Regular participation in soccer helps children develop essential life skills such as teamwork, cooperation, discipline, responsibility, sportsmanship, and respect for both rules and opponents. Furthermore, soccer fosters critical

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thinking and decision-making abilities as players must quickly analyze and respond to game situations. Research has demonstrated that soccer programs in elementary settings can enhance motor skills like agility and coordination (Diyana, Adani, & Zumriyah, 2023), while game-based training models can increase student engagement and interest (Nor et al., 2023). Teaching methods such as Teaching Games for Understanding support both tactical and technical learning in physical education (Greve, Diekhoff, & Süßenbach, 2022).

In terms of physical development, soccer contributes significantly to improving various fitness components like strength, speed, endurance, agility, coordination, and balance, all of which are crucial for optimal performance on the field (M. Andre Nopriansyah & Jujur Gunawan Manullang, 2024). These attributes are interrelated, collectively influencing a player's effectiveness in play. For young learners, soccer also helps in the development of fundamental motor skills, which lay the foundation for more complex movement patterns as they progress in their athletic development. Dribbling, a fundamental skill in soccer, requires coordination, agility, and ankle flexibility to maintain effective control of the ball. Studies have shown that agility training and ankle flexibility exercises improve players' dribbling performance by enhancing ball control, particularly when changing direction or evading opponents (Mariyono, Rahayu, & Rustiana, 2019).

As a result, soccer training programs for young players should be designed to balance technical skill development with physical conditioning. Agility and speed are key physical components that significantly impact dribbling performance. Agility enables players to make quick directional changes while maintaining balance and control, while speed is crucial for fast movement during offensive and counteroffensive play. A clear relationship exists between agility, speed, and futsal dribbling ability, suggesting that improving both attributes leads to more effective and efficient dribbling (Setyawan & Peking, 2023). Various studies have indicated that speed and agility training programs significantly enhance dribbling skills among students participating in extracurricular soccer activities (Indrawan & Muhammad, 2025).

Dribbling is one of the most vital technical skills to master from an early age. The Fédération Internationale de Football Association (2023) explains that dribbling involves controlling and maneuvering the ball with the feet while moving in a specific direction, either to bypass defenders or create opportunities for passing or shooting. Effective dribbling requires not only technical skill but also physical qualities like speed and agility, which are essential for dynamic movement in match situations (Anugra et al., 2024). Players with well-developed dribbling skills can retain possession under pressure, evade defenders, and contribute more effectively to offensive play (Ansar, 2022).

Speed is recognized as a critical factor in sports performance, influencing how quickly a player can react, accelerate, and execute movements. Kalinowski, Jerszyński, and Nowakowska (2021) highlighted the significance of speed indicators in evaluating youth footballers' performance. Jeffreys (2024) further emphasized that sport-specific speed involves not only running fast but also encompasses acceleration, deceleration, reaction time, and movement efficiency within the context of the sport. In soccer, speed must be integrated with ball control and tactical awareness, making it a multidimensional quality essential for success.

Eye-foot coordination is another crucial component in soccer, as it enables players to observe the direction of the ball, the positions of teammates and opponents, and open spaces on the

field. Good coordination allows players to control the ball, dribble efficiently, and execute accurate passes or shots. Fajrin, Agustiyawan, Purnamadyawati, and Mahayati (2021) note that effective eye-foot coordination is vital for mastering basic technical skills and ensuring efficient movement on the field.

Agility is yet another critical fitness component influencing dribbling ability. Agility refers to the ability to rapidly change direction while maintaining control and balance (Marihot et al., 2023; Jujur Gunawan Manullang, 2012). In soccer, agility enables players to respond quickly to unpredictable game scenarios, evade defenders, and maintain ball control during sharp directional changes. Effective agility requires not only physical speed but also neuromuscular coordination, spatial awareness, and anticipation. Players with higher agility are typically better at adjusting their body position in relation to the ball and opponents, making them more effective at dribbling under pressure.

Empirical studies have consistently demonstrated the link between agility and technical soccer performance. Research published in the *Journal of Sports Sciences* found a significant correlation between agility and technical skills in youth soccer players, indicating that greater agility leads to faster and more controlled dribbling (Loturco et al., 2019). Other studies have also found positive relationships between agility and dribbling, reinforcing the importance of agility development (Febribarus & Hardinoto, 2021; Nurkadri & Azmi, 2021). Moreover, Sulistiyono, Primasoni, and Rahayu (2024) reported that both speed and agility significantly impact football skills, highlighting the importance of these components in athletic performance.

Research has further demonstrated that agility and speed are essential predictors of dribbling performance, with studies linking improved agility to better technical outcomes in soccer (Zouhal et al., 2020; García-Pinillos et al., 2021). These findings underscore the critical role that physical fitness components like agility and speed play in enhancing dribbling performance, particularly in young players.

Observations at SDN 07 Rantau Panjang revealed that many fifth-grade students in the extracurricular soccer program struggle with dribbling quickly and steadily, especially when navigating obstacles or making quick directional changes. This suggests that their agility levels may not be fully developed, which could limit their technical ability. This highlights the need for a focused investigation into how agility contributes to dribbling speed in these students. Such research could provide valuable insights for coaches and physical education teachers in designing training programs that specifically target agility development, thereby improving fundamental soccer skills and overall performance.

2. METHOD

This study applied a descriptive correlational research design with the primary objective of examining and identifying the relationship between agility and dribbling speed. The method was chosen to determine whether a significant association exists between these two variables and to measure the strength and direction of their relationship without manipulating any conditions or treatments.

2.1 Population and Sample

The population of this study consisted of all fifth-grade soccer extracurricular participants at SDN 07 Rantau Panjang, totaling 20 students. The sampling technique used was total sampling; therefore, the entire population was included as the research sample. In quantitative research, the population consists of all units under investigation, whereas the sample represents a smaller, carefully selected group used to draw conclusions about the population (Sharma, 2019). Population refers to the entire group of individuals or elements that share specific characteristics relevant to a research study, while a sample is a subset of the population selected to represent the whole group in the research process (Etikan, Musa, & Alkassim, 2020). A population is defined as the complete set of subjects or objects sharing common characteristics, while a sample is a representative portion of that population selected to participate in the study (Taherdoost, 2020).

2.2 Research Instruments

a. Agility Test**:** The Illinois Agility Run Test was used to measure agility. Completion time was recorded in seconds; the faster the time achieved, the better the level of agility.
b. Dribbling Speed Test: A 30-meter dribbling test with obstacles was used to measure dribbling speed. Completion time was also recorded in seconds; the faster the time achieved, the better the dribbling ability.

2.3 Data Analysis Technique

The collected data were analyzed using the Pearson Product Moment correlation test to determine the relationship between agility and dribbling speed. Pearson Product Moment (or Pearson Product-Moment Correlation) is a statistical technique used to measure the strength and direction of a linear relationship between two quantitative variables, where the correlation coefficient (r) indicates the degree of association between the variables (Journal of Sport Sciences and Fitness, 2019). The Pearson product-moment correlation coefficient is primarily used to measure the strength and direction of the linear relationship between two quantitative variables (Roujin, 2021). Furthermore, the contribution (coefficient of determination) was calculated using the formula: $CD = r^2 \times 100\%$.

3. RESULT AND DISCUSSION

Based on the results of the data analysis, the correlation coefficient between agility and dribbling speed was $r = 0.68$ with a significance level of $p < 0.05$. This value indicates a positive and significant relationship between the two variables, meaning that the higher a person's level of agility, the better their dribbling speed ability. This correlation demonstrates that agility plays an important role in supporting dribbling skills, especially in game situations that require rapid changes of direction. Players with high levels of agility are able to maintain balance, react quickly to opponents' movements, and effectively control the ball throughout the game.

The calculation of the coefficient of determination shows that agility contributes 46.24% to dribbling speed. This means that nearly half of the students' dribbling ability is influenced by their level of agility, while the remaining percentage is affected by other

factors such as leg muscle strength, coordination, body balance, and mastery of basic dribbling techniques. These findings suggest that in developing dribbling skills, agility training should receive a balanced proportion alongside technical training. Students with good agility tend to change direction quickly while maintaining movement speed, enabling them to dribble efficiently and effectively.

These findings are consistent with the views of S. (2024) and Harsono (2019), who state that agility is a crucial ability in sports requiring rapid reaction speed and sudden changes in movement direction, such as soccer. Furthermore, this study supports the findings of Anugra et al. (2024), who identified a positive relationship between agility and dribbling ability among elementary school students. The similarity of these findings indicates that mastery of dribbling skills is determined not only by technical ability but also by supporting physical components, particularly agility and body coordination. Therefore, improving agility becomes a key factor in enhancing elementary school students' dribbling performance.

Agility is a fundamental component of dribbling skills that can be improved through training programs designed in a varied, progressive manner and adapted to students' age characteristics (Widiastuti, 2020; Lengkana et al., 2019). At the elementary school age, children experience rapid motor development; therefore, agility exercises such as zig-zag runs, ladder drills, cone shuffle drills, and side-step drills are highly effective in improving coordination, reaction speed, and directional change ability (Zulman et al., 2018). These exercises help enhance the connectivity between the nervous system and muscles, resulting in more efficient and responsive movements. In the context of physical education learning, these exercises should be implemented gradually, starting from simple movements and progressing to more complex ones, so that students do not become easily fatigued and remain motivated to practice.

In addition, the role of coaches or physical education teachers is crucial in directing and integrating physical training with dribbling technique exercises. A balance between agility training and basic technical exercises such as ball control, foot touch, and eye–foot coordination enables students not only to move quickly but also to maintain stable ball possession. Thus, training should not focus solely on speed or physical strength but also on fine motor skills directly related to dribbling effectiveness. Physical education teachers must also pay attention to safety factors and incorporate game-based training variations so that practice sessions remain enjoyable and appropriate to children's developmental stages.

Overall, the results of this study confirm that improving agility has a significant effect on dribbling speed. Students with higher levels of agility tend to perform dribbling more quickly, stably, and efficiently when facing dynamic game situations. This indicates that agility training programs should become an integral part of soccer extracurricular development at the elementary school level. With continuous and structured training, students' overall soccer performance is expected to improve, not only in terms of technical skills and physical fitness but also in self-confidence when competing in the school environment.

4. CONCLUSION

Based on the results of the study, it can be concluded that there is a significant and positive relationship between agility and dribbling speed among fifth-grade extracurricular participants at SDN Rantau Panjang. The correlation coefficient of $r = 0.68$ with $p < 0.05$ indicates that the higher the students' level of agility, the better their dribbling ability. Agility contributes 46.24% to dribbling speed, while the remaining percentage is influenced by other factors such as leg muscle strength, coordination, balance, and basic technical skills.

These findings confirm that agility is an important physical fitness component that plays a crucial role in supporting dribbling skills. Therefore, improving agility through structured training programs tailored to students' characteristics should become a primary focus in elementary school soccer extracurricular development. With appropriate training, students' dribbling ability and overall playing performance are expected to improve optimally.

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6. REFERENCES

Ansar. (2022). *Kepelatihan Sepak Bola*. PT Global Eksekutif Teknologi.

Anugra, Lanos. (2024). *Terhadap Kemampuan Dribbling Sepak Bola*, 20(1), 10–19.

Diyana, K. N., Adani, H., & Zumriyah, N. W. (2023). Improving motor skills of elementary school students through football games for children. *Champions: Education Journal of Sport, Health, and Recreation*, 3(2), 459. https://doi.org/10.59923/champions.v3i2.459

Etikan, I., Musa, S. A., & Alkassim, R. S. (2020). Comparison of convenience sampling and purposive sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1–4. https://doi.org/10.11648/j.ajtas.20200501.11

Fajrin, S. N., Agustiyawan, A., Purnamadyawati, P., & Mahayati, D. S. (2021). Literature review: Hubungan koordinasi terhadap keterampilan menggiring bola pada pemain sepak bola. *Indonesian Journal of Physiotherapy*, 1(1), 6–12.

Fatahillah, A. (2020). Hubungan kelincahan dengan kemampuan dribbling pada siswa ekstrakurikuler bola basket. *Gelanggang Olahraga: Jurnal Pendidikan Jasmani dan Olahraga*.

Febribarus, J., & Hardinoto, N. (2021). Korelasi speed dan agility terhadap kemampuan dribbling pemain sepak bola GIK FC tahun 2021. *Journal of Physical Health Recreation (JPHR)*. https://doi.org/10.55081/jphr.v2i2.646

Fédération Internationale de Football Association. (2023). *FIFA training centre: Technical development framework*. Zurich: FIFA.

García-Pinillos, F., et al. (2021). Physical fitness components and soccer skill performance in children. *International Journal of Environmental Research and Public Health*, 18(9), 4567. https://doi.org/10.3390/ijerph18094567

Greve, S., Diekhoff, H., & Süßenbach, J. (2022). Learning soccer in elementary school: Using Teaching Games for Understanding and digital media. *Frontiers in Education*, 7, Article 862798. https://doi.org/10.3389/feduc.2022.862798

Hakim, H., Amahoru, N. M., & Saleh, T. (2023). The relationship of balance, agility, and speed to dribbling ability in football games. *Journal of Sport Education, Coaching, and Health (JOCCA)*, 4(1), 62–70. https://doi.org/10.35458/jc.v4i1.1582

Harsono. (2019). *Kepelatihan olahraga: Teori dan metodologi*. Remaja Rosdakarya.

Indrawan, R. B., & Muhammad, H. N. (2025). The effect of speed and agility training variations on dribbling skills in soccer games for extracurricular students. *Jurnal Indonesia Sosial Sains*, 6(2), 383–391. https://doi.org/10.59141/jiss.v6i2.1568

Journal of Sport Sciences and Fitness. (2019). The use of Pearson product moment correlation in sports research. *Journal of Sport Sciences and Fitness*, 8(2).

Kalinowski, P., Jerszyński, D., & Nowakowska, M. (2021). Level of speed abilities of young football players in various training periods. *Health, Sport, Rehabilitation*, 7(2), 57–64.

Lengkana, & Sofa. (2019). Kebijakan pendidikan jasmani dalam pendidikan. *Jurnal Olahraga*, 3(1), 1–12. https://doi.org/10.37742/jo.v3i1.67

Loturco, I., et al. (2019). Relationship between agility performance and technical skills in youth soccer players. *Journal of Sports Sciences*, 37(15), 1723–1730. https://doi.org/10.1080/02640414.2019.1594568

M Andre Nopriansyah, Jujur Gunawan Manullang. (2024). Pengembangan modul permainan sepak bola berbasis latihan, 09.

Marihot, Manullang. (2023). Meningkatkan keterampilan teknik passing menggunakan kaki bagian dalam dengan metode drill. *Improve the skills of passing techniques using the inner*. 3(2), 163–168.

Mariyono, M., Rahayu, S., & Rustiana, E. R. (2019). Metode latihan kelincahan dan fleksibilitas pergelangan kaki terhadap keterampilan menggiring bola. *Journal of Physical Education and Sports*, 6(1), 66–71. https://doi.org/10.15294/jpes.v6i1.17324

Nor, A. W., Siregar, N. M., Akbar, M. A., & Setiawan, I. (2023). Freestyle soccer training model based on game for elementary children aged 10–12 years. *Gladi: Jurnal Ilmu Keolahragaan*, 14(2), 143–157. https://doi.org/10.21009/GJIK.142.02

Nurkadri, B. D., & Azmi, F. (2021). Coordination and agility: How is the correlation in improving soccer dribbling skills? *Journal Sport Area*.

Pratama. (2019). Pengaruh gizi, motivasi, dan percaya diri terhadap prestasi atlet sepakbola Universitas Sriwijaya. *Journal of Sport Education (JOPE)*, 1(2), 37–42. https://doi.org/10.31258/jope.1.2.37-42

Roujin, C. (2021). Coupling analysis of general music education and vocational education based on Pearson product moment correlation coefficient. In *Proceedings of the 2021 2nd Artificial Intelligence and Complex Systems Conference* (pp. 99–102).

S. (2024). Pengaruh latihan. *Riswan S. Banti Jurusan Pendidikan Kepelatihan Olahraga*, 3(8.5.2019), 2003–2005.

Sepak Sila Pemain Sepak Takraw SMP Negeri 2 Batang Anai. *Jurnal Menssana*, 3(1), 77–88.

Setyawan, D. B., & Peking, I. M. (2023). The relationship between agility and speed on futsal dribbling. *Athena: Physical Education and Sports Journal*, 1(2), Article 12. https://doi.org/10.56773/athena.v1i2.12

Sharma, G. (2019). Pros and cons of different sampling techniques. *International Journal of Applied Research*, 3(7), 749–752. https://doi.org/10.22271/allresearch.2019.v3.i7a.4533

Sulistiyono, S., Primasoni, N., & Rahayu, T. W. (2024). The relationship between speed and agility on the football skills of young football players. *ACTIVE: Journal of Physical Education, Sport, Health and Recreation*.

Taherdoost, H. (2020). Sampling methods in research methodology; How to choose a sampling technique for research. *International Journal of Academic Research in Management*, 5(2), 18–27. https://doi.org/10.2139/ssrn.3205035

Widiastuti. (2020). *Tes dan pengukuran olahraga*. Rajawali Pers.

Yudistira, R., & Risyanto. (2018). Pengaruh latihan passing berpasangan dan pendekatan taktik terhadap kemampuan passing bawah siswa sekolah sepakbola Persetan FC usia 10-12 tahun desa Citra Jaya Kecamatan Binong. *Biormatika*, 4(2), 2461–3961.

Yuniartik, Nasuka. (2019). Evaluasi pembelajaran pendidikan jasmani olahraga dan kesehatan di SLB C se-Kota Yogyakarta. *Journal of Physical Education and Sports*, 6(2), 148–156. https://journal.unnes.ac.id/sju/index.php/jpes/article/view/17389

Zouhal, H., et al. (2020). Agility and change-of-direction speed in youth soccer: Implications for performance. *European Journal of Sport Science*, 20(6), 812–819. https://doi.org/10.1080/17461391.2019.1656787

Zulman, Atradinal. (2018). Hubungan keseimbangan dan kelincahan terhadap keterampilan.