

THE RELATIONSHIP OF FLEXIBILITY, AGILITY AND BALANCE TO YOUTH FOOTBALL DRIBBLING ABILITY

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Abstract

This study aims to 1) determine the relationship of flexibility to dribbling ability. 2) Know the relationship of agility to dribbling ability. 3) Knowing the relationship of balance to dribbling ability. 4) Know the relationship of flexibility, agility, and balance to dribbling ability. The research method is a quantitative descriptive correlational approach, The Participants are male sports students totaling 109 taken through purposive sampling, observation, and test data collection techniques, data analysis is correlation and multiple regression assisted by the SPSS 23 application. As a result, the significance value of dependent and independent variables is $0.000 - 0.001 < 0.05$. In conclusion, 1) There is a relationship between flexibility to dribbling ability. 2) There is a relationship between agility and dribbling ability. 3) There is a balanced relationship with dribbling ability. 4) There is a simultaneous relationship between flexibility, agility, and balance to dribbling ability. This finding is expected as knowledge of sports students who study related to football courses, as well as material to strengthen previous research with a more comprehensive study. Further research is expected to use a sample of women and use different research methods.

Keywords: Correlation, flexibility, agility, balance, dribble

HUBUNGAN FLEKSIBILITAS, KELINCAHAN, DAN KESEIMBANGAN TERHADAP KEMAMPUAN DRIBBLING SEPAK BOLA USIA MUDA

Abstrak

Penelitian ini bertujuan untuk 1) mengetahui hubungan fleksibilitas terhadap kemampuan menggiring bola. 2) mengetahui hubungan kelincahan terhadap kemampuan menggiring bola. 3) mengetahui hubungan keseimbangan terhadap kemampuan menggiring bola. 4) mengetahui hubungan fleksibilitas, kelincahan dan keseimbangan terhadap kemampuan menggiring bola. Metode penelitian adalah deskriptif kuantitatif pendekatan korelasional, Partisipan adalah mahasiswa olahraga berjenis kelamin laki-laki berjumlah 109 diambil melalui purposive sampling, teknik pengumpulan data observasi dan tes, analisis data adalah korelasi dan regresi berganda yang dibantu dengan aplikasi SPSS 23. Hasil, nilai signifikansi variabel dependent dan independent $0.000 - 0.000 < 0.05$. Kesimpulan, 1) terdapat hubungan fleksibilitas terhadap kemampuan menggiring bola. 2) terdapat hubungan kelincahan terhadap kemampuan menggiring bola. 3) terdapat hubungan keseimbangan terhadap kemampuan menggiring bola. 4) terdapat hubungan fleksibilitas, kelincahan dan keseimbangan secara simultan terhadap kemampuan menggiring bola. Temuan ini diharapkan sebagai pengetahuan mahasiswa olahraga yang mempelajari terkait mata kuliah sepak bola, serta sebagai bahan penguat penelitian sebelumnya dengan kajian lebih komprehensif. Penelitian lebih lanjut diharapkan menggunakan sampel perempuan, dan menggunakan metode penelitian yang berbeda.

Kata kunci : Korelasi, fleksibilitas, kelincahan, keseimbangan, menggiring bola

INTRODUCTION

Football is a team sport played by eleven people (Akhiruyanto et al., 2022). Football games attempt to prevail by putting as many balls into the opponent's goal as possible (Doewes et al., 2020). Of course, because football is a team sport, collaboration among players is required to win matches (Evans et al., 2013). One of the keys to winning in football is team collectivity (Evans et al., 2013). To be optimal in the collective game of football, the players must have the fundamental techniques of playing football (Sulistiyono, Andry akhiruyanto, Nawan primasoni, Faturahman arjuna, Nurhadi santoso, 2021). Football techniques include passing, receiving, kicking, heading, and dribbling the ball (Sulistiyono et al., 2021). These fundamental techniques must be perfected (Sulistiyono et al., 2021). According to studies, football players with good fundamental technique are one of the determinants of success in football (Díez et al., 2021). As a result, basic football techniques must be nurtured from an early age to an advanced stage (Song et al., 2019)

Dribbling the ball is a basic skill that is frequently employed in training or competitive activities. When discussing basic football techniques, particularly dribbling, there are numerous sorts of techniques that must be mastered, namely dribbling with the inside, outside, and full legs. Thus, when performing dribbling exercises, it is critical to pay special attention to ensure that they agree with the training objectives. Even though football players can kick as hard as they can and pass as accurately as they can, if they lack control and dribbling ability, the goal in football is incomplete. This is one of the issues in football. Not only in football but also other sports such as basketball, futsal, etc., dribbling is a fundamental skill that is extremely significant (Rusmana R, 2019). According to studies, technical training for sports is fundamentally strongly tied to physical training (Hidayat & Haryanto, 2022). When discussing technical and physical training in football, nevertheless, it needs to be more thoroughly addressed.

The physical bio motor components in football include endurance, strength, speed, coordination, power, flexibility, agility, and balance (Hidayati et al., 2022; Purnawan et al., 2022; Yudanto et al., 2022). Biomotor components such as flexibility are of particular concern to developing better performance. For example, if a player performs basic technical movements such as dribbling a ball but lacks flexibility, technical movements cannot be optimized and appear stiff, so there is no element of beauty in the movement (Aminudin et al., 2020).

Agility plays a major role when a ball player does a precise move past an opponent before abruptly changing directions (Primasoni et al., 2022). Thus, one of the key elements of football is the physical aspect. According to studies, the physical component of exercise, in addition to technical, tactical, psychological, and physiological considerations, plays a significant role in its success (Pramono et al., 2023; Yudhistira, 2023). Therefore, coaches must be familiar with the tactics and strategies used to win football games for their players to perform better. Several studies support that flexibility, agility and balance affect dribbling skills (Marta & Oktarifaldi, 2020; Nuruhudin et al., 2020). This became the basis for the authors to uncover and conduct further research as reinforcing evidence.

When performing technical drills such as dribbling the ball, the football player's ability to execute the skill exactly and accurately takes precedence. Previous studies that stress technical training to enhance movement abilities lend credence to this (Nurhidayah & Sukoco, 2015). Additionally, when engaging in physical training, the emphasis is on improving players' agility, balance, and flexibility. According to studies, physical activity strives to best develop and increase physical talents (Yudhistira & Tomoliyus, 2020)

Technical training, however, require physical preparation. Testing this fact would be fascinating. Speed, agility, and flexibility have been linked to the ability to dribble in previous research, and the findings indicate that these three factors are positively connected (Purnomo, 2018). The same study was then carried out in 2021 by Muslim, Sudrajat, and Alssaudi, who

discovered a positive correlation between agility and flexibility and the ability to dribble (Muslim, 2021). According to a relevant study looking at the relationship between dribbling abilities and agility and flexibility, there is a clear correlation (Latinulu & Haluti, 2022).

However, even though the connection was not ideal for the two variables, research by Kristina found a substantial association between the ability to dribble the ball and agility, balance, and ankle coordination (Kristina, 2016). Furthermore, research by Yani found a correlation between agility and speed and the ability to dribble, concluding that running speed is unrelated to this skill, agility is unrelated to this skill, and agility and speed are concurrently correlated to this skill (Yani, 2021).

The author may conclude that there are incoherent facts from prior research connected to this study based on a review of various documents in the form of journal publications from 2018 to 2023 with the keyword connection, agility, flexibility, balance, and capacity to dribble. The philosophy of truth holds that the consistency of earlier research can reveal a fact's veracity (Gulo, 2016). Retesting is thus required. In addition, to support this problem, the author made observations on sports students who incidentally are new students at the Faculty of Sports Science, Mulawarman University. The author sees a gap in that academic students do not have much literacy and understanding related to football learning. The important point here is related to the relationship of physical condition with basic soccer techniques such as flexibility, agility, balance, and dribbling. Therefore this research needs to be realized

Penelitian ini bertujuan untuk mengetahui hubungan antara aspek fleksibilitas, kelincahan, dan keseimbangan terhadap kemampuan menggiring bola pada cabang olahraga sepakbola. Penulis mengusulkan bahwa (1) fleksibilitas dan kemampuan menggiring bola berkorelasi, (2) kelincahan dan kemampuan menggiring bola berkorelasi, (3) keseimbangan dan kemampuan menggiring bola berkorelasi, dan (4) fleksibilitas, kelincahan, dan keseimbangan berkorelasi dengan kemampuan menggiring bola secara bersamaan. Based on this, this research is expected to be knowledge for sports students, especially the health and recreation physical education study program at Mulawarman University who study football courses, as well as material to strengthen previous research with a more comprehensive study

METHOD

This A quantitative descriptive approach combined with a correlational approach was used for this research (Melati et al., 2022). The participants in this study were 109 male students studying physical education at Mulawarman State University selected by purposive sampling. Techniques used for gathering data were testing and observation. The flexibility instrument utilized in this study is the sit and reach, the agility instrument is the zig-zag run, the balancing instrument is the Krikendall dynamic balancing test, and the dribbling ability test is the following instrument. The test employed in this study has been used previously and is standardized. The data analysis technique employed correlation and multiple regression tests, which had previously met the standards for normality and homogeneity testing. The SPSS application version 23 was used to assist in data analysis. To be clearer, the research instrument is described as follows:

Balance Test

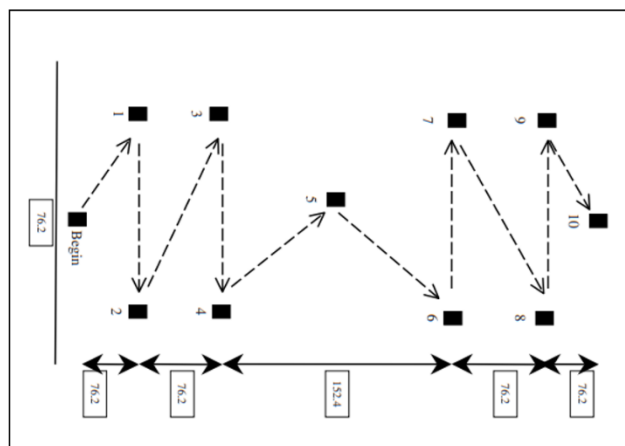


Figure 1. Dynamic Balance Test
Source:(Ambegaonkar et al., 2013)

Procedure:

- Participants stand at the starting line, the left leg raised and the right foot as a pedestal
- Participants jump to the 1st mark, land on the pedestal of the left foot and hold for 5 seconds
- Participants jump to mark 2, land on the pedestal of the right foot and hold for 5 seconds, and so on until mark 10

Flexibility Test

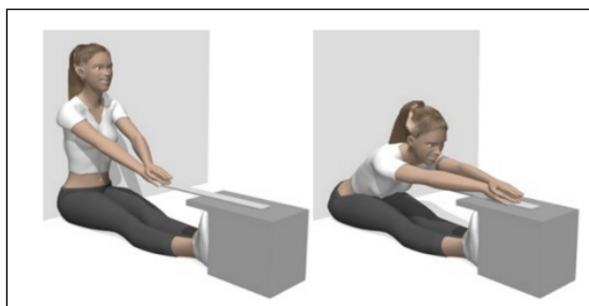


Figure 2. Sit and Reach Test
Source: (Sepdanius et al., 2019; Wiriawan, 2017)

Procedure:

- Ready position to sit on the floor with your back against the wall, legs straightened
- Ukur jarak dari ujung jari ke tepi alat dengan penggaris
- Push your hands and back forward, then the results can be measured by looking at the numbers on the ruler

Agility Test

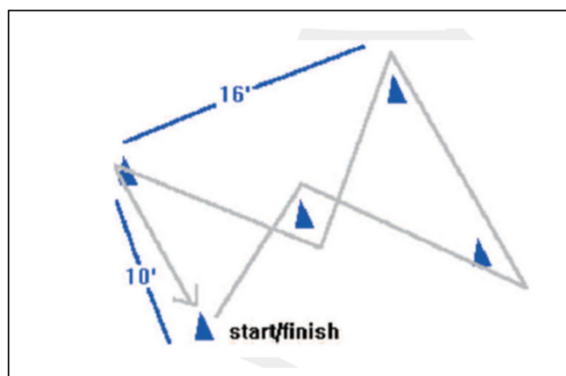


Figure 3. Zigzag Agility Test
Source: (Sepdanius et al., 2019)

Procedure

- Mark the field with 5 cones
- Place 4 cones in each corner of the rectangle with side lengths of 10 and 16 feet, and 1 cones placed in the middle
- Athletes run from start to finish according to the direction described

Dribble test

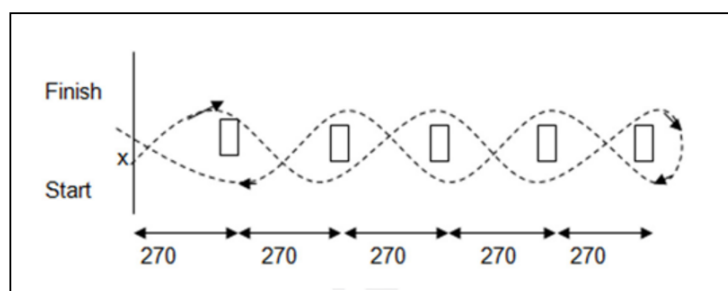


Figure 4. Dribble Test
Source: (Sepdanius et al., 2019)

Procedure:

- Participants stand at the starting line
- When the whistle sounded at the same time, turning on the stopwatch, participants dribbled the ball in a zigzag pattern
- Record the results obtained

RESULTS AND DISCUSSION

Below will be presented the results of the data description covering the minimum, maximum, mean and std.deviation values, correlation analysis with pearson product moment and multiple regression analysis as follows:

Table 1. Data Description Results

Variable	N	Minimum	Maximum	Mean	Std. Deviation
Flexibility	109	9.00	49.00	26.8226	11.22108
Agility	109	7.21	10.32	8.4055	.83167
Balance	109	60.00	100.00	78.1867	9.28879
Dribble	109	16.03	19.23	17.8950	.91247

Table 2. Results of Flexibility Analysis with Dribble

		Flexibility	Dribble
Flexibility	Pearson Correlation	1	-.291**
	Sig. (2-tailed)		.002
	N	109	109
Dribble	Pearson Correlation	-.291**	1
	Sig. (2-tailed)	.002	
	N	109	109

Based on table 2 above, it is known that the significance value is 0.002 < 0.05, meaning that there is a significant or meaningful relationship between the flexibility variable and the ability to dribble.

Table 3. Results of Agility Analysis by Dribble

		Agility	Dribble
Agility	Pearson Correlation	1	.268**
	Sig. (2-tailed)		.005
	N	109	109
Dribble	Pearson Correlation	.268**	1
	Sig. (2-tailed)	.005	
	N	109	109

Based on table 3 above, it is known that the significance value is 0.005 < 0.05, meaning that there is a significant or meaningful relationship between the agility variable and the ability to dribble.

Table 4. Results of Balance Analysis by Dribling

		Balance	Dribbling
Balance	Pearson Correlation	1	-.352**
	Sig. (2-tailed)		.000
	N	109	109
Dribbling	Pearson Correlation	-.352**	1
	Sig. (2-tailed)	.000	
	N	109	109

Based on table 4 above, it is known that the significance value is 0.000 < 0.05, meaning that there is a significant or meaningful relationship between the balance variable and the ability to dribble

Table 5. Multiple Linear Regression Analysis Results

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	18.126	1.097		16.526	.000
	Flexibility	-.026	.007	-.325	-3.798	.000
	Agility	.313	.095	.285	3.300	.001
	Balance	-.028	.008	-.280	-3.295	.001

Based on table 5 above, it is known that the significance value for the influence of independent variables, namely flexibility, agility and balance on the dependent variable, namely the ability to dribble by 0.000 – 0.001 < 0.05, so that the accepted hypothesis can be explained which means that there is a simultaneous influence of flexibility, agility and balance variables on the ability to dribble. According to the findings of the analysis, there is a correlation between the independent variables of flexibility, agility, and balance and the dependent variable of ability to dribble the ball, and there is a simultaneous correlation between the independent variables of flexibility, agility, and balance and the dependent variable of ability to dribble the ball.

Previous research has shown that flexibility has a significant correlation with dribbling speed (Permana, Pandu, 2021). Furthermore, according to Hulfian and Mujriah, physical flexibility has a major role in dribbling skills (Lalu Hulfiyah, 2018). Other research indicates that flexibility exercises have a substantial influence on dribbling skills (Syahreza et al., 2017), despite earlier studies indicating that flexibility has little influence on dribbling skills.

However, most prior research concluded that there is a positive correlation between flexibility and dribbling skill. Furthermore, the author's research might be a reinforcing study demonstrating flexibility has a significant correlation to dribbling skills. Not only is flexibility required in football, but most sports require physical aspects to become a victorious capital (Sulistiyono, Andry akhiruyanto, Nawan primasoni, Faturahman arjuna, Nurhadi santoso, 2021).

A fundamental motor skill that is necessary for football is flexibility (Cejudo et al., 2019). Most of the movements in the game of football need flexibility, such as when a player moves past an opponent's foot, turns to the right, then changes to the left. However, there are still a variety of other skills involved, such as coordination and agility (Sulistiyono, Andry akhiruyanto, Nawan primasoni, Faturahman arjuna, Nurhadi santoso, 2021; Yudanto et al., 2022). Accordingly, flexibility in this situation serves as the fundamental building block for an athlete to be able to maximize training and

competition performance (Sulistyowati et al., 2022). As a result, athletes must be aware of the need to develop flexibility from an early age to the senior stage for other biomotor components to function more optimally. When flexibility is sufficient, the agility component is explained, and prior research has shown a correlation between agility and the capacity to dribble (Hidayat & Haryanto, 2022). This is consistent with Romanda's research, which claims that agility helps players dribble better in football matches (Romanda, 2022).

This is supported by additional research that demonstrates the impact of agility training on dribbling agility (Tarmizi, 2022). The majority of earlier studies claimed that agility and ball dribbling skills are positively correlated, and this is further reinforced by the author's new findings. This is true even if some studies claim there is no association between agility and ball dribbling ability.

The capacity of athletes to move swiftly while being exposed to a brief stimulus without losing balance to make avoidance, attack, and defense movements throughout a match is today's definition of agility (Hadi & Yudhistira, 2023; Yudhistira, 2023). Aspects of agility are necessary for the sport of football. The agility factor is crucial when football players are running while dribbling the ball and avoiding opponents.

In football matches, one of which is in a condition of defense and attack, we can observe and study how players with sufficient agility may, of course, play a better part in controlling the game (Sulistiyono, Andry akhiruyanto, Nawan primasoni, Faturahman arjuna, Nurhadi santoso, 2021). In keeping with earlier research, which showed that dribbling may naturally change directions and avoid opponents quickly (Lavoie & Menelas, 2016). It should come as no surprise that the training menu must include training models for agility. A coach has a responsibility to offer a suitable training regimen that will promote performance success in competition. The discussion of agility in football can be summarized by saying that it is closely related and affects game performance. Balance is a component of agility that is very significant in the football game.

The author's findings that dynamic balance significantly contributes to dribbling skills are supported by prior research (Humaedi & Andi Sultan Brilin, 2017). The ability to dribble the ball and balance have a substantial relationship, according to pertinent studies (Hasbillah et al., 2021). The study's findings then revealed that balance training significantly improved dribbling performance (Hasbillah et al., 2021). Balance is the athlete's ability to control the muscle nerve organs so that they can control and control a movement properly (Ridwan & Putra, 2021). According to a different study, balance refers to an athlete's capacity to keep their neuromuscular system in both a static and dynamic state (Salahuddin, 2018). In sports requiring muscular mobility, notably football, balance is crucial.

There is no denying that balance is essential for supporting performance during practice and competition in the sport of football (Ridwan & Putra, 2021). When a football player kicks while sprinting, one foot naturally supports the body while the other kicks. If the player's balance is poor at that moment, he cannot kick the ball, of course. According to studies, having a good balance can undoubtedly increase the player's strength when kicking the ball (Salahuddin, 2018). Not only when kicking the ball, but also when moving to head it up and then land, it takes strong balance to rest on landing. As a result, maintaining balance is important for obtaining high performance in the sport of football. It was determined that balance and dribbling prowess are closely associated; the stronger an athlete's balance, the better their dribbling skill.

Football successes need more work than one might initially think, but they can be attained with the help of organized programs and stages that aim to maximize performance. Football success must be encouraged from a young age, and the long-term athlete development idea must be put into action (Balyi et al., 2013). Football's physical requirements are not just physical; coaches must also teach players about cognitive and emotive skills, which are constantly encouraged, throughout physical training (Balyi et al., 2013). Football players must possess more than just balance, flexibility, and agility. In addition, technical skills in the game of football go beyond dribbling. To become strong and resilient athletes in training and competition, all physical and technical aspects must be developed and

enhanced through the proper programs and stages. According to the ancient Greek Olympic motto, *citius altius and forrtius*, which means "faster, higher, and stronger," (Nurdin et al., 2020)

CONCLUSIONS

Based on the results of the research found, (1) there is a relationship between flexibility and dribbling ability, (2) there is a relationship between agility and dribbling ability, (3) there is a relationship between balance and dribbling ability, (4) there is a simultaneous relationship between flexibility, agility, and balance with dribbling ability. Therefore, this research can be used as reference material for learning sports student soccer players at Mulawarman University related to physical conditions and techniques that correlate with each other, and as reinforcing material for previous studies. In addition, further research if it will replicate this research needs to pay attention to samples with female gender, and more comprehensive research methods.

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