Journal Management of Sport
Volume 3 Number 2 (2025)
E-ISSN: 2963 – 8003
available online at https://jurnal.stokbinaguna.ac.id/index.php/JSSB

THE ROLE OF BALANCE MANAGEMENT AND EYE-FOOT COORDINATION ON THE ABILITY OF SEPAK SILA FOR SEPAK TAKRAW ATHLETES

Nurdin[1] *

[1] Universitas Pendidikan Mandalika, West Nusa Tenggara, Indonesia
* Corresponding Author: nurdin@undikma.ac.id

Information

History:
Submitted; January 2025
Revised; February 2025
Accepted; March 2025

Keywords:
Balance;
Coordination;
Sepak Sila;
Sepak Takraw;
Athletes.

Abstract

This study investigates the relationship between balance and eye-foot coordination with passing skills using the sepak sila technique in Sepak Takraw among male athletes of the Lawata Club, Mataram. The research aims to determine the degree of correlation between physical coordination components and passing accuracy. Employing a quantitative correlational design, the study involved a total population of 14 players. Balance was tested using the stork stand test, eye-foot coordination through a target-based kicking test, and passing skills by observing sepak sila technique through controlled drills. The results showed no significant relationship between balance and sepak sila passing ($r = 0.273 < r_{table}$), a significant relationship between eye-foot coordination and passing ($r = 0.626 > r_{table}$), and a combined significant relationship when both variables are analyzed together ($r > 0.90$). These findings suggest that eye-foot coordination is a stronger predictor for sepak sila passing skill compared to balance alone. The results emphasize the importance of coordination-based training to improve passing performance in sepak takraw.

INTRODUCTION

Sepak takraw is a combination sport between soccer and volleyball that demands high motor skills and mastery of basic techniques (Bahar Pemana, 2007; Charsian, 2004). One of the crucial basic techniques in this game is the sepak sila technique, which is kicking the ball with the inside of the foot to receive, control, and pass the ball to teammates or to the opponent's area (Sopiyan, 2011; Lutan, 2011). Sepak takraw is a traditional sport that combines elements of soccer and volleyball, played without using hands and arms. Basic techniques in this game, such as sepak sila, have an important role in controlling and directing the ball during the game. Sepak sila, which is a technique of kicking the ball using the inside of the foot, is used to receive, pass and control the ball in the game.

Although this technique is classified as basic, its mastery is not always optimal in every athlete. Based on observations at the Lawata Sepak Takraw Club, Mataram, it was found that the ability to pass using the sepak sila technique was still low. Interviews with the coach revealed that most players have difficulty when making passes, especially those involving body balance and eye-foot coordination.

Previous research by Abdurrahman (2012) showed that eye-foot coordination has a contribution of 55.1% to the success of sila sepak passing. Gaffar et al. (2021) also found a positive correlation between eye-foot coordination and passing ability in players on Maringkik Island. However, these studies have not explicitly incorporated body balance factors into the correlational analysis model. Thus, this study aims to examine the relationship between body balance and eye-foot coordination on passing ability using sepak sila technique in the context of sepak takraw game.

Body balance is important to maintain stability when performing dynamic movements, while eye-foot coordination is needed to direct the ball precisely. Previous research has shown a relationship between eye-foot coordination and passing ability in sepak takraw. For example, a study by Gaffar et al. (2021) found that there was a significant relationship between eye-foot coordination and the ability to pass sepak sila in sepak takraw players at the Maringkik Island club.

However, there are still limitations in previous studies, such as focusing on one variable only or not considering the combination of balance and eye-foot coordination. Therefore, this study aims to examine the relationship between body balance and eye-foot coordination with passing ability using the sepak sila technique in sepak takraw athletes at the Lawata club, Mataram.

The novelty of this study lies in the approach that combines two main physical variables-balance and eye-foot coordination-in one analysis model to evaluate their respective contributions to the ability to pass sepak sila. In addition, this study also used a multiple correlation approach to analyze the data, which provides a more comprehensive picture of the relationship between variables.

METHODS

This research uses a quantitative approach with a correlational method. The research subjects were 14 Lawata sepak takraw club athletes. The instruments used were the stork stand balance test, eye-foot coordination test through kicks to the target, and passing ability test using the sepak sila technique. Data analysis techniques use Pearson correlation and multiple correlation to see the relationship between variables. All data were collected through direct observation and testing in the field.

Participants

A total of fourteen male sepak takraw athletes from Club Lawata, Mataram, participated in this study. All were active members of the club, aged between 16 and 19 years, with a background of regular training.

Sampling Procedure

All participants were hand-picked from the club's membership list without any exceptions. Ethical clearance was obtained from the institutional committee. Each participant provided informed consent, and participation was voluntary. Data collection was conducted at the Lawata Sepak Takraw Club training facility.

Research Instruments

Research instruments are tools or facilities used by researchers in collecting data to make their work easier and the results are better, in the sense that they are more careful, complete, and systematic so that they are easier to process (Suharsimi, 2006: 160).

- Balance Test
  The instrument used to measure balance uses the stork stand test, for children aged 10 years and over. (Widiastuti, 2015: 50). The time recorded is the time used to maintain balance starting from the "YES" signal until the test loses balance.

Figure 1. Balance (Widiastuti. 2015: 52)

- Eye-foot Coordination Test
  Implementation:
  - The testi stands in the kicking area, ready to kick the ball.
  - With the signal "yes" the testi begins to kick the ball as much as possible, may use any foot. Before kicking back, the ball must be blocked or controlled with the other foot.
  - Every kick of the ball must begin with the correct kicking attitude.
  - The testi performs three repetitions, each 20 seconds.
  - Must not control the ball or stop the ball with the hand.
  - Before doing the test, the testi may try first until they feel used to it.

  Scoring:
  - Each kick that hits the target gets a value of 1 (one). To get a score of 1 (one): The ball must hit the target, The ball must be controlled or blocked first before being kicked back. When kicking or controlling the ball the testi must not leave the kick area.
  - If the testi controls or stops the ball by hand, the score is reduced by 1 (one).
  - If the ball does not hit the target, it does not get a score. The total value obtained is the highest number of kick values from 3 (three) repetitions performed.

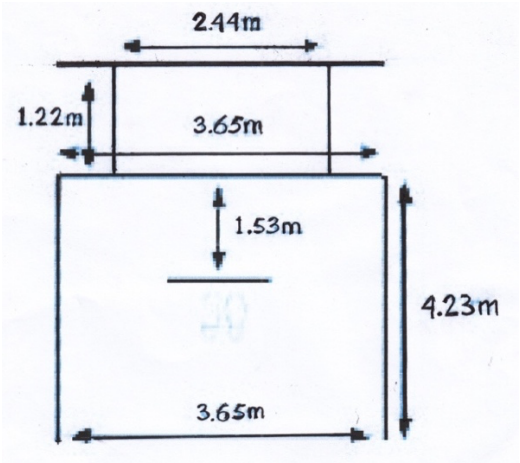

Figure 2. Foot Eye Coordination Test (Widiastuti. 2015: 42)

- Passing with Sepak Sila

The research instrument used in this study is a sepak takraw field to determine the ability to pass in the sepak takraw game. The picture below is an instrument used to test the ability v in sepak takraw game.

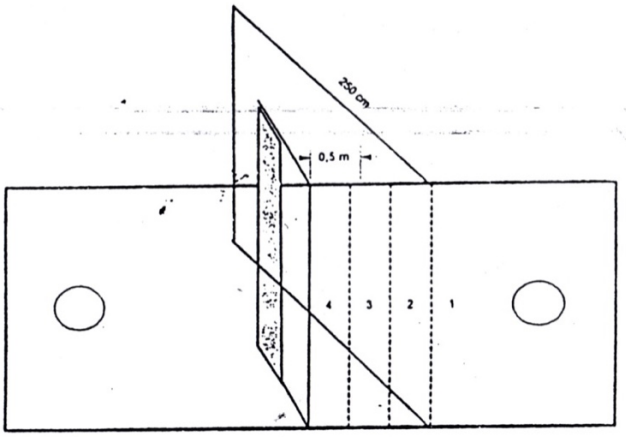

Figure 3. Passing Test Instrument (Nurhasan, 2001: 190).

The procedure for implementing the pass ability test in the sepak takraw game is as follows:

Execution of the test

- The testee is on the boundary of the predetermined attack
- A ball bouncer from the opponent's area, bounces the ball to the Testee over the net
- The testee controls the ball once first and then makes a pass using a pass.
- The pass must pass through the stretched rope and the ball falls in the attack area that has a value.
- Each Testee is given the opportunity to make five passes

How to score

- The score is taken from the score where the ball falls in the target area provided that the ball must pass through the stretched rope.
- Ball passes that do not pass through the rope and do not fall in the attack area are scored 1 provided that it bounces over the height point of the rope and falls close to the attack line.

- Passes over the net will not be scored
- The overall score is obtained by adding up all the target scores from five times making passes

Procedure

Each participant takes the test individually. For balance, each test was repeated three times, and the best performance was recorded. For eye-foot coordination, participants performed three trials of 20 seconds. The volleyball test included five attempts, with a trained observer recording valid and accurate passes. The order of testing was randomized.

Data Analysis

Data were analyzed using multiple correlation analysis (r). Both bivariate and multivariate approaches were used. Pearson's correlation coefficient was used to determine the strength of the relationship, and significance was determined using the critical r value based on sample size (N=14, r_table = 0.532 at $\alpha = 0.05$).

RESULTS & DISCUSSIONS

Results

The following is a description of the research data from the sample. Analysis of the relationship between: Balance (X1) and passing (Y) resulted in r = 0.273, which is smaller than r_table, indicating no significant relationship. Eye-foot coordination (X2) and passing (Y) yielded r = 0.626, which exceeds r_table, indicating a strong correlation. The combined effect of balance and coordination resulted in r > 0.90, indicating a very strong relationship when the two factors are considered together.

Table 1. Summary of Correlation Results

Variable Relationship	r-value	Significance
Balance - Passing	0.273	Not Sig.
Coordination - Passing	0.626	Significant
Balance & Coordination - Passing	>0.90	Very Significant

This finding suggests that coordination plays a more substantial role in passing sepak sila than balance alone. This is in line with previous research by Abdurrahman (2012), who found that coordination contributed 55.10% to passing skills, and by Kasdin (2013), who highlighted its relevance in smash techniques.

Discussions

The results showed that there was no significant relationship between body balance and passing ability using sepak sila technique (r = 0.273 < r_table). This shows that body balance alone is not enough to improve passing ability in sepak takraw. Although balance is important to maintain body stability, other factors such as eye-foot coordination may have a more dominant role in passing techniques.

In contrast, there is a significant relationship between eye-foot coordination and passing ability in sepak sila (r = 0.626 > r_table). This finding is in line with previous research by Ardiansyah et al. (2023), who found that eye-foot coordination has a significant contribution to the ability of sila soccer in students of SMPN 5 Kendari. Eye-foot coordination allows players to direct the ball with precision and appropriate timing, which is very important in passing techniques.

Furthermore, multiple correlation analysis showed that the combination of body balance and eye-foot coordination had a very strong relationship with the ability to pass a sepak sila (r > 0.90). This suggests that although body balance does not have a significant relationship individually, when combined with eye-foot coordination, both make a large contribution to passing ability. This finding is consistent with research by Putra and Hemanzoni (2019), who found that the combination of motivation and eye-foot coordination had a significant relationship with sepak sila ability in sepak takraw athletes.

Thus, sepak takraw coaches and athletes are advised not only to focus on improving body balance or eye-foot coordination separately, but also to develop both aspects simultaneously in the training program. Exercises designed to improve eye-foot coordination, such as juggling or pair passing exercises, as well as balance exercises such as standing on one leg or using a balance board, can help improve passing ability using the sepak sila technique.

CONCLUSION

This study shows that there is no significant relationship between body balance and passing ability using sepak sila technique in sepak takraw game ($r = 0.273 < r_{table}$). However, there is a significant relationship between eye-foot coordination and passing ability using sepak sila ($r = 0.626 > r_{table}$). Furthermore, the multiple correlation analysis showed that the combination of body balance and eye-foot coordination had a very strong relationship with the ability to pass sepak sila ($r > 0.90$). This result confirms that although balance is individually insignificant, its integration with eye-foot coordination contributes significantly to the performance of basic passing techniques in sepak takraw games. This finding has direct implications for training strategies, where coaches are advised to combine balance and coordination training in one technical training package.

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