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Implementation of Positional Play Training to Improve First Touch and Decision-Making in Modern Football

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Abstract

Study purpose. The purpose of this study was to investigate the effectiveness of positional play training in improving first-touch performance and decision-making among football players.

Materials and method. A one-group pretest–posttest experimental design was employed in a quantitative manner. Following a four-week positional play training program, 23 football players took part in the study and finished pre-test and post-test assessments. The 16 training sessions that made up the intervention were held four times a week for ninety minutes each. Levene's test was used to determine homogeneity and the Shapiro-Wilk and Kolmogorov-Smirnov tests were used to determine data normality prior to hypothesis testing.

Result. The findings showed that the data satisfied the parametric analysis's presumptions. Decision-making and first-touch performance significantly improved after the intervention, according to a paired-samples t-test ($p < .001$). These results show that by exposing players to game-like scenarios involving quick perception, information processing, and precise technical execution, positional play training can successfully combine technical and cognitive learning.

Conclusion. As a result, positional play training is a useful strategy for improving first-touch performance and tactical judgment, which has applications for coaches preparing players for contemporary football settings.

Keywords: positional play, decision-making, first touch, football training, tactical performance

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Introduction

Physical activity is an essential component of human life that contributes to improved physical fitness, health maintenance, and the holistic optimization of quality of life. Frequent exercise has an impact on a person's psychological and cognitive development in addition to its physiological advantages (Donnelly et al., 2016; Muhsen, 2020). In the national context, sports are also viewed as a strategic instrument in human resource development, aligning with efforts to improve public welfare through structured, systematic, and sustainable sports development (Ford et al., 2011; Mannino et al., 2019; Oboeuf et al., 2020).

Football is one of the most popular sports across all segments of society. In addition to serving as a form of recreation, football has evolved into a competitive sport that demands the simultaneous integration of physical, technical, tactical, and mental abilities (Supriadi et al.,

2023). The development of modern football is marked by the increasing complexity of the game, particularly in tactical aspects that are becoming more dynamic, fast-paced, and adaptive to changing situations on the field (Iacono et al., 2017; Perl et al., 2013). Structurally, a football match involves two teams, each consisting of eleven players, with the primary objective of scoring goals in the opponent's net while preventing the opposing team from scoring in their own net (Plakias et al., 2024).

In the context of contemporary football, a player's performance is based on both technical proficiency and physical prowess as well as cognitive aptitude, which includes the capability to read the game, foresee circumstances, and make prompt, accurate decisions. This ability is known as decision-making, the cognitive process of selecting the most effective response based on available information within dynamic, high-pressure game situations (Y. Jia et al., 2024). However, the effectiveness of a player's moves is mostly dependent on fundamental technical abilities like first touch. A good first touch allows a player to control the ball efficiently, reduce pressure from opponents, and facilitate follow-up actions such as passing, dribbling, or shooting.

First touch and decision-making are interdependent in modern football (Pauzi et al., 2023). An effective first touch provides players with the time and space needed to process information, while the quality of decision-making determines the effectiveness of the resulting action (Y. Jia et al., 2024). Therefore, a training approach is needed that not only focuses on technical mastery but also integrates cognitive aspects into game situations that closely resemble actual match conditions (Permadi, 2020; Susanto et al., 2023).

One approach that has gained traction in modern football is positional play, or "*juego de posición*," which has been widely adopted by elite coaches such as Pep Guardiola. This approach emphasizes the principles of space occupation, optimal player positioning, and making choices based on the game's circumstances (Bradley et al., 2019). Within the framework of positional play, players are required to understand the structure of the game, maintain the team's positional balance, and be able to make quick decisions based on the positional relationships between teammates and opponents (T. Jia et al., 2024; Supriadi et al., 2023).

Training based on positional play is designed by manipulating training variables, such as zone division, touch limitations, and pressure from opponents to create complex and dynamic game situations (Alesi et al., 2015; Iacono et al., 2017; Zhao & Guo, 2022). These conditions encourage players to develop their first-touch quality in confined spaces, while simultaneously improving decision-making skills through rapid and accurate information processing. Thus, this approach is not only focused on developing technical aspects but also integrates tactical and cognitive dimensions simultaneously.

Numerous studies have demonstrated that game-based training greatly enhances players' cognitive ability (Balakrishnan et al., 2011; Pesce et al., 2019), including decision-making (González-Villora et al., 2015; Y. Jia et al., 2024; Khan et al., 2018) and tactical awareness (Bordonau & Villanueva, 2018; Plakias et al., 2024; Serra-Olivares et al., 2016). Furthermore, the implementation of small-sided games and position-based drills has been shown to increase player engagement and accelerate adaptation to match dynamics. These findings suggest that training approaches that simulate real-match conditions are more effective in comprehensively optimizing player performance (T. Jia et al., 2024; Russell et al., 2011).

Nevertheless, earlier research on positional play possess primarily focused on tactical organization, passing patterns, ball possession, and overall game performance, while the simultaneous effects of positional play training on players' first-touch performance and decision-making remain insufficiently examined. In particular, limited empirical evidence has investigated whether repeated exposure to positional play situations can improve first-touch execution while also enhancing players' ability to perceive information, select appropriate responses, and make effective decisions under game-like constraints. This gap is particularly

relevant in local football development, where integrated technical–cognitive training approaches are still less frequently examined. Unlike studies that assess positional play mainly from a tactical perspective, the present study specifically examines its effects on two complementary outcomes: first-touch performance as a technical skill and decision-making as a cognitive–tactical skill. Therefore, the goal of this study is to experimentally determine if positional play teaching enhances football players' first-touch and decision-making skills. Accordingly, the hypotheses are: H1: Positional play training significantly improves players' first-touch performance. H2: Positional play training significantly improves players' decision-making.

This study aims to investigate the effects of positional play training on first touch and decision-making skills in modern football, based on the explanation above. This study is expected to provide both theoretical and practical contributions to the development of football training models based on the integration of technical, tactical, and cognitive aspects of the players.

Materials and methods

Study participants

Persigar football players made up the study's population. The study sample consisted of twenty-three Persigar football players. Every participant finished the pre-test and post-test evaluations. The same participants were evaluated both before and after receiving the positional play training intervention in this one-group pretest–posttest experimental design investigation. The research process can be summarized as follows:

Persigar football players (population) → 23 players selected as the sample → Pre-test → Positional play training intervention (4 weeks; 16 sessions; 4 sessions/week; 90 minutes/session) → Post-test → Data analysis → Hypothesis testing.

Study organization

This study employed a quantitative approach with a one-group pretest–posttest quasi-experimental design to examine the effects of positional play training on football players' first-touch performance and decision-making skills. A quantitative approach was used because the study focused on measuring changes in players' performance through numerical data that were analyzed statistically.

The population consisted of 23 football players of Persigar. Since the entire population was included in the study, a saturated sampling (total sampling) technique was employed, resulting in a sample of 23 players. All participants completed the entire research process, including the pre-test, intervention, and post-test.

The intervention was a positional play training program that took place over the course of four weeks. There were sixteen training sessions, four times a week, and each session lasted ninety minutes. Before the intervention, all participants completed pre-test assessments to measure their first-touch performance and decision-making skills. Following the completion of the training program, the participants completed the same assessments as a post-test. The pre-test and post-test scores were then compared to determine changes in performance following the intervention.

The research procedure consisted of the following stages:

1. **Participant selection:** The population consisted of 23 Persigar football players. As the entire population was included, a saturated sampling (total sampling) technique was employed, resulting in 23 participants.

2. **Pre-test:** All participants completed the designated assessments of first-touch performance and decision-making skills before the intervention.
3. **Intervention:** For four weeks, participants participated in a positional play training program that comprised sixteen training sessions, four of which were held each week and lasted ninety minutes.
4. **Post-test:** Following completion of the intervention, participants underwent the same assessments used during the pre-test to measure their first-touch performance and decision-making skills.
5. **Data analysis:** Initially, the obtained data was examined for normality using the Shapiro-Wilk and Kolmogorov-Smirnov tests. Prior to evaluating the primary hypothesis, homogeneity of variance was evaluated using Levene's test.
6. **Hypothesis testing:** The pre-test and post-test scores were subsequently analyzed to determine whether the positional play training program produced statistically significant changes in first-touch performance and decision-making skills.

Statistical analysis

IBM SPSS Statistics version 26 was used to analyze the data. The statistical analysis was conducted in several stages. Levene's Test of Homogeneity of Variance was used to evaluate the data's homogeneity. Second, a Paired-Samples t-Test was used to assess the participants' first-touch performance and decision-making abilities before and after the test. The analysis's goal was to determine whether there was a statistically significant difference between the scores before and after the positional play training intervention. The significance level was set at $\alpha = 0.05$.

Results

The study's findings are shown to investigate how the positional play training intervention affected first-touch performance and decision-making. The pre-test and post-test results from the 23 participants were used for the analysis. Descriptive statistics, assumption testing, and hypothesis testing are used to display the results..

Normality Test Results

Table 1. Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PRE_DESISI	,213	23	,083	,806	23	,067
POST_DESISI	,238	23	,056	,820	23	,083
PRE_FIRST_TOUCH	,215	23	,070	,863	23	,065
POST_FIRST_TOUCH	,274	23	,060	,783	23	,055

a. Lilliefors Significance Correction

Prior to conducting the inferential statistical analysis, the data were tested for normality using the Kolmogorov-Smirnov and Shapiro-Wilk tests. Since the sample size consisted of 23 participants ($n = 23$), Because it works better with small sample sizes, the Shapiro-Wilk test was chosen as the main reference.

All of the variables' significance values were higher than the 0.05 significance level, according to the Shapiro-Wilk test results. Specifically, the pre-test decision-making score obtained a significance value of 0.067, while the post-test decision-making score showed a significance value of 0.083. Likewise, a significant value of 0.065 was obtained from the pre-test first-touch score and 0.055 from the post-test first-touch score. Likewise, the Kolmogorov-

Smirnov test also showed significance values above 0.05 for all variables, with values of 0.083 (pre-test decision-making), 0.056 (post-test decision-making), 0.070 (pre-test first touch), and 0.060 (post-test first touch).

Because all significance values exceeded the threshold of 0.05, the null hypothesis of normal distribution was accepted. Therefore, the data for both the decision-making and first-touch variables, in both the pre-test and post-test measurements, were considered to be normally distributed. This finding indicates that the assumptions for applying parametric statistical analyses, such as the paired-samples t-test, were satisfied.

The results of the normality test show that there was no discernible deviation from a normal distribution in the distribution of the participants' scores. As a result, parametric statistical approaches can be used to confidently examine the changes in decision-making and first-touch performance once the Positional Play Training program is implemented. Establishing normality strengthens the validity of subsequent analyses aimed at determining whether the training intervention produced significant improvements in players' technical and tactical performance.

Homogeneity Test Results

Table 2. Test of Homogeneity of Variances

		Levene			
		Statistic	df1	df2	Sig.
PRE_POST	Based on Mean	8,246	3	88	,069
	Based on Median	6,597	3	88	,057
	Based on Median and with	6,597	3	36,762	,057
	adjusted df				
	Based on trimmed mean	7,212	3	88	,062

Prior to conducting the paired-samples t-test, the assumptions underlying the analysis were examined. Because the study employed a paired-samples design involving the same participants in the pre-test and post-test measurements, the homogeneity of variance assumption assessed using Levene's Test was not applicable. Instead, To decide whether the paired-samples t-test was appropriate, the normality of the difference scores between the pre-test and post-test measurements was evaluated. Since the normality examination indicated that the difference scores were normally distributed, the paired-samples t-test was considered appropriate for ascertaining if there were statistically significant differences between the pre-test and post-test scores.

T-test Results

Table 3. Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PRE_DESISI	-5,043	5,200	1,084	2,795	7,292	4,651	22	,000
	POST_DESISI								
Pair 2	PRE_FIRST_TOUCH	-							
	POST_FIRST TOUCH	1,522	,730	,152	-1,838	-1,206	-9,991	22	,000

¹² A paired-samples t-test was conducted to examine the difference⁵ between the pre-test and post-test scores for decision-making and first-touch¹⁰ performance. The results revealed a statistically significant improvement in both variables following the intervention.

The mean difference between⁴⁷ pre-test and post-test scores for decision-making performance was 5.043 (SD = 5.200), with a 95% confidence interval ranging from 2.795 to 7.292. The paired-samples t-test revealed⁸ a statistically significant difference ($t(22) = 4.651, p < .001$). The positive value denotes that the post-test scores were lower than the pre-test scores since the mean difference was computed as pre-test minus post-test. Consequently, the decline in post-test scores suggests a notable improvement in decision-making after the positional play training intervention, assuming that lower scores imply better decision-making ability. The mean difference between the pre-test and post-test scores for first-touch performance was⁴ -1.522 (SD = 0.730), with a 95% confidence interval between -1.838 and -1.206. Furthermore, the paired-samples t-test revealed a statistically significant difference ($t(22) = -9.991, p < .001$). The post-test scores were greater than the pre-test scores, as indicated by the negative mean difference. These results show a considerable improvement in first-touch performance after the intervention, since¹⁷ higher scores indicate better first-touch performance.

Overall, the paired-samples t-test results indicate that there were statistically significant differences between the pre-test and post-test⁵² measurements for both decision-making and first-touch performance³⁶ ($p < .001$), suggesting that the intervention was effective in improving both outcomes. The results of this study indicate that the data obtained meet the statistical assumptions required for parametric³³ testing. All research variables had significance values larger than 0.05 according to the normality tests utilizing the Kolmogorov-Smirnov and Shapiro-Wilk tests, indicating that the data are normally distributed. Additionally, Levene's test results for homogeneity of variance revealed⁴⁸ significance values greater than 0.05, suggesting that the data have homogeneous variance. A paired sample t-test was employed for the study when both¹ assumptions were met.

The results of the paired t-test indicate a significant difference between the pre-test and post-test scores for the decision-making variable. A $p < 0.001$ indicates that the intervention had a significant effect on improving the players' decision-making abilities. This improvement indicates that the training model used is capable of providing cognitive stimuli relevant to game situations, enabling players to determine actions more quickly and accurately during play.

In the context of sports learning, particularly football, decision-making ability is a crucial component of tactical aspects that cannot be separated from game situations. Training based on actual games or real-life scenarios has proven more effective in developing this ability because players are directly confronted with conditions that demand situational analysis, selection of alternatives, and rapid decision execution. This aligns with modern learning approaches that emphasize the integration of technical, tactical, and cognitive aspects.

In⁷ addition, the research results also showed a significant difference in first-touch ability between before and after the intervention. A p-value of 0.000 (< 0.05) indicates that the training provided had an effect on improving the players' basic technical skills. First touch is a fundamental skill in football that greatly determines ball control and the fluidity of play. Improvements in this aspect suggest that the training model impacts not only cognitive aspects but also motor skills.

The improvement in first-touch ability can be attributed to the training's emphasis on high repetition within game-like contexts. Training integrated with game situations allows players to refine ball control in dynamic conditions, rather than solely through static technical drills. Consequently, the transfer of skills into actual gameplay becomes more effective.

Overall, the study's findings show that the intervention was successful in enhancing both technical (initial contact) and cognitive (choice making) elements. This reinforces the notion

that contextual and game-based training approaches have advantages over conventional training methods, which tend to separate technique and tactics.

The implication of this study is that coaches or physical education teachers are advised to develop training models that are more varied, contextual, and game-oriented. This method helps players make rapid and precise decisions throughout games in addition to improving their technical talents.

Discussion

The current study looked at how much positional play training improved football players' first-touch performance and decision-making. The statistical analysis demonstrated significant improvements in both variables after the intervention, indicating that the training approach effectively developed players' technical execution and cognitive performance simultaneously. These findings support the premise that football training should integrate technical, tactical, and perceptual-cognitive components rather than emphasizing isolated technical drills (Tannoubi et al., 2023; Vella et al., 2022).

The significant improvement in decision-making is consistent with recent research emphasizing that representative learning environments enhance players' perceptual and cognitive abilities. Positional play exposes players to continuous game-related stimuli, requiring them to perceive spatial information, anticipate opponents' movements, and rapidly select the most appropriate action (Bradley et al., 2019; Middlemas, 2015). Such conditions promote the development of tactical intelligence through repeated exposure to realistic decision-making situations. Previous studies have similarly reported that game-based and representative task designs improve players' tactical behavior, perceptual skills, and decision-making because they closely replicate the demands of competitive matches.

The improvement in first-touch performance also demonstrates the effectiveness of contextualized practice. Unlike isolated technical exercises, positional play requires players to control the ball under pressure while maintaining awareness of teammates, opponents, and available space (Fernando & Alpen, 2023; González-Villora et al., 2015; Hakman et al., 2018). This combination of technical execution and tactical awareness encourages the development of functional technical skills that can be transferred directly to competitive performance. These findings support ecological dynamics and constraints-led approaches, which argue that technical skills are more effectively acquired when practiced within representative game contexts rather than through repetitive, decontextualized drills.

An important contribution of this study is the simultaneous improvement of cognitive and technical performance. Modern football increasingly requires players not only to execute technical skills accurately but also to perform them under time pressure while making effective decisions. The present findings indicate that positional play creates learning environments in which technical execution and tactical thinking develop concurrently, reflecting the multidimensional demands of elite football. This finding extends previous research by demonstrating that positional play is not merely a tactical training method but also an effective strategy for improving essential technical abilities such as first touch.

From a practical perspective, these findings suggest that coaches should incorporate positional play into regular training sessions to create representative learning environments that simulate actual match situations. Such an approach may better prepare players to adapt to dynamic game conditions while improving both technical proficiency and decision-making quality. Rather than separating technical and tactical training, coaches may achieve greater training efficiency by integrating both aspects within contextualized football exercises.

Despite these encouraging results, there are a few things to be aware of. Because the study used a one-group pretest–posttest design without a control group, it was not possible to fully credit changes to the intervention. Furthermore, Because of the extremely small sample

size, the results might not be as universally relevant. Randomized controlled trials with larger samples, various age groups, and varied levels of competition should be used in future research. The long-term impacts of positional play training may also be investigated, and its efficacy may be contrasted with other modern football training methods including constraints-led training and small-sided games.

Conclusions

The study's findings demonstrate that positional play training significantly improves football players' decision-making and first-touch ability. The significant differences observed between the pre-test and post-test measurements indicate that this training approach effectively develops technical and cognitive abilities simultaneously. By providing representative game situations that require rapid information processing, spatial awareness, and accurate technical execution, positional play offers an integrated learning environment aligned with the demands of modern football.

These findings highlight the practical value of positional play as an effective training strategy for coaches seeking to enhance players' technical proficiency and tactical intelligence concurrently. It is advised that controlled experimental designs with larger and more varied samples be used in future studies to confirm the efficacy of positional play across various age groups and competitive levels.

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Conflict of interest

The authors declare that they have no conflicts of interest.

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