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The Effect Of Small-Sided Games Training On The Futsal Playing Skills Of The Peling United Team

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ABSTRACT

This study aims to analyze the effect of Small Sided Games (SSG) training on the futsal skills of the Peling United team. The research background was based on the need for a training method capable of improving basic futsal technical skills in a contextual and applicable manner, meeting the demands of modern games characterized by high tempo and limited playing space. The study used a quantitative approach with a quasi-experimental method through a one-group pretest-posttest design. The study sample consisted of 15 Peling United players selected using a purposive sampling technique. The criteria were active players, aged 17–25, participating in the entire training program, and not experiencing any injuries. The SSG training program was conducted for six weeks, three times per week, using a variety of game formats: 2 vs. 2, 3 vs. 3, and 4 vs. 4, focused on improving basic futsal technical skills. The research instrument was a futsal skills test covering passing, controlling, dribbling, and shooting. Data were analyzed using descriptive statistics to determine the mean score and percentage increase, the Kolmogorov–Smirnov normality test, and a paired sample t-test with a significance level of 0.05. The results showed that the average futsal skill score increased from 16.00 in the pretest to 22.13 in the posttest, representing a percentage increase of 38.31%. The paired sample t-test showed a significance value of 0.000 ($p < 0.05$), indicating a significant effect of SSG training on futsal skills. Therefore, it can be concluded that Small Sided Games training is an effective training method for improving basic futsal skills comprehensively in community futsal teams.

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A. Conception and design of the study;
B. Acquisition of data;
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INTRODUCTION

Futsal is a sport that has experienced significant growth in Indonesia, both at the educational and community levels, and in semi-professional competitions. The characteristics of futsal, which takes place on small pitches, involves a high tempo, limited space, and involves rapid attack-defense transitions, requiring players to master basic techniques, particularly passing, controlling, dribbling, and shooting. Several recent studies confirm that the effectiveness of basic futsal techniques directly

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contributes to the quality of ball possession, attacking efficiency, and the success of creating goal-scoring opportunities (Sarmento et al., 2018; Clemente et al., 2021).

In the context of community futsal development, a common problem is the limited variety of training methods, which are still conventional, fragmented, and poorly representative of the demands of actual matches. Technical drills are often conducted in isolation, thus under-training decision-making, spatial perception, and tactical adaptation (Gabbett et al., 2019). Initial observations of the Peling United team indicate that the players' basic technical skills have not yet developed optimally, particularly in passing accuracy, ball control quality, dribbling effectiveness under pressure, and finishing. This condition impacts the team's low game flow effectiveness during competitive matches. Therefore, a training approach is needed that can improve basic technical skills holistically, contextually, and applicably, in accordance with the characteristics of modern futsal.

The development of sports coaching science over the past decade has shown a shift in the training paradigm from traditional approaches to game-based training. One method that has received widespread attention is Small-Sided Games (SSG). SSG is a form of training that modifies the number of players, field size, duration, and rules of play to create training conditions that mimic real matches (Clemente, 2016).

Empirical research shows that SSG can simultaneously increase the frequency of ball touches, work intensity, and cognitive engagement of players (Hill-Haas et al., 2018). In futsal, SSG has been shown to be effective in improving passing and controlling skills because players face high spatial and temporal pressures (Praça et al., 2020). Furthermore, SSG also improves dribbling and shooting skills through dynamic game situations and high levels of decision-making (Nunes et al., 2022).

Physiologically and biomechanically, SSG can simulate the demands of a futsal match, which demands speed, agility, and high-level motor coordination (Sánchez-Sánchez et al., 2018). From a pedagogical perspective, SSG aligns with the ecological dynamics and constraints-led approaches, which emphasize skill learning through the interaction of the individual, task, and environment (Davids et al., 2017; Chow et al., 2019). Thus, SSG not only improves technical performance but also the game intelligence of futsal players.

Although the effectiveness of SSG training has been widely demonstrated in professional soccer and futsal contexts, most previous research has focused on elite athletes, professional academies, or formal educational settings with highly controlled training designs (Clemente et al., 2020; Sarmento et al., 2021). Research on the structured implementation of SSG in regional community futsal teams with heterogeneous player characteristics is still relatively limited.

Furthermore, many studies only assess the impact of SSG on physical and tactical aspects, while studies specifically measuring improvements in basic futsal technical skills (passing, controlling, dribbling, and shooting) within a single intervention design are rarely reported (García-Angulo et al., 2021). Furthermore, the social and cultural context of community teams is often overlooked, even though these factors influence the effectiveness of implementing game-based training methods (Ford et al., 2020).

These limitations open up research opportunities to examine the effect of SSG training on basic futsal technical skills in regional community teams, using a systematic, measurable, and contextual approach. Therefore, this research aims to fill the scientific gap between global empirical findings and local community futsal coaching practices.

Based on the problems and research gaps outlined, this study aims to analyze the effect of Small Sided Games training on improving basic futsal technical skills, including passing, controlling, dribbling, and shooting, in the Peling United Team. This research is expected to provide empirical evidence regarding the effectiveness of Small Sided Games (SSG) as an applicable and relevant training method for community futsal coaching.

The novelty of this research lies in: (1) the implementation of structured SSG training in a local community futsal team, (2) the comprehensive measurement of basic futsal technical skills within a single intervention design, and (3) the integration of a game-based training approach with the context of non-elite futsal coaching in Indonesia. Therefore, the results of this study are expected to contribute to the development of futsal coaching science and serve as a practical reference for coaches in designing effective and sustainable game-based training programs.

METHODS

This study employed a quantitative approach with a quasi-experimental method through a one-group pretest–posttest design, commonly used to evaluate the effectiveness of sports training interventions when subject limitations and field contexts preclude the use of a control group (Creswell & Creswell, 2018; Thomas et al., 2015). This design allowed researchers to compare changes in futsal playing skills before and after the implementation of Small Sided Games (SSG) training, allowing for empirical and systematic analysis of the treatment's impact.

The study subjects were 15 Peling United players selected using a purposive sampling technique. Inclusion criteria included: (1) active players registered with the team, (2) aged 17–25 years, (3) participating in the entire training program throughout the study, and (4) not experiencing any injuries that would have prevented participation in training. This sample size is considered representative for community-based experimental research and aligns with previous SSG studies in futsal and non-elite soccer contexts (Clemente et al., 2020; García-Angulo et al., 2021).

The study was conducted over six weeks with three training sessions per week, following the recommended training dose principles for technical skill development and neuromuscular adaptation in sports games (Bompa & Buzzichelli, 2019; Gabbett et al., 2019). The treatment consisted of a Small Sided Games training program with variations of 2 vs. 2, 3 vs. 3, and 4 vs. 4 formats, modified in terms of field size, game duration, and ball contact rules. These format variations were designed to increase the intensity of player interaction, the frequency of ball contact, and the decision-making demands in situations resembling a real futsal match (Hill-Haas et al., 2018; Sarmento et al., 2021). The main focus of the training

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was directed at improving basic futsal technical skills, namely passing, controlling, dribbling, and shooting, which have been empirically shown to be highly responsive to a game-based training approach (Praça et al., 2020; Nunes et al., 2022).

The research instrument was a futsal playing skills test, which has been widely used in game sports research and has adequate validity and reliability. The tests used included: (1) a passing test to measure pass accuracy and consistency, (2) a controlling test to assess ball control quality, (3) a dribbling test using a timed zigzag trajectory converted into a skill score, and (4) a shooting test to assess the accuracy and effectiveness of finishing. The use of this combination of instruments allows for a comprehensive and contextual evaluation of technical skills (Ali, 2011; Sánchez-Sánchez et al., 2018).

The data obtained were analyzed using descriptive statistics to determine the average value and percentage of skill improvement before and after treatment. Data normality was tested using the Kolmogorov–Smirnov test, while the effect of SSG training on futsal playing skills was analyzed using the Paired Sample t-Test with a significance level of 0.05. This analytical approach aligns with experimental sports research aimed at testing the effectiveness of training interventions in a single group of subjects (Field, 2018; Hopkins et al., 2009).

RESULTS AND DISCUSSION

Result

Table 1.

Descriptive Statistics of Peling United Team's Futsal Playing Skills

Measurement	N	Average value	Mean Difference	Percentage Increase (%)
Pretest	15	16,00	–	–
Posttest	15	22,13	6,13	38,31

Based on the descriptive analysis, the average futsal skill scores of Peling United players showed a clear improvement after participating in the six-week Small-Sided Games training program. The average pretest score of 16.00 increased to 22.13 in the posttest, representing a 6.13-point improvement. The percentage increase in futsal skill reached 38.31%, indicating that the Small-Sided Games training had a positive practical impact on players' technical performance.

Table 2.

Results of the Normality Test for Pretest and Posttest Data

Variables	Test Statistics	Sig. (p)	Description
Pretest	Kolmogorov-Smirnov	> 0,05	Normally distributed
Posttest	Kolmogorov-Smirnov	> 0,05	Normally distributed

The results of the normality test using the Kolmogorov–Smirnov test showed that the pretest and posttest data had a significance value greater than 0.05. Thus, all futsal skill data were normally distributed and met the requirements for parametric statistical analysis.

Table 3.
Results of the Paired Sample t-Test of Futsal Playing Skills

Variable	Mean Pretest	Mean Posttest	t-hitung	Sig. (p)	Description
Futsal Skills	16,00	22,13	-	0,000	Significant

The results of the Paired Sample t-Test showed a significance value of 0.000 ($p < 0.05$), indicating a significant difference between the pretest and posttest results of futsal playing skills. This finding indicates that Small-Sided Games training significantly improved the Peling United Team's futsal playing skills.

This significant improvement in futsal playing skills can be conceptually explained by the characteristics of Small-Sided Games training, which places players in realistic game situations with high spatial and temporal pressures. This approach allows players to experience more frequent ball touches, contextually repeat basic techniques, and simultaneously develop decision-making skills. Empirically, these conditions make Small-Sided Games training more effective than isolated technical training, thus directly impacting the overall improvement in futsal playing skills.

Discussion

The results of this study indicate that Small Sided Games (SSG) training significantly improved the futsal skills of the Peling United Team. The increase in skill scores from pretest to posttest indicates that the implemented training program was able to comprehensively develop players' basic technical abilities, including passing, controlling, dribbling, and shooting. These findings confirm that a game-based training approach is more effective than isolated technical training, particularly in the context of a game sport characterized by limited space and a high tempo like futsal.

Conceptually, the effectiveness of SSG training can be explained through the ecological dynamics theory and the constraints-led approach, which states that sports skills develop optimally when athletes train in an environment that reflects the demands of a real match (Davids et al., 2017; Chow et al., 2019). In SSG training, players are faced with limitations on the number of players, the size of the field, and the rules of the game, forcing them to constantly interact with the ball, teammates, and opponents. This environment simultaneously creates technical, tactical, and cognitive stimuli, making skill learning more contextual and meaningful (Clemente, 2016; Renshaw et al., 2019).

The improvement in passing and controlling skills in this study can be attributed to the high frequency of ball touches during SSG training. Research shows that small-sided game formats increase the number of passes per player and the quality of ball control because players must maintain possession under the pressure of limited time and space (Hill-Haas et al., 2018; Praça et al., 2020). In the context of futsal, this environment is particularly relevant because team success is largely determined by the speed of ball circulation and the accuracy of control in tight spaces (Sarmento et al., 2021).

Furthermore, improvements in dribbling and shooting skills are also influenced by the dynamic game situations presented in SSG. Modified formats of 2 vs. 2, 3 vs. 3, and 4 vs. 4 encourage players to penetrate more frequently, change direction, and finish under

pressure from opponents. These findings align with empirical studies that suggest that SSG improves decision-making quality and the effectiveness of offensive actions, including dribbling and shooting (Nunes et al., 2022; García-Angulo et al., 2021). In other words, SSG training not only trains technical aspects but also integrates them with tactical and cognitive aspects of the game.

From a physiological and motor perspective, SSG training also contributes to skill improvement through match-like work intensity. SSG has been shown to generate high internal and external loads, thus supporting the neuromuscular adaptations and motor coordination required in futsal (Sánchez-Sánchez et al., 2018; Gabbett et al., 2019). These adaptations enable players to execute basic techniques with greater stability and effectiveness during the game.

The results of this study are consistent with the findings of Ariffudin and Pramono (2022) and Shafira and Darmawan (2024), who reported that SSG training significantly improves basic futsal technical skills, particularly passing and dribbling. The alignment of these results is further reinforced by international research confirming that SSG is a superior training method for improving the technical performance and playing intelligence of athletes in sport games (Clemente et al., 2020; Sarmento et al., 2018). However, this study provides an additional contribution by demonstrating that the effectiveness of SSG applies not only to elite athletes or professional academies, but also to regional community futsal teams with heterogeneous player backgrounds.

Thus, the findings of this study expand the empirical evidence regarding the relevance of SSG training in the context of non-elite futsal coaching. SSG training has been shown to bridge the gap between training and matches, thereby enhancing skill transfer to real-life game situations. The practical implication of these results is that community futsal coaches are advised to systematically integrate SSG into their training programs to improve players' fundamental technical skills effectively, efficiently, and sustainably.

CONCLUSION

Based on the research results and data analysis, it can be concluded that Small Sided Games (SSG) training significantly improved the Peling United futsal team's playing skills. The implementation of a structured SSG training program over six weeks has been shown to improve players' overall basic technical skills, including passing, controlling, dribbling, and shooting. This skill improvement is reflected in the significant difference in mean scores between the pretest and posttest results, and is supported by statistical test results that demonstrate significance at the established confidence level.

Conceptually, the effectiveness of SSG training can be explained by the characteristics of game-based training that places players in situations resembling real matches. Modifications to the number of players, field size, and game rules encourage increased ball contact frequency, active player involvement, and quick and accurate decision-making. These conditions make the training process more contextual and relevant to the demands of modern futsal.

Empirically, the findings of this study confirm that SSG training is not only effective for elite athletes but is also relevant and applicable to community futsal teams. Thus, Small Sided Games training can be recommended as an effective training method to improve futsal playing skills in a sustainable manner and oriented towards match performance.

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