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Original Article

Examining the influence of eight weeks of small-sided games (SSGs) enhancing pass accuracy and eye–foot coordination: a factorial experimental design

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Abstract:
Pass accuracy is a fundamental skill for soccer players. This study examined the improvement of basic passing techniques by applying small-sided games (SSGs), specifically the rondo model. Thus, this study assessed the impact of two-touch SSG exercises on enhancing passing accuracy, focusing on eye-foot coordination. The study focused on the 15–17-year-old athletes from the Bina Mandiri Soccer Academy, Malang Regency, Indonesia. The sample comprised 36 players, and a 2 × 2 factorial field experimental method was used. All participants were grouped into two groups to receive interventions of 5v5 and 4v4+2 with two touches. A passing accuracy instrument was used to determine the ability of pass accuracy, and a soccer wall volley test was used to determine eye-foot coordination. ANOVA was used to determine the differences in the effect and interaction between eye-foot coordination and SSGs on pass accuracy. The results showed that eye-foot coordination influenced the improvement of pass accuracy ($p = 0.038 < 0.05$), 5v5 and 4v4+2 interventions did not provide differences in the results on improving pass accuracy ($p = 0.760 > 0.05$), and there was an interaction between eye-foot coordination and intervention groups on pass accuracy. In conclusion, SSGs with 5v5 and 4v4+2 models with two touches can improve pass accuracy, but there is no better effect in improving pass accuracy. Eye-foot coordination has an essential role in the mastery of pass accuracy. Athletes with high eye-foot coordination are more appropriate if treated with SSG model 5v5, while athletes with low eye-foot coordination are more appropriate if treated with 4v4+2.
Keywords: passing, rondo exercise, eye-foot coordination, factorial design, soccer

Introduction

When playing a game of soccer, players' positions on the pitch fluctuate in an unpredictable and never-ending manner (Eleftherios et al., 2023; Fattah et al., 2023; Vantarakis & Stafylidis, 2023). Players pass and then move to find space. Passing is seen as one of the factors that influence the outcome of a soccer match (Lepschy et al., 2018; Rocha-Lima et al., 2021). More teams can win a game by passing from one point to another to create goals (Redwood-Brown, 2008). Coaches and technical assistants now rely heavily on video analysis systems related to sports performance to determine the success of passing to gather data regarding individual and team activities during practice and competition (den Hollander et al., 2018). Passing is one of the basic techniques that can be utilized by a team both to build attacks and to carry out defensive strategies (Lago-Ballesteros & Lago-Peñas, 2010). A study reported match statistics associated with winning in the 2014 FIFA World Cup Brazil group stage, where the percentage of passing accuracy allowed a team to win (Liu et al., 2015). The study analyzed 48 matches in the group stage where the average successful passes as a proportion of total passes from 48 games was 80.8%. The analysis added that short and intermediate keys allow a team to be on top.

A team with a poor composition of passing accuracy will undoubtedly hurt the team (Sannicandro et al., 2023; Suryadi et al., 2023). Passes that can be intercepted allow the opponent to counterattack, direct shots and even put the ball into the goal. A team needs a strategy to improve passing accuracy. Some studies report that passing accuracy can be improved through spatial occlusion training (Dunton et al., 2020), motor imagery, feedback, and feedback+imagery interventions (Robin et al., 2020), repeated training methods (Fitri & Aziz, 2021), small sided games (SSGs) (Abrori et al., 2023).

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Game-based training is a popular technique that meets this demand, focusing on SSG (Barnes et al., 2014; Castillo et al., 2021; Riboli et al., 2022). SSGs is played on tiny pitches with different rules, but they have a similar structure to the actual game (Halouani et al., 2014; Hill-Haas et al., 2011a), the length of the fight (Köklü et al., 2017), the number of players (Hill-Haas et al., 2010), and the size of the pitch (Casamichana & Castellano, 2010; Clemente et al., 2021; Olthof et al., 2019) are just a few of the variables that can readily change their intensity.

In SSG, the size of the field, the number of players, the coach's encouragement, the duration of the game, the various rules of the game, recovery time, and the presence of a goalkeeper have a direct impact on the intensity of player activity (Barba et al., 2020; Selmi et al., 2017, 2018). SSG offers soccer-specific challenges that allow you to develop your technical and tactical skills (Hill-Haas et al., 2011b). In addition, recent studies have shown that 4-on-4 SSG can increase motivation and positive mood compared to intermittent training (15/15 seconds) in professional soccer players after Toh et al. (2011) reported that participation in SSG (30 minutes) is expected to increase not only motivation but also positive behavior and pleasure in obese boys, thus producing the desired physiological responses.

Numerous academic disciplines have thoroughly examined soccer as a sport. Specifically, research on SSGs has become a hot topic and a fascinating field of study, receiving more attention in today's scientific debate. Martínez-Benítez & Becerra-Patiño (2023), in their bibliometric study, reported that as the number of studies related to the technical-tactical, physical, and physiological demands of soccer has increased over time, SSGs has become instrumental in exploring diverse adaptations related to these demands. However, studies on SSGs have never investigated their effect on pass completion in soccer involving soccer player attributes such as eye-foot coordination. Recently, a study reported that eye-foot coordination affects dribbling ability (Armando & Rahman, 2020). However, no empirical data reports that small-sided games combined with eye-foot coordination impact passing accuracy.

Based on this, this study seeks to determine whether SSGs combined with eye-foot coordination attributes affects passing accuracy. This study involved soccer academy athletes aged 15-17 years by applying 5v5 and 4v4+2 in SSG. The findings are expected to provide implications for coaches to apply SSG to soccer academy athletes aged 15-17 years so that pass accuracy can develop.

Materials and methods

Design

This study was a pre-experimental with a 2x2 factorial design.

Participants

The subjects involved were 15-17-year-old soccer academy athletes at Bina Mandiri Soccer Academy, Malang, Indonesia, who had inclusion criteria: 1) male, 2) involved in at least 20 matches both officially and trials, 3) willing to follow the research process until completion, and exclusion criteria athletes who do not participate in a maximum of 20% of the total training plan will be excluded from the calculation. Based on these criteria, 36 athletes were obtained and divided into four groups. The first and second groups were treated with 5v5 SSGs with high and low eye-foot coordination, while groups three and four received 4v4+2 SSGs with high and low eye-foot coordination. More details of the research diagram can be seen in Figure 1.

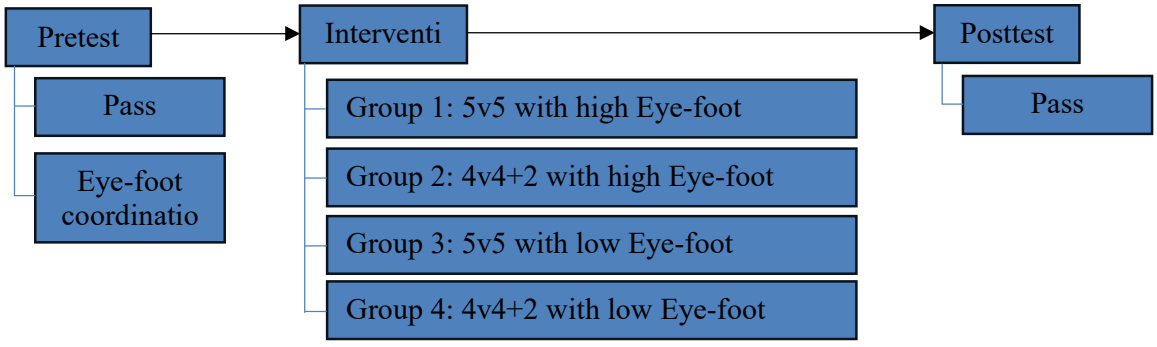

Figure 1. Diagram of the study

Instrument

The test instruments used in this study were passing accuracy instruments (Narlan & Juniar, 2023) and eye-foot coordination test with soccer wall volley test (Filby et al., 1999).

Ethics

The Universitas Negeri Malang Human Subjects Committee gave its approval for this study (No. LB.01.02/9/KE.115/2023). Prior to the experiment, each participant gave written, informed consent, and all processes followed the Helsinki Declaration standard.

Procedures

All participants who had agreed to be involved in this study conducted an initial test in the form of a soccer passing accuracy test and an eye-foot coordination test with the soccer wall volley test. After the data was obtained, the eye-foot coordination ability was ranked as the basis for categorizing the participants into four groups. The eye-foot coordination ability is divided into two, namely high and low eye-foot coordination ability. The division is done by determining the average value, participants who score above the average are grouped in the high eye-foot coordination ability group, while those who score below the average are grouped in the low eye-foot coordination ability group. Four groups received SSGs treatment with two-touch. Group one and group three received 5v5 treatment with two touches, while groups two and four received 4v4+2 treatment. The treatment was conducted 15 times (8 weeks). In meetings 1-5, the field size was 15x20 meters, meetings 6-12 were 15x15 meters, and meetings 13-15 used a size of 10x10 meters. More details for each scheme can be seen in Figure 2 and Figure 3.

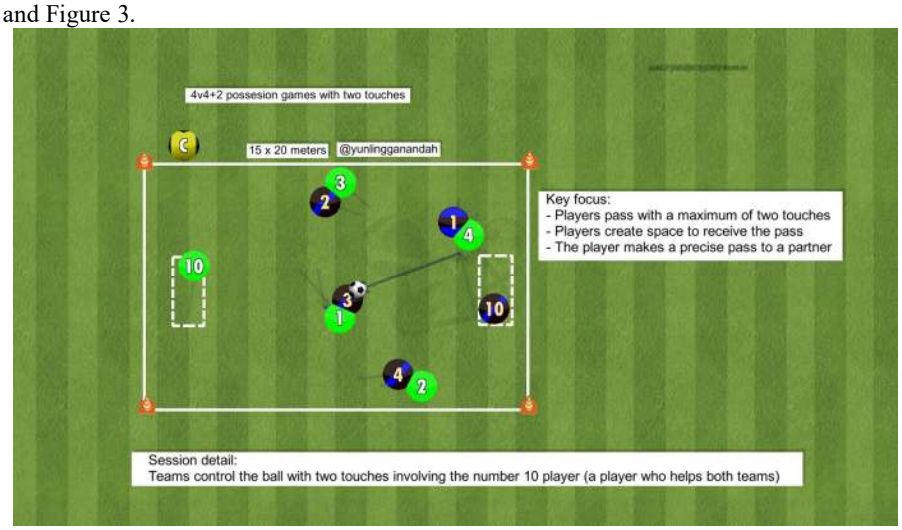

Figure 2. 4v4+2 SSG

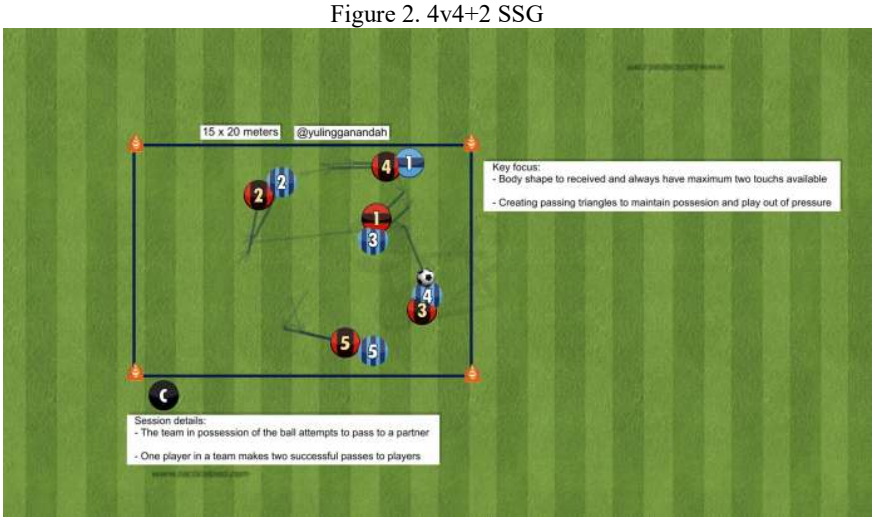

Figure 3. 5v5 SSG

Statistical analysis

To ascertain variations in the pretest and posttest intervention effects, a two-way ANOVA, a normality test, and a homogeneity test were employed. Each and every result is shown as mean ± standard deviation (SD). When comparing mean differences, a type 1 error of 5% or less was deemed significant.

Results

The characteristic data of the participants is shown in Table 1.

Table 1. Characteristics data of the participants (n = 36)

Parameter	Mean ± SD
Age (year)	15.5 ± 1.67
Height (m)	1.58 ± 8.45
Body weight (kg)	46.2 ± 8.6
BMI (kg/cm^2)	17.83 ± 2.15

The results of the pass accuracy test on soccer academy athletes aged 15-17 years can be shown in Table 2 below.

Tabel 2. Descriptive Statistics of Pass Accuracy Test Results

No	Stage	N	Min	Max	Mean	SD
1	Pretest	36	3	8	5,39	1,296
2	Posttest	36	6	10	7,64	1,109

Table 2 indicates that there is a known increase between the pretest mean value of 5.39 and the posttest mean value of 7.64. The data variance is homogeneous, according to the homogeneity test results displayed in Table 3 (p 0.226 > 0.05). Additionally, the data is shown to be normally distributed by the data normality test (p = 0.768 > 0.05).

Tabel 3. Test for Equality of Variances (Levene's)

F	df1	df2	P
1.527	3.000	32.000	0.226

A two-way ANOVA test was conducted to determine the difference in effect after the intervention and the presence or absence of interaction (Table 4).

Tabel 4. ANOVA Two Ways

Cases	Sum of Squares	df	Mean Square	F	p	η^2_p
Eye-foot coordination	1.361	1	1.361	4.667	0.038	0.127
Intervention groups	0.028	1	0.028	0.095	0.760	0.003
Eye-foot coordination * Intervention groups	2.250	1	2.250	7.714	0.009	0.194
Residuals	9.333	32	0.292			

Note. Type III Sum of Squares

Table 4 shows that there is an interaction between eye-foot coordination and intervention groups on pass accuracy, 5v5 and 4v4+2 interventions do not affect pass accuracy (p = 0.760 > 0.05), and eye-foot coordination affects the results of differences in pass accuracy (p = 0.038 < 0.05). To identify significant differences, post hoc tests were performed (Table 5 and Table 6).

Tabel 5. Post Hoc Comparisons – Intervention Group

		Mean Difference	SE	t	Cohen's d	p_{tukey}
(4v4+2)	5v5	-0.056	0.180	-0.309	-0.103	0.760

Note. Results are averaged over the levels of: Eye-Foot Coordination

Table 5's Ptukey's value of 0.760>0.05 indicates that there was no discernible difference between the 4v4+2 and 5v5 intervention groups. Cohen's d value of 0.103 indicates that there is no statistically significant difference.

Tabel 6. Post Hoc Comparisons – Eye-Foot Coordination

		Mean Difference	SE	t	Cohen's d	p_{tukey}
High	Low	-0.389	0.180	-2.160	-0.720	0.038

Note. Results are averaged over the levels of: Intervention Group

With reference to Table 6, a significant difference in pass accuracy caused by eye-foot coordination is indicated by Ptukey's value of 0.038 <0.05. With reference to Cohen's d value of 0.103, there is a significant difference. Figure 4 provides more information about the relationship between the intervention group and eye-foot coordination.

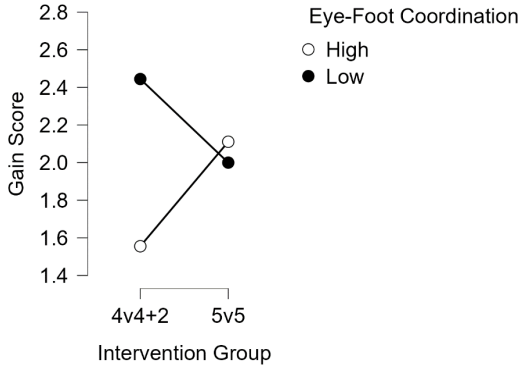

Figure 4. Interaction beetwen eye-foot coordination and intervention group

Regarding Figure 4, an interaction is indicated by the cross that forms between the two lines. Because of their disparate eye-foot coordination, the 5v5 and 4v4+2 SSGs models have an interaction that affects pass accuracy. Put another way, 4v4+2 intervention significantly improves pass accuracy for athletes with low eye-foot coordination. On the other hand, if they receive 5v5 intervention, players with high eye-foot coordination will see a significant increase in pass accuracy.

The increase in the average value in each group both before and after receiving the intervention can be seen in Figure 5.

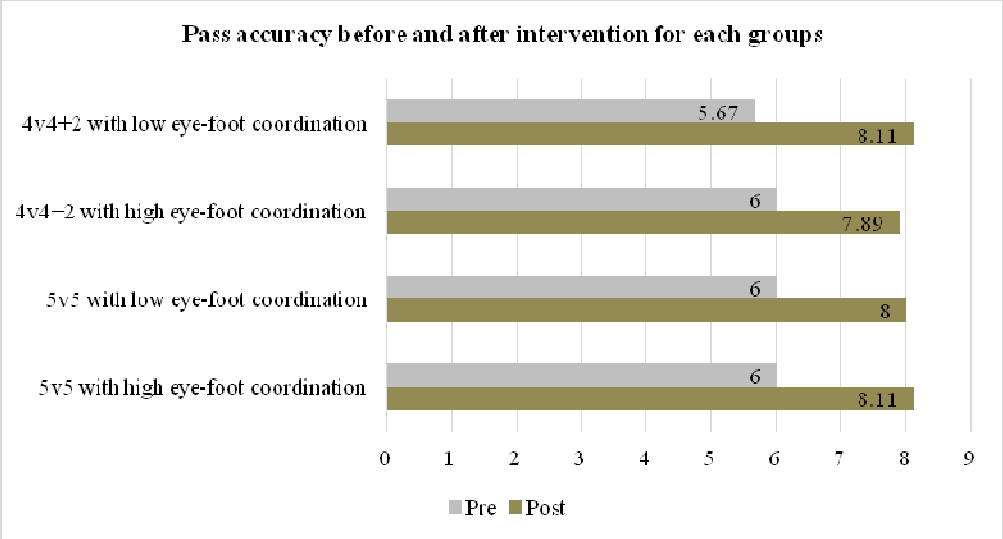

Figure 5. Pass accuracy before and after intervention for each groups

Regarding Figure 5, the 4v4+2 group with low eye-foot coordination experienced the most significant mean score increase (2.44), while the group with high eye-foot coordination experienced the lowest mean score increase (1.89).

Discussions

The findings reported a difference in pass accuracy based on eye-foot coordination, no difference in pass accuracy based on intervention, and interaction of eye-foot coordination with SSGs improves pass accuracy. Referring to Table 6, eye-foot coordination has a different effect between athletes who have high and low eye-foot coordination with a Cohen's d value of 0.720. Meanwhile, neither the 5v5 nor 4v4+2 intervention group significantly improved pass accuracy with a Cohen's d value of 0.103 (Table 5). However, this does not mean SSGs does not affect pass accuracy; both training models have a significant effect.

SSGs, also known as conditioned games, are a limited type of game-based training that alters the structural dynamics of formal competition (Davids et al., 2013a). Because these drills work out pedagogical ideas, the regular use of SSGs may also aid in refining specific technical abilities or tactical behaviors (Davids et al., 2013b; Hammami et al., 2018), including the findings in this study which confirmed that SSGs are appropriate for improving pass accuracy. SSGs is a program that can promote skill (Hammami et al., 2018) and physical performance (Moran et al., 2019). When played twice a week for at least four sets of four minutes each, interspersed with three-minute rest intervals, SSGs offers the same benefits as conventional endurance training (Moran et al., 2019). Playing on a small field stimulates soccer athletes to continue to focus and move to find space to receive the ball well. In addition, the modified two-touch rule also forces athletes to make quick and precise decisions (Davids et al., 2013b).

Pass accuracy skill is influenced by many factors. In addition to high training hours, it is also influenced by eye-foot coordination factors. The findings in this study confirm that eye-foot coordination is an essential factor that athletes need to master pass accuracy. Several studies have also reported that eye-foot coordination not only has an impact on improving pass accuracy (Abrori et al., 2023), but also on improving dribbling (Amra & Soniawan, 2020; Armando & Rahman, 2020), and shooting (Ridwan & Putra, 2021). Soccer players require excellent foot-eye coordination. Players with excellent foot-eye coordination can trick opponents, dribble, kick accurate free kicks, and make exquisite passes (Prasetyo et al., 2023). A player with exceptional foot-eye coordination can also benefit from stopping a soccer ball with his foot and changing direction to intercept it (Millard et al., 2022).

The results also showed an interaction between the 5v5 and 4v4+2 SSGs models with different eye-foot coordination affecting pass accuracy. In other words, for athletes who have low eye-foot coordination, a

significant increase in pass accuracy occurs if they receive 4v4+2 intervention. In contrast, with high eye-foot coordination, a significant increase in pass accuracy occurs if they receive 5v5 intervention. The implication is that coaches need to pay attention to athletes' eye-foot coordination to implement SSGs appropriately.

It is critical to recognize the limitations of this research. This study only involved football academy athletes aged 15-17 years with male gender, so the results of this study cannot necessarily be generalized to athletes in other football academies. In addition, the SSGs model applied to improve pass accuracy is limited to 5v5 and 4v4+2, whereas many SSG models can be applied, such as 3v3 four teams and first touch finish 4v4.

Conclusions

In conclusion, SSGs with 5v5 and 4v4+2 models with two touches can improve pass accuracy. Eye-foot coordination has an essential role in the mastery of pass accuracy. Athletes with high eye-foot coordination are more appropriate if treated with the 5v5 SSGs model, while athletes with low eye-foot coordination are more appropriate if treated with 4v4+2. SSGs is a small-scale game with modified rules so the coach can modify it according to the objectives. SSGs can be used to improve player and team effectiveness, as transfer of learning that can be applied to official matches occurs in these games.

Finally, when teams compete against each other in tournaments with different numbers of teams and point accumulation systems, as the time difference (starting or ending the tournament) might affect the level of team involvement in the game. This information can help you understand how your team ranks, as more experienced players tend to perform better. Future research is expected to provide more SSGs interventions with various models and rules to investigate their effect on decision-making, physical performance, and visual skills.

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References

Abrori, R. B., Sukamti, E. R., & Fauzi, R. N. (2023). The Effect of Small Sided Game Training on Passing Accuracy and Dribbling Ability in 10 Years-Old Junior Soccer Players. *International Journal of Multidisciplinary Research and Analysis*, *8*(6).

Amra, F., & Soniawan, V. (2020). The effect of agility, foot-eye coordination, and balance on dribbling ability: An ex post facto research at balai baru football academy padang. *1st Progress in Social Science, Humanities and Education Research Symposium (PSSHERS 2019)*, 759–763.

Armando, D., & Rahman, H. A. (2020). The Effect of Training Methods and Eye-Foot Coordination on Dribbling Abilities in Students Aged 12–13 Years. *Acta Facultatis Educationis Physicae Universitatis Comenianae*, *60*(1), 117–133.

Barba, F., Iturriaga, F. M. A., Borges-Hernández, P. J., Ruiz-Lara, E., & Perdomo, A. (2020). Effect of training in SSG on the ability to repeat sprints in young football players. *Journal of Physical Education and Sport*, *20*(4), 1783–1790.

Barnes, C., Archer, D. T., Hogg, B., Bush, M., & Bradley, P. (2014). The evolution of physical and technical performance parameters in the English Premier League. *International Journal of Sports Medicine*, 1095–1100.

Casamichana, D., & Castellano, J. (2010). Time–motion, heart rate, perceptual and motor behaviour demands in small-sides soccer games: Effects of pitch size. *Journal of Sports Sciences*, *28*(14), 1615–1623.

Castillo, D., Raya-González, J., Weston, M., & Yanci, J. (2021). Distribution of external load during acquisition training sessions and match play of a professional soccer team. *Journal of Strength and Conditioning Research*, *35*(12), 3453–3458.

Clemente, F. M., Afonso, J., & Sarmento, H. (2021). Small-sided games: An umbrella review of systematic reviews and meta-analyses. *PLoS One*, *16*(2), e0247067.

Davids, K., Araújo, D., Correia, V., & Vilar, L. (2013a). How Small-Sided and Conditioned Games Enhance Acquisition of Movement and Decision-Making Skills. *Exercise and Sport Sciences Reviews*, *41*(3). https://journals.lww.com/acsm-essr/fulltext/2013/07000/how_small_sided_and_conditioned_games_enhance.4.aspx

Davids, K., Araújo, D., Correia, V., & Vilar, L. (2013b). How small-sided and conditioned games enhance acquisition of movement and decision-making skills. *Exercise and Sport Sciences Reviews*, *41*(3), 154–161.

den Hollander, S., Jones, B., Lambert, M., & Hendricks, S. (2018). The what and how of video analysis research in rugby union: a critical review. *Sports Medicine-Open*, *4*(1), 1–14.

Dunton, A., O'Neill, C., & Coughlan, E. K. (2020). The impact of a spatial occlusion training intervention on pass accuracy across a continuum of representative experimental design in football. *Science and Medicine in Football*, *4*(4), 269–277.

Eleftherios, M., Natalia, K., & Athanasios, T. (2023). Exploring physical and physiological transformations in Greek semi-professional soccer players during the competitive season. *Journal of Physical Education and Sport*, *23*(11), 2940–2950.

Fattah, O. A., Atiyat, K., Mazahreh, J., & Jarrad, M. (2023). The supporting foot as a kinematic indicator of penalty kick direction in soccer. *Journal of Physical Education and Sport*, *23*(11), 3142–3146.

Filby, W. C. D., Maynard, I. W., & Graydon, J. K. (1999). The effect of multiple-goal strategies on performance outcomes in training and competition. *Journal of Applied Sport Psychology*, *11*(2), 230–246.

Fitri, A. H., & Aziz, I. (2021). The Effect Of Repeat Training Methods On Increasing Passing Results Parts In Football. *International Journal Of Humanities Education and Social Sciences (IJHESS)*, *1*(3).

Halouani, J., Chtourou, H., Dellal, A., Chaouachi, A., & Chamari, K. (2014). Physiological responses according to rules changes during 3 vs. 3 small-sided games in youth soccer players: stop-ball vs. small-goals rules. *Journal of Sports Sciences*, *32*(15), 1485–1490.

Hammami, A., Gabbett, T. J., Slimani, M., & Bouhlel, E. (2018). Does small-sided games training improve physical-fitness and specific skills for team sports? A systematic review with meta-analysis. *The Journal of Sports Medicine and Physical Fitness*, *58*(10), 1446–1455.

Hill-Haas, S. V, Coutts, A. J., Dawson, B. T., & Rowsell, G. J. (2010). Time-motion characteristics and physiological responses of small-sided games in elite youth players: the influence of player number and rule changes. *The Journal of Strength & Conditioning Research*, *24*(8), 2149–2156.

Hill-Haas, S. V, Dawson, B., Impellizzeri, F. M., & Coutts, A. J. (2011a). Physiology of small-sided games training in football: a systematic review. *Sports Medicine*, *41*, 199–220.

Köklü, Y., Alemdaroğlu, U., Cihan, H., & Wong, D. P. (2017). Effects of bout duration on players' internal and external loads during small-sided games in young soccer players. *International Journal of Sports Physiology and Performance*, *12*(10), 1370–1377.

Lago-Ballesteros, J., & Lago-Peñas, C. (2010). Performance in team sports: Identifying the keys to success in soccer. *Journal of Human Kinetics*, *25*(2010), 85–91.

Lepschy, H., Wäsche, H., & Woll, A. (2018). How to be successful in football: a systematic review. *The Open Sports Sciences Journal*, *11*(1).

Liu, H., Gomez, M.-Á., Lago-Peñas, C., & Sampaio, J. (2015). Match statistics related to winning in the group stage of 2014 Brazil FIFA World Cup. *Journal of Sports Sciences*, *33*(12), 1205–1213. https://doi.org/10.1080/02640414.2015.1022578

Martínez-Benítez, C. F., & Becerra-Patiño, B. (2023). A comprehensive bibliometric analysis of small-sided games in soccer: 20 years (2003–2023) of scientific exploration. *Journal of Physical Education and Sport*, *23*(10), 2620–2631. https://doi.org/10.7752/jpes.2023.10300

Millard, L., Breukelman, G. J., Mathe, N., Shaw, I., & Shaw, B. S. (2022). A review of the essential visual skills required for soccer: Beyond 20–20 optometry. *Frontiers in Sports and Active Living*, *4*, 965195.

Moran, J., Blagrove, R. C., Drury, B., Fernandes, J. F. T., Paxton, K., Chaabene, H., & Ramirez-Campillo, R. (2019). Effects of Small-Sided Games vs. Conventional Endurance Training on Endurance Performance in Male Youth Soccer Players: A Meta-Analytical Comparison. *Sports Medicine*, *49*(5), 731–742. https://doi.org/10.1007/s40279-019-01086-w

Narlan, A., & Juniar, D. T. (2023). *Pengukuran dan Evaluasi Olahraga*. Deepublish Publisher.

Olthof, S. B. H., Frencken, W. G. P., & Lemmink, K. A. P. M. (2019). A match-derived relative pitch area facilitates the tactical representativeness of small-sided games for the official soccer match. *Journal of Strength and Conditioning Research*, *33*(2), 523.

Prasetyo, M. A., Supriatna, S., & Taufik, T. (2023). Survey of mastery of basic skills of playing futsal in 15-17 year old futsal athletes. *Indonesian Journal of Research in Physical Education, Sport, and Health (IJRPESH)*, *1*(1), 58–65. http://journal-fik.um.ac.id/index.php/ijrpesh/article/view/8

Redwood-Brown, A. (2008). Passing patterns before and after goal scoring in FA Premier League Soccer. *International Journal of Performance Analysis in Sport*, *8*(3), 172–182. https://doi.org/10.1080/24748668.2008.11868458

Riboli, A., Esposito, F., & Coratella, G. (2022). The distribution of match activities relative to the maximal intensities in elite soccer players: implications for practice. *Research in Sports Medicine*, *30*(5), 463–474.

Ridwan, M., & Putra, D. (2021). Leg Muscle Strength, Eye-Foot Coordination and Balance Associated With Soccer Shooting Skill. *1st International Conference on Sport Sciences, Health and Tourism (ICSSHT 2019)*, 11–16.

Robin, N., Toussaint, L., Joblet, E., Roublot, E., & Coudevylle, G. R. (2020). The beneficial influence of combining motor imagery and coach's feedback on soccer pass accuracy in intermediate players. *Journal of Motor Learning and Development*, *8*(2), 262–279.

Rocha-Lima, E. M., Tertuliano, I. W., & Fischer, C. N. (2021). The influence of ball possession, passes and shots on target in winning premier league football matches. *Research, Society and Development*, *10*(8), e55110817824–e55110817824.

Sannicandro, I., Cofano, G., D'Onofrio, R., & Piccinno, A. (2023). Professional and Elite Young Soccer Players: Differences in Functional Movement ScreenTM Values. *Physical Education and Sports: Studies and Research*, *2*(2), 116–125. https://doi.org/10.56003/pessr.v2i2.269

Selmi, O., Gonçalves, B., Ouergui, I., Sampaio, J., & Bouassida, A. (2018). Influence of well-being variables and recovery state in physical enjoyment of professional soccer players during small-sided games. *Research in Sports Medicine*, *26*(2), 199–210.

Selmi, O., Haddad, M., Majed, L., Khalifa, B., Hamza, M., & Chamari, K. (2017). Soccer training: high-intensity interval training is mood disturbing while small sided games ensure mood balance. *The Journal of Sports Medicine and Physical Fitness*, *58*(7–8), 1163–1170.

Suryadi, D., Suganda, M. A., Sacko, M., Samodra, Y. T. J., Rubiyatno, R., Supriatna, E., Wati, I. D. P., & Okilanda, A. (2023). Comparative Analysis of Soccer and Futsal Extracurriculars: A Survey Study of Physical Fitness Profiles. *Physical Education and Sports: Studies and Research*, *2*(1), 59–71. https://doi.org/10.56003/pessr.v2i1.182

Toh, S. H., Guelfi, K. J., Wong, P., & Fournier, P. A. (2011). Energy expenditure and enjoyment of small-sided soccer games in overweight boys. *Human Movement Science*, *30*(3), 636–647.

Vantarakis, A., & Stafylidis, A. (2023). Attributes of crosses and their impact on goal scoring in soccer leagues. *Journal of Physical Education and Sport*, *23*(11), 3084–3090.