

# Futsal training based on mini game situation: Effects on mastery of athlete techniques

Rohman Hidayat<sup>1abcde\*</sup> , Ayu Rizky Febriani<sup>1cde</sup>, Arfin Deri Listiandi<sup>1bcde</sup> ,  
Rifqi Festiawan<sup>1bde</sup> , Moch Fath Khurrohman<sup>2bde</sup> 

Universitas Jenderal Soedirman, Indonesia<sup>1</sup>  
Universitas Negeri Yogyakarta, Indonesia<sup>2</sup>

Received: 15 September 2021; Accepted 29 December 2021; Published 24 April 2022  
Ed 2022; 7(1): 117-124

## ABSTRACT

The aim of the study is to identify the influence of providing mini game situation and full game session training methods at the level of youth players' futsal playing skills. This is experimental study with 30 youth futsal athletes of Banyumas Regency (Age= M 16.2 ± SD 0.761), divided into two experimental groups design. Futsal skill instruments are used to analyze the mastery of an athlete's technique as measured by the speed of time in completing a task. The variables analyzed relate to the main techniques in the game of futsal: passing, controlling, dribbling, and shooting. In this regard, the results showed that the value obtained from the mini game situation exercise is higher than the full game session and a significant difference is found in the results of both exercises (M ± 47.00; p = 0.012), while the value of the influence of full game session (M ± 49.00 ; p = 0.003). It is seen that more complex practice patterns will improve the player's skills progressively. Overall, these findings suggest that coaches need to take into account the effective use of exercise to support the improvement of futsal skills in adolescent athletes.

**Keywords:** Futsal; mini games; specific training; technical skills

 [https://doi.org/10.25299/sportarea.2022.vol7\(1\).7725](https://doi.org/10.25299/sportarea.2022.vol7(1).7725)

OPEN ACCESS



Copyright © 2022 Rohman Hidayat, Ayu Rizky Febriani, Arfin Deri Listiandi, Rifqi Festiawan, Moch Fath Khurrohman

**Corresponding Author:** Department of Physical Education, Faculty of Health Sciences, Universitas Jenderal Soedirman, Purwokerto, Indonesia  
Email: rohman.hidayat@unsoed.ac.id

**How to Cite:** Hidayat, R., Febriani, A. R., Listiandi, A. D., Festiawan, R., & Khurrohman, M. F. (2022). Futsal training based on mini game situation: Effects on mastery of athlete techniques. *Journal Sport Area*, 7(1), 117-124. [https://doi.org/10.25299/sportarea.2022.vol7\(1\).7725](https://doi.org/10.25299/sportarea.2022.vol7(1).7725)

**Authors' Contribution:** a – Study Design; b – Data Collection; c – Statistical Analysis; d – Manuscript Preparation; e – Funds Collection

## INTRODUCTION

Futsal is a complex sport, combining several techniques into unity to dominate the game (Barbieri et al., 2016). Games that prioritize rapid positional movement (Rico-González et al., 2020), and prioritize the mastery of techniques as the main support of the objectives of the game is a distinctive feature of this sport (Reis et al., 2019). Technique plays an important role in achieving maximum results (Corrêa et al., 2014), therefore, the implementation of an effective and appropriate training program is needed by athletes to improve technical mastery of the game so that it can achieve maximum achievement. Some further factors have usually been manipulated by a coach to provide different variations of exercise, such as pooling exercises in a special area, but this has still not been investigated in its entirety.

The application of training variations is essentially adapted to the goals to be achieved (Agras et al., 2016). Mini game situation is manipulated to take control in the player's increased technical mastery. The application of exercises that prioritize the interaction of players with the ball as often as possible with smaller field situations becomes a more complex form of practice. These characteristics are adapted to the complex game of futsal by merging several techniques, strategies, and adjustments of situations on different courts (Moore et al., 2014). Technical unification will occur in it, so the increase in player skills will be further increased because the interaction with the ball is much higher (Amani-Shalamzari et al., 2019). This becomes an important part, because the more skilled in mastering basic skills, the faster it will be to apply tactical play on the field (Barron et al., 2020). Although previous research has shown that the provision of game training can stimulate players in aligning their playing ability (Oppici et al., 2019). However, the provision of more appropriate training will improve the ability of athletes progressively and avoid injury vulnerability in athletes (Zein et al., 2014).

Other research states that the provision of drill training is able to improve the passing ability of athletes (Susanto, 2015). Furthermore, the provision of training interventions by minimizing the field area has an effect on the physiology of futsal athletes (Fanchini et al., 2011). Recent research of Khurrohman et al. (2021), showed that training by minimizing the side of the field affects the cognitive performance of futsal athletes. The findings found no investigation into external factors, especially the overall technical component. It should be noted that the integration of exercise variations over the entire technical component is important. The provision of mini game situation training will stimulate athletes in improving their technical alignment. Therefore, in this perspective it is important to understand how the reduction of the side of the field affects the technical quality of the player.

Futsal is characterized as a sport with high intensity and spontaneous movement (Beato et al., 2017). Mini game situation will be in control of it, because the speed of the game in practice is determined by the player himself. By increasing the duration and touch of the ball, players will form the alignment of several techniques into a more progressive unity (de Pinho et al., 2020). To that end, we hypothesize that with the application of mini game situations are able to improve the skills of playing futsal athletes. Recent research shows that the application of full gaming sessions is able to stimulate the technical mastery of players (Barron et al., 2020). With this, we also hypothesize that mini game situation training interventions have a different impact to full gaming sessions. The aim of the study was to test the effectiveness of mini game situation exercises against athletes' futsal playing skills. This is because there is no specific program in the field of futsal to improve player skills, so the existence of this form of exercise is expected to answer existing research hypotheses.

## METHOD

This research was included in an experimental study to test the effect of administering treatment to research subjects (Sugiyono, 2016). The research design used is two groups of pretest-posttest design with treatment given as many as 16 times, namely pretest-treatment-posttest (Komarudin, 2013).

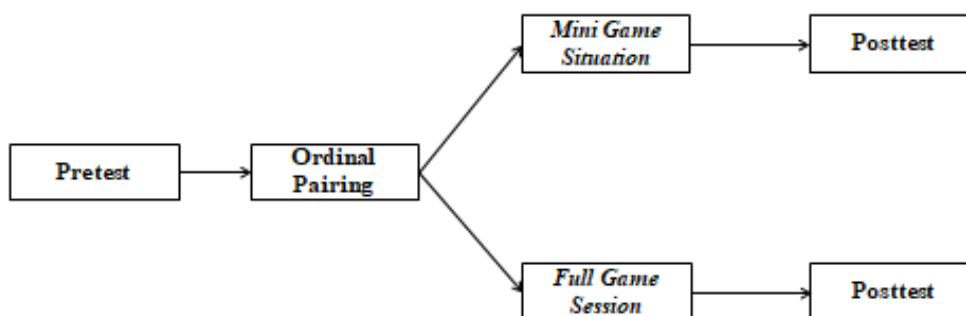


Figure 1. Research Design

The research procedure is carried out with initial tests to determine the level of ability of each player. Then grouping based on the rank of pretest acquisition. The two groups were given different treatment during 14 meetings, then continued posttest at the final meeting to test the extent of the effects of administering both exercises. Participants numbered 30 futsal athletes of Banyumas Regency with an age range of 15-17 years (Age = M 16.2 ± SD 0.761), with male sex. At this age, the child is in an increasing phase of exercise (Wijayanti & Kushartanti, 2014), Therefore, this age range is used as a sample of research. The implementation of research is carried out in groups and given a planned training program. Sample selection is done by purposive sampling technique, meaning that the sample is selected based on certain criteria (male; ages 15-17 years, sex; male). Data retrieval techniques use futsal skills tests to measure each player's level of technical mastery (Marhaendro & Saryono, 2012). Then the data analysis process is carried out with the help of SPSS 25 software with the following analysis: Normality test using shapiro wilk test, homogeneity test with levene test, paired sample t-test, and independent t-test with a probability value of 0.05.

## RESULTS AND DISCUSSION

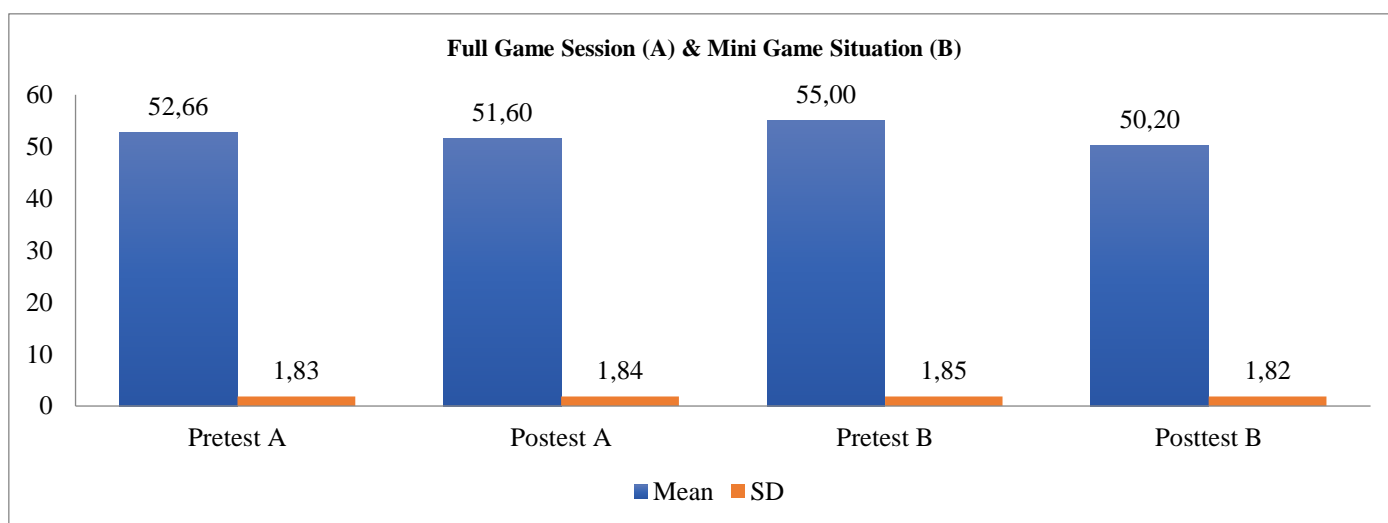
### Data Description

The results of descriptive analysis are seen in table 1. Each of the exercise interventions provided had a significant effect on an athlete's futsal playing skills. However, the mini game situation group experienced a more progressive increase than the full game session group judging from the mean difference of 2.00 seconds. These results suggest that the provision of mini game situation training interventions is much more effective to improve athletes' futsal playing skills.

Table 1. Description Data Analysis

Variable	N	Pretest	Posttest	Lower ± Upper	
		Mean ± SD	Mean ± SD	Pretest	Posttest
Mini Game Situation	15	51.60 ± 1.84	50.20 ± 1.82	49.00 ± 54.00	47.00 ± 53.00
Full Game Session	15	52.66 ± 1.83	52.00 ± 1.85	50.00 ± 56.00	49.00 ± 55.00

Table 1 this shows that there is an average acquisition of time results as a basis for data collection of athletes' futsal playing skills. For mini game situation there is an increase in ± time of 1.40 seconds. As for the full game session there was an increase of ± 0.66 seconds. These results show that mini game situations have improved. It will be explained through the diagram below:



Graph 1. Description Data Rates

### Normality and Homogeneity Test

The data normality test was conducted in this study using the shapiro wilk test, with the provision of the magnitude of the significance value  $>0.05$  then the data is considered normal. So much so, when the amount of significant value obtained  $<0.05$  data is considered abnormal. Here are the normality test results in this study:

**Table 2. Normality Test Result**

Variable	Df	Sig.	Description
Pretest A	15	.528	Normal
Pretest B	15	.064	Normal
Posttest A	15	.346	Normal
Posttest B	15	.278	Normal

(Group A = Full Game Session, Group B = Mini Game Situation)

The table above is the result of a normality test using the Shapiro wilk test which shows that all research variables are normally distributed due to the significance value generated  $> 0.05$ . It is qualified to proceed to the next test, i.e. the data homogeneity test. Here's a table of test results:

**Table 3. Homogeneity Test Result**

Variable	Sig.	Description
Pretest & Posttest A	.717	Homogeneous
Pretest & Posttest B	.893	Homogeneous

(Group A = Full Game Session, Group B = Mini Game Situation)

Table 3 demonstrates homogeneity testing results using levene tests. The results shows that both data in both groups had the same variant (sig.  $>0.05$ ). From the two test results above, it has been fulfilled to continue to the test stage of the research hypothesis.

### Hypothesis Test

The data analysis techniques used are paired t-test and independent t-test with significance level of 5% or sig 0.05. Hypotheses can be fulfilled when the resulting significance value  $< 0.05$ . Here are the results of the data analysis conducted:

**Table 3. Paired T-Test Result**

Variable	Pretest n=30			Posttest n=30			P Value (Sig.)
	M	±	SD	M	±	SD	
Mini Game Situation	52.00	±	1.85	50.20	±	1.82	0.000
Full Game Session	52.66	±	1.83	51.60	±	1.84	0.003

Table 3 shows the value of the paired sample t-test results in the pretest data and posttest of the mini game situation group showed a significance value of 0.000, while the full game session group showed a significance value of 0.003. Because of the value of significance  $< 0.05$ , it can be concluded that there is an influence on the intervention of mini game situation and full game session on futsal playing skills in futsal athletes of Banyumas Regency. This result is in accordance with the theory [Suganda \(2017\)](#) stating that the provision of appropriate training will improve the ability of athletes progressively. Furthermore, an independent t-test is conducted to find out whether or not there is a difference from the two training interventions to the technical mastery of the player.

**Table 4. Independent T-Test Result**

Variabel	Sample (n=30)		
	T Tabel	±	P (Sig.)
Posttest AB	2.685	±	0.012

(Group A = Full Game Session, Group B = Mini Game Situation)

Table 4 shows the results of the difference in group AB posttest values with a significance value result of 0.012. This result concludes that there is a significant difference between the full game session group and mini game situation.

Based on the results of the analysis of data conducted showed that the method of mini game situation training and full game sessions had an influence in improving the futsal playing skills of Futsal athletes in Banyumas Regency, but mini game situation played a role in the context of improving athletes' abilities because the results showed that this group had a more progressive improvement. This happens because the practice methods used are in accordance with the principles of practice and cover the technicalities of the existing game. In line with the statement from [Gómez et al. \(2015\)](#) that exercises that are done repeatedly and in accordance with the game can improve the ability to play athletes, further [Iedynak et al. \(2019\)](#) explained that training plays an important role in the formation of player quality, both of in terms of motor and other technical aspects. The effect significantly provided from the mini game situation due to the application of this exercise is adapted to the actual game and prioritizes the technical unification of the game simultaneously. Reducing the field area in the method of functioning so that athletes are intensely with the ball, so that technical unification will be further increased ([Karsten et al., 2017](#)). In addition, the provision of exercises like this will also stimulate decision making quickly and effectively ([Sparkes et al., 2018](#)).

Other results showed that there was a significant difference from the administration of both exercises in the study. The mini game situation training method is able to improve the results of players' futsal playing skills because on the implementation of the given training pattern, this method focuses on the overall technique of the sport of futsal. This is due to the mastery of basic skills of each player will have a major effect on the success of tactical application in the game ([Barron et al., 2020](#)). The mini game situation method is provided through training scheduling and narrowing of the field area, so that players can interact as often as possible with the ball. While the full game session training pattern gives players the opportunity to practice like a match in each session, so that with the breadth of the ball interaction field with players is too less than the mini game situation method. So that mini game situation training has a better impact than a full game session. In line with the statement [Reis et al. \(2019\)](#), the more often the player interacts with the ball, the faster the improvement in his technical ability.

The results of this study support other studies, such as: [Coutinho et al. \(2019\)](#) show that the provision of training by minimizing the area of the field affects the level of understanding of each player's position. Next, [Khurrohman et al. \(2021\)](#) exercise by minimizing the side of the field has an effect on improving the cognitive performance of athletes. While, [Moran et al. \(2019\)](#) demonstrated that narrowing the training area has an effect on improving a player's endurance.

From the predecessor literature, researchers have tested the effects of providing mini game situation and full game session exercises that there are significant differences in the futsal playing skills of Banyumas Regency athletes. This finding is slightly different from previous research ([Coutinho et al., 2019](#); [Khurrohman et al., 2021](#); [Moran et al., 2019](#)). Researchers found new results related to technical mastery in each player after being given exercises that were almost similar to previous studies. Given the many different training methods that can be used to improve the quality of each player, this must be verified in future studies.

The research sample used is one of the limitations of this study. The involvement of sample numbers, ages, and genders is expected to be a broader review for future research in players' overall skill improvement programs of different age levels (children, adolescents, and adults). The existence of this research is also a contribution for futsal coaches, especially in implementing specific and complex training programs to improve the ability of players.

## CONCLUSION

The results of this study show that the application of mini game situation exercises becomes a progressive form of training in improving the skills of futsal players. Thus, the regularity of the player's movement and interaction with the ball is found in this form of practice, possibly a consequence of the modification of the game with the use of a smaller field. Conversely, lower synchronization of movement and ball contact is



found in full game session drills, this is indicated by a wider field situation so that players are too glued to the width of the field during practice. Supposedly to improve skills, players need fast movement and high ball contact, but this is not found in full game session drills. Overall, these results provide in-depth information that futsal coaches must acknowledge that the provision of a specific and complex training program will help enhance the mastery of player techniques.

### ACKNOWLEDGEMENT

The researcher express their gratitude to the LPPM of Jenderal Soedirman University, who has contributed to this research through grant for the competency improvement research scheme.

### CONFLICT OF INTEREST

The authors declare no competing interests in this study.

### REFERENCES

- Agras, H., Ferragut, C., & Abalde, J. A. (2016). Match analysis in futsal: A systematic review. *International Journal of Performance Analysis in Sport*, 16(2), 652–686. <https://doi.org/10.1080/24748668.2016.11868915>
- Amani-Shalamzari, S., Khoshghadam, E., Doniaee, A., Parnow, A., Bayati, M., & Clemente, F. M. (2019). Generic vs. small-sided game training in futsal: Effects on aerobic capacity, anaerobic power and agility. *Physiology and Behavior*, 204, 347–354. <https://doi.org/10.1016/j.physbeh.2019.03.017>
- Barbieri, R. A., Zagatto, A. M., Milioni, F., & Barbieri, F. A. (2016). Specific futsal training program can improve the physical performance of futsal players. *Sport Sciences for Health*, 12(2), 247–253. <https://doi.org/10.1007/s11332-016-0283-z>
- Barron, D. J., Collins, D., & Carling, C. (2020). Match performance in a reference futsal team during an international tournament - implications for talent development in soccer Christopher Yiannaki. *Biology of Sport*, 37(2), 147–156. <https://doi.org/10.5114/BIOLOSPORT.2020.93040>
- Beato, M., Coratella, G., Schena, F., & Hulton, A. T. (2017). Evaluation of the external & internal workload in female futsal players. *Biology of Sport*, 34(3), 227–231. <https://doi.org/10.5114/biolSport.2017.65998>
- Corrêa, U. C., Vilar, L., Davids, K., & Renshaw, I. (2014). Informational constraints on the emergence of passing direction in the team sport of futsal. *European Journal of Sport Science*, 14(2), 169–176. <https://doi.org/10.1080/17461391.2012.730063>
- Coutinho, D., Gonçalves, B., Travassos, B., Abade, E., Wong, D. P., & Sampaio, J. (2019). Effects of pitch spatial references on players' positioning and physical performances during football small-sided games. *Journal of Sports Sciences*, 37(7), 741–747. <https://doi.org/10.1080/02640414.2018.1523671>
- de Pinho, S. T., Leticia da Silva, S., Clavijo, F. A. R., Alves, D., & Corrêa, U. C. (2020). The learning of decision-making on interception and passing in futsal. *International Journal of Sport and Exercise Psychology*, 19(6), 1–17. <https://doi.org/10.1080/1612197X.2020.1803950>
- Fanchini, M., Azzalin, A., Castagna, C., Schena, F., McCall, A., & Impellizzeri, F. (2011). Effect of bout duration on exercise intensity and technical performance of small-sided games in soccer. *Strength And Conditioning*, 25(2), 453–458.
- Gómez, M., Moral, J., & Lago-Peñas, C. (2015). Multivariate analysis of ball possessions effectiveness in elite futsal. *Journal of Sports Sciences*, 33(20), 1–9. <https://doi.org/10.1080/02640414.2015.1075168>

- Iedynak, G., Galamandjuk, L., Koryahin, V., Blavt, O., Mazur, V., Mysiv, V., Prozar, M., Guska, M., Nosko, Y., Kubay, G., & Gurtova, T. (2019). Locomotor activities of professional futsal players during competitions. *Journal of Physical Education and Sport*, 19(3), 813–818. <https://doi.org/10.7752/jpes.2019.s3116>
- Karsten, B., Baker, J., Naclerio, F., Klose, A., Antonino, B., & Nimmerichter, A. (2017). Small-Sided Games in elite soccer: Does one size fits all? *International Journal of Sports Physiology and Performance*, 14(2), 156-162. <https://doi.org/10.1123/ijsp.2017-0214>
- Khurrohman, M. F., Yudanto, Marhaendro, A. S. D., Festiawan, R., & Hidayat, R. (2021). Small-sided games: alternative exercise to improve cognitive performance of youth futsal players. *Jurnal SPORTIF: Jurnal Penelitian Pembelajaran*, 7(1), 37–50. [https://doi.org/10.29407/js\\_unpgri.v7i1.15667](https://doi.org/10.29407/js_unpgri.v7i1.15667)
- Komarudin. (2013). Small-Sided Games Sebagai Sarana Untuk Mengembangkan Kemampuan Pengambilan Keputusan Dalam Permainan Sepakbola. *Jurnal Pendidikan Jasmani Indonesia*, 9(1), 58–63. <https://doi.org/10.21831/jppi.v9i1.3064>
- Marhaendro, A. S. D., & Saryono. (2012). *Tes Futsal FIK Jogja*. Yogyakarta: FIK UNY.
- Moore, R., Bullough, S., Goldsmith, S., & Edmondson, L. (2014). A Systematic Review of Futsal Literature. *American Journal of Sports Science and Medicine*, 2(3), 108–116. <https://doi.org/10.12691/ajssm-2-3-8>
- 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*, 1–12. <https://doi.org/10.1007/s40279-019-01086-w>
- Oppici, L., Panchuk, D., Serpiello, F. R., & Farrow, D. (2019). Futsal task constraints promote the development of soccer passing skill: evidence and implications for talent development research and practice. *Science and Medicine in Football*, 3(3), 259–262. <https://doi.org/10.1080/24733938.2019.1609068>
- Reis, M., Santos, J., Matos, M., Cruz, T., Vasconcellos, F., & Almeida, M. (2019). Assessment of the performance of novice futsal players in the execution of futsal-specific motor skills. *Human Movement*, 20(3), 29–37. <https://doi.org/10.5114/hm.2019.83994>
- Rico-González, M., Pino-Ortega, J., Clemente, F. M., Rojas-Valverde, D., & Arcos, A. L. (2020). A systematic review of collective tactical behaviour in futsal using positional data. *Biology of Sport*, 38(1), 23–36. <https://doi.org/10.5114/BIOLSPORT.2020.96321>
- Sparkes, W., Turner, A., Weston, M., Russell, M., Johnston, M., & Kilduff, L. (2018). Neuromuscular, biochemical, endocrine, and mood responses to small-sided games' training in professional soccer. *Journal of Strength and Conditioning Research*, 32(9), 1–15. <https://doi.org/10.1519/JSC.0000000000002424>
- Suganda, M. A. (2017). Pengaruh latihan lingkaran pinball terhadap ketepatan passing datar dalam permainan sepakbola pada siswa ekstrakurikuler di SMK YPS Prabumulih. *Jurnal Ilmu Keolahragaan*, 16(1), 57–61. <https://doi.org/10.24114/jik.v16i1.6452>
- Sugiyono. (2016). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Bandung: Alfabeta.
- Susanto, T. A. A. (2015). Perbedaan Metode Latihan (Drill) dan Metode Bermain Terhadap Hasil Belajar Passing dalam Permainan Futsal pada Peserta Ekstrakurikuler di SMK Negeri 1 Lamongan dan SMK Negeri 2 Lamongan. *Jurnal Pendidikan Olahraga dan Kesehatan*, 3(2), 443–449.
- Wijayanti, D. I. P. R., & Kushartanti, B. M. W. (2014). Model Tes Keterampilan Dasar Futsal Bagi Pemain Ku 10-12 Tahun. *Jurnal Keolahragaan*, 2(1), 32–45. <https://doi.org/10.21831/jk.v2i1.2601>

Zein, M., Kurniarobbi, J., & Agung, N. (2014). the Effect of Fifa 11+ As an Injury Prevention Program in Youth Futsal Players. *British Journal of Sports Medicine*, 48(7), 673.2-674.  
<https://doi.org/10.1136/bjsports-2014-093494.305>