The journal « sports creativity »

Volume: (16) / N°: (01)-(2025), p 592-610

Some proposed rapid offensive transition situations based on small-sided games and their impact on agility levels among U19 football players.

بعض وضعيات التحول الهجومي السريع المقترحة بالاعتماد على الألعاب المصغرة وأثرها على مستوى صفة الرشاقة لدى لاعبي كرة القدم فئة U19.

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Received: 01/01/2025 **Accepted: 24/03/2025** **Published:01/06/2025**

Abstract:

The study aimed to investigate the effect of certain rapid offensive transition situations proposed based on small-sided games on improving agility levels among U19 football players. The researcher employed an experimental method (single group), and the sample consisted of 11 U19 players. Following the statistical analysis, the results revealed significant differences between the pre-test and post-test agility results (sprint with 90° turns - T-test) for the experimental group. It was found that the proposed rapid offensive transition situations based on small-sided games had a positive effect on enhancing agility levels among U19 football players.

Keywords: Soccer game, offensive transition, small-sided games, Agility.

الملخص:

ملخص: هدفت الدراسة إلى تقييم تأثير بعض وضعيات التحول الهجومي السريع المقترحة، المعتمدة على الألعاب المصغرة، في تحسين مستوى الرشاقة لدى لاعبي كرة القدم فئة U19. استخدم الباحث المنهج التجريبي (مجموعة واحدة) وشملت العينة 11 لاعبًا من هذه الفئة. بعد إجراء التحليل الإحصائي، أظهرت النتائج وجود فروق ذات دلالة إحصائية بين نتائج اختبارات الرشاقة (sprint with turns 90° - T-test) قبل وبعد التدريب في المجموعة التجريبية، مما يدل على أن وضعيات التحول الهجومي السريع المقترحة كان لها تأثير إيجابي على تحسين مستوى الرشاقة لدى اللاعبين.

- **الكلمات المفتاحية: كرة القدم، التحول من الدفاع الى الهجوم، الألعاب المصغرة، الرشاقة.**

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1) Introduction and problematic of the study:

The improvement of sports performance, and more specifically in modern football, is linked to physical levels, technical-tactical skills, and the simplicity of the game. **(Dakhia Adel, Benyelles Abdellatif, 2024, 673).** The swift advancement of football, which encompasses all facets of the game and is particularly noticeable during competitions due to the rapid shifts in play rhythm, necessitates a high level of player skill to adapt to these evolving conditions. Players must possess quick movement abilities and directional changes, along with explosive power for executing precise movements and skills. Furthermore, the capacity to adjust positioning according to tactical strategies is essential **(Alawi, 1998, p.2).** This evolution is attributed to the dedicated efforts of researchers and training experts in the realm of sports training. Football has progressed significantly as a result of the integration between training programs and their practical implementation. Achieving this requires meticulously planned training programs grounded in scientific principles, coupled with the coach's expertise in applying them, as well as thorough physical preparation for players to enhance and develop their physical and physiological capabilities through a variety of exercises and drills.

(Al-rebdi Djamil, 1997; p50-52).

The changes in physical standards within the realm of football have prompted fitness trainers to explore diverse, highly effective training methods that align with the evolving demands of the sport. The nature of competition necessitates elevated physical levels, and among the modern training techniques that enhance physical attributes in football is the use of small-sided games. This approach significantly boosts the capabilities required for contemporary football. Training with small games plays a vital role in developing technical skills, tactical understanding, and physical capacities **(Antonacci, 2007, p. 415).** Small-Sided

Games These are increasingly recognized as one of the most effective training methods. Many coaches prepare their players in confined spaces, which enhances various skills and tactics (**Suhaib Zeghm, Belkacem Boukratam, 2022, p84).** Small-sided games are utilized across different age groups and skill levels to improve various aspects, including technical skills, tactical awareness, and physical performance **(Hill-Haas, 2011, p. 210).** While adopting this training method is beneficial, it is not without its challenges. Coaches must adhere to specific principles of modern training when implementing small-sided games. The high intensity of effort required during these tactical situations necessitates careful consideration regarding player numbers, playing area size, game duration, and recovery time. The coach's role is crucial in optimizing these factors to maximize training effectiveness. **(Monkam Tchokonté S.A.Dellal A, 2011, p. 228).**

A soccer player, like athletes in other team or individual sports, requires both physical and skill-related attributes specific to their discipline to achieve a high level of performance. Therefore, developing these qualities in soccer players is essential and important. Physical attributes are fundamental, with each requiring specific sub-qualities and tailored exercises for their enhancement **(Akzoukh, 2022, p. 1145).** Many researchers emphasize that physical fitness is a crucial factor in shaping a player's level and progression, which in turn reflects on their skillful and tactical performance. Agility is one of the essential physical qualities for soccer players. Both Al-Walili (1994) and Al-Dabbour (1996) stress the necessity for soccer players to possess agility to effectively perform the skills required in the sport. Simlinski (1996) highlights the importance of agility in linking athletic skills sequentially, especially in dynamic situations typical of team sports. Agility is defined by Sheppard and Young (2006) as the ability to perform full-body movements with changes in speed and direction while responding to stimuli as quickly as possible. Mustafa Hassanain (1995) describes it as the capacity to

change body positions or directions swiftly and accurately, whether involving the whole body or just a part of it. These definitions underscore the significance of agility for participants in team sports, including soccer.

The development of agility, particularly in relation to speed, is crucial during the sensitive age phase of youth athletes. Despite its importance across various sports, agility has not received as much research focus as other physical attributes such as muscular strength, speed, endurance, and flexibility. The research problem centers on understanding the impact of proposed tactical positions (offensive transition) based on small-sided games training methods on improving agility levels among U19 football players. This leads to several key questions regarding the effectiveness of these training strategies in enhancing agility.

1-1) General Question:

- Do the some proposed rapid offensive transition situations based on small-sided games have an effect on improving agility levels among U19 football players?

1-1-2) Sub-questions:

- Do the pre- and post-test results of the experimental group in the Sprint with Turns 90° test show statistical significance at the 0.05 confidence level?
- Do the pre- and post-test results of the experimental group in the agility T-test show statistical significance at the 0.05 confidence level?

1-2) General Hypothesis:

- The some proposed rapid offensive transition situations based on small-sided games have an effect on improving agility levels among U19 football players

1-2-1) Sub-hypotheses:

- The pre- and post-test results of the experimental group in the Sprint with Turns 90° test show statistical significance at the 0.05 confidence level?

- The pre- and post-test results of the experimental group in the agility T-test show statistical significance at the 0.05 confidence level?

1-3) Objectives of the Research:

- Analyze the statistical differences of experimental group in the results of the Sprint with Turns 90° test between the pre-test and post-test for the experimental group.
- Assess the statistical differences between the pre-test and post-test results of the agility test (T-test) for the experimental group.
- understand the impact of the proposed tactical positions (offensive transition) based on small-sided games on improving agility levels among U19 football players.
- To study the development of anaerobic physical capacities using small-sided games among football players under 19 years old.

1-4) Study Terms:

1-4-1) Soccer game: It is a sport played between two teams, each made up of 11 players, on a rectangular field, using a ball and following specific rules. Each player has a role to perform in order to achieve a common goal.

(Mili Faiza, 2024, p109).

1-4-2) Offensive transition: This is defined as a rapid offensive maneuver when a team shifts from a defensive stance to an attack towards the opponent's goal, utilizing a number of attackers that exceeds the defenders in an attempt to score before the defending team can organize its defense.

(Ghalati Yazid, Ghanem Muhammad Al-Amin, 2017, p. 223).

1-4-3) Small-Sided Games: These are games played among a group of players using a ball, resembling game situations during a match. They are played with simple and adjustable rules and have complex physical, skill-based, and tactical goals. **(Al-Razzaq, 2019, p. 8).**

1-4-4) Agility: According to Twist and Benickly, it is defined as the ability to maintain and control body position during quick directional changes while executing various athletic movements. **(Twist and Benickly, 1995)**.

2) Practical Aspect:

2-1) Exploratory Study:

The exploratory study is an essential and mandatory foundation for research, as it is crucial for establishing the credibility of scientific work. Consequently, the exploratory study is inherently linked to scientific objectives that must be recognized and cannot be disregarded. **(Abdelkader Ghidi, 2024, p552).**

In this exploratory study, the experiment was conducted on a sample of 10 players drawn from the same population as the main study group, ensuring they met the criteria set for the study. These players were later excluded from the main experiment. The pre-test was conducted on Tuesday, November 22, 2022, followed by a retest six days later on November 28, 2022. The objectives of conducting the exploratory study were as follows:

2-1-1) Field Data Collection: Recording field data related to both age group characteristics and field conditions, along with identifying various obstacles regarding the timing of program implementation and tests, as well as other teams' training schedules on the field. This also included assessing available resources that would support our study.

2-1-2) Defining Study Population and Sample: Establishing the community and sample for the study (players under 19 years old) and determining the most suitable method for selecting this sample.

2-1-3) Calculating Scientific Properties: Evaluating the psychometric properties (validity and reliability) of the study tests following their application to the exploratory sample.

2-2) Study Methodology:

In our study, we utilized a one-group experimental design (experimental group) because it is well-suited to the nature of the topic, enabling us to validate the formulated hypotheses. This methodology is recognized as the sole approach that can effectively test hypotheses related to cause-and-effect relationships. It serves as the most precise method for scientifically and theoretically tackling various scientific issues. **(Alabah Ibrahim, Masoudi Al-Taher, 2020, p. 66).**

2-3) Study Population and Sample:

- The research population is defined as a finite or infinite set of predetermined elements on which observations are focused. On the other hand, a sample can be defined as a subset of elements from a specific research population.

(Abdelkader Belkheir, Abd Essamed Guettouche, 2024, p138).

- The original population of the study consists of all players under 19 years old enrolled in the Eastern Central Batna Football League, which includes three teams: E.S.S - C.S.C - N.C.M.

- Our study sample was intentionally selected and comprised 11 players from the N.C.M football team who are under 19 years old.

Table 01. present the characteristic of the study sample.

Variables	Age	Height	Weight	Experience
Mean ± SD	18,500± 0,527	1,761± 0,637	73,500± 5,911	14.33± 4.270

- From Table 01, it is clear that the experimental group had the following mean values for the variables of age, height, weight, and years of practice: (18.500 - 1.761 - 73.500 - 14.33) respectively. Meanwhile, the standard deviations for the same previous variables were (0.527 - 0.637 - 5.911 - 4.270) respectively.

2-4) Areas of Study:

The scope of the study, conducted by the researcher, was delineated based on the characteristics of the chosen sample and the tools employed. The research was focused on two primary areas:

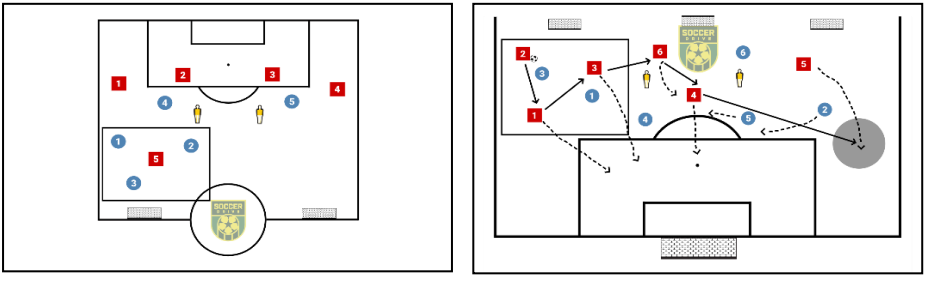
2-4-1) Spatial Area: The study was conducted at the "Bouchelik Brothers Stadium" located next to the public reading library in megra.

2-4-2) Temporal Area: This pertains to the duration during which the research and tests were carried out. The timeframe for our study spanned from early October 2022 to January 2023, encompassing the following specific phases:

2-4-3) Pre-Test Phase: The pre-tests for the experimental group were conducted on Tuesday, November 22, 2022, at 1:30 PM.

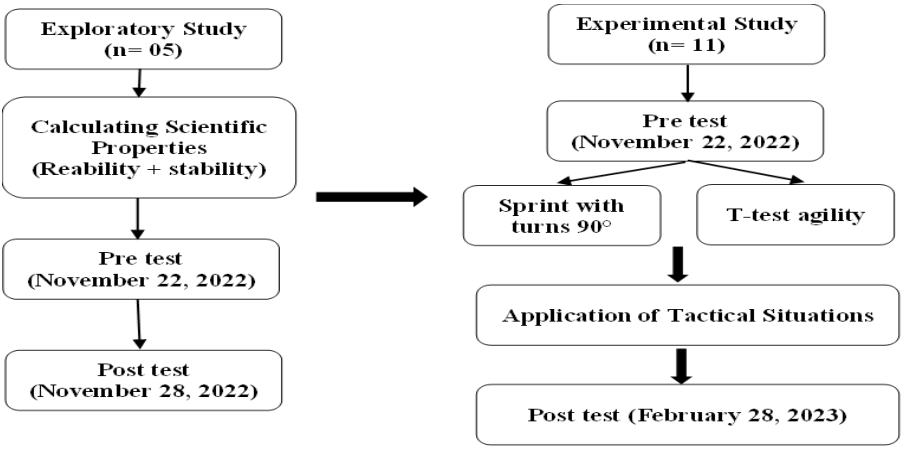
2-4-4) Application of Tactical Situations: The proposed tactical situations using small-sided games training included two tactical scenarios for transitioning from defense to attack. Each scenario lasted between 20 to 30 minutes, with each tactical situation practiced in four sessions. These sessions were specifically scheduled for Tuesdays at 1:30 PM. The implementation of these training situations began on Tuesday, December 6, 2022, and continued until February 21, 2023.

Figure 01. Show the tactical situation of offensive transition.



2-4-5) Post-Test Phase: The post-tests for the experimental group were conducted on Tuesday, February 28, 2023, at 3:00 PM.

Figure 02. Show the protocol of the study.



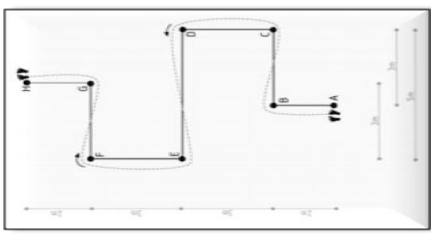
2-5) Data Collection Tools and Information:

2-5-1) First Test: The Sprint with Turns 90° Test: This test demonstrated a high degree of validity after applying the R-test method, with a reliability coefficient of 0.94. **(GORAN SPORIS et al., 2010, p. 682).**

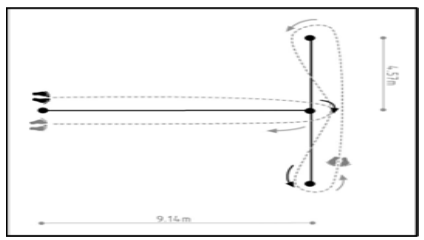
2-5-2) Second Test: The Agility T-Test: This test also showed a high degree of validity after applying the R-test method, with a reliability coefficient of 0.96.

(Abba Asadi, Hamid Azari, 2012, p. 39).

Figure 03. Show the agility test using in the study.



1) sprint with turns 90°



2) T-agility test

3) Results:

3-1) Presentation, Analysis of the Results for the Hypothesis of study:

The first hypothesis:

Table 06. displays the results of the pre-tests and post-tests for the Sprint with Turns 90° test conducted on the experimental sample.

Variables	Pre test	Post test	Paired t-test	
	Mean ± SD	Mean ± SD	df	t
Sprint With turns 90°	6,390 ± 0.340	6,343 ± 0.302	0.030	2.530
			P ≤ 0,05	
Confidentiel level: 0,05		Sample size: 11		

The table shows that the experimental group had a pre-test average score of 6.390 (standard deviation: 0.340) in the Sprint with Turns 90° test, while the post-test average score was 6.3427 (standard deviation: 0.302). The calculated t-value was 2.530 with 10 degrees of freedom, and the significance level was 0.030 at a threshold of 0.05. Since this significance value is below 0.05, it indicates statistically significant differences in agility between the pre-test and post-test for the experimental group of ten players under 19 years old.

The second hypothesis:

Table 06. Displays the results of the pre-tests and post-tests for the T-test agility conducted on the experimental sample.

Variables	Pre test	Post test	Paired t-test	
	Mean ± SD	Mean ± SD	df	t
T-test agility	31.75 ± 1.454	27.71 ± 0.813	0,001	12.187
			P ≤ 0,05	
Confidentiel level: 0,05		Sample size: 11		

The table shows that the experimental group had a pre-test average score of 31.75 (standard deviation: 1.454) in the T-test, while the post-test average score was 27.71 (standard deviation: 0.813). The calculated t-value was

12.187 with 10 degrees of freedom, and the significance level was 0.001, well below the 0.05 threshold. This indicates statistically significant differences in agility between the pre-test and post-test for the experimental group of ten players under 19 years old.

The general hypothesis:

Table 08. Shows the paired t-test to measure the effect size that the medium training course had on the experimental group.

Variables	Pre test	Post test	Paired t-test	Effect size
	Mean ± SD	Mean ± SD	t- calculated	Cohen's test
Sprint With turns 90	6,390 ± 0.340	6,343 ± 0.302	2.530	0.763
				Cohen's ≥ 0,8
T-test agility	31.75 ± 1.454	27.71 ± 0.813	12.187	3.674
				Cohen's ≥ 0,8
Confidentiel level: 0,05		Sample size: 11		

The analysis shows that the experimental group improved significantly in agility after training with small-sided games. Pre-test averages ranged from 6.390 to 31.7475 seconds, with standard deviations of 0.340 to 1.45355. In the post-test, averages decreased to 6.3427 to 27.7075 seconds, with standard deviations of 0.302 to 0.813. The t-values ranged from 2.530 to 12.187, with degrees of freedom at 11, and significance levels between 0.030 and 0.001, all below the 0.05 threshold. Cohen's effect sizes for the agility tests ranged from 0.763 to 3.674, indicating a large effect as they exceeded the 0.8 threshold. This demonstrates that the tactical situations used significantly enhanced agility among U19 football players, reflecting a substantial positive impact on their performance.

4) Discussion:

4-1) First hypotheses:

The researchers attribute these results to the positive impact of the proposed tactical positions (offensive transition) based on small-sided games training on improving agility levels. As Ayman Khazal Abdo noted, during football, players perform numerous movements that require speed repeatedly, such as sprinting and changing direction **(Ayman Khazal Abdo, 2014).** Majid Al-Mouli emphasized that quick starts and the ability to change direction in football are crucial, as they represent most of the action's players undertake during a match **(Mouwafaq Madjid Al-Mouli, 2017**). Additionally, Fadli Bajawi highlighted that well-planned and organized training based on scientific principles leads to effective and positive outcomes **(Belfrit Yassine, Ghanem Nour Eddine, 2020, p. 240).** Mohamed Hassan Alawi (2002) confirmed the coach's role and responsibility in directing the training process, stating that modern sports training requires extensive knowledge across all sports-related sciences due to its complexity aimed at preparing athletes for optimal performance. Therefore, every coach must be thoroughly familiar with the characteristics of sports training **(Qarqour Mohamed, Risham Jamal Eddine, 2019, p. 137).** This understanding has contributed to the observed improvement in agility and the significant enhancement in players' ability to change direction, as evidenced by comparing results from pre-tests and post-tests.

Our study supports the findings of Qanoun Ahmed and Si Al-Arabi Sharaf (2021), which examined the effects of small-sided games (3 vs. 3) with continuous and interval training on VMA development in U17 football players. Similarly, Suhaib Zigam and Belkacem Boukratem (2022) investigated a training program using small games to improve ball reception and shooting skills in players under 13, reporting significant differences between pre-test and post-test

results for the experimental group. Additionally, Alexandre Dellal (2017) analyzed football as a sport defined by repeated high-intensity efforts interspersed with rest periods, emphasizing its demanding nature. Consequently, the first sub-hypothesis, which posits that there are statistically significant differences between the pre-test and post-test results of agility (Sprint with 90° Turns test) among the experimental group members, has been validated.

4-2. Second hypotheses:

The researchers attribute these results to the positive impact of the proposed tactical positions (offensive transitions) based on small-sided games training on improving agility levels. Taha Ismail and others emphasized that a football player's speed is evident in their ability to sprint quickly, run, and change direction rapidly over short distances **(Mohsen Ismail, 1996).** Abdul Basir Ali noted that speed and the ability to change direction play a crucial role as fundamental physical capacities in football training **(Adel Abdul Basir Ali, 1999).** Fawzi pointed out that training programs are essential for developing physical capabilities in football players, highlighting that speed is particularly important in actions requiring quick execution **(Fawzi, 2004).** Medjadi Meftah and colleagues highlighted that utilizing training science is essential for selecting appropriate exercises and determining effective modern methods for implementing training programs. **(Medjadi Meftah et al., 2019).** This understanding has contributed to the observed improvement in agility and the significant enhancement in players' ability to change direction, as evidenced by comparing results from pre-tests and post-tests.

Our study supports the findings of Abdel Kabir Kamal (2017), who investigated "The Impact of Training Units on Developing Speed to Enhance Counterattack Levels Among U19 Football Players," and Kamel Yassin Latif

(2011), who examined "The Effect of Training Certain Tactical Approaches on Developing Specific Physical Capacities and Basic Skills Among Football Players." Both studies noted significant statistical differences in pre-test and post-test results for their experimental groups. Thus, the second sub-hypothesis, which states that there are statistically significant differences in agility (T-test) between pre-test and post-test results among the experimental group members, has been confirmed.

4-3. General Hypothesis

The researchers attribute these positive outcomes to the effective application of scientifically grounded tactical situations and proper planning based on scientific principles. In this context, Mohamed Mahmoud Abdel-Daim (1985) noted that "a structured and organized training program based on scientific principles contributes to developing and enhancing players' physical and skill levels" **(Haddash Abdullah, Mazari Fathi, 2019, p.119).** Our study aligns with **khaled al-draisiya (2001)** findings on the impact of a proposed circular training program for agility enhancement, as well as with **Bousaad Mourad and Zebchi Nourredine's study (2021),** which highlighted that the independent variable (training program) significantly influenced dependent variables under study.

Mohsen Ismail stated regarding the training process that any training inevitably leads to performance improvement if it is based on scientific foundations (training principles – intensity – repetitions – rest) while considering individual differences and under good training conditions **(Saad Mohsen Ismail, 1996).** Furthermore, Mohamed Reda Ibrahim emphasized in 2008 that coaches must organize and monitor the use of training volume and intensity precisely to ensure significant improvements in athletes' performance levels.

(Mohamed Mahmoud Ibrahim, 2008, p.119). Consequently, the general hypothesis—that the proposed tactical situations (offensive transitioning) using the small-sided games training method positively influence on agility levels among U19 football players—has been validated.

4-4) Conclusions and Recommendations:

- The proposed tactical situations (situations transitioning from defense to attack) based on the small-sided games training method (5 vs 5) have a positive effect on improving agility levels among U19 football players.
- Statistically significant differences exist between the pre-test and post-test results of the agility test (Sprint With 90° Turns) among U19 football players.
- Statistically significant differences are observed between the pre-test and post-test results of the agility test (T-test) among U19 football players.

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