Characteristics of mobile games that are used in football

Iryna Sobko\textsuperscript{ABCD*}, Mykyta Dovbnya\textsuperscript{ACD}, Vitalii Franshchuk\textsuperscript{BCD}

Department of Olympic and professional sports, sports games and tourism, H.S. Skovoroda Kharkiv National Pedagogical University, Ukraine

Authors’ Contribution: A – Study design; B – Data collection; C – Statistical analysis; D – Manuscript Preparation; E – Funds Collection

* - Correspondent author

DOI: https://doi.org/10.58962/HT.2023.1.3.19-28

How to site


Abstract

Rationale and purpose

The high emotionality of mobile games, as well as the simplicity and naturalness of the motor content are effective means and method widely used in used in sports. The purpose of the study is to develop and substantiate the use of mobile games for the development of physical abilities of young football players.

Material and Methods

Participants of the research are athletes (boys) of the early development football academy of the “Equator” shopping center, Kharkiv, number 28, age 5-6 years. Athletes were randomly divided into control (14 people) and experimental (14 people) groups. The experiment was conducted over a period of 6 months. Research methods: analysis of scientific and methodical sources, anthropometry, special tests were used to control the level of power, coordination, speed qualities, mathematical and statistical methods.

Results

The methodology for developing the physical qualities of the control group consisted of specially developing exercises. The experimental group used mobile games to develop coordination, strength, speed qualities and endurance. An increase in the results of the tests of power and coordination was established, the indicators in the experimental group were significantly higher compared to the athletes of the control group (p <0.05). It is shown that the game approach is based on a variety of motor actions, which are characterized by high dynamics of operations associated with quick decision-making for the performance of motor tasks. This aspect is important for the development of motor skills. When choosing mobile games for football players, it is necessary to take into account the characteristics of each player, their level of preparation and motivation for training. These games should be interesting, varied in difficulty and accessibility, as well as match the nature of the game of football and have a competitive focus.

Conclusions

The effectiveness of the use of mobile games for the development of strength, speed, endurance, agility during training classes of young football players was revealed.

Keywords

football players, mobile games, physical qualities, game method
Анотація

Собко Ірина, Довбня Микита, Франщук Віталій. Характеристика рухливих ігор, які застосовуються у футболі

<table>
<thead>
<tr>
<th>Обгрунтування і мета</th>
<th>Висока емоційність рухливих ігор, а також простота та природність рухового змісту є ефективним засобом та методом, який широко використовується в спорти. Мета дослідження розробити та обґрунтувати застосування рухливих ігор для розвитку фізичних здібностей юних футболістів.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Матеріал і методи</td>
<td>Учасники дослідження спортсмени (хлопці) футбольної академії раннього розвитку ТРЦ «Екватор», м. Харків, кількість 28 чоловік, вік 5-6 років. Спортсменів було розподілено вибірковим способом на контрольну (14 чоловік) та експериментальну (14 чоловік) групи. Експеримент проводився потягом 6 місяців. Методи дослідження: аналіз науково-методичних джерел, антропометрія, були використані спеціальні тести для контролю рівня силових, координаційних, швидкісних якостей, математичні та статистичні методи.</td>
</tr>
<tr>
<td>Результати</td>
<td>Методика розвитку фізичних якостей контрольної групи складалась із спеціально-розвиваючих вправ. Експериментальна група використовувала рухливі ігри на розвиток координаційних, силових, швидкісних якостей та витривалості. Встановлено підвищення результатів тестування сили та координації, в експериментальній групі показники достовірно вище (р &lt;0,05) ніж у футболістів контрольної групи. Показано, що ігровий підхід базується на розмаїтості рухових дій, які характеризуються високою динамічністю операцій, пов’язаних з швидким прийняттям рішень для виконання рухових завдань. Цей аспект має важливе значення для розвитку рухових здібностей. При виборі рухливих ігор футболістів необхідно враховувати особливості кожного гравця, їх рівень підготовки та мотивацію до тренувань. Ці ігри повинні бути цікавими, різноманітними за складністю та доступністю, а також відповідати характеру гри у футбол і мати змагальну спрямованість.</td>
</tr>
<tr>
<td>Висновки</td>
<td>Виявлено, ефективність застосування рухливих ігор на розвиток сили, швидкості, витривалості, спритності під час тренувальних занять юних футболістів.</td>
</tr>
<tr>
<td>Ключові слова</td>
<td>футболісти, рухливі ігри, фізичні якості, ігровий метод</td>
</tr>
</tbody>
</table>

20
Introduction

When organizing soccer classes for children 5-6 years old, it is necessary to take into account their potential, which are the main criteria for choosing motor activities, the structure of motor actions and ways of influencing their body. Wide use of mobile games, elements of various sports games and other available physical exercises is recommended in the sports training of athletes of this age. The main approach in such classes should be the game method, which encourages children to motor activity and facilitates the easy performance of the coach’s tasks, while simultaneously arousing their interests. [1].

At the same time, it should be remembered that monotonous and repetitive activities with great physical and psychological stress are not acceptable for children of this age, as this can be harmful to their health. Physical education of children should be an integral part of general education and upbringing, as it plays an important role in preparing children for life and socially useful work in the future. It should be closely linked to mental, moral and aesthetic education, as well as labor training, as physical qualities contribute to the overall development of children [2]. The review of modern literature sources revealed a large number of publications that investigate the structure of the process of training young football players at the initial stage [3,4,5].

Experts emphasize that at this stage the main goal is to develop a stable motivation to play and play activities, form skills of playing football and other games, develop a sense of the ball, learn to drive the ball, kick (pass) and receive the ball with the feet, as well as to hit the goal [6,7]. Means and methods of general physical training at the beginning of football classes contribute to the development of basic physical qualities and the formation of various motor skills, and training loads have a diverse effect on the body of a young football player. Therefore, there is a need for active use of outdoor games for the complex development of motor activity. The questions of the use of mobile games as means of development of physical abilities of young football players.

Material and methods

Participants

Participants of the research are athletes (boys) of the early development football academy of the "Equator" shopping center, Kharkiv, number 28, age 5-6 years. Athletes were randomly divided into control (14 people) and experimental (14 people) groups. All participants and parents consented to the study and testing of the athletes.

Procedure

The experiment was conducted for 6 months. Before and after the experiment, the athletes were tested for physical fitness. Training sessions were held twice a week (Mon, Thurs), 40-50 minutes each. In the third month of training, two training sessions were added, and the total number of training sessions per week was already 4 (Mon, Thurs, Sat, Sun).

The experimental and control groups trained on artificial turf. The methodology for developing the physical qualities of the control group consisted of specially developing exercises. Athletes of the experimental group played mobile games during training. Moving games were used in the main part of the training, either at the beginning or at the end. If it was at the beginning of the main part, then the game was allocated at least 6-8 minutes, and the game had to correspond to the quality on which the
training was focused. If the game was played at the end of the main part of the training, the game lasted no more than 5-6 minutes.

In this study, we selected outdoor games for the development of strength, speed, endurance, and agility of 5-6-year-old football players. On Monday we used such games at the end of training as: "Freezing" or "Tails" or "Fisherman and Net". On Thursday: "Hands and Head" or "Racing" or "Find the House". Saturday (beginning and end of training): "Outsmart the opponent" - the beginning of the training, "Bouncer" - the end of the training. Sunday (beginning and end of training): "Step on the ball" - beginning, "Guard" - end of training [9].

A mobile game for developing speed "Freezing".

The course of the game: the athletes disperse throughout the site, one athlete is given a football shirt with which he must touch the participants, thereby "freezing" them. The task of the athletes is to escape from the "freezing", to avoid touching the shirt in any way possible. If a player is touched, he or she must freeze, spread his or her legs wider and shout: "help!" He can be rescued only if another participant (who has not been frozen) crawls between the legs of the frozen person. The goal of "freezing" is to freeze everyone.

A moving game for the development of speed "Tails". Inventory: soccer bibs, soccer balls. The course of the game: the players disperse with the balls in their feet on the court - everyone gets a "tail" (with the help of football bibs, a tail is made behind the player). A "good wolf" is chosen, who also has a ball in his feet and from whom they will run away. The task of the "good wolf" is to collect all the tails, and the athletes are to avoid meeting the "wolf" and keep their own tail. Important: when the "wolf" takes the "tail" from the player, he must have the ball next to his foot. If the ball is not under the control of the player (the "good wolf"), he has no right to take the "tail". You can play without balls.

Moving game for development of dexterity "Hands-head". Equipment: ball, markers. The course of the game: small athletes stand on the markers, the coach approaches each of them with a ball in his/her hands, throws the ball and says: "Hands" or "Head". The task of the players is to be as focused as possible on what the coach says and to be ready to hit the ball correctly. If the coach throws the ball and says "Hands", you have to hit the ball with your head, if he says "Head", you have to hit it with your hands.

A moving game to develop the dexterity of the "Bouncer". Equipment: chips, ball.

The course of the game: the territory where young football players can be located is marked with chips. Coaches stand on both sides opposite each other and try to hit one of the players with the ball. It is not allowed to run out of the marked area. The task of the athletes is to avoid contact with the ball and to be focused on the ball and the coaches.

A moving game for the development of strength "Racing". Equipment: cones, markers. The course of the game: markers are placed where athletes will stand in pairs, cones are placed opposite the markers (about 5 m). At the signal of the coach, one player should take the legs of the other and start moving to the cone opposite them. The second player, who is held by the legs, must use his arms to reach the cone, wrap around it and return to his marker. The winner is the pair that returns to their place first.

A moving game for the development of coordination, speed "Fisherman and Net". The game is played by a fisherman who has to catch all the players. If the fisherman touches the athlete, he begins to form a net with him. That is, the football player who is caught takes the fisherman's hand and the two of them continue to catch the others. If they catch another one, the net already consists of three people, and so on, until the last one is caught.

A moving game for speed development "Find the house". Equipment: soccer rings, soccer balls (optional). The course of the game: soccer rings are placed on the site, but one less than the number of participants. Athletes run in different ways (sideways, backwards) all over the field. At the coach's signal, they must quickly run into the ring (find the house). Whoever fails to "find the house" goes to rest. The number of rings decreases each time, as does the number of athletes.

Important: the number of rings should always be one less than the number of players. The winner is the one who is the first to run into the ring when there is only one on the field. You can also play this game with balls in your feet, the rules are the same.

A mobile game for the development of agility, coordination "Step on the ball". Equipment: soccer ball, markers. The course of the game: young football players stand on the markers opposite each other and run on the spot (then you can jump). There is a ball between them. The coach names different parts of the body to touch as soon as the coach says: "ball", you have to quickly step on the ball and roll it to your side. Whoever does it first wins.

A moving game for the development of coordination and agility "Bodyguard". Equipment:
soccer balls, chips, cones, markers. The course of
the game: athletes stand with balls in their feet on
markers, a coach ("guard") stands opposite their
back. Between the players and the "guard" there are
obstacles in the form of scattered chips and cones,
which must be carefully avoided with the ball in their
feet. On the signal, the players begin to overcome the
obstacles, thereby approaching the "guard". As soon
as the "guard" turns around, the athletes must freeze
and step on the ball. If someone does not freeze but
continues to move, they go to the marker where they
started. The task of the players is to overcome all
obstacles as quickly as possible, when the "guard" is
not looking at them, run closer to him with the ball in
their feet and scare him away.

A moving game for developing coordination,
speed, agility "Outwit the opponent". Equipment:
soccer balls, goals, cones, markers. The course
of the game: players stand opposite each other on
markers of different colors (for example, red and
yellow). They put 6-8 cones in a row, thus forming
a "fence" between them. Those who stand on the
red markers have gates on both sides, and those
who stand on the yellow markers have balls on both
sides of the "fence". The task of the players on the
red markers is to carefully watch where the player
with the yellow marker will run (to which ball) and
run in that direction, thereby protecting the goal and
preventing him from scoring a goal. The task of the
players on the yellow markers is to outwit the one on
the red markers by running first to one ball, then to
the second, or to make a false movement to the side
and stay put, and score a goal into the empty net.
Important: no one can run behind the "fence", players
from the red markers by running first to one ball, then to
the second, or to make a false movement to the side
and stay put, and score a goal into the empty net.

1. Body length, cm. To measure the length of
the body, a stadiometer was used in the "main stance"
position, in which the head, interscapular region,
buttocks, and heels touched the bar. The length of
the body was fixed on the stand of the stadiometer,
using the lower edge of the plate with a touch to the
parietal area of the head [14].

2. Body weight, kg. To determine body
weight, special honey scales were used with an
accuracy of 50 grams. Weighing was carried out in a
standing position, in a calm state, in the central part
of the weight platform [14].

3. Shuttle run 4x9 m. The test was performed
on the coach's signal, with a ring on the start line,
in which you had to put two chips that were on the
opposite line. Only one chip could be taken at a time.
There was a distance of 9 meters between the starting
line and the line where the chips were lying. So, at
the coach's signal, the player started running, and the
time was recorded by the last chip in the ring;

4. Push-ups for 30 s. The athlete had to do
as many flexions-extensions of the arms in a lying
position as possible. It is considered the correct
performance of the exercise with the athlete's half-
bent arms in the prone position;.

5. Long jump from a place, sm, The long
jump from a place was from the appropriate marker,
with the correct technique. The distance of the jump
on the athlete's heels was recorded. Three strobes
were provided, the best result was taken

6. Romberg's test, s. The athlete puts the left
foot in front of the right foot, closes the eyes, stretches
the arms forward with the palms down and maintains
the balance of his body. The time is recorded for how
long the athlete stands steadily.

7. Jumps with a ring in hands 2x5 m, s, (с).
There were two lines, 5 meters apart, a football player
with a ring in his hands started the test at the coach's
signal. The soccer ring was 40 cm in diameter. He
had to throw the ring in front of him so that he could
jump into it, then get out of the ring and throw it in
front of him again. And so on to the opposite line and
back to the starting line. The time was recorded when
the player returned to the line from which he started
the test [11].

8. Throwing a football from a place, m.
Throwing a soccer ball from a place was performed
with a children's ball weighing 270-290 g, size - 3. A
football player stood on a mark which was put by a
coach. On a signal the ball was thrown in the air in
length. The segment where the first touch of a ball to
a grass was fixed was fixed [11].
Statistical analysis

In this study, mathematical statistics methods (Microsoft Excel and SPSS programs) were used, the arithmetic mean, standard deviation S, representativeness error m were determined, initial and final results were evaluated according to the Student’s t-test with the appropriate level of probability (p).

Results

At the beginning of the study, the control and experimental groups did not have a statistically significant difference among themselves in all measured indicators. (Table 1).

As a result of the study, we obtained reliable differences between football players of the control and experimental groups. According to the results of tests “Push-ups for 30 s”, “Jumps with a ring in hands 2x5 m, s”, in the group that used mobile games, the indicators were significantly better compared to football players who trained according to the traditional program (p < 0.05) (Table 2). This is due to the fact that the game method in sports is most often based on a set of different motor actions (running with maneuvering, passing the ball, catching, throwing with hitting the target, overcoming natural obstacles, etc.) At the same time, the game method is characterized by high dynamism of operations related to the rapid performance of motor tasks, which is an important factor in the development of coordination and other motor abilities. Mobile games are based on physical exercises, during which participants overcome various obstacles and strive to achieve a certain goal.

Table 1

<table>
<thead>
<tr>
<th>The name of the test</th>
<th>Group</th>
<th>Statistical indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>( \bar{X} )</td>
</tr>
<tr>
<td>Body length, cm</td>
<td>( E _1 )</td>
<td>110.75</td>
</tr>
<tr>
<td></td>
<td>( C _1 )</td>
<td>110.9</td>
</tr>
<tr>
<td>Body weight, kg</td>
<td>( E _1 )</td>
<td>18.08</td>
</tr>
<tr>
<td></td>
<td>( C _1 )</td>
<td>17.07</td>
</tr>
<tr>
<td>Shuttle run 4x9 m</td>
<td>( E _1 )</td>
<td>10.83</td>
</tr>
<tr>
<td></td>
<td>( C _1 )</td>
<td>10.91</td>
</tr>
<tr>
<td>Push-ups for 30 s</td>
<td>( E _1 )</td>
<td>8.83</td>
</tr>
<tr>
<td></td>
<td>( C _1 )</td>
<td>8.25</td>
</tr>
<tr>
<td>Long jump from a place, sm</td>
<td>( E _1 )</td>
<td>126.83</td>
</tr>
<tr>
<td></td>
<td>( C _1 )</td>
<td>127.75</td>
</tr>
<tr>
<td>Throwing a football from a place, m</td>
<td>( E _1 )</td>
<td>5.28</td>
</tr>
<tr>
<td></td>
<td>( C _1 )</td>
<td>5.21</td>
</tr>
<tr>
<td>Romberg's test, s</td>
<td>( E _1 )</td>
<td>26.50</td>
</tr>
<tr>
<td></td>
<td>( C _1 )</td>
<td>27.17</td>
</tr>
<tr>
<td>Jumps with a ring in hands 2x5 m, s</td>
<td>( E _1 )</td>
<td>40.11</td>
</tr>
<tr>
<td></td>
<td>( C _1 )</td>
<td>40.93</td>
</tr>
<tr>
<td>Driving a ball through chips for 1 min, number of chips</td>
<td>( E _1 )</td>
<td>23.08</td>
</tr>
<tr>
<td></td>
<td>( C _1 )</td>
<td>22.58</td>
</tr>
</tbody>
</table>

Notes. * \( E \_1 \) - experimental group before the experiment; \( C \_1 \) - control group before the experiment
Table 2

Indicators of anthropometry, testing strength, speed and coordination among the football players of the experimental group (n = 14) and the control group (n = 14) after the experiment

<table>
<thead>
<tr>
<th>The name of the test</th>
<th>Group</th>
<th>Statistical indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>E₁</td>
<td>X: 110.83, S: 2.21, m: 0.64, t: 0.34, p: 0.79</td>
</tr>
<tr>
<td></td>
<td>C₁</td>
<td>X: 110.6, S: 2.14, m: 0.61</td>
</tr>
<tr>
<td>Body length, cm</td>
<td>E₂</td>
<td>X: 18.75, S: 1.19, m: 0.37, t: 0.34, p: 0.75</td>
</tr>
<tr>
<td></td>
<td>C₂</td>
<td>X: 18.25, S: 1.28, m: 0.37</td>
</tr>
<tr>
<td>Body weight, kg</td>
<td>E₁</td>
<td>X: 1060, S: 1.39, m: 0.11, t: 0.68, p: 0.33</td>
</tr>
<tr>
<td></td>
<td>C₁</td>
<td>X: 10.66, S: 0.26, m: 0.07</td>
</tr>
<tr>
<td>Shuttle run 4x9 m</td>
<td>E₂</td>
<td>X: 10.75, S: 1.66, m: 0.48, t: -2.71, p: 0.01</td>
</tr>
<tr>
<td></td>
<td>C₂</td>
<td>X: 8.92, S: 0.90, m: 0.26</td>
</tr>
<tr>
<td>Push-ups for 30 s</td>
<td>E₁</td>
<td>X: 132.70, S: 5.05, m: 1.46, t: -1.51, p: 0.85</td>
</tr>
<tr>
<td></td>
<td>C₁</td>
<td>X: 130.25, S: 3.31, m: 0.95</td>
</tr>
<tr>
<td>Long jump from a place, sm</td>
<td>E₂</td>
<td>X: 6.53, S: 1.41, m: 0.12, t: 1.53, p: 0.55</td>
</tr>
<tr>
<td></td>
<td>C₂</td>
<td>X: 6.27, S: 0.25, m: 0.07</td>
</tr>
<tr>
<td>Throwing a football from a place, m</td>
<td>E₁</td>
<td>X: 30.58, S: 3.90, m: 1.12, t: 1.40, p: 0.34</td>
</tr>
<tr>
<td></td>
<td>C₁</td>
<td>X: 28.75, S: 2.93, m: 0.84</td>
</tr>
<tr>
<td>Romberg's test, s</td>
<td>E₂</td>
<td>X: 41.98, S: 1.90, m: 0.55, t: 3.03, p: 0.01</td>
</tr>
<tr>
<td></td>
<td>C₂</td>
<td>X: 44.28, S: 2.10, m: 0.61</td>
</tr>
<tr>
<td>Jumps with a ring in hands 2x5 m, s</td>
<td>E₁</td>
<td>X: 26.6, S: 3.31, m: 0.67, t: 1.67, p: 0.12</td>
</tr>
<tr>
<td></td>
<td>C₁</td>
<td>X: 24.1, S: 4.48, m: 0.72</td>
</tr>
</tbody>
</table>

Discussion

The positive results of the experiment confirm the effectiveness of the use of mobile games in the training process of young athletes. These data complement the results of the studies by Kobayashi, 2013, Guilherme, Garganta, Graça, Seabra, 2017, Yavorska, T. E., Denysoyets, D. A., &Filina, 2018, Mustafayeva, 2021, which emphasize that outdoor games are an important addition to sports games and help young football players in the initial stages of training, when motor skills have not yet become automatic [4,7,8,15]. Games contribute to the formation of volitional qualities and perseverance in overcoming difficulties, as well as teach children cooperation, honesty and justice.

The results of the experiment coincide with the research of experts in the field of sports, which confirms that the use of outdoor games at this age contributes to the development of all physical properties [16,17,18,19,20]. This is because the development of a sense of complete control and confidence in movements allows athletes to regulate their movements more subtly and accurately. A child's enthusiasm for the game not only mobilizes his or her physiological resources and improves movement performance, but also contributes to the development of sports movement techniques.

When determining teaching aids at the beginning of training, it is worth noting that special attention should be paid to the careful selection of games for football training and the development of their content. These games should be interesting, varied in complexity and accessibility, as well as correspond to the nature of the game of football and have a competitive orientation. When choosing outdoor games for the development of physical properties of young football players, it is necessary to take into account the characteristics of each player, their level of training and motivation to
train in football. Nikolayenko (2014), Pylypenko (2017) emphasize that in order to achieve a certain technical element it is necessary to choose an appropriate exercise or a series of exercises that by their nature, structure and influence will allow to form the necessary stereotype [1, 21]. In order to ensure consistent progress during the long-term training of a young football player, it is necessary to correctly determine the stages of intermediate tasks and goals, as well as to find effective methods and means to achieve them. For the effective assimilation of the material it is necessary to follow the sequence, use exercises or outdoor games that correspond to the appropriate level of complexity, in order to systematically develop technical skills [22, 23].

This study has selected games for the development of various qualities that have a similar structure of movements and are similar to the exercises that underlie football. After all, the game is an indispensable means of improving movements, contributing to the development of coordination speed and endurance. This is confirmed by data showing that outdoor games provide unlimited opportunities for the integrated use of various methods to form the personality of an athlete. Moving games that use elements of running for speed, overcoming obstacles, throwing, jumping and other exercises require significant mobility. The use of games at the end or at the beginning of a training session contributes to the study of the technique of performing various football techniques [24].

Also, as the authors show, outdoor games enrich and diversify training sessions, bringing an emotional break to athletes. This effect can be compared to active recreation, which helps to restore strength and facilitates the comprehension of educational material [25, 26].

**Conclusions**

1. It has been established the use of mobile games as a means of developing physical qualities arouses great interest and stimulates young athletes to play football. Games not only contribute to the development of physical qualities, but also significantly improve the mood of athletes, cultivate strong-willed qualities, such as determination, perseverance, and courage.

2. Mobile games "Freezing", "Tails", "Fisherman and Net", "Hands-Head", "Races", "Find the House", "Outwit the Opponent", "Step on the Ball", "Bodyguard" aimed at developing physical qualities were developed and implemented in the training session of football players.

**Conflict of interest**

The author declares no conflict of interest.

**Sources of funding**

This article was not financially supported by any government, public or economic organization.

---

**References**


10. Strykalenko Y, Huzar V, Shalar O, Oloshynov S, Homenko V, & Svirida V. Development of physical qualities and mental processes using the game method in the training process of 5-6 year old football players. Physical culture, sport and health of the nation, 2021, 1(12): 77-84. ISSN 2071-5285.


Information about the authors

Iryna Sobko
http://orcid.org/0000-0002-4920-9775
sobko.iryna18@gmail.com
Department of Olympic and professional sports, sports games and tourism, H.S. Skovoroda Kharkiv National Pedagogical University
Altshevskih str. 29, Kharkiv, 61002, Ukraine

Dovbnya Mykyta
https://orcid.org/0000-0002-1967-879X
nikitadovbnya525@gmail.com
Department of Olympic and professional sports, sports games and tourism, H.S. Skovoroda Kharkiv National Pedagogical University
Altshevskih str. 29, Kharkiv, 61002, Ukraine

Franshchuk Vitalii
https://orcid.org/0009-0003-6734-3032
franschuk@i.ua
Department of Olympic and professional sports, sports games and tourism, H.S. Skovoroda Kharkiv National Pedagogical University
Altshevskih str. 29, Kharkiv, 61002, Ukraine

Інформація про авторів

Ірина Собко
http://orcid.org/0000-0002-4920-9775
sobko.iryna18@gmail.com
Кафедра олімпійського і професійного спорту, спортивних ігор та туризму, Харківський національний педагогічний університет імені Г.С. Сковороди
Вул. Алчевських, 29, Харків, 61002, Україна

Микита Довбня
https://orcid.org/0000-0002-1967-879X
nikitadovbnya525@gmail.com
Кафедра олімпійського і професійного спорту, спортивних ігор та туризму, Харківський національний педагогічний університет імені Г.С. Сковороди
Вул. Алчевських, 29, Харків, 61002, Україна

Віталій Франщук
https://orcid.org/0009-0003-6734-3032
franschuk@i.ua
Кафедра олімпійського і професійного спорту, спортивних ігор та туризму, Харківський національний педагогічний університет імені Г.С. Сковороди
Вул. Алчевських, 29, Харків, 61002, Україна

This work is licensed under a Creative Commons Attribution 4.0 International License (CC BY 4.0)

Received: 2023-05-21     Accepted: 2023-06-26     Published: 2023-07-25