



REVIEW ARTICLE

Analysing the Mental Imagery Training to Improve the Ability of Petanque Sport Shooting Game: Literature Review

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Abstract

Objective. The purpose of this study was to determine the role of biomechanical mental imagery training analysis in improving the ability of Petanque Sports Shooting Game.

Materials and methods. This review study was performed following the PRISMA standards for systematic reviews and meta-analyses. The studies were required to have been published within the previous four years, from January 2020 to July 2023. (1) petanque shooting; (2) mental imagery analysis were the keywords used in the search process. To conduct the study, the database Scopus and SINTA (Science and Technology Index) were used.

Results. The findings of the literature review yielded a final sample comprising 7 relevant articles. Specifically, 3 articles focused on imagery training for enhancing petanque shooting results, while 4 articles examined the effects of petanque shot improvement on the shooting game abilities of this sport.

Conclusions. This study revealed that mental imagery exercise analysis significantly improved the performance of petanque athletes in the match phase, enhancing their performance, motivation, and concentration, making it a valuable method for achieving positive effects on physical and mental performance in petanque athletes.

Keywords: training, imagery, shooting, petanque.

Introduction

The game of petanque requires good mastery of basic techniques because it is the initial capital for an athlete to develop his game (Irawan et al., 2022). There are two important basic skills which are pointing and shooting (Pelana et al., 2019). Line shooting is determined by the distance between the circle (where the athlete will shoot) and the target iron ball (Lubis et al., 2021). Shooting technique is one of the techniques that need to be mastered well because the goal of the petanque game is to keep the opponent's ball away through shots so that a team can win the match. Therefore, in carrying out training, trainers must innovate so that athletes who take part in training do not feel bored with all monotonous training programs (Nurhasan et al., 2023). Numerous research works have examined various facets of the game of petanque. creation of a shooting instruction

model with a focus on throwing accuracy for novices (Badaru, Hasmyati, et al., 2021). The findings emphasize the necessity for development and training in this sport, particularly with regard to human resources (Yahya & Haeril, 2021). The evaluation's findings assessed the athletes' shooting prowess and noted areas in which they needed to improve (Isdarianti et al., 2022). All of these studies highlight how crucial training, development, and skill improvement are to the game of petanque.

Imagery training in petanque, particularly visualization training, has shown significant potential in improving athlete performance (Mulya, 2020). Research shows that imagery training, which includes relaxation, self-talk, and anxiety management, is effective in improving shooting skills (Wahyu Perdana et al., 2022). The imagery training model, which incorporates elements of Physical, Environment, Task, Time, Learning, Emotion, and Perspective, has been effective in improving motor skills and performance in a variety of sports, including petanque (Lubis & Permadi, 2020). In addition, wrist flexibility, arm strength, and concentration training have been identified as important

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factors affecting shooting performance in petanque, further emphasizing the importance of a comprehensive training program that includes visualization techniques (Edgar & Meyer, 2017). Overall, integrating imagery exercises, including spatial views and visualizations, can significantly improve the performance and skill development of petanque athletes.

Petanque shooting is an important skill in the sport of petanque, which involves techniques to move the opponent's ball away from the target area. Various studies have highlighted the importance of different training methods and factors affecting shooting accuracy. Arm strength training by analyzing the direction of the ball has been shown to significantly improve shooting accuracy, especially at longer distances (Helmi et al., 2024). The use of specialized training tools such as modified tire hoops has proven effective in improving shot accuracy, offering a cost-effective alternative to imported equipment (Fathoni Dermawan Giaz & Nurhidayat, 2022). Studies on petanque athletes have shown that shooting practice with imagery analysis leads to better shooting results compared to those who do not use such techniques. For example, athletes who engaged in imagery training showed greater improvement in shooting scores compared to those who did not (Jannah et al., 2023).

Numerous studies in the past have improved the accuracy of petanque games and improved the shooting ability of the game through imagery training. One such study looked at the impact of imagery training on petanque game accuracy (Iskandar et al., 2023), Mental imagery and shot accuracy (Rony et al., 2021), Development of Imagery and Self-Talk Exercises to Improve Shooting Game Ability (Wahyu Perdana et al., 2022)

Analyzing imaging exercises to enhance petanque sport shooting ability is primarily done because these exercises have the potential to enhance athlete performance, lower anxiety, boost confidence, and increase concentration. An athlete needs these four items, particularly while performing precision shooting drills that call for a high degree of focus and self-assurance during aim and shooting. Additionally, the field conditions necessitate that athletes compete directly with their opponents in order to acquire points, therefore strong visualization abilities are required so that athletes are not distracted by their opponent's score while they advance to the final round.

The vast majority of professional athletes worldwide (70–90%) who claim to utilize visualization to enhance performance serve as evidence for this. Professional athletes in the sports of basketball, gymnastics, soccer, volleyball, dance, and swimming have frequently engaged in motor imagery training, yet though petanque shooting accuracy methods have not been identified employing visualization for these athletes. As a result, it is considered innovative study, and Petanque sports instructors are advised to use this activity to help athletes improve their shooting accuracy, particularly when it comes to shooting accuracy metrics.

The purpose of this study is to help develop the ability of imagination, provide detailed propositions, multisensory, and stimulus on the accuracy of shots. Mental imagery exercises performed by athletes basically aim to increase the athlete's confidence which will have an impact on improving their motor skills so that it will indirectly have an impact on

the athlete's performance. Even imagery training is a form of exercise that can help improve shot accuracy. The advantage of mental imagery training for beginners is very useful, because it can provide a stimulus that can stimulate the emergence of imagination in athletes to get a clear picture. Several studies have confirmed that mental imagery training can improve athlete performance, reduce anxiety, improve concentration and confidence.

Materials and Methods

Study Participants

The words "Mental Imagery" and "Petanque Shooting" were looked for in publications from Scopus Collections (Science Citation Index Expanded) and Sinta (Science and Technology Index). Index of Social Science Citations. Sams Humanities & Arts Citation Index) for the years 2020–2023.

Following the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) criteria, a total sample of 7 articles was obtained from a total of 127 publications, as depicted in the flow chart (Figure 1) (Moher et al., 2015) during the identification, suitability screening, and inclusion phases.

Study Organization

The literature evaluation considered the following factors: (a) the annual trend of papers published between 2020 and 2023 (b) the first author's institution's dissemination (c) The quantity of writers (d) subject of study (health, education management, training, or other) (e) the kind of study (longitudinal, descriptive, correlational), and (1) the typical amount of citations per article.

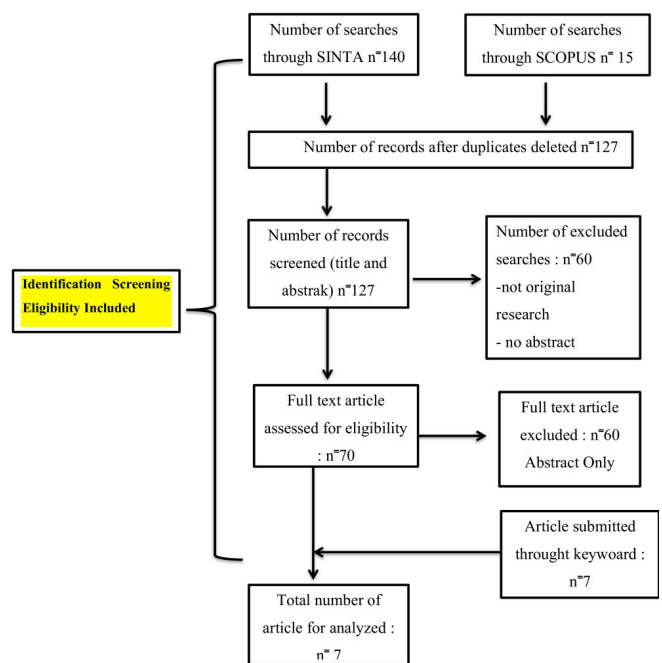


Fig. 1. Step-by-step literature search strategy process using PRISMA flow chart

Statistical analysis

Preferred were the article title abstract and keywords as this was enough to create seven reliable articles that could be used for further research. This review study only included publicly accessible articles as the authors did not want to exclude anyone who could not access their research. All relevant studies that addressed the following topics were selected based on the following inclusion and exclusion criteria.

Results

Table 1. Changes in the number of publications per year

Year of Publication	Number of Articles	Percentage
2020	50	50
2021	10	8
2022	30	20
2023	37	22
Total	127	100

The evolution of the number of publications shows different historical periods, as table 1 illustrates. The number of scholarly publications published has increased significantly since 2020 (50). Then, in 2021 there was a decline (10 articles), in 2022 there was an increase (30 articles), and in 2023 there was an increase (37 articles) in the following year.

The literature review resulted in a final sample of 7 relevant articles. Specifically, 3 articles focused on imagery training on petanque shot improvement and 4 articles on petanque shot improvement on petanque sport shooting ability.

Discussion

Based on the results of the Research These findings collectively underscore the importance of incorporating structured imagery exercises into petanque training to improve athletes' mental and physical performance, ultimately leading to better results in competition. Consistency in training is essential, as inconsistent

performance during competition has been linked to the need for a more focused shot accuracy training program, which has shown significant improvements in shooting results for both novice and professional athletes (Syahputra et al., 2021). Comparative studies show that while both precision and arm strength training have a positive impact on shooting outcomes, arm strength training tends to have more significant effects (Pelana et al., 2021). Overall, a combination of strength training, imagery, accuracy and a structured program seems to be the most effective approach to improve petanque performance especially in the shooting game.

Analysis Mental imagery training, a technique widely used in sport psychology, has been shown to improve motor performance and learning across a variety of settings and populations. Research shows that imagery training can improve motor skills in children and adolescents, with positive effect sizes, suggesting its potential in physical education and competitive sports for individuals who are more consistent in their performance (Frank, 2023). The results of other studies also prove that mental imagery training also increases athletes' self-confidence, as evidenced by futsal players who showed a significant increase in self-confidence after the training (Aikawa & Takai, 2022). Other studies have shown that mental imagery training in petanque significantly improves athletes' performance and mental resilience (Jannah et al., 2023). Research has shown that mental imagery training, which includes visual and kinesthetic elements, can improve shooting accuracy and precision in petanque athletes (Rony et al., 2021). Overall, combining these different training models and imagery techniques can provide a comprehensive method to improve petanque performance and address both the physical and mental aspects of the sport.

Different studies have investigated the variables that affect petanque shot accuracy. As eye-hand coordination, focus, and confidence are essential for shot accuracy. In addition, it has been shown that shooting drills with obstacles improve shooting ability (Saifulamri Alkhusaini et al., 2021). Another study found that modeling petanque shooting drills for beginners was the result, emphasizing the importance of drills to achieve high throwing accuracy (Badaru, Hasmyati, et al., 2021). Then the results of another study found that the effects of coordination training and

Table 2. Overview of mental imagery research characteristics

Author	Objective	Sample	Method	Results
(Jannah et al., 2023)	The research focuses on evaluating the mental aspects of athletes through mental imagery and self-talk.	9 Athletes	Descriptive Qualitative	Emphasizes the importance of utilizing imagery and self-talk techniques to help athletes improve their mentality, overcome fear, and perform optimally during competition.
(Rony et al., 2021)	The focus of the study was to find out how mental images affect shot accuracy in the sport of petanque.	A20 Athletes	One-Group Pretest-Posttest Design experimental study	This study shows that petanque athletes can use drawing as a basic cognitive process that improves motor movements and performance.
(Iskandar et al., 2023)	Knowing the effect of video imagery training on improving the pointing accuracy of novice athletes	16 Athletes	One-Group Pretest-Posttest Design experimental study	Data analysis concluded that video imagery training has a significant effect on the accuracy of shots in the sport of petanque.

Table 3. Overview of petanque shooting research characteristics

Author	Objective	Sample	Method	Results
(Badaru, Hasmyati, et al., 2021)	The purpose of this study was to develop a model of petanque shooting practice for beginners.	30 Athletes	Research & Development (R & D)	The validity of the training model was assessed through expert justification tests, ensuring that the developed model is suitable for improving shooting accuracy in the sport of petanque for beginners.
(Sutrisna et al., 2018)	Implementation of a petanque shooting skill training model for beginners and determine the effectiveness, efficiency and attractiveness of children to the model made.	330 Students	Research & Development (R & D)	The petanque sports shooting training model for beginners that has been developed, obtained evidence of this increase is shown in the results of testing the pretest and posttest data, there is a significant difference between before and after the model treatment.
(Hafizh Taajuddiin & Nurhidayat, 2022)	Aims to examine the comparison of shooting game ability	20 Athletes	Descriptive Qualitative	The shooting game ability between Surakarta city petanque athletes and Karanganyar regency petanque athletes has no significant difference.
(Ardhiyanto et al., 2021)	Analyzed the backswing and release angles in petanque shots, finding that the athlete's height and arm length affected the angles.	25 Athletes	Quantitative	Based on the analysis of several samples, it shows that the athlete's height and arm length affect the size of the backswing and release angle.

concentration training on shooting game ability were equally important, but concentration training gave better results (Lubis & Permadi, 2021). This study collectively emphasizes that concentration and mental imagery training forms are essential for improving accurate petanque shooting ability. Utilizing multiple analyses of mental imagery training forms for practice allows for intelligent training planning to get the best results quickly and safely.

In mental imagery training, athletes are asked to view a pre-recorded shooting video by themselves. This is done to store in their brain memory the shooting movements that must be done within a certain distance (Parnabas, 2015). The athlete is then given the task of imagining the shooting motion to be performed. This technique is done without the use of the ball to increase imagination, as a strong imagination produces nerve impulses similar to those produced when performing the actual movement. Once the athlete is sure the imagination is right, the ball is given for the actual shooting with various variations of obstacles and shooting distances. The imagery intervention was conducted over 8 weeks, 3 days each week, with 30 minutes of imagery practice and 60 minutes of photography practice. This was done because each athlete had not previously received a mental training program, as 24 sessions of training was sufficient to achieve the desired results (Shaari et al., 2019). Therefore, Petanque coaches are advised to implement mental imagery exercises to help their athletes shoot more accurately, especially with precision shooting numbers.

Conclusions

This study suggests that mental imagery training is necessary to improve the performance of petanque athletes in shooting. This includes structured imagery training and strength, precision and accuracy training programs. The results of another study also showed that mental imagery training significantly improved the performance and mental

endurance of petanque athletes. Petanque coaches are advised to implement mental imagery training to help athletes shoot more accurately, especially in shooting numbers. Especially, this mental imagery exercise plays an important role in improving the physical and mental performance of petanque athletes and can be a comprehensive method to improve the overall performance of petanque sports.

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Conflict of interest

The authors report no potential conflicts of interest.

References

- Irawan, F. A., Ghassani, D. S., Permana, D. F. W., Kusumawardhana, B., Saputro, H. T., Fajaruddin, S., & Bawang, R. J. G. (2022). Analysis of pointing accuracy on petanque standing position: Performance and accuracy. *Journal Sport Area*, 7(3), 456-465. [https://doi.org/10.25299/sportarea.2022.vol7\(3\).10183](https://doi.org/10.25299/sportarea.2022.vol7(3).10183)
- Pelana, R., Irfansyah, A. R., & Setiakarnawijaya, Y. (2019). Study Of Correlation Between Power Of The Arm Muscle And Rom (Range Of Motion) Of Shoulder With The Results Of 9 Meters Distance Shooting In Petanque Athlete Faculty Of Sport Science State University Of Jakarta, Indonesia. *European Journal of Physical Education and Sport Science*, 5(9), 8-18. <https://doi.org/10.5281/zenodo.3228919>

- Lubis, M. R., & Permadi, A. G. (2021). Differences in the Effect of Concentration Training and Coordination Training on Increasing the Ability to Shoot Game Petanque Undikma Athletes. *JISIP (Jurnal Ilmu Sosial Dan Pendidikan)*, 5(2). <https://doi.org/10.58258/jisip.v5i2.2005>
- Lubis, M. R., Permadi, A. G., & Muhaimin, A. (2021). The Effectiveness of Using Le Duo Tir Tools in Increasing Petanque Shooting Accuracy. *Prisma Sains: Jurnal Pengkajian Ilmu Dan Pembelajaran Matematika Dan IPA IKIP Mataram*, 9(2), 186. <https://doi.org/10.33394/j-ps.v9i2.4074>
- Nurhasan, Arif, M., Ardha, A., Shinta, H., & Puspita, C. (2023). Training of Trainer Coaching Clinic Petanque di Jawa Timur Training of Trainer Coaching Clinic Petanque in East Java. *Lambung Inovasi: Jurnal Pengabdian Kepada Masyarakat*, 8(1), 110-118. <https://doi.org/10.36312/linov.v8i1.1215>
- Badaru, B., Hasmyati, H., Juhanis, J., & Anwar, N. I. A. (2021). Shooting Training Model Development Of Petanque For Beginners. *Halaman Olahraga Nusantara (Jurnal Ilmu Keolahragaan)*, 4(2), 167. <https://doi.org/10.31851/hon.v4i2.5304>
- Yahya, A. A., & Haeril, H. (2021). PKM Sosialisasi dan Pengembangan Olahraga Petanque Kabupaten Jeneponto. *Jurnal Pengabdian Olahraga Masyarakat (JPOM)*, 2(1), 15-18. <https://doi.org/10.26877/jpom.v2i1.8579>
- Isdarianti, N. L., Jafar, M., & Wiyanto, A. (2022). Shooting Ability of Petanque Sports Branches in Rampagoe Petanque Club USK Athletes in 2022. *Journal of Physical Activity and Sports*, 3(3), 161-167. <https://doi.org/10.53869/jpas.v3i3.184>
- Mulya, G. (2020). Pengaruh Latihan Imagery Dan Koordinasi Terhadap Keterampilan Shooting Pada Olahraga Pétanque. *Training Jurnal of S.P.O.R.T*, 4(2), 101-106.
- Wahyu Perdana, S., Rahayuni, K., Taufik, T., & Supriyatna, S. (2022). Development Of Imagery And Self-Talk Exercises To Improve The Shooting Game Ability Of Nusantara Petanque Club Athletes. *Jurnal SPORTIF: Jurnal Penelitian Pembelajaran*, 8(3), 86-99. https://doi.org/10.29407/js_unpgri.v8i3.18810
- Lubis, M. R., & Permadi, A. G. (2020). Perbedaan Pengaruh Latihan Imagery Dan Tanpa Latihan Imagery Terhadap Peningkatan Kemampuan Shooting Game Atlet Petanque Undikma. *Jurnal Ilmiah Mandala Education*, 6(1), 101-106. <https://doi.org/10.58258/jime.v6i1.1114>
- Edgar, T., & Meyer, N. C. (2017). A Visual Validation of Viète's Verification. *The College Mathematics Journal*, 48(2), 90-96. <https://doi.org/10.4169/college.math.j.48.2.90>
- Helmi, B., Hidayah, T., Pramono, H., Hartono, M., & Iskandar, T. (2024). Using a Biomechanical Analysis Approach to the Accuracy of Shooting Throws in Petanque Sport: Literature Review. *Physical Education Theory and Methodology*, 24(1), 130-135. <https://doi.org/10.17309/tmf.v2024.1.16>
- Fathoni Dermawan Giaz, & Nurhidayat. (2022). Efektivitas Latihan Menggunakan Penghalang Gawang Terhadap Ketepatan Shooting Petanque. *Jurnal Porkes*, 5(2), 732-740. <https://doi.org/10.29408/porkes.v5i2.6149>
- Jannah, H., Astuti, C., Indraswari, N. F., & Weldani, F. (2023). Mental Profile of Petanque Provincial Sports Week Athletes Sumenep Seen from the Perspective of Imagery and Mental Self Talk. *Jurnal Pendidikan Olahraga*, 6(1), 118-123. <https://doi.org/10.31602/rjpo.v6i1.8131>
- Rony, M. R., Asmawi, M., & Lubis, J. (2021). Petanque: Mental Imagery and Shooting Accuracy. *Proceedings of the 4th International Conference on Sports Sciences and Health (ICSSH 2020)*, 36(Icssh 2020), 35-37. <https://doi.org/10.2991/ahsr.k.210707.005>
- Moher, D., Shamseer, L., Clarke, M., Ghersi, D., Liberati, A., Petticrew, M., Shekelle, P., & Stewart, L. A. (2015). Preferred reporting items for systematic review and meta-analysis protocols (PRISMA-P) 2015 statement. *Systematic Reviews*, 4(1), 1. <https://doi.org/10.1186/2046-4053-4-1>
- Iskandar, T., Ridlo, A. F., Bustomi, D., & Basri, H. (2023). The Effect Of Imagery Exercises On The Accuracy Of Petanque Game Pointing. *Jurnal Ilmu Keolahragaan*, 6(11), 62-70. <https://doi.org/10.31851/hon.v6i11.9357>
- Badaru, B., Rachmat Kasmad, M., Juhanis, J., & Anwar, N. I. (2021). Effect of Accuracy and Muscle Strength Training on the Result of Shooting Throws in Petanque. *Jurnal Maempo: Jurnal Pendidikan Jasmani Kesehatan Dan Rekreasi*, 11(1), 56. <https://doi.org/10.35194/jm.v11i1.1213>
- Sutrisna, T., Moch Asmawi, R., & Pelana, A. (2018). 46 Petanque Sport Shooting Skill Training Model For Beginners. *Jurnal Segar*, 7(1), 46-53. <https://doi.org/10.21009/segar/0701.05>
- Hafizh Taajuddiin, N., & Nurhidayat. (2022). Perbandingan Kemampuan Shooting Game Atlet Petanque Antar Kabupaten. *Jurnal Porkes*, 5(2), 480-489. <https://doi.org/10.29408/porkes.v5i2.5903>
- Ardhiyanto, S., Widiyatmoko, F. A., & Zahraini, D. A. (2021). Analisis backswing dan release ketepatan shooting dalam olahraga petanque. *Corner: Jurnal Pendidikan Jasmani Dan Olahraga*, 2(2), 171-179. <https://doi.org/10.53869/jpas.v2i2.69>
- Syahputra, D. S. P., Ramdan Pelana, & Hernawan. (2021). The Effect of Training Media and Playing Concentration on the Shooting Accuracy of Petanque Athletes at Universitas Negeri Padang. *Gladi: Jurnal Ilmu Keolahragaan*, 12(05), 412-425. <https://doi.org/10.21009/gjik.125.08>
- Pelana, R., Setiakarnawijaya, Y., Anggraini, D., Sukiri, S., Safitri, I., & Antoni, R. (2021). Pointing Skills Training Model For Petanque Athletes. *Kinestetik: Jurnal Ilmiah Pendidikan Jasmani*, 5(1), 1-8. <https://doi.org/10.33369/jk.v5i1.13488>
- Frank, C., Kluever, J., & Simonsmeier, B. A. (2023). Imagery training of motor actions in children and adolescents: A meta-analysis. *International Review of Sport and Exercise Psychology*, 1-22. <https://doi.org/10.1080/1750984X.2023.2167225>
- Aikawa, S., & Takai, H. (2022). Effects of Imagery Training on Imagery Ability and Performance. *Japanese Journal of Sport Psychology*, 49(2), 169-183. <https://doi.org/10.4146/jjpsopsy.2022-2017>
- Saifulamri Alkhusaini, Muhammad, & Nurhidayat, N. (2021). Shooting Skills in Petanque Game. *Jurnal Porkes*, 4(2), 69-75. <https://doi.org/10.29408/porkes.v4i2.3865>
- Parnabas, V. (2015). The Influence of Mental Imagery Techniques on Sport Performance among Taekwondo Athletes. *European Academic Research*, 11(11), 14729-14734. <https://www.krigolsonteaching.com/uploads>
- Shaari, J. S., Hooi, L. B., & Siswantoyo. (2019). He effectiveness of psychological skills training program On netball shooting performance. *Cakrawala Pendidikan*, 38(1), 174-187. <https://doi.org/10.21831/cp.v38i1.23206>

Аналіз проведення тренування із застосуванням методу ментальної візуалізації для покращення навичок виконання ударів у спортивній грі в петанк: Огляд літератури

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Авторський вклад: А – дизайн дослідження; В – збір даних; С – статаналіз; D – підготовка рукопису; Е – збір коштів

Реферат. Стаття: 6 с., 2 табл., 1 рис., 29 джерел.

Мета дослідження. Метою цього дослідження було визначити роль біомеханічного аналізу проведення тренувань із застосуванням методу ментальної візуалізації щодо покращення навичок виконання ударів у спортивній грі в петанк.

Матеріали та методи. Дане оглядове дослідження проведено відповідно до стандартів PRISMA для систематичних оглядів і мета-аналізів. Дослідження мали бути опубліковані протягом попередніх чотирьох років, з січня 2020 року по липень 2023 року. (1) удари в петанку; (2) аналіз ментальної візуалізації — використовувалися як ключові слова в процесі пошуку. Для проведення дослідження використовували наукометричну базу даних Scopus та Індекс науки і технологій SINTA (Science and Technology Index).

Результати. За результатами огляду літератури було сформовано кінцеву вибірку, що включає сім релевантних статей. Зокрема, у трьох статтях розглянута методика застосування ментальної візуалізації з метою поліпшення результатів виконання ударів у петанку, тоді як у чотирьох статтях досліджено вплив вдосконалення ударів у петанку на ігрові здібності спортсменів при відпрацюванні техніки ударів у цьому виді спорту.

Висновки. Це дослідження показало, що аналіз проведення тренувань із використанням ментальної візуалізації значно покращив результати спортсменів-петанкістів у фазі матчу, підвищивши їхню продуктивність, мотивацію та концентрацію уваги, що свідчить про цінність застосування даної методики задля досягнення позитивного впливу на фізичну та розумову працездатність спортсменів з петанку.

Ключові слова: тренування, візуалізація, виконання ударів, петанк.

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