Journal of Science and Education (JSE)
Vol. 3, No. 2, 2022, 141-150
DOI: 10.56003/jse.v3i2.166
ISSN: 2745-5351

Development of imagery exercises to increase confidence in penalty stroke for EHC (Eleven Hockey Club) male hockey athletes

Meywah Khofifah[1], Kurniati Rahayuni[2]*, Yulingga Nanda Hanief[3], Supriatna[4]
[1,2,3,4] Universitas Negeri Malang, Jl. Semarang No 5, Malang City, East Java Province, Indonesia
E-mail: kurniati.rahayuni.fik@um.ac.id

Received: 26 September 2022 Accepted: 17 November 2022 Published: 19 December 2022

Abstract: : Imagery training is needed by EHC (Eleven Hockey Club) hockey athletes in order to increase self-confidence, especially during penalty strokes. The purpose of this study was to develop imagery exercises to increase confidence in video-based format. The method used in this research is the Research and Development (R&D) method with the following steps: needs analysis, product design, expert validation, product revision, small group trial, large group trial and final product. The subjects used in this study were athletes, coaches and expert validators. Development analysis using interview instruments. The product is validated by 3 expert validators: 1 (one) Psychology Expert, 1 (one) Hockey Coaching Expert, 1 (one) Hockey Expert and the results of the validator's assessment showed 89.28% to 100% rate which assign the product are very valid. The video product then tested by a small group of 5 (five) hockey athletes and a large group of 10 (ten) hockey athletes. From the results obtained from the small group trial, namely 80.83% (very valid) and the results from the large group 98.75% (very valid). So it can be concluded that the development of imagery exercises to increase confidence in doing penalty strokes for video-based Hockey athletes is feasible to use.

Keywords: hockey; penalty stroke; imagery training; self-confidence; concentration.

How to cite: Khofifah, M., Rahayuni, K., Hanief, Y. N., & Supriatna, S. (2022). Development of imagery exercises to increase confidence in penalty stroke for EHC (Eleven Hockey Club) male hockey athletes. *Journal of Science and Education (JSE)*, 3(2): 141-150. https://doi.org/10.56003/jse.v3i2.166

INTRODUCTION

Hockey is a sport in the form of a game played by two teams, both male and female, using a bat, namely a curved stick (Muhammad, Setijono, & Nurhasan, 2017). Moreover, Hockey has a fast style of play, by playing with the ball a little, passing the ball quickly, running towards the goal quickly, and trying to enter the ball to score goals (Nugraha, 2016). Playing hockey must be done by working as a team well in order to achieve success together. However, it is not enough just to work together; every player must also be proficient in fundamental hockey skills (Rustandi, 2019). So as the basic skills, sufficient psychological skills are also needed to excel in hockey.

The researcher chose the EHC (Eleven Hockey Club) club as the research place since it is one of the hockey clubs in Malang City who coached by certified coach. When compared to other clubs in Malang City, the club frequently training and participating in competitions, lead to wealth of expertise and a long list of victories. On the other hand, The EHC club had never employed imaging exercises during training, therefore the researchers embraced this development research to increase the participants' confidence.

Based on interviews by researchers conducted on October 23, 2021, with EHC coaches and athletes, it was found that the problem was that athletes had low self-confidence. Mental training has also never been done on athletes. Then the researcher observed the trial and exercise activities at the EHC, it turned out that in doing the penalty stroke, players did it poorly. This was evidenced by the athletes being in a hurry and doing things they shouldn't have done, so they didn't take advantage of the opportunities they had for scoring. Some EHC athletes claim that they are less capable while competing against opponents who are capable of exceeding them. This occurs because they are worried due to a lack of confidence, which causes them to be unable to concentrate. While penalty shootout exercises are common during club training, training is balanced with technical, tactical, and game-setting activities. As a result, visualization training is necessary to increase the athlete's confidence and enable them to concentrate when taking penalties.

Imagery is a focused action that involves thinking about or reflecting back on an idea of an item, event, or motion that is nice and proper and will be remembered (Nurfadhila, 2016). In the form of movement and self-image, imagery is a type of mental exercise (Maya, 2019). Imagination is the process of an exercise to enhance an athlete's mental strength, such as adding aspects of focus, delivering action to a goal according to the plan, managing feelings and psychophysical circumstances" (Firdaus, 2012).

Since visualization training has a significant influence on boosting athlete performance, it is frequently employed as an exercise technique in a variety of sports, including hockey (Wahyu et al., 2021). In the sport of hockey, imagery training could has a very positive effect and offers numerous advantages or benefits for hockey players in order to simulate the sensation of motion in the brain and enable players to exhibit motion extremely effectively, particularly when performing penalty shots (Maya, 2019). Based on hockey experience, vision training, in which an athlete increases his talents using visualization exercises. For example, a hockey athlete takes a penalty shot and then "imagines" shooting the puck exactly towards the goal, culminating in a goal. Visualization exercises may be done step by step or by viewing media, such as movies, to practice the penalty stroke technique in hockey (Rahmat, 2016).

Numerous experts provide their definitions of self-confidence. It refers to a person's attitude and conviction in their own talents, which are built and taught via the learning process with the goal of achieving self-happiness (Wicaksono, 2009). In the opinion of Mirhan (2016), the ability to form a good opinion of oneself as well as the circumstances or environment in which one finds oneself is referred to as having self-confidence. Furthermore, understanding and thoroughly knowing oneself is necessary to define one's level of self-confidence. As a result, elements including psychological problems, achievements, objectives, emotional state, and physical attributes may have an influence on one's self-concept (Adawiyah, 2020).

Based on the description of the definition of self-confidence given above, it can be concluded that self-confidence is a good and extremely positive assessment of a person with regard to the skills and abilities that he or she possesses, aiming to face various challenges and situations as well as the mental capacity to reduce

negative influences and things. Uncertainty motivates a person to succeed or fail without relying on others and daring to take the responsibility.

A penalty stroke may be executed well if the athlete is very focused, which will boost self-confidence. As a result, EHC athletes pl a high value on visualization training. A defender receives a penalty stroke if he fouls an opponent or makes a mistake in the circle area, or if he clearly blocks the ball from going into the goal in the incorrect direction or in the defensive or attacking circle (Mahfud, Yuliandra, & Gumantan, 2020). Because penalty stroke is an opportunity to gain points or score goals, it creates an extremely stressful environment for sportsmen that employ it. In addition, high self-confidence is necessary for penalty stroke so that players can focus and have faith in their talents to do it flawlessly. As a result, the athlete's confidence is impacted by a variety of circumstances, both internal and external to the athlete. The stressful environment during a penalty shot typically results from spectators cheering for each competing team on the field area. Other outside influences include opponents who might disrupt focus, such as a goalie who strikes the leg guard with their stick very forcefully. Lack of penalty stroke practice, which causes players to always wait for their coach's instructions before acting, is a typical example of an internal factor that affects performance. This may seriously interfere with focus and prevent athletes from feeling confident. Similarly, according to a study by Prawitama & Aulia (2020), football participants at the Persegat Padang Pariaman academy showed an improvement in their level of self-confidence after receiving a mental training intervention. Imagery training that is provided consistently and correctly has been demonstrated to be extremely successful in raising the confidence of male athletes at the Panorama volleyball club in Bengkulu City (Raibowo & Nopiyanto, 2020). Volleyball coaches are advised to be able to design and use visualization exercises on a regular basis. According to the findings of the studies they conducted, vision exercises to boost self-confidence are highly successful if delivered repeatedly in the form of visualization. Based on the difficulties that were discovered during the study at the EHC club (Eleven Hockey Club), the researchers performed research and development to create a product in the form of a video. However, this product was not successful in passing the product test.

METHOD

Product development uses the Research and Development (R&D) method using the Borg and Gall model to use a desired product (Supriyono, 2022). This research and development method was used in stages, beginning with data collection and finishing with product creation. In ghatering data by the questionnaire, the Bord and Gall strategy employs up to nine stages of study that are restricted to creating visual training items to boost penalty stroke confidence. The Bord and Gall strategy employs up to nine stages of study completely focused on producing visual training elements to increase confidence in completing penalty strokes.

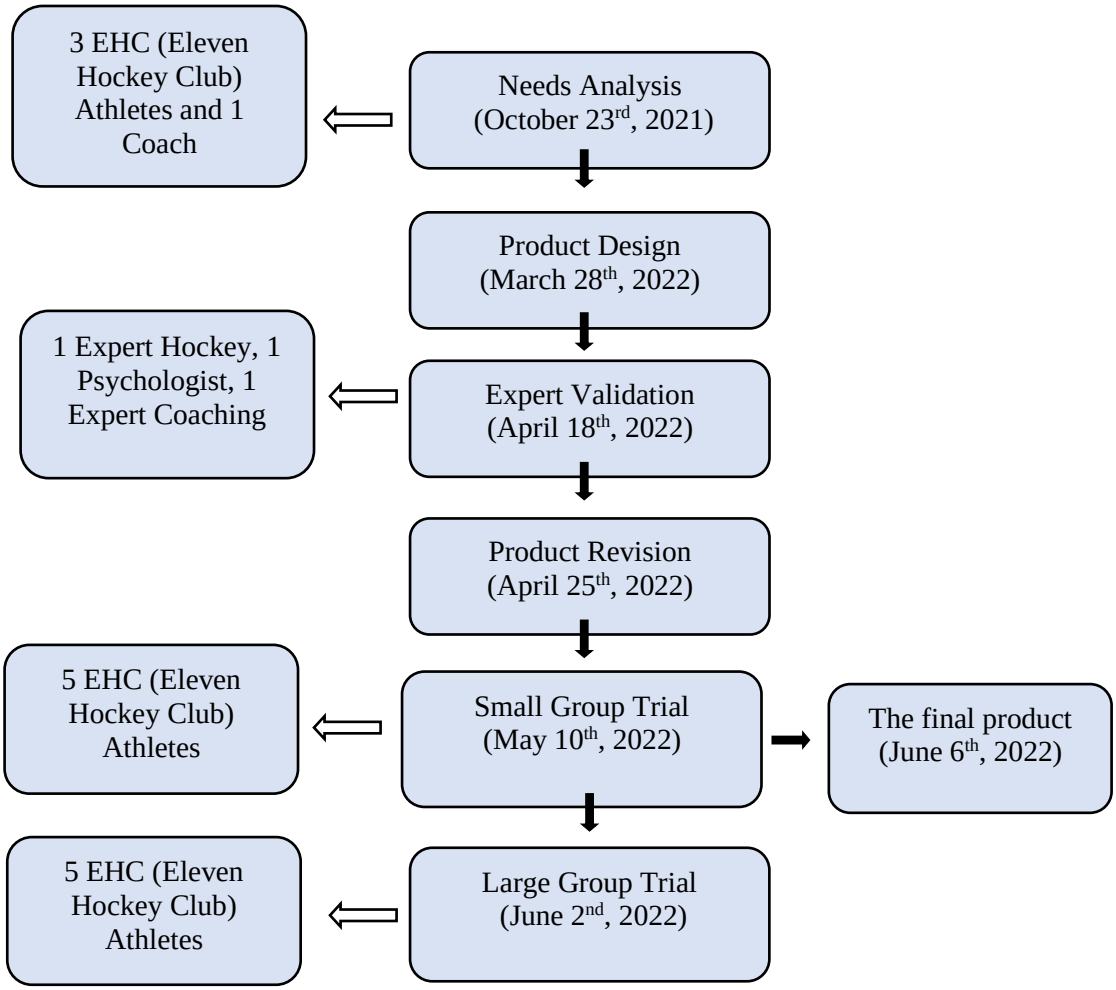

Figure 1. Research and development flow based on Borg and Gall

This research was conducted at the EHC (Eleven Hockey Club) hockey club. This development research's purpose and intention is to build a product that contains a video of developing visualization exercises to help hockey sportsmen improve self-confidence. The process of creating an imagery script involves several steps, including (1) planning, (2) writing, (3) delivering, and (4) assessing each screenplay or script. According to the needs analysis conducted on this product, it will be presented as a video at the request of hockey sportsmen. The study's participants were hockey coaches and players from the EHC (Eleven Hockey Club). In addition, the research product validators are 1 (one) sports psychology expert, 1 (one) hockey coaching expert, and 1 (one) hockey expert. The hockey field of the EHC (Eleven Hockey Club) served as the site of this study's testing. In this investigation, both a small group trial and a large group trial were employed. There were five hockey players in the small group experiment and 10 hockey players in the big group trial. The study produced both qualitative and quantitative datasets.

Table 1. Research Data

Research Phases	Research Subjects	Number of Subjects	Type of Data
Needs Analysis	EHC (Eleven Hockey Club) Coaches and Athletes	3 (three) Athletes and 1 (one) Coach	Qualitative
Product Design	-	-	Quantitative
Validity Test and Expert Evaluation	Psychologist, Coaching Specialist, Hockey, and Hockey Expert	3 (three) Experts	Qualitative and quantitative
Small Group Test	EHC (Eleven Hockey Club) Hockey Athletes	5 (five) Athletes	Quantitative
Product Revision	-	-	Qualitative
Lage Group Test	Atlet Hockey Eleven EHC (Eleven Hockey Club)	10 (ten) Athletes	Quantitative
Member Products	-	-	Quantitative

This qualitative data includes evaluation findings from specialists who spoke with EHC athletes and coaches in interviews (Eleven Hockey Club). While numerical data, in the form of the numbers 4, 3, 2, and 1, is gathered from the findings of an expert validator's assessment of the validity of a product draft (Arikunto, 2010). In order to process data per person, the data will be processed using Validity percentage formula and table norms (Akbar, 2013). To facilitate drawing inferences from the aforementioned data, the following categorization criteria are set:

Table 2. Percentage Validation Criteria Table

Percentage	Validation Criteria	Meaning
75,01% - 100,00 %	Very Valid	Can be used without revision
50,01 - 75,00 %	Quite Valid	Can be used with minor revisions
25,01% - 50,00%	Less Valid	Can not be used
00,00% - 25,00%	Invalid	Forbidden to use

Source: Modification from (Akbar, 2013)

RESULTS AND DISCUSSION

According to the overall TSEV score, the results of this study's validation of one each of three experts—one in psychology, one in hockey coaching, and one in hockey—according to the total TSEV score yielded scores of 25, 28, and 28 for the S-max from seven items. The results of the data processing indicate that this development product falls within the category of exceptional legitimacy and justifies use. It obtained 100 percent from hockey specialists, 100 percent from hockey coaches, and 89.28% from psychologists.

Table 3. Validation Results from Experts

Experts	Value
Psychology	89,28%
Hockey Coaching	100%
Hockey	100%

Based on the validation of the psychology experts, hockey coaching experts, and hockey experts, the researchers obtained some suggestions as improvement materials that would be processed into product revisions so that this product would be even better to be tested immediately on hockey athletes. There are several inputs given by the experts, which can be seen in Table 3. Based on the results of the validity of the experts, it is proven that the assessment of a video product is very valid and can be continued to the next stage.

Table 4. Feedback or suggestions from experts

Experts	Suggestions
Psychology	Instead of performing the 15- to 30-minute exercise, specify how many repetitions of the visualization exercise should be performed in each activity.
Hockey Coaching	Combined with relaxing music accompaniment
Hockey	It is possible to simply improve video quality.

Following expert validation testing and receiving feedback on how to enhance a video product, the product may be evaluated directly in small group tests and large group tests. Following expert validation testing and input on how to improve a video product, the product may be tested directly in small and large group tests.

Small Group Trial

Five hockey players from the EHC (Eleven Hockey Club) participated in the trial of the product. The information evaluated relates to a number of different factors, including: (1) Clarity of instructions in the video; (2) Clarity of imagery sentences; (3) Conformity in imagery systematics; (4) Conformity of parts of sound with parts of sentences; and (5) Clarity in rhythm and tone of voice. Using the overall TSEV score to calculate the Small Group Trial data, the data findings showed that 80.83% of the goods created by the researchers fell into the category of being extremely valid and practicable.

Large Group Trial

The large group product testing with the hockey players from the EHC (Eleven Hockey Club) involved up to five (five) hockey players. The information analyzed was related to a variety of traits, including: (1) clarity of the video's directions; (2) clarity of imagery sentences; (3) conformity in imagery systematics; (4) conformity of parts of sound with parts of sentences; and (5) clarity in rhythm and tone. 98.75% of the items developed by the researchers fit into the extraordinarily valid category and are eligible for usage, according to data acquired from the Small Group Trial and computed using the overall TSEV score.

Based on expert validation, the results of the product's trial produced final data of 80.83% for the small group test, 98.75% for the big group test, 100% for the results of the hockey expert and hockey coaching expert, and 89.28% for the psychologist. The outcomes of the data graph analysis conducted by psychology experts, hockey coaching experts, and hockey experts in the small group test and big group test may be summed up as follows:

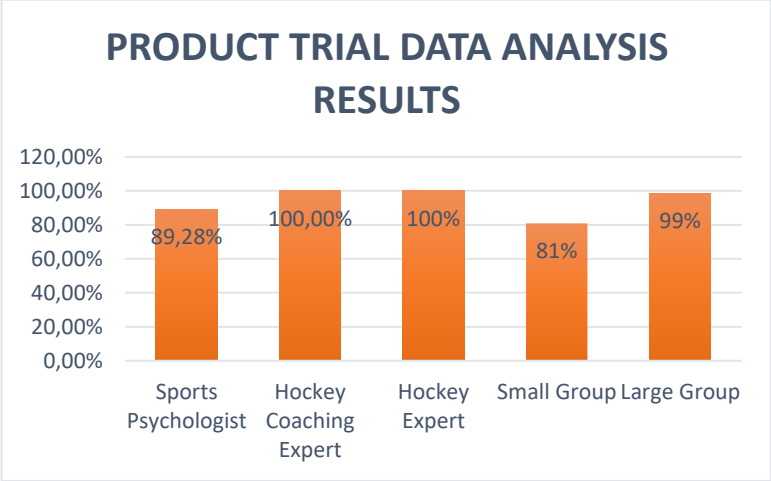

Figure 2. Graph of Imagery Product Trial Data Analysis

Final Product Specification

An imagery training film that attempts to increase players' confidence when playing penalty stroke hockey at EHC is the end result of this research and development (Eleven Hockey Club).

Table 5. Validation Results from Experts

Concept	Variable	Indicator
Development of visualisation exercises to boost confidence in performing penalty strokes presented as video products	A. Video Display 1. Definition of Imagery 2. Definition of penalty stroke hockey 3. A form of imagery practice 4. Penalty stroke training variations 5. 15-30 minutes workout guide for 3-5 training sessions per week (Petitpas, A. J., Giges, B., & Danish, n.d.). B. Videos accessed on YouTube C. The advantage of this video is that it can be used wherever and whenever we are D. The disadvantage of this video is that people have to use the internet when accessing it.	The video product is in the form of imagery training equipped with penalty stroke hockey training.

The final product of the study was a video that used the essential ideas of hockey penalty stroke training to provide self-confidence-boosting visualization exercises. The imagery training model displayed a video

instruction on the fundamentals of the penalty shot in hockey together with an imagery training handbook. Before and after a practice, before and after a game, and in the break between a session and a competition, images can be rehearsed. The practice of mental visualization involves a mechanism. Sports psychologists have allegedly made an effort to understand the processes and mechanisms of visualization, according to Sheikh & Korn (1994). According to the theory Suinn created, "visuomotor behavioral rehearsal" (VMBR), which combines exercise practice with progressive relaxation mental imagery, is one of numerous approaches to increase cognitive function (Weinberg & Gould, 2003). There are 3 phases to the VMBR technique: (1) relaxed athletes; (2) mental preparation of athletes in accordance with the demands of their individual sports; and (3) exercising specific technical or physical abilities while in motion (Festiawan, 2021). According to this notion, hockey players from the EHC (Eleven Hockey Club) engage in comparable mechanisms during mental imagery training. Based on the results of this study, it is believed that imagery training contained in video can help players in their training and increase their confidence when shooting penalty shots for the hockey club EHC (Eleven Hockey Club). The results of the imaging study conducted by Riyan and Prima to increase the confidence of soccer players at the Persegat Padang Pariaman Academy were enhanced.

Prakosa, Hariyanto, & Ismalasari (2021) discovered that offering imaging exercises was more helpful at raising fencing scores in their study on the development of imagery exercises to boost self-confidence. The findings of additional research are also supported by Wibowo and Rahayu, who found that shooting athletes will have a positive mentality if they receive mental imagery training because they will be highly motivated and self-assured, which can help athletes concentrate so they can focus more when shooting (Wibowo & Rahayu, 2016). This development is only until the product has not yet been tested. Researchers hope that this product will serve as a reference in the psychological aspects of athletes and will be used for further research and development. Imagery exercises are carried out before training for between 8–10 minutes for 3-5 sessions per week. Exercises involving imagery can be performed for 15 to 30 minutes either either before bed or right after waking up.

The primary objective of this product research and development is to assist coaches and make it simpler for EHC (Eleven Hockey Club) hockey players to practice their skills, especially when it comes to penalty stroke techniques. As a result of the creation of these products, players can perform these drills anywhere and at any time. This product, which was developed as a video, can be utilized anywhere and at any time and is practical for usage in the EHC (Eleven Hockey Club) club. The product in the form of this video has been examined or validated by 3 (three) experts, in large-scale trials and small-scale trials, and it has obtained a very valid category, meaning that it may be used by all EHC (Eleven Hockey Club) hockey participants. The benefits of this product involve making it simpler for hockey players to master penalty strokes and offering accurate examples of penalty stroke execution. These are the restrictions for video products: they must utilize the internet while opening video items.

CONCLUSION

It may be concluded from the findings of this development research that visualization exercises can be developed to help hockey players from EHC (Eleven Hockey Club) feel more confident when they execute penalty strokes. (1) The creation of visual training tools is extremely beneficial and significant for boosting hockey players' self-assurance. (2) The outcomes of testing conducted by experts, small-group trials, and large-group trials show that this product is simple and practicable to use.

The development of an imagery training product culminated in the creation of a video product appropriate for usage at EHC (Eleven Hockey Club). This development product may be used at any time and in any place. The research and development of this product has been validated or inspected by specialists, small group and large group trials, and has generated exceptionally valid category findings, showing that it can be used by EHC (Eleven Hockey Club) hockey athletes.

REFERENCES

Adawiyah, D. P. R. (2020). Pengaruh Penggunaan Aplikasi TikTok Terhadap Kepercayaan Diri Remaja di Kabupaten Sampang. *Jurnal Komunikasi*, *14*(2), 135–148. https://doi.org/10.21107/ilkom.v14i2.7504

Akbar, S. (2013). *Instrumen Perangkat Pembelajaran*. Bandung: PT Remaja Rosdakarya.

Arikunto, S. (2010). Metode Peneltian. *Jakarta: Rineka Cipta*.

Festiawan, R. (2021). The power of imagery: kajian tentang imagery dalam olahraga. *Sport Psychology*, (January). https://doi.org/10.31219/osf.io/38wsq

Firdaus, K. (2012). Psikologi olahraga teori dan aplikasi. *The British Journal of Psychiatry*, *111*.

Juriana, J., & Tahki, K. (2017). Peran Pelatihan Mental Dalam Meningkatkan Kepercayaan Diri Atlet Renang Sekolah Ragunan. *JOSSAE : Journal of Sport Science and Education*, *2*(1), 9. https://doi.org/10.26740/jossae.v2n1.p9-14

Mahfud, I., Yuliandra, R., & Gumantan, A. (2020). Model Latihan Dribling Sepakbola Untuk Pemula Usia Sma. *Sport Science and Education Journal*, *1*(2), 1–9. https://doi.org/10.33365/ssej.v1i2.823

Maya, M. N. (2019, October). Pengaruh Latihan Mental Imagery Terhadap Ketepatan Smash Pada Atlet Bola Voli Indoor Putri. In *Prosiding Seminar Nasional Pendidikan* (Vol. 1, pp. 1520-1522).

Mirhan, J. B. K. J. (2016). Hubungan Antara Percaya Diri Dan Kerja Keras Dalam Olahraga Dan Keterampilan Hidup. *Jorpres (Jurnal Olahraga Prestasi)*, *12*(1).

Muhammad, H. N., Setijono, H. H., & Nurhasan, H. (2017). Evaluasi program pembinaan prestasi cabang olahraga hockey di Jawa Timur. *Disertasi yang tidak dipublikasikan. Universitas Negeri Surabaya*.

Nugraha, A. P. (2016). *Pengembangan Model Pembelajaran Permainan Hockey Kaylami Sebagai Alternatif Materi Pembelajaran Permainan Bola Kecil Penjasorkes Di Sma N 1 Limbangan Tahun 2016*. Thesis. Universitas Negeri Semarang. Retrieved from http://lib.unnes.ac.id/26573/1/6101409107.pdf

Nurfadhila, R. (2016). Pengaruh latihan imagery dan koordinasi terhadap keterampilan forehand drive petenis pemula. *Jurnal Keolahragaan*, *4*(2), 196. https://doi.org/10.21831/jk.v4i2.10898

Prakosa, M. W. B., Hariyanto, A., & Ismalasari, R. (2021). Pengaruh Latihan Imagery dan Konsentrasi terhadap Ketepatan Tusukan dalam Olahraga Anggar. *JOSSAE (Journal of Sport Science and Education)*, *6*(1), 19-27.

Prawitama, M. R., & Aulia, P. (2020). Pengaruh Latihan Mental Terhadap Kepercayaan Diri Atlet Sepakbola

Akademi Persegat Padang Pariaman. *Jurnal Pendidikan Tambusai*, *4*(3), 3395-3402.

Rahmat, A. (2016). Perbandingan Memukul Bola Dengan Mental Imagery Yang Di Awali Melihat Video Dan Melihat Gerakan Langsung Atlet Softball Terhadap Ketepatan Hasil Pukulan Dalam Permainan Softball. *Journal of Sport, Physical Education, Organization, Recreation and Training*, *1*(1), 19–31.

Raibowo, S., & Nopiyanto, Y. E. (2020). Evaluasi Pembelajaran Pendidikan Jasmani Olahraga & Kesehatan pada SMP Negeri Se-Kabupaten Mukomuko melalui Pendekatan Model Context, Input, Process & Product (CIPP). *Jurnal Pendidikan Kesehatan Rekreasi*, *6*(2), 146-165.

Rustandi, E. (2019). Hubungan Tingkat Kecemasan Dengan Hasil Penalty Stroke Pada Permainan Hoki (Studi Deskriptif Pada UKM Hoki Universitas Majalengka). *Journal Respecs*, *1*(1), 1. https://doi.org/10.31949/jr.v1i1.1062

Sheikh, A. A., & Korn, E. R. (Eds.). (1994). *Imagery in sports and physical performance*. Baywood Publishing Company, Inc.

Supriyono, S. (2022). *Development In Education: Model Borg & Gall*. (May). https://doi.org/10.13140/RG.2.2.10113.94566

Wahyu, M., Prakosa, B., Hariyanto, A., Ismalasari, R., & Surabaya, U. N. (2021). *Pengaruh Latihan Imagery dan Konsentrasi terhadap Ketepatan Tusukan dalam Olahraga Anggar*. *6*, 19–27.

Weinberg, R. S., & Gould, D. (2003). Foundations of sport and exercise psychology (3rd ed.).Champaign, IL: Human Kinetics.

Wibowo, S. A. P., & Rahayu, N. I. (2016). Pengaruh Latihan Mental Imagery Terhadap Hasil Tembakan Atlet Menembak Rifle Jawa Barat. *JTIKOR (Jurnal Terapan Ilmu Keolahragaan)*, *1*(2), 23-29.

Wicaksono, D. (2009). Pengaruh kepercayaan diri, motivasi belajar sebagai akibat dari latihan bola voli terhadap prestasi belajar atlet di sekolah. *Yogyakarta: Universitas Negeri Yogyakarta*.