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The Effect of Imagery Training On Shooting State Anxiety and Hit Rate for Junior Basketball Players

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Abstract

Background and Aim: Taking 40 youth basketball in Yulin City as the experiment object to explore the conventional basket the influence of ball teaching method and representation training on teenagers, and summarize the reasonable training side the purpose of this research was: (1) This paper studies the influence of image training on teenagers' basketball state anxiety and hit rate. (2) Compare the anxiety and hit rate between performance training and traditional training.

Materials and Methods: The sample of this study was 40 players from the Yulin Junior basketball team. In this study, 40 athletes were surveyed using questionnaire "Sports Imagery Questionnaire, SIQ" and "Competitive State Anxiety Inventory, CSAI" before and after the 12 weeks of representation training, using five-point shots, and analyzed their data using descriptive statistics.

Results: The results of the study indicated that: (1) Imagery training had a significant effect on the shooting rate of the athletes, which can significantly improve the shooting rate of athletes; (2) Imagery training significantly impacted the athletes' shooting state confidence, which can significantly improve the athletes' state confidence when shooting; (3) Imagery training had a significant intervention effect on the athletes' imagery ability, which can significantly improve the athletes' overall imagery ability.

Conclusion: The conclusions of this research were (1) Imagery training has a significant intervention effect on the shooting rate of young basketball players. (2) Imagery training has a significant intervention effect on the self-confidence of young basketball players in their shooting state. (3) Imagery training has a significant intervention effect on the sports imagery ability of young basketball players.

Keywords: Image Training; State Sports Anxiety; Shooting Percentage

Introduction

Basketball is a sport with a broad mass base, especially in the youth stage, where many teenagers choose basketball as their first choice for physical exercise (Lian Bizhen, Gao Guoxian 2019). As a coach of the Yulin basketball team coach, I found that young athletes lack confidence when shooting, especially at critical moments of the game, which can cause anxiety. Therefore, the quality of completing shooting technical actions and shooting accuracy is affected. I have summarized the literature and found that new training methods need to be found to improve the shooting accuracy of young athletes and improve the quality of shooting techniques, Improve confidence in shooting. In 2017, the General Administration of Sport of China and the Ministry of Education jointly formulated the book Strengthening the Guidance on the Training of Reserve Talents in Competitive Sports points out that schools at all levels and of all types should use basketball and other sports Focus on the organization and development of physical education teaching and training activities. In 2020, the Ministry of Education put forward higher requirements and issued the Passion the opinions on comprehensively strengthening and improving school physical education work in the New Era, it points out that the school physical education teaching mode of "health knowledge + basic sports skills + special sports skills" should be gradually improved and students should be taught to master basketball and other special activities motor skill. Therefore, for the future development of Chinese basketball, it is urgent to build a perfect teaching and training system, including learning (Lian Bizhen, 2019).

School sports should gradually become the main body of Sichuan to provide reserve talents for

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competitive sports in China. In March 2021, Jiangsu Provincial Sports Bureau and the Department of Education jointly issued the Implementation Opinions on Deepening the Integration of Sports and Education and Promoting the Healthy. Development of Adolescents, explicitly requiring that physical education is no longer "give way" for cultural courses, and the value of physical education in the high school entrance examination accounts for more than 10% of the total score, which greatly improves the status of physical education in school education. Through the investigation, the author found that in the sports entrance examination, basketball shooting is a popular examination item, but some students' shooting life. The middle rate is not high, resulting in more points lost in the basketball shooting project. In traditional basketball shooting teaching, middle school students go to fail to clear the essentials of shooting action, the mastery of shooting action is not high, lack of confidence when shooting, resulting in the shooting percentage being low. Therefore, how to improve students 'shooting movement to improve students' shooting percentage rate is medium the key problem that learning PE teachers need to solve. In view of these problems, middle school physical education teachers need to formulate scientific cooperation The basketball teaching program and psychological training method to enhance students' shooting confidence and strengthen their match cognition of the correct shooting of technical movements. To stimulate students' enthusiasm for participating in basketball sports, improve their shooting movements, cultivate their confidence, to improve their efficiency of physical exercise, imagery training was introduced in this study. Representation training to promote motor skills learning It can be seamlessly connected with specific exercise training. Previous studies (Simonsmeier B A,2018) have found that imagery training helps to establish and consolidate the dynamic design of the correct movement, helps to accelerate the proficiency of the movement, deepens the movement memory, and can make the athletes full of confidence, to achieve the best state. Related studies show that teaching basketball shooting. （Wang Zhenya,2004）

Objective

1. To study the influence of imagery training on teenagers' basketball state anxiety and hit rate.
2. To compare the anxiety and hit rate between imagery training and traditional training.

Literature Review

The Research title “The Effect of Imagery Training On Shooting State Anxiety and Hit Rate for Junior Basketball Player”, there is the related paper as followed;

Imagery training

According to Zhang Liwei's self-care neuromuscular theory (Zhang Liwei, 2007）, there exists a connection between the brain's motor central system and the skeletal muscle system. People independently recall the motor skills perceived in the past, thus causing the central excitation related to the movement and causing imperceptible movements. And the action is actually a combination of a series of diagrams, and the learning process of illustrations and symbols is essentially the process of representation formation. Through the representation, the central nervous system produces a blueprint or a central program for the practitioner to successfully complete the action.

In Wu Ren Heng's "Biological Informatics on Theory" (Wu Renheng, 2009), representation is a limited information structure, and the stronger the physiological reaction of representation training, the greater the corresponding behavioral change of the practitioner. Therefore, in representation training, we should pay attention to mobilizing the enthusiasm of practitioners and stimulating the physiological response of practitioners.

Basketball shooting skill.

Wang JiaHong discusses shooting as the overarching term for the specialized technique employed by offensive players to score by putting the ball into the opposing team's basket. According to Wang JiaHong (2015), shooting is the sole method of scoring in the game of basketball.

One-handed shoulder shooting is the most widely used shooting movement in modern basketball games. It has the advantages of quick shooting, easy to switch, and difficult to defend. One-handed shoulder shooting has standardized action essentials (Wang Jiahong,2015) right-hand shooting for

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example. Two feet open, the right foot slightly in front of the left foot, bend the knee, and the center of gravity falls between the two feet. Open the five fingers of the right hand, turn the wrist, and hold the ball, the left hand holds the side above the ball, lift the ball above the shoulder or head, see the ball box, elbow joint inward. When shooting, push off the ground on the front foot, stretch the body upward, extend the arm in the shooting direction, press the wrist down, dial the ball with the index finger and middle finger, and throw the arm straight in the shooting direction. Below is the one-handed shoulder shot schematic diagram.

Lu XuTao's regarding the influencing factors of shooting percentage, related studies show that individual subjective initiative and objective environment are two important factors (Lu Xutao et al,2018). Subjective factors include the mastery of the shooting movement and the psychological state of shooting, such as the clarity of shooting movements, shooting feeling, confidence, anxiety, attention, and will quality; objective factors include the teaching quality of shooting technique, sports situation, training duration, venue, and weather.

Shooting is the only way of scoring in a basketball game, and the shooting percentage directly determines the outcome of the game, so how to improve the shooting percentage becomes the key to training and competition. Pang Qunying and Wu Mingzhi (2002), and Xing Shuangtao (2014) et al. found that the improvement of shooting action should be carried out from several aspects of technical requirements, application timing, action characteristics, and shooting timing. Specifically, this requires the practitioner to choose the right time to shoot, such as open shooting and shooting when facing the defense, and requires the practitioner to understand the details of the principle of the shooting action; for example, why to push the heel before shooting, shooting to press the wrist finger, shooting to follow the action, etc.

State motor confidence

Based on Vealey's (1986) research on personality, confidence in sports can be categorized into two types: trait sports confidence and state sports confidence (Mao Zhixiong, 2018). State sports confidence refers to an individual's belief and confidence in their abilities during a specific moment of training or competition.

So far, there have been preliminary conclusions on the relationship between representation training and motor confidence, and most studies have proved that representation training contributes to the enhancement of state confidence. Vealey (1986) proposed that confidence is the key factor for success, and representation training can improve sports confidence. (Bandura, 1986) showed that observational learning is an important source of confidence. For example, observing a model forms a certain representation, especially in the stage of action skill learning, with a clear action representation. On this basis, Callow et al. (2005) found that through representation training, practitioners have clear images of movements in their brains, and they are more comfortable in the process of movement learning, so they become more confident. Abma et al. (2002) found in a basketball experiment that high-state confidence players used representations more frequently when shooting than those with low-state confidence. On this basis, Gregg, A., Seibt, B., & Banaji, M. (2006) found that the more effectively a person uses appearances, the more frequently he uses them, and the higher his level of state confidence. Callow et al. (2012) found that representation training is conducive to deepening athletes 'cognition of movement structure, enhancing athletes' state confidence in training and competition, and improving the stability of state confidence, which is not easy to fluctuate in competition.

Conceptual Framework

The Research title "The Effect of Imagery Training On Shooting State Anxiety and Hit Rate for Junior Basketball Players", was design the conceptual framework as followed;

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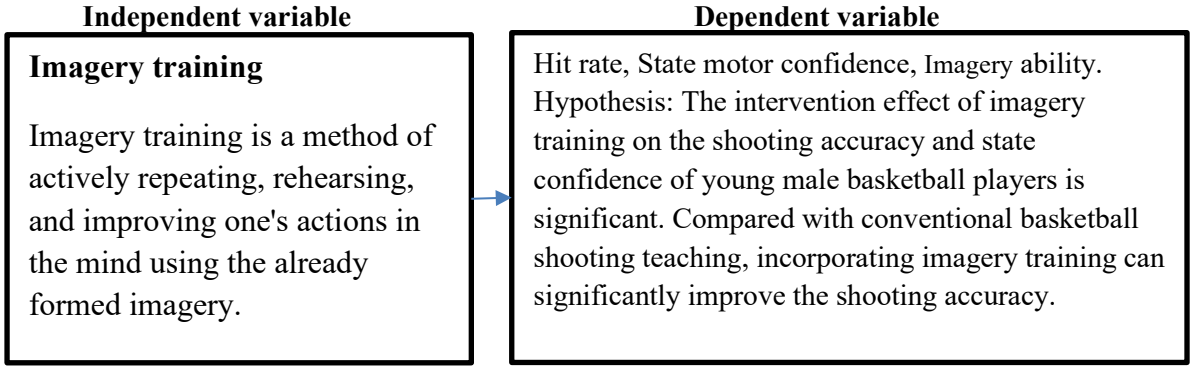

Figure 1 Conceptual Framework

Methodology

Type of research "applied research"

1. Literature data method: Through the relevant materials of the China Academic Journals Network and Digital Library, we can understand the current scientific research status of imagery training and lay a theoretical foundation for the smooth follow-up of papers.

2. Experimental method: Forty healthy boys were selected from the Yulin basketball team, and 40 boys were divided into two groups according to the experimental requirements, and then the experimental intervention was conducted. The experimental group implemented a basketball teaching method that integrated representation training, while the control group followed the conventional basketball teaching method. Finally, the test results of each index before and after the two groups were compared to investigate whether the influence of imagery training on the shooting state confidence, shooting percentage, and imagery ability of the experimental group was significant. See Table 3.1 for more details.

In this study, a two-factor mixed experimental design was employed, utilizing a 2x2 repeated measurements design for one of the factors. The dependent variables of the experimental design included shooting state confidence, shooting percentage, and representation ability.

Table 1 Two-factor mixed experimental design for measuring one factor

	Before Measurement	Experimental Treatment	Post Measurement
Experimental group	O1	The basketball training mode that integrates the imagery training	O3
Control group	O2	Regular basketball class teaching mode	O4

3. Questionnaire survey method: Divide 40 athletes into two groups, each with 20 people. Conduct a questionnaire survey before the fusion imagery training and conduct another questionnaire survey after 12 weeks of training.

3.1 Motion imagery questionnaire: The questionnaire was divided into 5 dimensions, They are the imagery of special cognition (Cognitive specific), the imagery of general cognition (Cognitive general), the imagery of stimulated control motivation (Motivational general-mastery), the imagery of stimulated arousal motivation (Motivational general-arousal) and the imagery of stimulated special motivation (Motivational specific), A total of 30 entries, Using the Likert5 comment score, From "never" to "always". The higher the score of the scale test results, the higher the frequency, the higher the total score, and the stronger the motor imagery ability of the participants.

3.2 Shooting Status Anxiety Questionnaire: This includes three subscales: state confidence, cognitive state anxiety, and somatic state anxiety. The state confidence subscale was revised to measure

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the level of state confidence when shooting. The revised shooting status confidence questionnaire has 9 items, with Likert4 comments, from "not at all" to "very strong". The higher the score, the higher the state confidence level when shooting.

4. Statistical analysis method: This study use excels software to process the valid data obtained from the questionnaire and provide data assistance for the writing of articles.

Results

The experimental results show that after the experiment, it can be seen that the imagery training of young male basketball players shooting rate, the basketball shooting training can more significantly improve the imagery ability of young basketball players, the results verify and support the research hypothesis of this experiment. Specifically for the various dimensions of motor imagery, the appearance training was significant in MS, MG-A, MG-M, CS, and CG. To sum up, compared with traditional basketball training, basketball training integrated with imagery training more significantly improves the sports imagery ability, shooting state confidence, and shooting percentage rate of young basketball players.

Discussion

1. The imagery training of young male basketball players shooting rate, the basketball shooting training can more significantly improve the imagery ability of young basketball players, the results verify and support the research hypothesis of this experiment.

2. Conclusion Imagery training has a significant intervention effect on the shooting rate of young basketball players. Compared with the conventional basketball shooting training methods, the basketball shooting training integrated into the imagery training can significantly improve the shooting percentage rate of young basketball players.

3. The imagery training has a significant intervention effect on the shooting state confidence of young basketball players. Compared with the conventional basketball shooting training methods, the basketball shooting training integrated with the imagery training can significantly improve the state confidence of junior men's basketball when shooting.

4. The imagery training has a significant intervention effect on the sports imagery ability of young basketball players. Compared with the conventional basketball shooting training methods, the basketball shooting training integrated into the imagery training can more significantly improve the overall sports imagery ability of young basketball players.

Suggestions

This paper is limited to the teaching time, place, object, and research plan, and only focuses on the imagery training to improve the state confidence and shooting rate of Junior men's basketball over a while. Studies have shown that the effect of imagery training is closely related to the frequency and time of training. Although the state confidence and shooting rate of youth basketball shooting has changed significantly after the experiment, to expand the training effect, the later teaching should increase the time and frequency of imagery training.

In the actual teaching, the pre-formulated training program cannot meet the needs of all youth basketball, which requires the coaches to constantly revise and supplement the teaching process, to achieve the best training effect. Since the athletes are still in the school period, the school curriculum changes (monthly examination, winter and summer time), and the training ground changes (weather, various activities) will affect the training process, so the coaches need to make flexible alternatives plans.

Imagery training prompts should not only be scientific and correct but also be meticulous and comprehensive, closely around each link of the technical action. Pay attention to the details of the shooting action, clear preparation stage, the stage of shooting stage, with the pre-competition stage, so that the players form a complete imagery of the shooting action.

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In the representation training, we should gradually transition from visual representation to kinesthetic representation and accurate and concise language prompts should be used. When teaching basketball shooting action, the action should be demonstrated from the front, side, back, and other angles to help students form a clear and complete visual representation. At the same time, attention should also be paid to the direction, amplitude, speed and other space, time and strength, and other characteristics of the movement, to help the athletes to form the correct kinesthetic representation.

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