

DEVELOPMENT OF IMAGERY TRAINING PLAN FOR RHYTHMIC GYMNASTS

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INTRODUCTION

Achieving of high sports results is a major goal of the elite's sport, where the training system must work effectively with quality and all of its components must be developed in full synergy. Psychological training is one of the most important components of sport's achievement and it is invariably present in every part of the sports training. For many specialists the competition is primarily a fight of psychic and mental qualities than as technical and physical abilities (Dimitrova et al., 2011; Dimitrova et al., 2018). Definitely the emotional and psychological factors influence the performance of athletes, both during training and during a competition.

B. Parvanov (2001) examines the content of psychological training as a unity of four types of preparation- intellectual, moral, volitional and emotional. T. Yancheva (2006), in turn, defines the psychological training as a "system of targeted effects and self-effects on the psyche and the personality of the athlete and the coach in order to reach the full, most effective participation in the process of preparation and adequate competitive realization".

There are a number of methods and tools for mental preparation, some of which are common and some are rarer, one of these methods is the imagery training (Dimitrova et al., 2018.a). Sports visualization is a method essentially aimed at building up the athlete's confidence and self-belief to overcome performance anxiety. It is designed to remove negative triggers and replace them with positive thoughts, which can sharpen a person's focus and create more confidence (Ekeocha et al., 2015; Dimitrova, 2014). According to Dr. Jennifer Cumming "the image" is also called mental rehearsal [<https://appliedsportpsych.org/resources /resources-for-athletes/sport-imagery-training>, 2019]. This means that the athlete uses all his senses (for example, to see, feel, hear, recreate emotion), rehearsing the sport in his mind. Lotze & Halsband (2006) believe that the deliberate internal representation of some action through images activates the same brain regions

involved in the unconscious planning and execution of the movements. According to Neisser's (1976) perceptual anticipation hypothesis imagining may facilitate perceptual processes "by priming mechanisms in the visual system, preparing them to receive information about a particular object or event" (Finke, R.A., 1989).

There are many requirements in achieving the desired effect of mental imagery, but the first is the approach to teaching and learning the specific techniques. The visuospatial and temporal components form the "procedural" knowledge required for effective mental imagery, while conceptual (ideas of movement) and symbolical (language representations) elements form the "declarative" knowledge of mental imagery (Annett, 1995, 1996). Procedural knowledge is the knowledge of "how" to do mental imagery based on performance results, i.e., the success achieved in mentally forming of the correct image in the mind (Behncke, L., 2004).

The visualization is significant, because imagining sports events that are not realized yet, but desired, cause the brain to give electrical reactions as if such events took place (David, T., J. Hardy, E. Oliver, 2011). These reactions are transmitted to our muscles, and our muscles become ready for the imagined sports events when they become real (Acevedo, E., P. Ekkekakis, 2006). This is positive contribution to the performance of the athlete (Wilson, M. R., S. J. Vine, G. Wood, 2009).

We believe that this method of psychological training could improve the sports preparation in rhythmic gymnastics, where concentration, focus on a given goal, and a high level of precision play a significant role. Physical and technical training are the basis of the good gymnasts, but the ability to show the best of yourself, to jump over your options, to set a plan and to follow it is the ability of a true champion. It only happens when you believe in yourself, know what to require from yourself and how to achieve it, because you have already rehearsed these scenes repeatedly in your mind, experienced it and succeeded.

Purpose and objectives of the study

Purpose: Improving of the gymnasts' performance, using imagery.

Objectives:

1. To study the specialized literature of the research problem.
2. To propose imagery training plan for elite rhythmic gymnasts.

3. To make imagery assessment, according questionnaire (in the plan), coach's feedback and the athlete's own perceptions of focus/confidence/anxiety.

The experience shows, that no matter how the gymnast is well prepared (physically and technically), if she cannot master the psyche in particular her emotions, stress and fear, she fails to show her full potential to achieve maximum results for a given moment and to stay on the top. This gives reason to pay attention to the psychological preparation of the competitors. They have to be prepared in their mind for their best performance, and this is done through repeated rehearsals of the routines in their mind, perfectly executed, rehearsing even inaccuracies and their reactions to them. This would be an advantage in the reality and in a fact, that the study have a greater significance, because it is making competitors to believe in their success, improve their self-esteem, to train their confidence, not only in the practice but also in the thought. Everything is a result of the way of thinking. With imagery training plan we offer not only a methodology for visualization of the perfect routines, but also a way to share the fears, the weak moments, the causes that make the gymnasts to feel unstable on the carpet. We consider the theme as important and also that it can be developed and improved in the future by us or by other authors in different sport, whose interest would be affected by this topic.

METHODS

Main hypothesis of the research

We allow the possibility that developing an imagery training plan and its practical application in combination with physical and technical training exercises could optimize the gymnasts' performance, to improve their weaknesses and master their strengths. This enforced the need from the present study in order to prove the working hypothesis.

Applied methodology

Sample: 12 female rhythmic gymnasts (national team- juniors) were surveyed with average age 13.8 years.

Methodology: An imagery training plan was developed, that included a total of 4 sessions with specific tasks, duration and post-session comments- completion of a **questionnaire**, **interview** with a specialist and an **expert assessment** after **monitoring**. The visualization plan was put into the practice and the results of the questionnaire replies were processed by the program SPSS Statistics 22. There were

6 questions in the questionnaire for skills, strategies, goals, affects, mastery and global state. The answers were expressed in numbers from 1 to 10, with 1 being the weakest and 10 being the strongest self-assessment. **Variation and comparative analysis** were used to determine the average and individual level of self-esteem and confidence, with respect to the above questions.

Table1. Imagery Training Plan

	Tasks	Time	Comments
Session 1	<ul style="list-style-type: none"> - Current imagery competency - Pre Imagery Assessment - General Imagery Activities (water related, getting her to feel a cold drink etc.) - A result of image activities - Objectives- what does she want to achieve at the end? 	45 mins	Sport Imagery Ability Questionnaire Water Cold drink- can be soluble vitamin, a carbohydrate drink associated with a healthy diet.
Session 2	<ul style="list-style-type: none"> - Best performance recall - Imagery across each routine (hoop, ball, clubs and ribbon). Talk through which one routine or element was hardest to imagine, which one was easiest. Why? Strengths and weaknesses of imagination.	45 mins	Thinking about one aspect of the girls' training (one event) and incorporate as many aspects of it into their imagery script from an external & internal perspective. The gymnasts will then be asked to practice it when they can, but every day even in the beginning they cannot achieve clear visualization of the put task. The focus should be on the strengths, but to talk through weaknesses.
Session 3	<ul style="list-style-type: none"> - Feedback on imagery practice - Work together to incorporate <i>physical, technical</i> and <i>environment</i> components - Incorporate <i>timing</i> and <i>task</i> components. 	45 mins	Internal perspective: Incorporating physical nature (Measuring HR whilst reading imagery script, to check if HR during imagery matches up to actual performance in the training/competitions). Using a stopwatch to check imagery timing (if it matches up to actual routine, training or competition timing). Logistics: HR monitor, stopwatch Ongoing practice: practice imagery before/after training every day.
Session 4	<ul style="list-style-type: none"> - Feedback on imagery practice - Incorporate learning and emotion, components. What were the gymnasts' emotions during the imagery performance and what can they improve in their real practice? 	45 mins	Using external imagery to refine certain aspects of technique and incorporating meaningful emotional components. Gestures of the arms during visualization may be included to characterize the movements in the girls' routines.

RESULTS

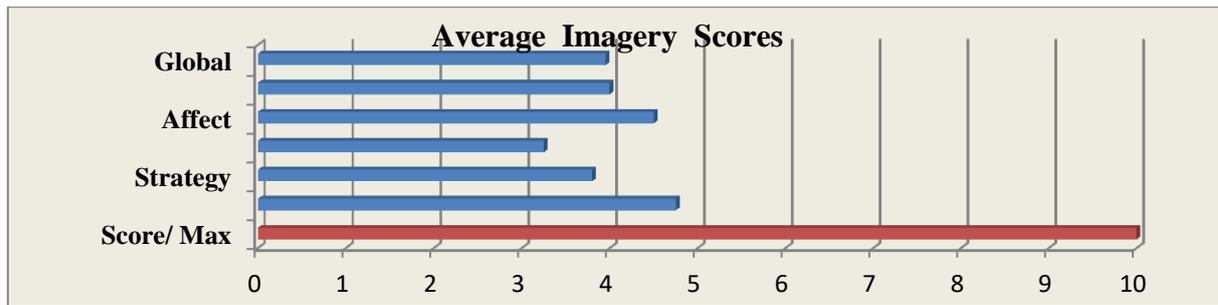


Fig. 1 Average Imagery Scores

The study was conducted within 30 days. The training plan sessions alternated every day and at the end of every fourth session there was a discussion between the athletes and the trainer or sports psychologist. The questionnaire, that the girls filled out was put into the practice at the end of this thirty day period, because for many of the gymnasts to visualize, set goals and have a strategy was an unclear topic. They had no specific answer and could not give any self-assessment. At the end of the experiment, as a result of the visualization methodology used, the girls had clear answers regarding the level of ownership of the respective components (skill, strategy, goal, affect, mastery, global) and strongly gave their self-assessments, with 10 being the highest and 1 being the weakest.

Fig. 1 presents the average imagery scores of an individual team- juniors and it is clear that in their answers the girls fail to reach the average level of self-esteem (5), which raises questions about their confidence in what they do and their own abilities and beliefs for success. In terms of the component „Skill”, the girls had to determine their own level of development of physical and technical qualities. The average score for the group is 4.75, which indicates that the girls not only have doubts that they do not have the necessary skills, but they are also below average, for the requirements of modern rhythmic gymnastics. In the initial interview, the gymnasts had no exact idea what visualization is and how to perform it. By the end of the 30-day experiment, they were already seeing weaknesses in their minds and perhaps that was reason to did not give higher scores for themselves. Here the "shame" comes as a factor or the doubt "not to overestimate in the eyes of others." In the discussions with the coach during the experiment, the girls actually found it most difficult to imagine, that they were playing routines without big mistakes, some of them, even in their daily efforts, did not reach the stage, where they

could maintain concentration on the technical elements in their mind and their perfect performance.

The concept of strategy in rhythmic gymnastics was completely unknown for the athletes. At the start of the study, they said that they had never paid attention to building one, about the training process and how to complete it effectively. There was also a lack of strategy on how to perform in the best way of a competition, achieving the highest possible results. At the end of the experiment, the girls evaluated their ability to build a strategy with an average score from 3.8 for the group (Fig.1). The competitors admit that before applying the visualization, they never realized the need to plan their actions, think proactively and have a clear idea of how to react in all situations. Through imagery training they are able to build similar strategic organization in their minds. According gymnasts the scores for this component, which they gave themselves are so poorly, because they are not sure which strategy is right and will produce the desired effect. Some of the girls share, that they have many ideas in their head, they are confused, which leads to a continuous change of strategies for this how to accomplish the training tasks.

In setting goals, girls clearly expressed their desire to perform well during the competitions and the coaches to be happy after their routines. However, they were not enough concrete at setting the goals, they did not indicate short and long term goals. They did not see themselves in the a future and could not express their opinions about what they want to be in or outside of the sport. At the beginning of the study, children were left speechless about the desired scores of difficulty or execution. It was also difficult for them to define what they want to improve today or tomorrow. After a month with visualization training, where gymnasts were tasked with focusing precisely on a particular element or part of the routines, which they wanted to improve, girls began to become more aware of the role of "goals". They understood, that a coach's training plan was a kind of goal for achieving, but it was very important for them to set smaller ones that would lead to the successful realization of the main, larger goal (whole training, competition, several competitions, cycle). The average score for the component "Goal" is 3.25 (Fig.1). In a fact, this is the lowest score of all 6 tested components. According us it is a sign, that the gymnasts found it difficult to imagine themselves winning.

On the question whether the image training plan has influence on the gymnasts' performance in the practice, the children put score from 4.5 for the component "Affect". This is the second strongest estimate for the group after the component „Skill” (4.75). Although gymnasts did not show self-esteem and confidence in their overall self-evaluation, they confirmed that through visualization training, they significantly improved their concentration (it was difficult to keep their focus on the tasks and even fell asleep during mental training at the beginning of the experiment). According to the children, sessions, where there is an audio recording or a musical accompaniment on which to perform their mental routines, encouraged them to listen more to the music and its rhythm and to understand it. The girls also shared, that the imagery training plan has definitely helped them to see how they want to look during a competition and to work in the practice more consciously to achieve that goal.

For the components „Mastery” and “Global” the gymnasts gave mean scores, respectively 4 and 3.95 (Fig.1). At the beginning of the experiment, they were extremely negative about their abilities and absolutely did not believe that they could shine with something among other competitors. The juniors did not think that they could perform an exercise with or without an apparatus really well and to show mastery in their routines. After a month of trying to visualize the best possible presentation of their 4 routines during training and competition, the children began to give themselves positive scores and to assume that they could successfully handle with the motor tasks. In terms of the overall image of their career and development in the gymnastics, girls have shown a global score from 3.95. By calculating the arithmetic mean of all the averages of the components studied above, we can see that it is very close to that used by girls, and even slightly higher (4.04). This is probably a sign that the gymnasts feel more unstable as a whole system of different qualities than evaluating each quality individually. The reason can be, because there are other components which are not investigated in the present thesis, but they are important part in the overall system.

CONCLUSIONS

In the scientific literature, the authors indicate that the visualization is a complex method of psychological preparation and the process itself goes through several stages. In practice, this was confirmed, the girls had no idea

what exactly was an effective visualization of what to look for in it and how to achieve it. It took them time to concentrate and solve certain mental tasks. The gymnasts were uncertain and restless, they doubted that they could fulfill their training plan and had not specific idea how to approach. The images actually helped them to set small goals and define their weaknesses and strengths, which is in response to the experts, that the visualization enhances the confidence and the focusing at the time of performing an action. Sports literature describes that in effective visualization, the gymnasts uses all their senses (for example, to see, feel, hear, recreate emotion), rehearsing the exercises in their mind. However, this was not happen in this experiment. The girls could hardly imagine their perfect execution of the routines and emotions, feelings of excitement, fear, exaltation could not be expressed. Probably the reason is the lack of sufficient time for the experiment, which, if continued, will further develop the mental capacity of the children.

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