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Research Article

**REGULATION OF THE BASIC COMPONENTS OF  
RELIABILITY AND ATTRIBUTION PROPERTIES BY MEANS  
OF SELF-REGULATION RECEIVES**

(IG SHULTZ, L. PERSEVAL, E. JACKOBSON, A.V. ALEKSEEV)

**Ekaterina Yu. Domrachyova, Oxana Yu. Ilyakhina., Igor N. Ozerov., Nikolay N. Severin.,  
Sergey A. Ermolenko**

Belgorod Law Institute of Ministry of the Internal of the Russian Federation named after I.D.  
Putilin, 308024 71, Gorkogo Str., Belgorod, Russia  
[Katya260688@mail.ru](mailto:Katya260688@mail.ru)

**Abstract:**

*The components of mental reliability in shooters at moving targets and high-speed pistol shooting are poorly understood. In this regard, their study is of both theoretical and practical value. For the first time, the AGIM system is used to identify and regulate the components of mental reliability and attention properties. In our article, we describe in detail how to use when training in precise movements such highly effective methods of influence as ideomotoric and self-hypnosis. It also outlines ways to solve with the help of self-hypnosis a number of psychophysical tasks specific to sports activities. Particular attention is paid to psycho-technical preparation for a rifle shooting competition at a moving target.*

**Key words:** shooter, training, coordination, pistol, training system, skills, methods, coach, AGIM, components, reliability.

**Corresponding author:**

**Ekaterina Yu. Domrachyova,**  
Belgorod Law Institute of Ministry of the Internal  
of the Russian Federation named after I.D. Putilin,  
308024 71, Gorkogo Str., Belgorod, Russia  
[Katya260688@mail.ru](mailto:Katya260688@mail.ru)

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**INTRODUCTION:**

During the pedagogical experiment, we assumed that the indicators of mental reliability determine the quality and effectiveness of highly skilled shooters and change depending on the qualification, level of fitness of an athlete and ability to adjust them through self-regulation for the upcoming competition.

**Purpose of the study:**

Clarification of the influence of the AGIM system on the factors of mental reliability of highly skilled shooters on a moving target.

**RESEARCH METHODS:**

The organization of the study was consistent, including scientific and theoretical analysis and experimental work.

The training of the AGIM system was conducted on the basis of the Sports School of the Department of Physical Culture and ShVSM of the city of Belgorod.

The numerical composition of the control and experimental groups are presented in figure 1.

**Figure 1: The contingent of the control and experimental groups**

<i>groups discharges</i>	Control group	Experimental group
HMS	1	1
MSIC	1	1
MS	1	1
CMS	3	3

The control group included members of the Russian national team, having qualifications from the Honored Master of Sports to the candidate master of sports.

The level of mental reliability for all components prior to the pedagogical experiment (in the control and experimental groups) is approximately the same.

Methods of teaching methods of AGIM.

The AGIM session consisted of two parts:

- soothing (the same for all athletes);
- mobilizing (different options were used depending on the tasks).

Before and after the experiment, we conducted background testing, which included the results of tests of mental reliability. The data were entered in figure 2.

**Figure 2. Directed development of mental reliability shooters of various qualifications**

<i>groups discharges</i>	Control group								Experimental group							
	before the experiment				after the experiment				before the xperiment				after the experiment			
	SEU	SR	MA	St-P	SEU	SR	MA	St-P	SEU	SR	MA	St-P	SEU	SR	MA	St-P
HMS	00,6	1,5	1	0,6	00,76	1,5	1	0,7	00,6	1,5	1	00,6	0,9	1,5	1	0,85
MSIC	--0,4	1,25	0,6	1	0-0,3	1,2	0,65	1,1	-0,4	1,25	0,6	11	0,1	1,32	0,8	1,24
MS	--2	1,01	-1	-1,6	--1,9	1,01	-0,9	-1,4	-2	1,01	-1	--1,6	-1,5	1,21	-0,1	0,2
CMS	8,6	-1,2	-2,2	-0,8	--8,4	-0,6	-1,9	-0,6	-8,6	-1,2	-2,2	-0,8	-6,2	0,02	-0,5	0,8

The method of AGIM system allowed improving the level of indicators of the components of mental reliability.

The main task of AGIM is to teach athletes to consciously manage their mental states, in particular, to regulate the tone of their nervous system.

Analyzing the data obtained components of mental reliability; it is possible to draw the following conclusions:

1. The honored master of sports slightly improved competitive-emotional stability (before experiment 0.6, after experiment 0.9), as well as stability and noise immunity (from 0.6 to 0.85), self-regulation (1.5) and motivational energy level remained the same (1). All this is due to the fact that over the years of training they have developed their tactics of preparing for competitions. In their training system, it is very difficult to make any changes. By virtue of their life and sporting experience, they adhere to a strictly established training system and psychological adjustment in the upcoming competitions.

2. The master of sports of international class at a significantly significant level increased only two components of mental reliability: self-regulation (from 1.25 to 1.32) and stability of noise immunity (from 1 to 1.24). The remaining components increased slightly, but this is due to targeted workouts. The AGIM system has improved self-regulation and has helped to improve the stability of noise immunity, which indicates the shooter's desire to achieve maximum results and higher places.

3. The master of sports mastering the AGIM system allowed him to increase his mental reliability in almost all components. Especially it is necessary to highlight the indicator of the motivational-energy component, which emphasizes the ability to fully commit them in training and competition and the desire to lead the competitive struggle in all situations ( $p < 0,1$ ):

- SEU – c -2 before -1.5
- SR – c 1.01 before 1.21
- The stability to noise immunity improved by 2 times (from -1.6 to 0.2)  $p < 0.05$ , which indicates an

increase in the stability of the internal functional state, stability of the motor skills of sports equipment and immunity to the effects of various kinds of knocking and distracting noise.

4. Due to purposeful training sessions using the AGIM system, the candidates for the master of sports have significantly increased the components of mental reliability:

- SEU – c -8,6 до -6,2
- SR – c -1,2 до 0,02
- MA – c -2,2 до -0,5
- St-P – c -0,8 до 0,8

There was a clear improvement in performance, because before the experiment, the difference was 2 points, which suggests a significant stabilization of the psychological state of athletes using the AGIM system.

In addition, increased performance and performances of athletes.

The effectiveness of using the AGIM system also makes it possible to judge the subjective report of the athlete on his psychological readiness for training and competition.

Before the experiment, athletes expressed their willingness to overcome difficulties, to perform the load (in competitions and training), to participate in competitions. And also expressed a spirit of good shooting, the best result.

The coach, for his part, determined the condition of the athletes as follows based on the results of observations: they are quite well prepared, have a desire to participate in competitions, but are somewhat concerned about the future result, and also have some tension as a result of waiting for the upcoming start.

After the experiment, the athletes began to express their desire to fight to the end with full dedication and to win.

Experimental data on concentration and switching of attention are listed in figure 3.

Figure 3.

groups discharge s	Changing concentration and switching attention with the use of AGIM			
	Before the experiment		After the experiment	
	Concentration of attention	Switching attention	Concentration of attention	Switching attention
HMS	96.4	68.5	97.2	66.5
MSIC	97.2	73	98.5	69
MS	93.7	84.5	95.6	75.5
CMS	93.3	98.3	95.4	96.5

It was found that prior to the experiment, the honored master of sports had a concentration of 96.4%, and a switch of attention was 68.5 seconds, but after working with the AGIM system, these indicators did not improve much: the concentration of attention was 97.2% and the shift of attention was 66.5 seconds, indicating stability the results and actions they perform throughout their sports career.

The master of sports of international class, the concentration of attention is 97.2%, after 98.5%, the rate increased by 1%, more than the honored master of sports and switching attention improved from 73 seconds to 69 seconds, it shows that athletes using the AGIM system want to improve their psychological state at the start, before the start and after the start, which speaks of the desire for maximum results and high places without stress.

For the master of sports, the concentration of attention before the experiment was 93.7%, and after it was 95.6%. Switching attention before the experiment was 84.5 seconds, and after 75.5 seconds.

The candidate master of sports has a concentration of 93.3% before the experiment, after 95.4%, and the shift of attention before the experiment is 98.3 seconds, then after it began to be 96.5 seconds.

The lowest attention concentration indicator after using the AGIM system increased by 2.1%. In our opinion, this is due to the fact that each time performing exercises from the AGIM system, these

athletes train their psychological state, and at the moment of the shot they concentrate and switch attention.

Comparing the master of sports and the candidate master of sports after the experiment with the honored master of sports and the master of sports of international class, they have greatly improved their performance. Presumably this is due to their increased motivation to achieve higher sports results. That is why they are shooting more focused and accurate. As a result, switching attention is low compared to the honored master of sports and the master of sports of international class. It is likely that the shooters of a higher class with the help of long workouts managed to increase attention switching by reducing the concentration and accuracy of work to an acceptable level.

We recorded the following indicators that served as criteria for evaluating the effectiveness of using the AGIM system:

- Subjective report of the athlete on his psychological readiness for training and competition;
- An objective report of the coach on the status of the athlete (based on the results of observation);
- The stability of the results in training and competitions (knocked out glasses);
- effectiveness of speeches (occupied).

Before and after the experiment, we conducted background testing, which included the above criteria. The data were entered in figure 4.

Figure 4.

Indicators	before experiment		after experiment	
	control group	experimental group	control group	experimental group
<i>Athlete Subjective Report</i>	<i>Willingness to overcome difficulties, the mood for optimal results</i>			<i>Self-confidence, desire to win</i>
<i>Objective report coach</i>	<i>Tension before the start, concern for the future result</i>			<i>Calmness, concentration, "self-care"</i>
<i>Stability of results in training (points)</i>	377,8	376	378	379
<i>Stability of results at competitions (points)</i>	374	374	374	376
<i>Performance at competitions (place)</i>	7	7	5	3-2
<i>HR (beats / min)</i>	84-96	84-96	84-96	84-86

Thus, as a result of the study, we found that using the AGIM system, the components of mental reliability, switching and concentration of attention have significantly improved. The effectiveness of their performances at competitions increased, i.e. middle place occupied by the shooter.

The use of AGIM in training athletes has significantly improved the performance of the components of mental reliability.

The shooters' own feelings indicate that the AGIM system allows them not only to manage their attention, the components of mental reliability, but also easily and quickly enter the state of optimum alertness, keeping it throughout the entire exercise time.

Based on the above data, it can be concluded that the proposed AGIM system is an effective means of regulating the attention of the components of mental reliability and the attention properties of shooters during training and competition.

As it is known, the preparation of athletes for competitions is carried out on four channels. Their name is physical, technical, tactical and mental preparation. If the goal of physical training is to develop, in particular, such qualities as strength, endurance, speed, and the technical goal is to achieve high accuracy and efficiency of movements, then the ultimate goal of mental preparation is to acquire a mental state in which all the experience gained by an athlete could be realized in competitions in the best possible way.

It has become generally accepted that the success of a competition performance ultimately depends on mental preparation. Poor mental preparation prevents the identification of those qualities that have been achieved in the process of physical, technical and tactical training. And, conversely, a good mental attitude adds strength to athletes, helps them successfully overcome those weaknesses that may be in the other three types of training. Thus, the role of mental preparation in modern competitions, which are characterized by very high physical and neuropsychic loads, becomes extremely important.

Autogenous training. The term "autogenic", introduced by Schulz, consists of two Greek words: "autos" means itself and "genos" means a genus. Consequently, "autogenic" is translated as "self-generating" training, in the process and as a result of which a person provides necessary assistance to him.

Autogenic training (AT) consists of two stages - the highest and the lowest. The lowest is designed mainly to relieve nervous tension, to calm, to normalize body functions. And the second task is to introduce a person into a special state of "autogenic meditation", during which unique experiences should arise, leading allegedly to the body's "self-purification" of the disease.

The first stage soon gained recognition almost all over the world, and only a few specialists are engaged in the second, i.e. to master it, it takes still a lot of time and perseverance.

Here are the basic formulas for self-hypnosis of lower AT levels, which can be called classic:

1. I am completely calm.
2. The right (left) hand is very heavy.
3. The right (left) hand is very warm.
4. The heart beats calmly and hard.
5. Breathing is completely calm, I breathe easily.
6. The solar plexus radiates heat.
7. The forehead is pleasantly cold.

The merit of Schulz is that he associated ordinary words with simple, easily achievable physical sensations. Over time, it turned out that AT, if applied strictly according to Schulz, does not always give the desired effect, and it must be changed depending on the course of the disease and the personality characteristics of the patient. Therefore, in different countries and various medical institutions their own modifications of ATs appeared, markedly different from its original "classic" version.

The first steps in the use of therapeutic options for AT in sports have shown that they are not suitable for athletes. The formulas that cause mental tranquility through the instilled feeling of heaviness in the muscles, which are so widely used in medical practice, turned out to be too strong for healthy athletes. For the simple reason that athletes, especially highly qualified, perfectly relax muscles, which almost can not do sick people.

Therefore, it became clear that it is necessary for athletes to create their own, special, taking into account the peculiarities of sports activities, methods of auto-suggestion.

Speech-regulating training. This technique began to take shape in April 1966. At the suggestion of the psychiatrist A.V. Alekseev, she was given the name "psycho-regulating training" (PRT), which differs from autogenic in that it does not use the suggestion of "feeling of heaviness" in various parts of the body, and also in that it contains not only soothing, but also exciting part. It includes some elements from the techniques of E. Jacobson and L. Percival. The psychological basis of this method is a passionless concentration of attention on the images and sensations associated with the relaxation of skeletal muscles. But, having arisen from the AT, she went on her way.

From the very beginning of working with athletes, psychologists had to solve two unambiguous tasks. Not only to find complacency in cases where there is a phenomenon of pre-competitive over-excitement, but also to achieve a state of high activity, a state of

competitive mobilization. So there were two parts in the PRT. The first is "soothing" and the second is "mobilizing."

Both parts of the PRT were created in the process of working with highly qualified athletes. First of all, they were judoists, then weightlifters, arrows - stand and pulevik, athletes, fencers, pentathletes, gymnasts, swimmers, jumpers in the water, classical fighters and boxers. Objective data on the effects of PRT on the mental state were recorded using electrocutaneous resistance (ECS), skin temperature, muscle tone, heart rate and oxygen absorption rate coefficient (KPSC).

For several years, this technique was refined and improved. The final version of the soothing part of the PRT was developed by 1972. Especially effective is the version of the PRT in the fight against such neurotic disorders as, for example, insomnia.

Studies have proven that PRT, to a greater extent than pharmacological drugs, speeds up the process of falling asleep, reduces the number of awakenings per night, extends sleep and, most importantly, increases the percentage of so-called "REM sleep", which is considered the most significant part in the structure of the entire night sleep. The physiological basis of psycho-regulating training is the fact that the muscular system, due to proprioceptive impulses, is one of the main brain stimulants (of the total flow, according to some sources, 60% of skeletal muscles are accounted for). Therefore, by relaxing the muscles, it is possible to weaken this tonic effect (as evidenced by a decrease in the sensation of electrical stimulation and the response to it, as well as the knee jerk), and by straining the muscles, this tonization can be increased. However, it should be noted that if even small children can already arbitrarily strain the muscles, then with arbitrary relaxation of the muscles (meaning their relaxation compared to the state of rest), the situation is worse.

Psycho-muscle training. Fully PMT methods took shape in the summer and autumn of 1973 in class with young wrestlers of classical style and with adult gymnasts (the work was carried out jointly with the postgraduate student of the VNIIFC laboratory N.K. Volkov and the graduate student of the sport laboratory of mental hygiene VNIIFK Yu.N. Lysenko).

The birth of PMT was facilitated by the acquaintance of psychologists with the methods of progressive relaxation according to E. Jacobson, with the work of the Lvov psychophysicologist VPGorobets, with the



technique of “active self-hypnosis” by L.Persvale, with breathing exercises during self-hypnosis according to G.S. Belyaev, with the method of emotional regulation States VL Marischuk. But the main role played a lot of own observations AV Alekseeva during classes of mental self-regulation with athletes representing a variety of sports.

### CONCLUSION:

Auto-hypno-ideo-motility. AGIM, as a training program for training and competition, was created and improved over the years in the process of practical exercises with the presentation of different sports. As a result, AGIM has become a well-defined system that allows athletes to use many of their body's backup capabilities completely independently and with high efficiency.

In the first place AGIM greatly facilitates and accelerates the achievement of accuracy of movements and, thus, helps to improve sports equipment much more successfully than those methods that are still used by the overwhelming majority. In addition, AGIM provides invaluable assistance in finding the optimal combat state (OBS), recuperation, organizing good sleep, developing qualities such as endurance, confidence, etc.

The accumulated experience suggests that there is probably no such problem in modern sports, which could not be successfully solved with the help of auto-hypno-ideo-motor training. Every athlete who decides to go on the frontiers of world achievements will find a very useful helper in the AGIM system.

Having mastered the capabilities of this system, an athlete acquires complete independence in the organization, achievement and improvement of the psychophysical qualities he needs at the moment. Moreover, this independence begins to be realized with high efficiency, both in the training process and in the competitive struggle.

This independence is very important in that it teaches the athlete to rely on his own strength, develops in him the ability for a deeply conscious self-regulation of the psychophysical state, increases the ability to navigate in the current situation and adapt to it. After all, there are quite a few athletes who, preferring to receive support from the outside and, focusing primarily on various external circumstances, begin to depend on them (for example, on the weather, the composition of the participants of the competition, the time of its holding, etc., etc). The athlete, who has adopted the AGIM, always in every situation remains the absolute master of its capabilities and retains the

ability to skillfully operate with them in accordance with the specific situation.

The system of auto-hypno-ideo-motility can be successfully used in any sport, of course, after a corresponding modification, due to the specifics of this type.

So, mental preparation for competitions is a daily systematic, purposeful training of brain functions, primarily with the help of words and corresponding mental images, with simultaneous training of the ability to manage your attention and your emotions.

If an athlete wants to remain invulnerable in terms of mental stability in any, especially difficult, distressing situations, he must also learn to easily arouse and calm his nervous system, his psyche; how easily he can stretch and relax his skeletal muscles. It can also be better and easier.

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