

# Psychological preparation of school category rifle shooters: considerations on coaches.

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## Summary

Psychological preparation is a component of the sports training process that consists of developing an athlete's functional potential and qualities to the highest levels. This research is based on the scope of sports training as a pedagogical process in shooting sports. The objective of this scientific article was to determine the development of psychological skills in a sample of 10 coaches, providing guidance on how to address the shortcomings in the psychological preparation of rifle shooters aged 13-15 years old. This study was conducted at the "Héctor Ruíz Pérez" School of Sports Initiation in Villa Clara Province, due to the decline in sports performance in national competitions over the last four years. One of the causes of this decline is psychological preparation, and within it, the role of the coach. Using a mixed-methods research methodology, theoretical methods such as analytical-synthetic, inductive-deductive, and modeling were employed. The empirical methods used were: document analysis, surveys, interviews, observation, methodological triangulation, and expert opinion. A statistical-mathematical analysis was performed to process the data. The results revealed the current state of the psychological skills of the coaches studied and confirmed the need to develop methodological guidelines to improve their practice.

**Keywords:**sports shooting, psychological preparation, training, psychological skills of the coach

## **Introduction**

Sport shooting is one of the sports that shaped The Olympic Program of the first modern games, and currently practiced by millions of people worldwide. A well-known sport of coordination and competitive art, it is also recognized as a time and record sport.

It is a highly technical sport, requiring exquisite coordination and great emotional self-control. The shooter must strive to ensure that their shots always, or almost always, hit the center.

Authors such as Fernández and León (2017) and Hernández (2020), highlight the need to plan the training process, always taking into consideration the psychological characteristics of the athlete.

According to authors such as Tarqui (2021); González et al., (2019), Psychological preparation is the optimal level of development of the athlete's set of qualities and mental properties.

According to Espinosa-Álvarez (2021), psychological preparation guarantees self-control, security in the execution and precision of the different skills required by competition and their sport. He highlights it not only as qualities and properties of personality, but also as a pedagogical process that guarantees self-control and security in the execution of different skills in the training of athletes.

On the other hand, Cruz Perugachi & Rueda Rosales (2021) propose that, as a pedagogical process, the objectives are: the adaptation of the athlete to competitive situations in general, the improvement and optimization of reactions to the different specific conditions of sports competitions, and the development of the necessary psychological properties and qualities.

In this study, research conducted by Rio (2018); Rios et al., (2023) was consulted. These authors express the preponderant role of psychological preparation in school categories 13-15 years and propose methodological guidelines for training planning, from two perspectives, the academic and the practical implementation.

Documents such as the following were also consulted: Comprehensive Athlete Preparation Program (PIPD) for basic training in Cuban shooting (2021), the Shooting Strategy for the four-year period (2020-2024), and the 2023 Training Plan (Macrocycle), are guiding documents and guides for methodological work in this sport. As with research in the international context, these documents show gaps when specifying how to influence the technique of school-age rifle shooters through psychological preparation.

In this way, the role of the coach is highlighted as the fundamental referee of any multidisciplinary relationship in sports training, since he is the guarantor of the pedagogical direction of the sports preparation process, where the characterization of the athletes and the psychological intervention are developed.

The authors consulted place special emphasis on knowledge of the personal aspect, the individual characteristics of the athletes, the use of rest times, the use of appropriate forms and methods of communication with them, communicating at the necessary times, trying to influence them positively, without creating tension and insecurity.

For the proper management of this individualized treatment, the coach must master the diagnosis of his shooters. To learn, through this, the psychological components of personality, the methods of studying personality diagnosis, and in general the psychological content necessary to interpret the information from their shooters and plan the educational actions of their shooters.

The coach requires monitoring the progress of individual work sessions with shooters in psychological intervention, mastery of the psychological demands of the sport, knowledge of the developmental stage of the shooters he is training, systematic exchange with psychologists, doctors, and managers, as well as observation of the shooters' progress in training sessions and competitions.

He is a mentor who knows how to plan. He performs tasks consciously, aligned with appropriate goals, using up-to-date knowledge that contributes to the success of each task. He has the ability to effectively organize his schedule so that he can give the necessary attention to the various aspects of his activity, including training sessions.

Furthermore, they maintain friendly verbal and nonverbal communication with their students and are able to dismiss negative thoughts that arise during their teaching activities. They exude calm during the most challenging moments of competition and training, focusing their attention on what is truly relevant.

He uses procedures to regulate his psychic tensions and transmits them to others. He is assertive and effectively leads training activities. His passion for the activity allows him to envision future activities, organize them, and place the... shooter and position themselves to control their movements.

He is the factor that forms an integral part of the variables that determine the sporting performance of shooters: therefore, his work and planning must be subjected to analysis with a view to its improvement. Hence, the need to study the role of the coach, and their psychological skills in preparing

theshooters. Therefore, the objective of the article is derived, To determine the development of the psychological skills of the coaches, which will guide on the ways to solve the deficiencies in the psychological preparation of rifle shooters in the school category 13-15 years with a scientific character.

## **Materials and methods**

To achieve the proposed objective, research methods from both theoretical and empirical levels were employed, using a mixed-methods approach. Various techniques, including statistical and mathematical methods, were used to verify the information.

*The following methods were used at the theoretical level:*

Analytical-Synthetic: allowed the establishment of the theoretical and methodological assumptions, the evaluation of the specialists, and the possibilities of implementation in practice from sports shooting training.

Inductive-Deductive: allowed us to reach conclusions in relation to the existing conceptions in the literature on psychological preparation in Sport Shooting in the school category, which was enriched in the development of the research.

Modeling: allowed the creation of a representation or model of reality as a prerequisite for diagnosis.

*The empirical methods used were:*

Document analysis: the PIPD, the Sports Shooting Strategy and the Training Plan were reviewed, which establishes the educational policy and sports training, which underpins the psychological preparation in the School Category Sports Shooting.

The survey: It was applied to 10 teachers with the purpose of understanding from different perspectives how they carry out psychological preparation in the teaching of rifle shooters in the school category.

The interview: applied to the 11 school athletes in the research, provided information on the conduct of training from the psychological preparation in the context.

Observation: Non-participant observation was used with two coaches to collect information on the manifestations of the psychological skills of the coaches of the school category for one month.

Methodological triangulation: Taking into account the results of the documentary analysis, the survey, and the observations made to the training sessions, methodological triangulation was used, in order to synthesize and clarify the results of the diagnosis of the current state of psychological preparation.

Expert criteria: With the objective of evaluating the representative criteria of the experts in relation to the suitability of the indicators for the variable psychological skills of the coach.

The specialists evaluated each statement on a scale of 1 to 5.

In the analysis of the diagnostic data, the following indicators were used for the variable of the coach's psychological skills.

- Planning and preparation
- Shooter diagnoses
- Communication
- Control of thoughts (positive vs. negative)
- Emotional control
- Perception of time
- Focusing attention on tasks
- Stress management
- Energy: Show enthusiasm
- Goal setting
- Assertiveness
- Imagined visualization.

The following levels were used for the analysis of the data obtained from the applied instruments:

- Satisfactory: They show behaviors associated with a predominance of manifestations of the indicators of the coach's psychological skills.
- Unsatisfactory: There are few manifestations of behaviors associated with the indicators of the coach's psychological skills.

As a source of information for the assessment of the indicators in the school category, 7 coaches with more than 10 years of experience were consulted.

Mathematical-statistical methods: For data processing, a statistical-mathematical analysis was performed using the IBM SPSS statistical software, version 23.0 for Windows. This included percentage analysis, methods for establishing correlation (Kendall's coefficient of concordance), and measures of central tendency, specifically the mode.

## **Results and discussion**

### *Results of the methods applied*

Expert opinion: To evaluate the expert opinions regarding the indicators' suitability, the experts assessed each statement on a scale of 1 to 5.

- The mode obtained demonstrates that the specialists consider the proposed indicators appropriate. Likewise, Kendall's Concordance Coefficient for each of the questions answered by the specialists for the assessment of the appropriateness category demonstrates the effectiveness of the indicators, as the values obtained are greater than 60% for each of the questions related to this category.

The indicators obtained only differ from the research results by García 2018, in Regarding: Concentration of attention on tasks, Imagined visualization and Perception of time.

Documentary analysis: The methodological guidelines of the sport of Sport Shooting do not provide explicit and well-detailed guidelines for the organization of psychological preparation in school category rifle shooters, which constitutes an important element of the research.

The analysis of documents and the experience of the coaches reveals the need to improve the orientation of psychological preparation for shooting coaches, which contributes to the real conditions.

Interviews with the shooters: The opinions expressed by the adolescent athletes regarding the teaching of sporting procedures during training and competitions are as follows:

90.9% suggest that coaches focus primarily on the technical aspects of shooting.

90.9% indicate that the coach's psychological preparation is aimed at controlling attention, visual perception, and encouraging motivation.

72.7% of participants felt they had limited resources to cope with emotionally charged situations, lacking the knowledge to discard negative thoughts, use self-discipline, or employ other coping mechanisms. They also reported that only psychologists had addressed these issues during training. This highlights a weakness in the coach's preparation process. The relevance of this finding aligns with the findings of García's 2018 studies, which indicate that coaches can utilize psychological intervention techniques related to breathing, relaxation, visualization, self-talk, and music.

81.8% of those interviewed indicated their disagreement with the coach's corrective actions during the exercises. This falls under the Communication indicator. Studies by García 2018 indicate the importance for those involved in training that the coach (the athlete's role model) has the tools to control the processes, both in good and bad situations, avoiding, among other factors, the motivation to quit.

90.9% agree that there is insufficient support for evaluating achievements and visualizing upcoming actions in training sessions. Therefore, goal setting is lacking. This result contrasts with the findings of [reference missing].Vidaurreta & Mesa, 2013 on the relevance of the self-assessment of actions.

*Coach surveys:*

Based on the athletes' responses, 10 sports teachers were then surveyed. The opinions expressed by these professionals are:

90% express shortcomings in relation to the development of the training plan, in terms of psychological preparation.

They also report problems (90%) with psychological diagnosis, specifically regarding the exclusion of objectives, advantages, and proper use of the instruments employed, as well as a lack of understanding of the psychological factors associated with athletic performance. There is a lack of interaction with psychologists regarding their intervention with each athlete and a lack of mastery of psychological content by the coach. This aligns with Ayala's 2018 studies, which found that the most frequently evaluated aspect by coaches is technical, with most ranking it first, followed by physical aspects, tactical aspects, and psychological aspects last.

They also reflect (60%) that the guidelines provide little detail on actions adapted to the psychological characteristics of school-aged shooters and indicate difficulties in communication tailored to the emotional needs of the school-age population. This demonstrates the need for further exploration of these aspects of age-related psychological characteristics to improve diagnostic skills.

They also reflect (70%) weaknesses in terms of performing various exercises, sections of the shooting technique, that reinforce the development of time perception and attention.

They express interest on (100%)by learning different ways to encourage shooters to correct their mistakes, to assess their performance, and to develop plans to improve it.

At the same time the(100%)You must learn to master emotional self-control techniques.

The treatment they cited for teaching psychological skills denotes deficiencies in planning skills, shooter diagnosis, knowledge for teaching time perception, energy, self-control, visualization, and communication aspects.

*Results of theObservations on training sessions:*

The research used non-participant observation, which required training for the coach-observer, enabling the researcher to perceive the dissimilar demonstrations of the subjects under study, collecting certain functions performed and revealed by the sports shooting athletes.

The data from observations of training sessions and preparation matches were collected systematically, avoiding random observations and faithfully recording what happens during technical moments, thus ensuring objectivity. They are as follows:

Difficulties are observed in the teaching of visualization actions during the learning of technical actions; the shooter's assessments of sporting performance are not encouraged, nor are ways to improve them.

Nor is special attention paid to the treatment of each athlete's commitment in relation to the partial objectives that must be met to achieve the goal; only the competition is mentioned.

No actions are observed for the development of time perception for athletes.

The methods of providing emotional support to athletes include interrupting their performance due to poor technique and a lack of coordination in technical elements that affect the outcome, thus penalizing the shooter. Therefore, although the shooter receives feedback, positive reinforcement of their potential is lacking.

During the preparation sessions, the teaching of emotional self-control actions is not evident to the shooters. This aligns with the findings of Ríos et al. (2023) regarding the need to focus psychological preparation on stimulating the control of negative emotions, attention, and mental imagery.

Results of the methodological triangulation

The results obtained from the triangulation method by comparing the information on the coaches' skills, which the sources provided based on the application of the methods, interview, surveys and observation applied, were the following:

- The coaches exhibit gaps in planning skills and psychological preparation, which aligns with Ayala's 2018 criteria.
- They also present difficulties in managing the diagnosis of the psychological preparation of shooters in the school category of sports initiation and limitations in the time dedicated to the work psychological, as well as in the use of methods and means that allow its development in those manifestations that determine performance. This coincides with the studies of Ayala 2018

- There is a lack of action to facilitate the establishment of objectives by the Shooters. Teaching visualization techniques for evaluating results achieved and setting goals for improvement in each training and competition session. This result complements the findings of García (2018) and Vidaurreta & Mesa (2011). Ríos et al. 2023.
- Verbal and nonverbal stimulation of shooters to improve performance is not always used positively. These aspects coincide with the studies by García (2018). Ríos et al. 2023.
- Few teachings of emotional self-control actions to the shooters. Results that are consistent with the research of, García, 2018, Ríos et al. 2023
- Limitations are observed in the coaches' ability to perceive time and in specific teaching actions for shooters.

## Conclusions

- There are deficiencies in the psychological preparation as a pedagogical process of the Sports Shooting coaches belonging to the province of Villa Clara, which influence the preparation of shooters in the sports initiation of the school category.
- Psychological skills with a low level of development. In this study, the following were included: Planning and preparation, Shooter diagnostics, Visualization, Emotional control, Stress management, Time perception and positive communication.

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