

PODIUM

Journal of Science and Technology in Physical Culture

Volume 19
Issue 1

2024

University of Pinar del Río "Hermanos Saíz Montes de Oca"



Translated from the original in spanish

Original article

Psychological benefits of practicing fencing at an early age, in the province of Artemisa

Beneficios psicológicos de la práctica de la esgrima en edades tempranas, en la provincia de Artemisa

Benefícios psicológicos da esgrima em uma idade precoce na província de Artemisa

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*Received:*09/18/2023.

*Approved:*16/10/2023.



ABSTRACT

Sport is a social phenomenon of great public interest that has an important role in the physical-mental well-being, growth and comprehensive development of people. The present study had as objective to analyze the psychological benefits of practicing fencing at an early age, in the province of Artemisa. Theoretical research methods such as historical-logical, analytical-synthetic and induction-deduction were used, as well as the empirical ones as the interview that allowed to know the specialized opinion on the practice of fencing in Artemisa; the analysis of documents to explore the content of the normative documents that govern fencing and the measurement applied in the Toulouse-Pieron attention concentration test and the Torrance quick thinking test to measure individual particularities of thinking. A consultation with specialists was also carried out to highlight the importance and psychological benefits of fencing. The sample was represented by ten nine-year-old children from the "Gabino Labrador" Primary School located in the San Cristóbal municipality. Five children who had been practicing fencing for two years and five who had not were intentionally selected. The results showed that the practitioners had a greater development of the variables analyzed, this confirmed the psychological benefits that practicing this sport at an early age provides.

Keywords: psychological benefits, early ages, fencing.

RESUMEN

El deporte es un fenómeno social de gran interés público que tiene un importante papel en el bienestar físico-mental, en el crecimiento y en el desarrollo integral de las personas. El presente estudio tuvo como objetivo analizar los beneficios psicológicos de la práctica de la esgrima en edades tempranas, en la provincia de Artemisa. Se utilizaron métodos de investigación teóricos como el histórico-lógico, analítico-sintético e inducción-deducción y empíricos como la entrevista que permitió conocer la opinión especializada en la práctica de la esgrima en Artemisa; el análisis de documentos para explorar el contenido de los documentos normativos que rigen la esgrima y la medición aplicada en los test de concentración de la atención de Toulouse-Pierón y el test de rapidez de pensamiento de



Torrance para medir particularidades individuales del pensamiento. Se efectuó, además, una consulta a especialistas para resaltar la importancia y beneficios psicológicos de la esgrima. La muestra estuvo representada por diez niños de nueve años, de la Escuela Primaria "Gabino Labrador" ubicada en el municipio San Cristóbal, se seleccionaron de manera intencional cinco niños que llevaban dos años en la práctica de la esgrima y cinco que no. Los resultados demostraron que los niños practicantes tuvieron un mayor desarrollo de las variables analizadas, ello confirmó los beneficios psicológicos que propicia la práctica de este deporte en edades tempranas.

Palabras clave: beneficios psicológicos, edades tempranas, esgrima.

RESUMO

O esporte é um fenômeno social de grande interesse público que desempenha um papel importante no bem-estar físico-mental, no crescimento e no desenvolvimento integral das pessoas. O objetivo deste estudo foi analisar os benefícios psicológicos da esgrima em uma idade precoce na província de Artemisa. Foram utilizados métodos teóricos de pesquisa, como os métodos histórico-lógico, analítico-sintético e de indução-dedução, bem como métodos empíricos, como a entrevista, que nos permitiu conhecer a opinião especializada sobre a prática da esgrima em Artemisa; a análise de documentos para explorar o conteúdo dos documentos normativos que regem a esgrima e a medição aplicada no teste de concentração de atenção de Toulouse-Pieron e no teste de velocidade de pensamento de Torrance para medir as particularidades individuais do pensamento. Além disso, foram consultados especialistas para destacar a importância e os benefícios psicológicos da esgrima. A amostra consistiu em dez crianças de nove anos de idade da Escola Primária "Gabino Labrador", no município de San Cristóbal, cinco crianças que praticavam esgrima há dois anos e cinco que não praticavam. Os resultados mostraram que as crianças que praticaram esgrima tiveram um maior desenvolvimento das variáveis analisadas, o que confirmou os benefícios psicológicos da prática desse esporte em idade precoce.

Palavras-chave: benefícios psicológicos, idades precoces, esgrima.



INTRODUCTION

Sport is a social phenomenon and as such of great public interest, due to its important role in the physical-mental well-being and in the integral growth and development of people (Arteaga, 2015). Likewise, it is known that it directly involves man and its practice provides benefits to the body and positive changes from a psychological, morphological and functional point of view; in addition, it promotes social skills and important behavioral values that contribute to a healthier life.

In Cuba, the national sports directorate has designed a strategic planning from the national level to the grassroots level, with the objective of bringing the practice of sport to everyone from a very early age, and fencing, as a combat sport with cold steel, is part of the disciplines that can be practiced.

Regular fencing training and competitions educate and develop the capacity to quickly assess the technical and tactical possibilities of the opponents, increased acuity, accuracy and speed of visual perceptions and motor reactions, acute sensitivity and general and specific resistance to overcome great and prolonged physical and psychological tensions (Arkayev, 1980).

Meanwhile, for other authors such as Ortiz and Gómez (2019), fencing is an individual sport, of combat and opposition, where the actions take place in the presence of an opponent and the motor behaviors of both have opposite intentions; its objective is to touch without being touched, that is, to reach the target with the weapon, which is the opponent's body, before the opponent achieves it. Regarding this particular sport, Arkayev (cited by Polo, 2021) points out that its basis rests on hand-to-hand combat with weapons such as the foil, the epee and the saber.

Research carried out in the Department of Psychology, of the Institute of Sports Medicine of Cuba, as expressed by Cruz (cited by Rivero and Rodríguez, 2001), fencing practitioners develop highly specialized perceptions, they also report that this sport facilitates high development of the qualities of will in people to overcome obstacles and difficulties, both intrinsic and extrinsic, and aspire at all times to victory.



This requires great perseverance to achieve the objectives and favors the performance of analysis operations, to bring the fight to a successful conclusion, hence the great importance attributed to adequate mobility of the nervous processes in this sport, to respond to the changing actions of the activity and achieve a strong, balanced and mobile nervous system.

Likewise, the practice of fencing develops certain physical qualities, among which speed, special endurance, flexibility according to the characteristics of the competitions and range of movements stand out. For Núñez (2019), there are few sports that work on mental capacities like fencing does, because it helps to face life and everyday problems and provides physical benefits similar to those of any sporting discipline; those that make the difference are the psychological ones.

Likewise, in the current Comprehensive Fencing Sports Preparation Program (2020) it is highlighted that practicing this sport from the age of 8 provides the body with great health benefits, based on the development of psychophysiological qualities. In this document, the main psychological qualities that the child develops during practice are described, such as overcoming the opponent, which can vary both in strength and form, and can not only be considered for his technical particularities, but also tactics and adapt the actions to them. For this reason, it is proposed that the psychological structures that stand out most in these actions are speed, precision of thought and movements, and speed of reaction to the opponent's actions.

The Comprehensive Fencing Sports Preparation Program (2020) has been enriched with the contributions of various research, Castillo and Cubillas (2008) highlight that from a physiological point of view the benefits are numerous, since the child develops timely and extremely visual information. accurate and fast processing of information. The effective control of the fencer's motor activity develops a high mobility of the nervous processes, this is assessed according to the duration of the simple and complex visual-motor reactions (with choice of response).



Another vision that highlights the importance of practicing this sport is offered by Tejada (2022) when he expresses that due to the speed of the actions, fencing demands the development of sensory-perceptual capacity such as the appropriate distance, time and speed required and of the affective-motivational and volitional, through intellectual capacity.

Regarding the need to investigate the topic of the contribution of psychology in combat sports, specifically in fencing, the studies address the technical-tactical component, for a competition and in the handling of one of the weapons, and Tejada (2022) has investigated, precisely, the development of elements within the cognitive process; But the need to demonstrate that from an early age the practice of fencing, as a combat sport, favorably benefits comprehensive development in the cognitive sphere, has not been addressed.

In Cuba, fencing has achieved many achievements and positive results such as the performance of the first Olympic Champion Ramón Fonts, who participated in three Olympic Games and obtained five gold and silver medals, in Paris 1900 and three gold medals, in San Luis 1904.

After 1959, special attention has been paid to the development of sports in the country. From there, other generations of athletes have enriched the national record with their results; for example, in the Olympic Games, according to the Olympycs.com site (2023) and in chronological order: 1996, in Atlanta, Trevejo won a silver medal in men's individual epee and won team bronze in men's foil; in Sydney 2000, the fencing team won the bronze medal in team epee and in Rio 2016, Iriarte qualified for the competition, but without relevant results.

Other achievements are those obtained in the championships held between 1983, in Austria-Vienna and 2001, in France, where a total of two gold medals, one silver and five individual bronze medals were achieved; and by teams, one gold, one silver and three bronze. To date, Cuba has not risen to the awards podium in this type of world events.



In the Pan American Games, the results achieved are individual gold and team gold and two individual silver and bronze medals. In Central American Championships, two individual gold medals and two team gold medals and one silver and one individual bronze. Also added to these achievements are all the gold medals from the Central American and Caribbean Championships in 1976.

The systematic practice of a sporting discipline is distinguished by causing a change in the individual, since a physical activity regime is introduced to which the body is not previously adapted and to this new stimulus, all the body's systems react, including the nervous system. central and the muscular system and the interaction establishes the effectiveness of the response of the body as a whole (Pérez *et al.*, 2016).

Hernández (1997) recognizes sports initiation as a teaching-learning process followed by the individual for the acquisition of knowledge and capacity for practical execution of a sport, from the moment they come into contact with it until they are able to play or practice it appropriately to its functional structure.

Another definition studied is that of Pila (2000) when he states that it is any outstanding manifestation of the human being that potentially translates into high rates of motor and morpho-functional performance that promote adequate initiation and development in the complex pedagogical process, called sports training.

The Sports initiation is emerging as a necessary process for the training of new talents, but at the same time, as an essential element for the creation of intellectually and motor-healthy adults. Hence the importance of starting, from an early age, the practice of at least one sporting discipline. Regarding sports initiation, Romero (cited by Torres, *et al.*, 2022) propose that this is the making of contact with the specific skill (sport) in any context, but respecting the psychological and pedagogical characteristics for global development.

An essential element in this process is that the coach who works with children must be clear about the importance of the athlete's multilateral training; their abilities must be developed in such a way that the process is not accelerated and falls into early specialization that conspires against your health and limit your sporting life; therefore, it is necessary to know



the characteristics of the age phases and be able to select the appropriate methods and loads for children (Pérez, *et al.*, 2022).

Currently, the possibility of widespread practice for the entire population remains in force and children, youth and adults can compete in championships and competitions, from municipalities to the national level.

However, the current results of Cuban fencing are adverse and show a considerable decrease in the international arena, since it is barely possible to qualify to participate in international events and at the base there is a lack of sports infrastructure.

The province of Artemisa does not escape the consequences of this problem if the reduced practice of this sport in the aforementioned territory is taken into account. The causes are diverse; however, it is considered that the work at the base is a fundamental link, since it has two precise functions, on the one hand, it allows the rescue of fencing as a sport and on the other, it offers children all the potential described above regarding the benefits that come from practicing this discipline.

Consequently, the Motivation for the beginning of this study is due to the need to develop the fencing sports reserve in the province of Artemisa and consider its massive practice, as a determining action for maintaining it in high provincial and national performance. Therefore, the objective is *to* analyze the psychological benefits of practicing fencing at an early age in the province of Artemisa.

MATERIALS AND METHODS

To fulfill the proposed tasks, various research methods were used as theoretical, empirical and the statistician, whose mean was used for the comparisons. They all properly combined with a general dialectical materialist methodological approach allowed to highlight qualitative and quantitative elements and confirm the need to carry out an analysis of the benefits of the practice of fencing in the province of Artemisa from the current context.



The *theoretical and empirical* methods used were:

Historical-logical method, its application allowed the analysis of the development of fencing from its beginnings in Cuba to the present, its contextualization in the province of Artemisa and revealed the need to promote the practice of this sport from an early age.

Analytical-synthetic, it was used during the bibliographic review and the analysis of the results, and allowed the complex to be decomposed into its multiple relationships and then join the analyzed parts.

Induction -deduction, permitted to make inferences and generalizations from the singular about the practice of fencing at an early age, as well as for the integration and interpretation of data obtained on the psychological benefits that the practice of this combat sport provides to the child's body.

The application of the *interview* allowed to obtain the confirmation and assessment of the criteria of managers and specialists who are in front of students in the province, in total 11 and a former leader, to establish a chronology of their practice in the province.

Through *document analysis* it was explored the content of regulatory documents such as the Comprehensive Athlete Preparation Program from 2004 to the current 2019-2024 that govern the sport of fencing, and the treatment provided to the professional improvement process.

The *measurement* was used in the application of the *Toulouse-Pieron attention concentration* tests to measure quantitative indicators according to the correct work coefficient, based on crossed out patterns. Similarly, the *Torrance Quick Thinking Test (TTCT)* was applied to the children to measure, using qualitative indicators, the behavior of individual peculiarities of thinking, such as flexibility (when the child looks for another way to solve), speed of thinking (if the answer is reached in less than a minute), consecutivity (if the answer is reached through a logical order), independence (obtains the answer by itself) and breadth (the amount of solutions that the child reaches).



The *consultation with specialists* was useful to highlight the importance attributed to fencing for the psychological benefits of this sport. In addition, there was an exchange with specialists in the field of psychology and sports medicine, in order to analyze and interpret the results of the samples obtained from the psychological tests applied.

The sample, selected intentionally, was represented by ten nine-year-old children from the "Gabino Labrador" Primary School located in the San Cristóbal municipality; Of them, five children have been practicing fencing for two years and five do not practice this discipline.

To verify, based on the results of the psychological tests applied, the behavior of the cognitive processes studied and suggested by the three psychology specialists consulted, the Torrance Quick Thinking Test (TTCT) and concentration test were applied. *attention of Toulouse-Pieron*, as it is considered to guarantee the operational thinking so necessary when reacting quickly and correctly to the situations that arise in an assault. For this reason, the five active children were taken as a sample. Also taken as a sample were 11 fencing specialists in Artemisa, one of them in front of a student; in arbitration, one; in management positions, five and unrelated to the sector, four.

RESULTS

The need to promote the practice of fencing at an early age is based on the results of the instruments applied to arrive at an accurate diagnosis of the current situation in the territory, as well as on the analysis of the significant psychological benefits to the child as a being biopsychosocial.

It was also possible to confirm that there are many difficulties that undermine sports initiation in Artemis fencing (Table 1).





Table 1. - Difficulties that lacerate sports initiation in Artemis fencing

Difficulties that lacerate sports initiation in fencing in Artemisa.	Very limited, almost imperceptible, the incorporation of children into the systematic practice of fencing, despite the benefits it brings to the body at an early age.
	There is no trained technical force in the territory to promote the systematic practice of fencing at the grassroots level.
	There are few theoretical and methodological tools that enhance the training of skills related to fencing in students, at different levels of sports professional training.
	The continuous training of professionals focused on this sport modality is limited.

From what is shown in table 1, it can be seen that there is a problematic situation in the province of Artemisa that responds to the fact that currently there are certain difficulties in evaluating the development of this sporting discipline in the territory, since there is no an efficient structure that guarantees its development in favorable conditions, just as there is a lack of management tools that allow organizing and developing this sport at the grassroots, as part of the physical-educational process of children.

From the study carried out on the fundamentals in relation to the analysis of the psychological benefits of fencing for the body, it can be shown what the practice of this combat sport provides to the child (Table 2).

Table 2- Tolouse-Pieron Attention Concentration Test in five children with two years of fencing practice

-	Correctly crossed out patterns	Badly crossed out patterns	Rating scale	Assessment
Child 1	150	20	0.86	Very good
Child 2	160	15	0.90	Excellent
Child 3	159	10	0.90	Excellent
Child 4	155	20	0.87	Very good
Child 5	156	10	0.93	Excellent

Scoring scale. (- 0.59- Bad), (-0.70- Average), (0.80-0.89- Good), + 0.90 Excellent).



As shown in Table 2, children with two years of fencing practice from an early age show a high rate of attention contraction according to the scale presented by the test, since the crossed-out patterns remain in all cases on 0.80 scales where the classification of good begins and 0.90 classification of excellent, according to the correct work coefficient (Table 3).

Table 3. - *Tolouse-Pieron Attention Concentration Test in five nine-year-old children who do not practice fencing*

-	Correctly crossed out patterns	Badly crossed out patterns	Scoring scale.	Evaluation
Child 1	80	30	0.62	Fair
Child 2	52	3. 4	0.34	Poor
Child 3	58	twenty	0.65	Fair
Child 4	Four. Five	35	0.22	Poor
Child 5	59	30	0.49	Poor

Table 3 quantitatively shows values lower than Table 2, as they are below 0.80 in all cases and evaluated as fair or poor according to each case. The correct work coefficient is low and, consequently, the concentration of attention is lower in children who do not practice this sport (Table 3) and (Table 4)

Table 4. - *Summary of the Torrance test (TTCT) that measures speed of thinking, consistency and flexibility in solving tasks. Applied to five children who practice fencing*

Particularities of thought Individuals	Adequate	%	Not Suitable	%
Speed	4 Children	80 %	1 child	20 %
Consecutivity	4 Children	80 %	1 child	20
Flexibility of thinking	5 Children	100 %	0	0 %
Independence	5 Children	100 %	0	0 %
Amplitude	4 Children	80 %	1 child	20 %



Evaluation scale.

Speed _____ Adequate, between 0 and 1 minute. Not Suitable, more than 1 minute.

Consecutivity _____ Adequate, logical order in 2 cases. Not Suitable, change in the logical order of the response.

Flexibility of thinking _____ Adequate, acceptance in 2 cases. Not Suitable, acceptance in any case.

Independence _____ Adequate, independence 2 cases. Not Suitable, independence in 1 case or none.

Amplitude _____ Adequate, 2 solutions. Not Suitable, 1 solution or none.

Table 4 shows that children who practice fencing develop quick thinking more quickly because according to the evaluative category of this test, three children reached the given solution more quickly, with adequate operational thinking, which represents more than 50% of the sample. This also happens with the rest of the measures, which are evaluated as adequate in 100 % of the children (Table 5).

Table 5. - Summary of the Torrance test (TTCT) that measures speed of thinking, consistency and flexibility in solving tasks. Applied to five children who do not practice fencing

Particularities	Individuals of thought	Adequate	%	Not Suitable	%
Speed		0 Child	0 %	5 Children	100 %
Consecutivity		0 Child	0 %	5 Children	100 %
Flexibility of thinking		1 child	20%	4 Children	80 %
Independence		1 child	20%	4 Children	80 %
Amplitude		0 Child	0%	5 Children	100 %



As can be seen in Table 5, for the individual particularities of thinking, the evaluation is not suitable in more than 80% of the sampled children; In the case of speed of thinking, all the children worked on the tasks for more than a minute and only with effectiveness in the evaluation of the flexibility of *thinking* and *independence* when *performing* the task. This reflects the great importance of promoting the practice of thinking. this sports discipline from an early age, so that children show greater speed in solving tasks in the sports field.

DISCUSSION

The results obtained from the studies carried out on the analysis of the benefits of practicing fencing at an early age in the province of Artemisa demonstrate the need to promote the practice of this sport, since in 2011, 2012 and 2013 it was practiced with greater representation in the territory; which was not maintained over time or developed and its combat presence was lost in the high performance of the province.

From the results of the tests applied, it is shown that there are many benefits that the practice of this sport brings to the body of a nine-year-old child, since they develop a high concentration of attention; in addition, between 80 and 100% show adequate flexibility, speed, independence, consistency and breadth of thought. These benefits, from a psychological point of view and developed from an early age, very quickly prepare the child for their performance in sports life and in society.

These reflections on the topic studied are in accordance with what several authors propose from sports medicine, specifically from psychology; for example, in research carried out in the Department of Psychology of the Institute of Sports Medicine of Cuba, Cruz (cited by Rivero and Rodríguez, 2001) proposes that children, fencing athletes, develop highly specialized perceptions and correct manipulation of the weapon (sense of distance-depth, sense of the weapon, sense of moment, dimensions and displacement zones).



They also achieve adequate anticipatory reactions, precise visual calculations of space and time (observation capacity), coordination, speed and precision of movements (eyes-hands-feet), enhance qualities of will and perform analysis, synthesis and deduction operations in solving problems, in a very short time.

Regarding the cognitive process of concentration of attention, the study shows that the number of patterns crossed out by children who had been practicing fencing for two years according to the *Toulouse-Pieron test* is higher; because concentration is vital to be able to provide quick and accurate solutions to the different situations created in an assault, whether in training or competition. As reflected in the result of the test, children who practice fencing from an early age show a high rate of attention contraction according to the scale presented in the test, since the correctly crossed out patterns are in all cases above 0.80 with category of good and excellent, according to the scale, which represents 100% of the sample.

At the age of nine, the aspects that the athlete works on the most are the technical elements; however, if from these ages the child is stimulated and motivated with actions and elements in teaching that are related to the tactical technical aspect, better results are obtained because since well-planned and dosed training the athlete is introduced to the close development zone and tactics, so important for the development of an athlete's operational thinking, is trained in a simpler way.

In the same way, Llanes *et al.* (2022) approach it, who express that the high level of development of operational thinking constitutes a psychological requirement in sport, among which are those belonging to the group "Combat Sports" and "Ball Games", where the resolution of tactical problems demands of said requirement; in addition, these authors consider the presence of other indicators related to operational thinking, such as autonomy, self-control, the presence of alternative solutions, creativity, decision making, reaction capacity, tactical experience and concentration.



The above supports the result of the present study, when the analysis of the result of the *Torrance test (TTCT)* is carried out, which measures flexibility, speed of thinking, consecutiveness, breadth and independence. In this way, it is demonstrated that children who have been practicing fencing for two years respond positively according to the individual particularities of thinking, since four children solve the task in less than a minute. In the case of consecutiveness, four children did it correctly. In the rest of the individualities, 100% of the children did it adequately, according to the evaluation scale.

The results demonstrate, with a specific character, that the cognitive processes are those that are favored in the child with the systematic practice of fencing as a combat sport and establishes a comparison with authors who investigated the topic, but from another perspective, such as high performance in Castillo and Cubillas, (2008), Llanes (2022), Núñez, (2019) and Tejada, (2022) and sports initiation from which the concepts raised by the authors Pérez *et al.* (2021) and Pila *et al.* (2000).

It is considered that the scientific literature that addresses the topic in question is insufficient, which is why this study is novel and demonstrates the importance of promoting the practice of fencing in the province of Artemisa from an early age, due to the current situation in finds and the benefits from the psychological point of view that the child appropriates with this combat sport.

CONCLUSIONS

From the analysis carried out, it was revealed the need to promote the practice of fencing from an early age in the province of Artemisa, and the various benefits that it provides from a psychological point of view on the development of social skills, as well as the important values for human behavior that contribute to the well-being and healthier lives of practitioners were based.



The implementation of actions that guarantee adequate management is required to achieve a massive practice that favors the development of the child, due to the multiple benefits from the psychological point of view that its practice at an early age provides, which can be the bearer of a better continuum of innovation and social transformation.

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Conflict of interests:

The authors declare not to have any interest conflicts.

Authors' contribution:

The authors have participated in the writing of the work and analysis of the documents.



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