Abstract

The selection of talents in Taekwondo that is applied in Cuba lacks an organizational structure that takes into consideration the concept of the system and its components. In this research, an analysis of the functionality of its components in the sport was carried out. The objective was set: to propose a talent selection system for Taekwondo. Empirical scientific methods were applied: documentary study; survey and consultation with experts; Among the theoretical methods are: inductive-deductive, analysis-synthesis, modeling and system approach. As a source of information, a sample of 20 specialists and 10 experts in sports training was formed, with the intention of investigating the particularities of the selection system applied in the sport of Taekwondo. The results collected showed a lack of methodological and conceptual protocols in the selection process of taekwondo talents. The proposed system was characterized by its dynamic and flexible nature for application, and the experts considered its theoretical relevance favorable.

Keywords: system, talent selection, Taekwondo, initial specialization.

Introduction

Sports selection is a category of physical culture and can only be resolved efficiently through guidance from objectives designed and applied on the basis of scientific research methods, that is, with the application of science and technology, which allow comprehensively assess the subjects from a physical, physiological and psychological point of view in order to detect the existence of sporting aptitudes from an early age in schoolchildren, until reaching specialization. Palacio, Núñez and Escalona, (2019)

For their part, Mojeda et. al., (2020) states that: a supported selection process allows the best to be incorporated from a given population, which results not only in a superior result but also in the optimal use of material, economic, technical and human resources. In this sense, it is necessary to point out that, currently, both the sports selection systems and the strategies that are developed with

In recent times, multi-dimensionality has been promoted in the study of sporting talent, focusing its contributions on the inclusion of new, more precise indicators based on the characteristics of the sport. However, in their review, a limitation is seen in terms of considering how the process of biological development and the individual rhythms of that growth affect the selection of sporting talent.

For their part, Aguila, D., Sánchez, A. and Hernández, E. (2019) highlight that based on studies carried out in competitive activity, the vision of strength as content of the preparation of taekwondo players reaches a new dimension and Therefore, strength training should be combined with exercises close to the specific technique.

In the last five years, research related to the topic of talent selection in TKD is scarce. Worldwide, only two were found that refer to anthropometric and physical indicators (Rubio, et al., 2018; Bacuilima, et al., 2023); in Cuba only one, likewise the indicator to measure is the anthropometric (Capote 2022).

On the other hand, the Comprehensive Taekwondo Preparation Program (PIPT) only refers to requirements for Athletes with Immediate Perspectives (API) and not to indications for selecting talents where the multi-dimensional nature is taken into consideration. Taking into account that only by restructuring and determining the interrelationships between the component processes related to talent selection and the sport in question, a sports selection system can be proposed for the initial specialization phase in the TKD.

These limitations have as their causal agent a conception and practice that does not take into account the theoretical foundations that demonstrate the interrelation between the processes of preparation and selection of sports talent, which is why they require a restructuring, which can be achieved only if the nature complex of the sports team, both from its content (dimensions) and from its temporality (long-term process); determining in that complexity the functional interrelationships of coordination between all dimensions; and subordination, according to their greater or lesser level of generality in the initial specialization phase. Therefore, the objective is proposed: to propose a talent selection system for Taekwondo.

Materials and methods

The study was carried out by applying the survey method, applied to a population of 30 sports specialists, of which 20 were selected to constitute the sample, after verifying that they meet the planned inclusion requirements such as having a degree in Physical Culture and possessing more than 10 years of experience working with combat sports, both as coaches and methodologists; those who were theoretically better prepared to provide assessments and who, according to their consent, were willing to participate.

The group was made up of six coaches from Havana; three directors of the provincial commission; two from the national commission, three Taekwondo professors from the “Manuel Fajardo” University of Physical Culture Sciences and six combat sports specialists. Their ages were between 30 and 65 years old, of which 11 had a Master's degree in Sports Training.

To validate the proposal, a number of experts of 10 was used, which is the minimum recommended. The characteristics that the experts had to present corresponded to: more than 20 years of experience in the field of Physical Culture and Sports, 15 years of experience as a coach of the sport in question or in a combat sport. Possess the academic category of Master in Sports Training or scientific category of Doctor in Physical Culture Sciences and have carried out research related to the Theory and Methodology of Sports Training, specifically in relation to the selection of sports talents.

The survey was structured into three questions: the first aimed at their knowledge about the relationship between talent selection, the system and its characteristics, the second whether they knew of any document that dealt with the topic addressed, taking into consideration aspects that the systems contained as a category and the third to give their opinion on the relevance of the topic addressed.

Inductive-deductive methods were used as fundamental methods for the interpretation of information and data; and the structural systemic approach to represent the component structure of the proposed system.

Results and discussion

The information provided by the 20 specialists was compiled and tabulated, resulting in 100% stating that they did not know any document that identified the structure of the selection as a system, which confirmed the need for the research to be aimed at perfecting the selection process. selection of talents in Taekwondo.

According to the results of the documentary analysis of the Comprehensive Taekwondist Preparation Program (PIPT) Jiménez, et al., (2021) and the survey of 20 specialists, the lack of a system to select talents was diagnosed because in this document It constitutes a governing program, it only raises API requirements for the Comprehensive School of School Sports (EIDE) when it meets requirements such as: being a provincial medalist;

comply with the rules of flexibility in the execution of the three Splits (front and sides) and mastery of technical aspects, both simple and complex and their combinations.

Since the fundamental purpose of this research is the change in the organizational and functional aspects in the sports team that reveal a restructuring, a system is assumed as its theoretical contribution, which can reveal the structural dimension of the object (De Armas, 1999) and their interrelationships.

The construction of the proposed system was essentially based on the systemic – structural – functional method, which guarantees the construction of knowledge in a systemic expression.

To achieve this, different steps were followed, with a particular logic based on the characteristics and level of contextualization of the object in the methodological practice of Cuban sport:

1. Characterization of the sporting activity in Taekwondo, in the initial specialization stage.
2. Definition of the theoretical-methodological conception of the system being built.
3. Determination of its components in the environment of the practice of sports selection in the sport under study: entry, process (planning, execution, evaluation), exit and feedback.
4. Determination of the dimensions and indicators that structure the different components.
5. Establishment of interrelationships between the defined components, dimensions and indicators. This step is recurring in the elements already determined; that is, repeated, demanded and manifested in the next step.
6. Graphic formalization of the system
7. System description.

It must be taken into account that this order is neither rigid nor unavoidable; This depends on scientific development at the theoretical and methodological level of the sport in question.

The system to select talents for Taekwondo, defines within its structural components the dimensions proposed by Blázquez (1995): the performance capacity, the disposition for it and the training capacity, as well as the relationships established between the indicators. of each dimension, representing the systemic nature, from entry to feedback, of the selection process of sports talents in the initial specialization stage of the TKD, which in Cuba is related to the transition through the age category 13-15 years.

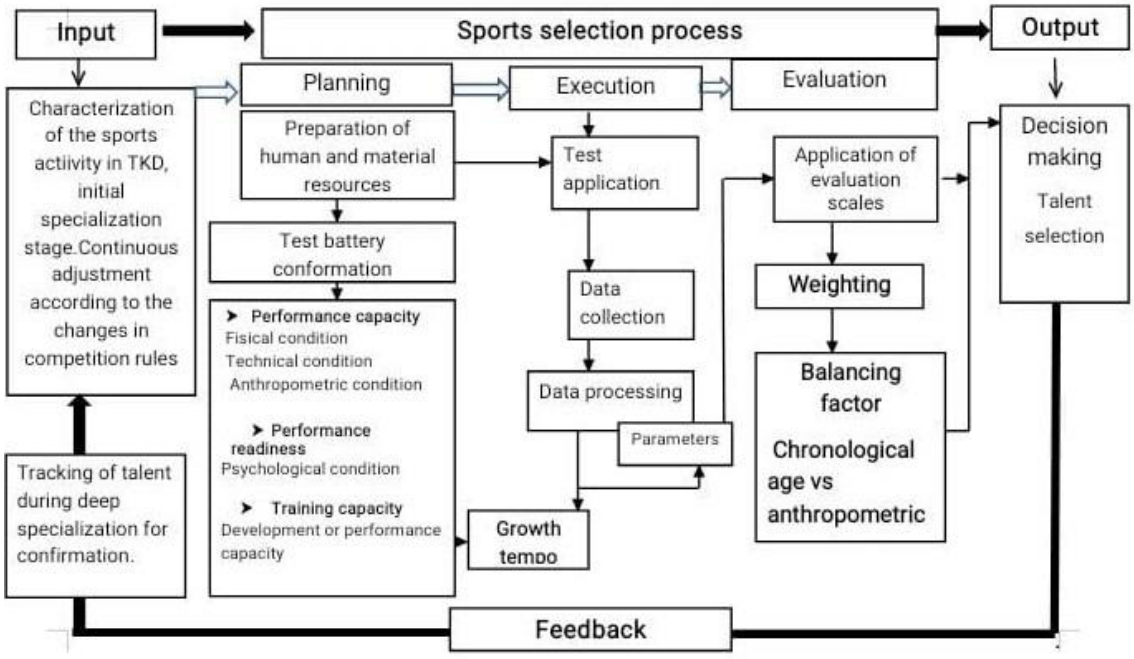

Figure 1. Graphic representation of the talent selection system for TKD

Source: self made.

6. System Description

The system is described, in its structure and operation, so that it can be applied in the practice of talent selection in the sport under study.

System objective: select talents for Taekwondo.

Social context in which the system is inserted:

Considering that the external environment is the scenario or context where the system in question exists and the space where it interrelates with other systems, in this case it responds to the organization of the Cuban sports system and, in particular, to the high performance subsystem. sports, inserting themselves into the TKD sport in question and specifically, with the sports preparation process in the initial specialization stage, category 13-15 years.

The system is organizationally structured in:

Input: The input of the system is the theoretical-methodological basis that supports the decision of which indicators allow us to reveal the aptitude of taekwondo talents, based on the characterization of the sport.

Selection process: it is structured in three stages:

First stage: Planning

- Preparation of human and material resources. The material resources are the sports facilities and the means and implements, with the basic requirements that allow the adequate execution of the processes, which are detailed in the methodological description of the tests.

- Formation of the test battery. The dimensions that make up the system are performance capacity, readiness for performance and training capacity (in the case of continuing).

Before applying the tests, the tests that will make up the battery are previously defined to determine the indicators for each dimension and practical preparation is carried out under conditions similar to those of the application.

Second stage: Execution

- Application of tests that determine the status of the indicators for each dimension. The tests were selected based on the characterization of the sport, considering the dimensions that make up the system, assuming some of those proposed in the PIPT, with the inclusion of others and the required modifications.

Specific actions:

1. Define the subjects eligible to be evaluated and the test cycle for beginners or continuing (beginners are considered to be those who join the EIDE training process and continuing are those who are more than one year old).
2. Apply the tests according to level (beginners or continuing)
3. Collect and process the information obtained.
4. Record the results of each subject in the indicators that make up the dimensions performance capacity, readiness for performance and training capacity (in the case of continuing athletes).
5. Comprehensively evaluate each candidate based on the results obtained in each of the dimensions that make up the system.
6. Define the levels of behavior for each indicator analyzed, of the manifestation of the talent concept, according to the location of the results with respect to the central tendency and dispersion statisticians.

Third stage: Evaluation

Specific actions:

1. Apply the evaluation scale for each of the tests, establishing equivalent scoring scales but relative to the levels of individual behavior for each test and to the effects of the population of subjects where the selection occurs, according to the procedure for

establishing regulations proposed by Zatsiorski (1989) and to which Mojeda, et al., (2020) refers.

2. Weight those whose results are between level IV and V (higher levels), as appropriate. to the indicators of greatest relevance to performance or non-compensable, considering the particularities of the sport and the age in question; as well as, apply the compensation factor of biological development, through measurements with the selected tests.

In addition, the system includes the weighting of those that constitute determinants of sports performance or that are strongly conditioned by genetic factors, little modifiable with training and the processing of the balance factor that is established through the analysis of the relationship between chronological and biological age, which also constitutes another weight to the system.

3. Issue a selection criterion based on a previous classification of the candidates, guided by the comprehensive evaluation carried out.

Output: it is considered the result of all the processing that will allow the decision on the selection of talents for taekwondo.

Feedback: since sports selection is not static, the system itself receives feedback taking as references the transformations that occur in some of its components (indicators) as a result of both intrinsic and extrinsic influences.

Feedback is conceived in two specific directions: the first towards the practice itself, since the purpose of every selection system is to monitor the selected talents during the next phase of long-term sports preparation, in this case, towards the deep specialization, where the confirmation of talent and the efficiency of the proposed system will be evaluated. The second is towards the continuous improvement and adjustment of the system input, since the characterization of the sport is not a static theoretical result, and is modifiable each time changes are introduced in the competition regulations.

This system has been designed by evaluating the demands of competitive activity and Taekwondo training, from which the particular characteristics of the investigated subjects are diagnosed.

It is conceived in an additive way, that is, each property inherent to a talented manifestation is added in search of capturing any potentiality in the analysis of talented aptitudes, in contrast to other systems that assume the exception of those subjects who show a inferior behavior with respect to others, in terms of their results in one or more indicators.

This research reflects the organizational and functional aspects of sports selection, proposing a system that is understood as one of the subsystems of the athlete preparation process. For the development of this system, the different phases that must be taken into account when carrying out this type of research were kept in mind, agreeing with the criteria set forth by different authors. (Balmaseda, A. M, 2009; Martínez, et al., 2020) on the components of the system, analyzing the characteristics of the sport in question.

On the topic of systems applied in the sport of TKD, no specific studies related to this topic have been found, so the research is aimed at meeting this objective. Sports selection as a process has to be seen as a system integrated into the long-term preparation process so that it can contribute to high-performance sport, since it is nourished by a set of stages that interact with each other and with their environment, the which are aimed at achieving a superior quality, Lastres et al., (2022), which is assumed in this research.

For its theoretical validation, it requires the alternative that constitutes the criteria of experts to submit the proposal to these subjects.

In the specific case of this research, the method is used to evaluate the theoretical consistency of the proposed system and verify the validity of the methodological procedures that will be applied, before putting it into practice.

Based on the determination of the experts, a second survey is prepared aimed at the theoretical validation of the system developed through a series of items that allow the relevance and possible effectiveness to be assessed, which presupposes that it is in principle applicable or viable in the process. of talent selection for the TKD.

The instrument is designed with a five-level scale regarding the adequacy of the proposal and was applied to all previously selected experts.

The indicators proposed for evaluation and to obtain suggestions from the experts were:

- Possible impact of the system to improve talent selection in the TKD.
- Theoretical validity of the system.
- Relevance of the proposed system.
- Procedural logic when developing the system.
- Possible feasibility of implementing the system.
- Theoretical and practical significance of the conception of the system for the improvement of the selection process.

To determine the agreement of the experts' criteria, the data is introduced into the SPSS-25 Statistical Program, defining as indicators: impact, theoretical validity, relevance,

procedural logic and theoretical-practical significance. In the same way, suggestions for improvement are considered and taken into consideration in the final proposal.

Subsequently, the statistical analysis is carried out using the non-parametric Kendall Concordance test for related samples, defining as a problem the search for a relationship or association between the evaluation criteria presented by each of the experts to know if there is unanimity in their evaluation criteria. evaluation of the level of adequacy of the proposed system.

The starting hypothesis is defined as:

H0: There are no significant differences in the experts' evaluation criteria on the level of adequacy of the proposed system.

H1: There are significant differences in the experts' evaluation criteria on the level of adequacy of the proposed system.

Table 2. Result of the determination of the Kendall Coefficient of Concordance

Summary of hypothesis testing

	null hypothesis	test	Sig	Decision
1	The distributions of Imp. Val. Per. Log. Fac. Sig and are the same	Concordance coefficient of Kendall for related samples	.983	Retain null hypothesis

Asymptotic meanings are shown. The significance level is 0.1

Source: exported from IBM SPSS-25 Statistics

The value of the Kendall Coefficient of Agreement obtained was 0.983 and therefore, the statistical decision is to retain the null hypothesis, therefore it is concluded that, since there are no significant differences in the experts' evaluation criteria on the level of adequacy of the proposed system, it is considered Very Suitable for implementation in the selection of talents for the TKD.

Finally, the criteria provided by the experts demonstrate that the proposed system for improving talent selection for the TKD is very appropriate, since it has impact, theoretical validity, relevance, procedural logic, feasibility and practical significance.

Conclusions

The lack of theoretical references for the formation of a sports talent selection system for the sport of Taekwondo was confirmed in the initial specialization stage, which was

confirmed in the application of the inquiry instruments to the specialists, regarding the interrelation between the preparation and selection processes of sports talent.

The essential components are presented to establish the selection of talents in Taekwondo as a system based on three dimensions with a dynamic and flexible character, appropriate to be applied without high technology requirements.

The assessment of the experts consulted on the proposed Talent Selection System for Taekwondo sports allows us to assume that this, from a theoretical point of view, is pertinent.

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