

Determination of indicators for the sports selection process in athletics, in the 11-12 year old category

Abstract

Many authors have approached the topic of the sport talent, developing at the present time like one of the most controversial contents in the methodology of the sport training theory. There are dissimilar models, starting from the different dimensions that characterize the selection, for that it is necessary to give a look to this thematic one, from the peculiar perspective of each sport, their context, the fellows and of the normed in the teaching programs for the ages study object. When analyzing the Teaching Program of Athletics it could verify that only a group of physical tests is guided, to know the physical level of the athletes are increased in what measure, for that, the lacks an integral focus to determine the athletes of immediate perspective, that which constitutes the object of this investigation, in which so many methods of the theoretical level are used as empirical. The proposal of indicators is an answer to the lack of integrity of the indicators that at the moment are in the instruments used by the National Commission of Athletics, that which is corroborated by the users of this sport.

Keywords: sport talent, sports selection process, athletics

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Introduction

Many authors have addressed the issue of sports talent, currently revealing itself as one of the most controversial contents in the Theory and Methodology of Sports Training. For Marques¹ Talent is an individual who presents special endogenous factors, which with the influence of optimal exogenous conditions, allows us to foresee the possibility of obtaining high sports performance.

However, aspects related to the sports team have aroused great controversy. About Gomes² considers sports selection, as a system of methodological organization of the measures and also of the methods of pedagogical, sociological, psychological, medical-biological observation, on the basis of which they reveal the aptitudes and capacities of children and adolescents to specialization in a certain type of sport. The main purpose is full study and revealing of abilities which have to correspond, on a large scale, to the requirements of this or that type of sport. No less important is the issue related to what stage the sports selection should be made. In this sense Teodorescu, quoted in Marquez¹ proposes three selection stages, of which we assume the first in this research. Talent selection stages,

1st Stage Primary selection (initial orientation) between 8 and 12 years old

2nd Stage Intermediate selection (pubertal) between 13 and 16 years

3rd Stage Final selection (decisive) between 17 and 19 years old

In this sense, it is considered that it is in the first stage, where the Immediate Perspective Athletes (API) is selected among the sports reserves at the base. Notwithstanding the foregoing, it is worth asking when a child is ready to practice sports. According to Zurlo, Mirotti, Casanovas³ the optimal moment for sports practice could be defined as the one in which a child achieves the necessary maturity to learn and understand a given task. In the context of sports, this moment also includes physical, neurological, cognitive, psychological and social factors. The variability that exists in the parameters of growth and development between childhood and adolescence make chronological age an unreliable criterion to determine if a child is

prepared to participate in sports. This participation also depends on the development of the child, the willingness of their parents, the sociocultural context and the specific demand for a given sport. For all these reasons, it is necessary to keep these criteria in mind when determining the indicators for sports selection. Engaging children in various sporting activities is more beneficial than prematurely exposing them to learning a particular or specialized skill in a sport before they are fully developed. Early specialization can indeed lead to failure and discourage future participation. Based on what has been previously analyzed, it is considered essential that the pediatrician and all those related to children's and youth sports know all these aspects in order to try to prevent both the child and the adolescent from suffering physical and mental trauma. For this, the "General Scheme of the Start, Development and Intensification Stages, on the Sensitive Phases" can be taken as a reference. Sensitive phases are understood as "periods where there is a very favorable trainability for a motor capacity"

This indicates that "learning can take place when the child is ready, that is, when he possesses and masters the prerequisites for that learning and the ability to reorganize them." From the above it can be stated that the more information is available on internal and external factors of the children, the better the selection process will be.

Taking into account the aforementioned, it is necessary to know what are the indicators to carry out a correct scientific selection of a future champion, however there are many criteria in this regard, as is the case of Garcia et al.,⁴ cited in Hechavarria et al., who states that among these indicators are: heredity, biological age, optimal age of selection, state of health, anthropometric indicators, muscle composition, potential for the development of physical and coordinative capacities, predisposition to performance, psychological characteristics, cognitive abilities, socioeconomic characteristics and historical background. There are also many selection models which vary according to the social and economic context, among which are:

Germanic model:⁵

This model is basically focused on guiding at what age it is convenient to start in a given sport for high performance practice,

based on the particular characteristics and demands of each sport, it is also known as a sports topology model, it poses very strictly certain ages at which training should begin.

Pyramidal model:⁴

This model, as its name indicates, establishes a pyramidal structure, where large numbers of individuals enter the process, and in the end, those who demonstrate the greatest aptitudes and performance throughout their sporting life reach the top of said pyramid, allowing entry to the process of a large number of subjects, which begin to be eliminated by a process of natural selection, where the best athletes always stand out, this causes some competitiveness among them and with it some development or at least motivation for not being eliminated in each one. Of the phases that make up said system, of course each phase requires a constant elevation of the level, thus increasing the competitive demands and with it the qualitative level of the athletes and as a final result the elite always emerges in each sports discipline. This experience has been applied and is still applied in Cuba, and where positive results have been obtained.

Investment model in already confirmed talents:

As its name indicates, this model focuses its essence on the need to concentrate all available material and economic efforts on select groups of athletes, who have already confirmed their sporting potential in some competitions or with the performance results they have shown, in This model is about improving the living and training conditions of athletes, where it is necessary to ensure their living conditions in general, creating the necessary conditions to offer all the moral and social support that athletes require.

As has been seen, there are dissimilar models based on the different dimensions that characterize them, such as the sociological, pedagogical, medical, biological, biopsychosocial, pedagogical dimension, there is also a great variability of opinions, concepts and criteria on this subject process, so it is necessary to take a look at this subject, from the particular perspective of each sport, its context, the subjects and what is regulated in the Teaching Programs for the ages under study. The Cuban experience inspired by the idea of creating the Talent Detection and Selection System for Sports Initiation, proposed by our Commander in Chief Fidel Castro Ruz, when inaugurating the "Mártires de Barbados" School of School Sports Initiation (EIDE) in Havana City), on October 6, 1977, where he stated: "The tests must be done in all schools and among all students in the province. Selecting from 40,000 is not the same as selecting from 120,000. It is necessary to organize the tests with everyone, so that we do not lose a single faculty, so that we do not lose a single champion"

This idea is of great importance, since it is precisely at the base, see from the primary schools, to the Sports Complex, where the selection of the Immediate Perspective Athletes (API) takes place due to the great mass of student athletes. However, in the Athletics Teaching Program, it only guides in section three, a group of physical tests to know in which As their physical level increases and in particular their technique, in addition through these, the sports coach must detect practitioners who demonstrate a marked development of these elements, above the rest of the group, for their promotion to the EIDE

The fundamental elements of the evaluation system are:

- i. The physical tests.
- ii. The technical tests.
- iii. The evaluation ranges of physical tests.
- iv. The evaluation scales of the technical tests.

After analyzing the content of these tests, it can be stated that they were not created specifically to determine when a child can be considered an API, since it is based only on indicators of a physical nature and lack comprehensiveness, so information is lost in other dimensions. that allow an objective selection and it is even considered impractical for the selection of athletes for admission to the EIDE, in addition, the pioneering category varies from 10-11, to 11-12 years without considering the sensitive phases of the capacities, the trainability and optimal age of entry into the sport. There is also an instrument used by the methodologists of the National Athletics Commission in the routes through the provinces, which are applied to the APIs declared by the different Sports Combines of the territory, however it has been possible to know through results of the project "Comprehensive Development of the athlete from Villa Clara", to whom this thesis pays tribute, that this has not been elaborated with scientific support, it is also based on physical evidence and its norms are not representative of the Villa Clara population.

Aim

Determine the indicators that should make up an instrument for the API selection process in Athletics, in the 11-12 year old category.

Development

Methods and techniques

Research context:

The investigation is carried out in the context of the Sports Combinations of the Villa Clara territory, specifically with the sports reserves and athletes of immediate perspective.

Population and sample:

A first population made up of 11 of the 32 coaches in the province of Villa Clara who work with the 11-12 year-old category and who represent 34% of the total, a second population made up of the introducing users, among which are the 8 members of the Provincial Technical Commissioner of Athletics, which make a total of 8 members, of which 6 were taken intentionally, attending to their functions within the commission and academic level. In addition, three informants are used (commissioner, methodologist and technical head of the Province Athletics Commission) who provide valuable information for the investigation.

Among the methods used in the study are:

From the theoretical level

Inductive-deductive: Allowed to go from particular facts about sports selection in the Athletics category 11-12 years to the formulation of generalizations in this regard and vice versa.

Analysis and synthesis: It made possible the study by parts on the subject of selection and then to appreciate this phenomenon from the global point of view.

Structural systemic approach: Allowed to study the problem under study as a whole, in order to assess its operation and structure.

Modeling: it was used in the study and representation of the ideal athlete of that category.

From the empirical level

Analysis of documents: It allowed knowing the regulations for the selection of the APIs of the 11-12 years category, in documents such as the Teaching Program, regulatory documents of the National Athletics Commission, the API File, History and Medical Report.

Interviews: Athletics executives (key informants) were addressed, with the aim of gathering information on how to select the APIs in the Villa Clara territory.

Survey: it was applied to sports teachers, in order to assess the way in which they develop the selection of the APIs and other matters of interest for the investigation.

Brainstorming: This technique was used to find out the criteria of the coaches, regarding the need to use indicators with a more inclusive character than the physical aspect.

Statistical-mathematical: The empirical distribution of frequency was used in the tabulation of the survey data, which allowed the establishment of graphs and tables for better compression.

Criterion of users of the indicator system:

The IADOV Technique was used to evaluate user satisfaction, taking into account the theoretical postulates of Campistrous and Rizo cited in Fernández and López.⁶

A questionnaire is used with a total of five closed questions and two open questions, whose relationship the subject ignores. The number resulting from the interrelationship of the 5 closed questions indicates the position of each subject on the satisfaction scale, that is, their individual satisfaction. The satisfaction scale used is the following:

1. Clear satisfaction
2. More satisfied than dissatisfied
3. Not defined
4. More dissatisfied than satisfied
5. Clear dissatisfaction
6. Contradictory

This technique also makes it possible to obtain the group satisfaction index (ISG), for which we work with the different levels of satisfaction that are expressed on a numerical scale that oscillates between +1 and -1 is shown in Table 1.

Table 1 Group satisfaction index

| Scale result |
|--|
| + 1 Maximum satisfaction |
| 0.5 More satisfied than dissatisfied |
| 0 Not defined and contradictory |
| - 0.5 More dissatisfied than satisfied |
| -1 Maximum dissatisfaction |

Group satisfaction is calculated by the following formula:

$$ISG = A (+1) + B (+0.5) + C (0) + D (-0.5) + E (-1)$$

No.

In this formula A, B, C, D, E, represent the number of subjects with individual index and where N represents the total number of subjects in the group. The group index yields values between +1 and -1. Values between -1 and -0.5 indicate dissatisfaction; those between -0.49 and +0.49 show contradiction and those that fall between 0.5 and 1 indicate that there is satisfaction. The IADOV technique also contemplates two complementary questions of an open nature. These are:

- i. What importance do you attach to the system of indicators?
- ii. What aspects, in your opinion, promote or limit the use of this system of indicators?

Results of the diagnosis carried out to know the current state of the determination of the Athletics API in the category 11-12 years. Once the results of the survey of coaches and the interview with the Athletics commissioner and methodologist and technical head of said commission have been assessed, it can be confirmed that they do not have instruments for the selection of the APIs, since only 2 coaches of the Respondents representing 18.8% say that they do have this instrument, however when they are asked to say where this instrument comes from, 1 says that it is of their own creation and two state that from the national and provincial commissions, everything which makes it possible to ensure that they do not actually have an instrument for this purpose, which is confirmed by 81.8 of the coaches. When the coaches are asked in the survey to say which indicators should be taken into account to determine an athlete of immediate perspective, 90.9% ponder sports performance, psychological (63.6%), and the anthropometric (63.6%), being relegated to the background, health, genetics, biological age, heredity, among others. It was also possible to verify that the aspects that most limit an adequate selection, according to the general opinion of the coaches, are: preference or not for sport, personality traits, discipline, the lack of an instrument for selection and the lack of comprehensiveness of the instrument applied by the national commission. The coaches themselves refer that there are other aspects that must be addressed in depth in the API determination process, such as: their inclination towards the chosen sport, their behavior in the school environment, the optimal age of selection.

Finally, 100% consider that the way in which the selection of the APIs is being carried out must be perfected

The results of the interview with the provincial commissioner, methodologist and technical chief, about the current problems of the selection of APIs, yielded the following:

That the Teaching Program of Athletics does not favor the selection of APIs, since they do not have a selection instrument for them, they also think that the instrument used by the national commission to evaluate APIs is based only on physical tests, so it is not comprehensive and also, the norms are not representative of the Villa Clara population, these being the problems that most affect the selection. All three believe that they would like to have an instrument so that base coaches can objectively determine when an athlete is considered API.

It is important to clarify that in this program there are physical tests and their rules, but these are used to assess the physical condition of athletes at different times of preparation and consequently assess the possible entry of an athlete to the EIDE but this was not created to determine an API. Brainstorming was used to find out the criteria of the coaches on the need to use indicators with a greater integrating nature than the physical aspect. In this regard, they agree that it is necessary to have an instrument that is not based only on indicators of physical performance and competitive results and argue that the Teaching Program and the tests carried out by the National Commission, in addition to having the limitation already described, are made empirically and do not respond to the characteristics of the children of the territory. In relation to the analysis of the Teaching Program document, it was possible to verify that there are no indications of how to select the athletes of immediate perspective, they are only offered within the evaluation system, which focuses on the verification of the

general objectives of the program and particular of the work steps, tests that are applied to the practitioners, to know to what extent their physical level increases and in particular their technique, to detect the practitioners that demonstrate a marked development of these elements, above the rest of the group, for their promotion to the EIDE. Among the fundamental elements of the evaluation systems are:

- i. The physical tests.
- ii. The technical tests.
- iii. The evaluation ranges of physical tests.
- iv. The evaluation scales of the technical tests.

In the author's opinion, this is far from being an instrument for the selection of an API, since it is only based on physical results and technical tests, whose evaluative ranges are of a national nature and it is unknown how these were made and with what rigor Determined scientist Procedure to determine indicators for the selection of APIs. To determine the indicators to form an API selection instrument in the future, some elements of the procedure proposed by Torres and Cárdenas⁷ are used, adjusted to the characteristics of the research objectives. The steps already adjusted according to the analysis of the literature, the characteristics of the tests in which this category is competed and the criteria of the users, are the following:

- 1) Analysis of the competitive activity and characteristics of the tests in which they compete (characteristics of the Hexathlon, studies of the competitive activity, among other aspects of interest)
 - 2) Study of the literature on sports selection
 - 3) Preliminary determination of the indicators to be measured
 - 4) Evaluation of the proposal by the introducing users of the sport
 - 5) Definitive proposal of indicators for the determination of APIs
- 1) Development of the steps to determine the indicators for the selection of APIs

The content of each step is described below, until reaching the determination of the indicators to select an API.

1. Analysis of the competitive activity and characteristics of the tests in which they compete (characteristics of the Hexathlon, studies of the competitive activity, among other aspects of interest) The Hexathlon is the modality in which pioneering athletes compete in provincial and national competitions, in addition to the technical tests that complement the competitive results. The tests in which they compete cover all areas of Athletics and among these are the 60m flat, 50m hurdles, High Scissors Jump, Long Jump, Ball Throw and 1000m for children and 600m for girls. These tests demand a large energy expenditure, which is why these children need to have certain qualities, especially those who are in the sports reserve and who can be considered as an immediate prospect to enter the EIDE. Within the framework of the competition, technical tests are carried out to evaluate the development of sports motor skills. Both jumps require a good height, to start the flight with the required height and angle, from the biomechanical point of view, you need great speed and resistance and a powerful arm to throw the ball. All of the above reinforces the idea of having healthy children, since the demands of the activity require it and, in addition, they must be genetically endowed with strength in nervous stimuli and muscles capable of responding quickly to them. They must also have morpho-functional characteristics, corresponding to competitive disciplines, psychological preparation and certain maturity and cognitive development, since they must

master the skills for the 6-test technique and it is a competition that requires exhausting training for which a goodwill.

2) Study of the literature on sports selection

The study of the literature made it possible to verify the reason for the need to apply science in the selection of talents and have indicators to form a comprehensive selection instrument, since this allows the following:

- i. Guarantee a high degree of pedagogical security in the issuance of the aptitude diagnosis.
- ii. It allows identifying the subjects with greater aptitudes.
- iii. Avoid frustrations in children and young people. (don't create false expectations)
- iv. It avoids wasting time and allows the reorientation of children and young people towards other sports or activities.
- v. Reduce the logistical costs of the development process of athletes.
- vi. Resources are invested in young people who with a high degree of probability will have high achievement.
- vii. Rational use of available resources for High Performance as a subsystem.

Also the consultation with the literature made possible:

- i. Knowing that the health of the practicing child or young person is the number one priority in any sports selection system.
 - ii. Never think that the child is a miniature adult.
 - iii. Know the morphological, physiological and psychological particularities of the ages through which the little one transits towards adulthood.
 - iv. When selecting athletes, always assess as many parameters as possible, with the purpose of knowing all those aspects necessary for the timely and adequate performance of possible talents, we refer to physical and technical tests, medical, psychological tests and even keep in mind the sociological aspect, where the young person lives and develops.
 - v. Always keep in mind the decision and the taste of the young person for a certain sport modality.
 - vi. Form a versatile selection team, where each specialist evaluates and at the end all the conclusions are gathered and the selection is decided.
 - vii. In each work team there must be specialists of the sport in question, with vast experience that allow them, from their clinical eye, to capture those athletes who could in the future be great athletes in some sports discipline.
- 3) Preliminary determination of the indicators and indices to be measured

Consulting the literature, as well as the criteria of experts on this subject, allowed the preliminary determination of the following indicators:

- i. Inheritance
- ii. Biological age
- iii. Optimum age of selection
- iv. Health condition

- v. Anthropometric parameters
- vi. Muscle composition
- vii. Potential for the development of physical and coordination capacities
- viii. Predisposition to performance
- ix. Psychological characteristics
- x. Cognitive abilities
- xi. Socioeconomic characteristics

- xii. Historical background
- 4) Assessment of the proposal by the introducing users of the sport.
- 5) Definitive proposal of indicators for the determination of APIs.

The evaluation of the proposal by the introducing users of the sport and the presentation of the definitive proposal of indicators for the determination of the APIs will be dealt with in the next chapter. Presentation of the determined indicators and their evaluation by the introducing users. Evaluation of the proposal by users. Results of the group satisfaction index (ISG), applied to introducing users. Introducing users intentionally selected (Table 2).

Table 2 Results of the group satisfaction index

| Name | Function | Values assigned to the proposal | Answer to open questions |
|---|--------------------------------------|--------------------------------------|---|
| Lic. Mario A. Guerra (performs master's degree studies) | Provincial Commissioner of Athletics | Maximum satisfaction + 1 | It is very important because athletes are recruited for the EIDE with real potential to perform in the chosen sport, in addition, I suggest excluding the state of health which is kept in the API file |
| Mr. Nelson Millares | methodologist | More satisfied than dissatisfied 0.5 | The proposal is very important and I suggest that anthropometric tests be easily applied |
| MS.c Alberto Morales Fábrega (candidate) | technical manager | More satisfied than dissatisfied 0.5 | The proposal to determine the potential of the athlete in an integral way is very important and I suggest that the predisposition to performance be included within the psychological characteristics |
| Dr.C Agnie Sánchez | Advanced professional | Maximum satisfaction + 1 | It is very important to have indicators that provide true information and I think that muscle composition is difficult to determine due to the resources that are needed. |
| EPG Justino Olivera | Arbitration | More satisfied than dissatisfied 0.5 | It is important to have these indicators, but I do not think that the socioeconomic characteristics are relevant for the selection, although I recognize that it influences their development |
| EPG Pedro Olivas | Member | Maximum satisfaction + 1 | The proposal is important, since it can comprehensively characterize the athlete from immediate perspective. I think that the optimal selection age should be excluded since this category is in correspondence with the sensitive phases of capacity development and there is no specialization in any of the tests in which one competes. |

Group satisfaction is calculated by the following formula:

$$ISG = A (+1) + B (0.5) + C (0.5) + D (+1) + E (0.5) + F (+1)$$

No.

After applying the ISG formula, the following index is reached:

ISG = 0.75 (between 0.5 to 1 indicates that there is satisfaction)

Said index indicates that there is satisfaction of the introductory users with the determined indicators, despite the fact that they make several reflections when answering the open questions, which are taken into account in the final determination of the indicators. The IADOV technique also contemplates two complementary questions of an open nature. These are:

- i. How important is the system of indicators?
- ii. What aspects, in your opinion, promote or limit the use of this system of indicators?

The answers to these questions are reflected in the previous table and are taken as suggestions to improve the final determination of indicators.

Presentation of the final proposal

Taking into account the consulted bibliography and the suggestions given by the users, the following has been considered as the definitive proposal:

i. Inheritance

When it is stated that heredity constitutes a parameter to be taken into account within the selection of possible talents, it does not mean that it determines the possibility of becoming a champion, we have seen in practice that very rarely a champion athlete, You can have champion children, there are cases where they are observed in our country, but they are the least. However, heredity is an important parameter, because by observing the parents and grandparents of a subject, it is possible to predict what that child will be like once they grow up, and that in some sports is a signal for sports coaches, but it should not constitute schematic dogma, it is opportune to be analytical in this sense.

Biologically, inheritance is nothing more than the transfer of genes from parents to children from the moment the female egg is fertilized, whose transfer takes place through DNA (deoxyribonucleic acid), which are organized linearly through chromosomes.

ii. Biological age

In our days it is already common to hear the terms of biological age and age

chronological, the first refers to the biological development that an individual is reaching in its growth and development (biological maturation), which is observable in certain biological parameters that inform whether the individual has begun to develop or not yet,

these parameters are the appearance of hair in certain regions of the human body, menarche in women or first ejaculation in men, muscle development, skeletal development, etc., while chronological age is the age in years and months that an individual has since birth. All this is given because not all people develop at the same time and in the same way, here the genetic component and the individual's living conditions intervene.

This parameter is essential for the selection of possible athletes, since there is a close relationship between the physical development of the individual and their biological age, most coaches prefer subjects who have not matured biologically, since their performance will subsequently increase. In relation to those who mature more quickly, dissimilar examples could be cited of individuals who mature very early and achieve sporting results in infant and youth categories and then never obtain relevant results again.

iii. Anthropometric parameters (Height-weight)

Within the anthropometric aspect, three essential factors must be analyzed: growth, body weight and the Somatotype of the individual. Growth is known as the increase in the height of a subject or one of its body segments.

Regarding growth, there are various formulas with which you can predict the height that a subject can reach when they reach adulthood.

Height is a very important component in many sports, such as Basketball, Volleyball, Jumping, Handball, etc.

Body weight is another aspect that can be beneficial or harmful, it depends on the type of sport that is practiced, if it is a sport where it is necessary to maintain a body weight, as in most combat sports, weightlifting, etc. ., the weight can be a problem for some athletes, but if the chosen sport is the launch area in Athletics, the weight can be beneficial, if we apply the Newton formula of force equals mass times acceleration. ($F = m \cdot a$), although this does not define victory at a given moment.

Consequently, the Somatotype has to do with three very important aspects of a biological order, since with them the body structure of a subject can be determined.

iv. Potential for the development of physical abilities (norms or parameters to assess physical condition and its follow-up)

It must be evaluated if the athlete, depending on the characteristics of the sport and sensitive phases of the capacities, is in a trainability period for that sport.

The importance of this parameter when selecting sports talents is unquestionable, most coaches prefer to look for individuals with a high physical development to start in a particular sport, however, it must be taken into account that when selecting athletes, it is necessary to keep in mind their degree of biological maturation, because higher levels of performance can be obtained in those subjects who have not yet developed sufficiently, which demonstrates the direct relationship between development, growth, sexual maturation and the development of the physical abilities.

v. Psychological characteristics

It is common knowledge that not all people have the same psychological characteristics, for this reason, if it is known that not all sports demand the same psychological demands on an athlete, then the great task of coaches and sports psychologists is on track. to the application of psychological tests that allow you to associate these psychological particularities to the sport in question, for example, an

athlete with an explosive and dynamic character, with little phlegmatic character in his temperament, it would not be appropriate to start him in sports such as shooting with archery, sports shooting, etc., rather with these characteristics it would be opportune to start him in combat sports, ball sports, etc. Of course, if you have other qualities, remember that we are only analyzing the component of psychological characteristics now.

In conclusion, it would be very important in this sense, to create models, questionnaires, tests, that allow coaches to detect those athletes who, from a psychological point of view, have certain characteristics related to the sport practiced, so it becomes another element to have. present when selecting sports talent.

As can be seen, an evaluation of the psychological state of the child at these ages allows us to know if he is in a position to favor performance or not, in the chosen sport, hence a test must be developed to evaluate these characteristics.

vi. Cognitive abilities

Many authors have coincided in calling this stage that is analyzed, the «age of reason». From the sixth year, thinking becomes more analytical and more sensitive to objective relationships. A certain critical spirit and a feeling of certainty appear before the perception of the existence of “the impossible” or “the contradictory”; The child begins to be able to come into greater contact with reality and to reflect. This greater acceptance of reality results in a greater tolerance for frustration. He is no longer so immersed in his world of fantasies and desires and this can be seen in the explanations he gives.

This component, therefore, alludes to the need for each athlete to have a sufficient degree of intelligence, which allows them to understand and effectively carry out each task indicated during training, where it is necessary to have an active and very aware participation in everything that is done, for this the application of tests that determine the intellect of the subject is recommended.

Due to all of the above, this capacity must be evaluated through a test, because to the extent that the child has developed this capacity, so will the results in the assimilation of the movement technique.

vii. Historical background

Therefore, it is important to know whether the athletes come from a family of athletes, from where qualities are inherited from one another, for which their high sociological component stands out. In Cuba, the cases that could be cited are dissimilar, which, as a consequence of the social inertia that life itself entails, even become great athletes, more because of the fuss and family influence, than because of the rest of the components analyzed. Although it would be logical to clarify that in order to become a great athlete, several aspects of those that have been analyzed up to now must be wisely unified. Therefore, the historical background is an aspect that can be taken into account when selecting athletes in a given sport.

Finally, it is suggested that these indicators form an instrument to determine an API comprehensively, so that it provides more information and guarantees greater objectivity in the selection.

Conclusion

The indicators determined according to the procedure used are:

- i. Inheritance
- ii. Biological age
- iii. Anthropometric parameters. (Height-weight)

- iv. Potential for the development of physical abilities (norms or parameters to assess physical condition and its follow-up)
- v. Psychological characteristics
- vi. Cognitive abilities
- vii. Historical background

When submitting the proposal of indicators to the users, using The IADOV Technique according to Campistrous and Rizo (2006), an index of 0.75 is achieved, which indicates that there is satisfaction with the proposal, however they leave some recommendations that allowed improving the determination of the indicators.

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Conflicts of interest

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