



# Discovery and Promotion of Sport Talents: A Text of Opinion



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## Abstract

In this opinion text, it is verified how the process of identification of the sporting talents occurs, as well as the factors that influence this identification, such as the developmental stages and their transitions. It's also analyzed factors that lead to the success or failure of this young athlete, understanding how the biological and physiological aspects related to hormones, biological age, chronological age and early entry into puberty may be present in this process of sports training. It is still difficult to find isolated factors for the identification of talents, and several indicators are involved in this process, such as physical, anthropometric, social and psychological, which will enable the identification of this young talent for sports training. It is possible to point out a combination of several factors that enable the detection, selection and permanence of young athletes for the sports training process, joining biological, physiological, social, mental, psychological, anthropometric precepts, among others.

**Keywords:** Young talent; Sports training; Sport

## Introduction

Reflecting on the identification and promotion of young talents in sport. Research regarding the promotion and training of sports talent, understanding the definition of young talent as being the person who has a high specific aptitude for a form of activity, or a sport [1, 2] for example, it is more easily found in databases nowadays. It can be observed that these researches are increasingly related to an emphasis on athletic development rather than to talent identification [3]. Several factors can influence that this young person can emerge and until reaching the elite of your sport, this will be more possible if the talent can be identified in childhood [4].

Factors such as: the influence/encouragement of the family in the practice of physical exercise or sports, only as a fun or recreational activity, without requiring sports excellence at the first moment; the financial aid attributed to a greater dedication and; practice of sport can contribute to a better development of this talent. With regard to identification, it is noteworthy that on the part of the coaches or coaches, the main aspects observed to identify these talents are physical (speed, agility, power, endurance, flexibility), psychological (motivation, discipline) and anthropometric factors [3]. Still, it is very

important to analyze the physiological aspects related to the production of hormones (such as Luteinizing - LH, GH, Follicle-stimulating - FSH, Testosterone, Estrogen), as well as the entry into puberty, which may also influence better development and differentiation of young talent. In this opinion text, it is verified how the process of identification of the sporting talents occurs, as well as the factors that influence this identification, such as the developmental stages and their transitions. It's also analyzed factors that lead to the success or failure of this young athlete, understanding how the biological and physiological aspects related to hormones, biological age, chronological age and early entry into puberty may be present in this process of sports training.

In literature, the article by Folle, Nascimento e Graça [3] titled "Sports Training Processes from Identification to the Development of Sporting Talents" and published in UEM's Journal of Physical Education, it deals with a systematic review of articles that will address the process of identifying sporting talents. They used 42 articles in this review that met the research inclusion process. With the revisions made by the authors, it's possible to see a greater concern of researchers

to unravel the factors and stages of the development and transition of sports career, rather than the factors to identify these talents [5]. These factors indicate that the enhancement of sports talent is due to the training factors (such as activities, deliberate play and deliberate practice) and the social influences (such as the role of coach, parents and peers) that will, lastly, coadunate for developing the talent [6]. Regarding the stages of development, the authors were able to find three fundamental stages for the training of athletes. The first stage is understood as sports initiation, revealing itself as a phase that children and adolescents seek to engage in a variety of modalities and tests within these. "This insertion often occurs during leisure time with family members, aiming to develop a taste for sports". The second stage is characterized as the sports specialization stage, revealing a small pursuit of maintaining the varied practice of sports and, consequently, a preference for commitment to only one or two sports, with an increase in the development of specific skills of the selected sport, gradually increasing the amount of deliberate practice and decreasing, consequently, the moments of deliberate play.

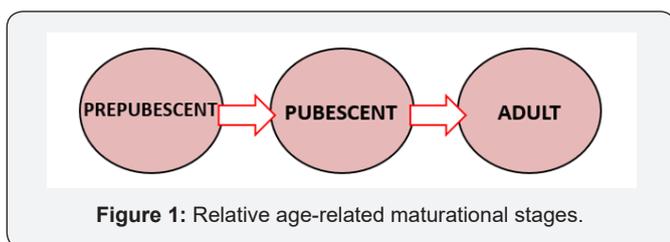


Figure 1: Relative age-related maturational stages.

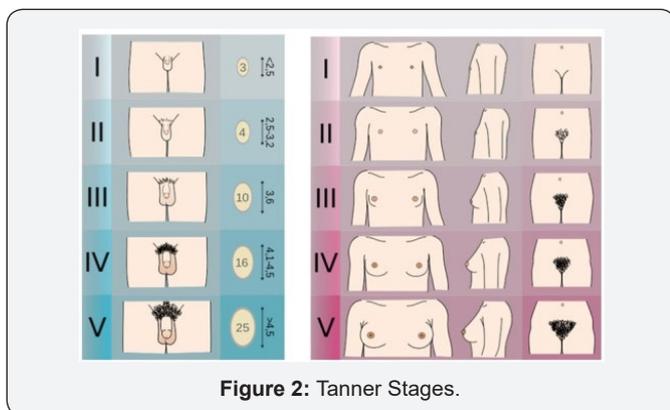


Figure 2: Tanner Stages.

The third and last stage is classified as a sports investment, highlighting a period of "[...] professionalization, exclusive dedication to a sport, in which athletes have greater commitment and dedication, to participate in competitions of greater importance and expression, being possible to be called up for national teams". Regarding the transition of sports talents, the authors were able to separate into normative, which is more predictable, where the athlete gets time to prepare, and not normative, being the most difficult because they are less predictable. The first transition is characterized by the beginning of sports specialization, where athletes begin to specialize in a single sport. With this more intense training, one ends up

having higher sports goals and higher levels of competition among the athletes themselves to survive in the sport practiced [7]. Regarding non-normative transitions, it is characterized by conflicts with teammates and coaches, change of contract or financial situation, change of team or club, non-selection for some competitions, periods of stress, sports saturation and, especially, injuries, which ends up generating crises in the career of athletes. Inclining the look to the physiological part to identify the talents, the sports championships are divided in chronological and non-biological age. This can lead to people having different maturation stages competing in the same category Figure 1 & 2. This difference in stages can influence the process of identification and evolution of sports talent. Some ways to identify these developments are given by wrist radiography, Tanner's stages and more specifically, the examination that allows to identify the hormonal dosage rate.

Thus, it is possible to classify these athletes as prepubertal, pubertal and adult. The pre pubertal, or Tanner's stage 1, is characterized by being the infantile phase. In stages 2 to 4, it is characterized by entry into the pubertal phase, or phase of sexual maturation, and in stage 5, is classified as post pubertal or adult phase [8-10]. In the pubertal phase, where the person is in adolescence, there is a large hormonal discharge, which will have a higher production of luteinizing hormones (LH), which will favor ovulation, progesterone and testosterone production; the follicle stimulant (FSH), which favors development and maturation as a whole; Estradiol, which will regulate fat metabolism and menstrual cycle and; Testosterone, which contributes to strength gain, lean mass and bone mass.

Regarding the prepubertal phase, the oxidative pathway is the main energy pathway of children, where activity durations and intensities should be low. If during this phase, the stimulus is too high for the child, ordering them to do very intense activities, their body will not respond adequately, because there was not a certain maturation and physiological conditions for this, which may cause girls to delay menarche and, when it comes to both genders, there may be great psychological pressure, which would lead to the early abandonment of the sport, in addition to the occurrence of bone cartilage injuries and that could compromise all growth and development of that person.

When the athlete enters the pubertal phase, the glycolytic pathway begins to predominate as the main energy pathway to obtain energy, being able to work with higher intensities and shorter training times. During this period, there will be an increase of two enzymes: phosphofructokinase and lactate dehydrogenase. In this process, specialization and a gradual increase of the training load is recommended. For men, there will be a rapid gain in lean mass and growth due to the high production of GH and Testosterone. For girls, entering the pubertal phase can bring decreases in sports performance, as there will be increased estrogen, increasing fat percentage and a fluid retention [8]. Because of this, some coaches mistakenly

prefer to “slow down” girls’ pubertal entry in order to take advantage of pre-puberty gains.

Therefore, regarding the identification of sports talent, it can be seen that it is still difficult to find isolated factors for their identification, being only the combination of several factors (such as physical, anthropometric, social and psychological elements) that will enable the identification and permanence of this young talent in sports training [3]. Taking into consideration the transition phases, it is noteworthy that the athlete, besides being in a period of sports dedication, great time destined to the training and championships, also goes through questions related to his life and social environment, such as psychosocial, academic and professional factors, which can lead to the fall of sports development, having the athlete to think of strategies to deal with and overcome the barriers encountered [11].

### Results

It is necessary to conduct studies that attempt to identify in isolation the main factors that may influence the identification of young talent, aiming to find the main means that may influence the promotion and training of this young athlete. Considering the physiological aspects, with regard to hormone production, male athletes who can reach puberty earlier, can take an advantage of athletes who enter this stage later, because the former will have a higher peak in Testosterone and GH production, which allows greater bone and muscle development, helping to gain strength, power and agility, in detriment of the others that will take longer to reach this stage, being an important factor in the identification of sports talents. Compared to women, the longer they take to enter the pubertal period, their performance may be better, as during this period there will be a very large increase in estrogen production, which will bring unwanted transformations to the athlete’s body (such as increased fat percentage and fluid retention, for example), causing a drop in performance. Finally, it is possible to point out a combination of several factors that enable the detection, selection and permanence of young athletes for the sports training process, joining biological, physiological, social, mental, psychological, anthropometric precepts, among others [12,13].

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