

Temperamental model for 100 and 200 meters sprint runners Modelo temperamental para corredoras de 100 y 200 metros planos

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Date of reception: September 15, 2020.

Date of acceptance: November 3, 2020.

ABSTRACT

The objective of this research is to develop a psychodynamic model that combines the qualities of the ideal temperament to successfully execute 100 and 200/meters races in athletics. This model allows selecting talents for athletics performance, flat speed mode. Some general arguments are offered on the influence of temperament on human behavior, as well as a methodology for the determination of the properties of the central nervous system and temperamental qualities, which is fundamental for the determination of the temperamental model in 100 and 200/meters runners. in athletics.

Keywords: Tempex; Psychodynamic properties; Temperament; Temperamental qualities; Psychodynamic model

RESUMEN

El objetivo de esta investigación radica en elaborar un modelo psicodinámico que reúne las cualidades del temperamento ideal para ejecutar exitosamente las carreras de 100 y 200 metros en el atletismo. Este modelo permite seleccionar los talentos para el desempeño en el atletismo, modalidad velocidad plana. Se ofrecen algunos argumentos generales sobre la influencia del temperamento en la conducta humana, así como una metodología para la determinación de las propiedades del sistema nervioso central y las cualidades temperamentales, lo cual es fundamental para la determinación del modelo temperamental en las corredoras de 100 y 200 metros en el atletismo.

Palabras clave: Análisis gramatical; Orientación didáctico-gramatical; Niveles de ayuda; Procederes didácticos; Herramienta didáctico-metodológica

INTRODUCCION

Cuban sport has marched successfully, focusing its efforts on the formation of man and the optimal development of his possibilities, taking into account the formation of habits, knowledge, attitudes, positions, values and ideals that correspond to our ideology, at the same time that educational programs rest on the best scientific and theoretical bases. Sports activity contributes to the physical and mental development of individuals, which is why a large amount of resources and efforts are devoted to the sports pedagogical process. One sport that is part of this great area is athletics. This sport has well-defined objectives such as:

1. To develop harmoniously and in a conjugated way in the athletes the physical, technical, tactical, moral, volitional, aesthetic, intellectual, political and ideological preparation, in correspondence with the habits and skills necessary for their development in the sports arena, and in accordance with the principles of our society.
2. Increase and consolidate the massive practice of athletics among children, adolescents and youth, to achieve a wide athletic reserve and promote the health of the Cuban child-youth population of both sexes.
3. To provide athletes with a wide school of multilateral and specific motor habits, which allows them to achieve a great sporting longevity, while successfully passing through the entire long-term training process". (Ameller, 2015, p. 30)

This sport is made up of various sports modalities and has the required characteristics to contribute to the formation and development of motor activity in man, this being one of the reasons why it is a very important sport for its development.

Within the modalities of athletics are flat speed events. Taking into account the development achieved at the international level in this modality and the low levels of Cuba in the last three decades, it was decided to investigate an essential aspect within the psychological preparation of athletes, to make a small contribution to the

development of this sport modality starting from a rigorous talent recruitment process from an early age.

This time taking Psychology as a pretext since in these times you cannot see a sports result where the athlete's preparation is not linked to it. The experience as researchers allowed us to verify that some athletes, although they meet the general demands of sport from the physical, technical and physiological point of view, present difficulties in the learning process and in the execution of some technical-tactical actions that depend on their dynamism This is because they present temperamental qualities that do not respond effectively to the psychodynamic demands of this sport.

Temperament is a topic that has been little addressed in athletics, however, some contemporary psychologists and physiologists such as: Rubinstein, Kurtetski; Puni; Viatkin; Kapustin and others have distinguished the influence of temperament in sports work, taking into account that this structural component of the personality is the one that determines the psychodynamic behavior of man and has been defined as the set of individual properties of the psyche that characterize the dynamics of the psychic activity of man (Rudik, 1999, p. 114)

The Greek medical Hippocrates (460-337 BC), was the first to give a characterization of temperaments and classify them as Sanguineous, Choleric, Phlegmatic and Melancholic. In the other hand, the researcher Dzhangarov, showed that individual psychological particularities determine progress in teaching the individual. (It agrees with these authors as it is a convincing argument to underline the leading role of psychodynamic peculiarities in the pedagogical-sports process. (Dzhangarov, 2010, p. 115)

The researcher Fuentes dedicated for many years to the study of temperament, found in a group of representative samples in different activities, a marked typicality of the temperament of people who performed successfully in certain activities, for example, in high-performance athletes of various sports, found that in more than 90% there was a coincidence regarding the temperamental predominance in sports games, such as Volleyball, Soccer and Basketball (sanguineous-phlegmatic), in sports where the dynamic demand tends primarily to

inhibitory processes, such Chess and Shooting. In Librarians, Office Workers, Tobacco Workers and Cane Cutters, the phlegmatic temperament prevailed. (Fuentes, 2016, p. 31)

All this evidence allowed him to conclude that there is a close relationship between the type of temperament and the psychodynamic qualities required by each of the activities studied.

The aforementioned author, foreseeing the practical utility that temperament diagnosis could have for the elaboration of sports behavior forecasts, the selection of talents and the conduct of the athlete's performance, in 2015, built a Methodology for the determination of temperamental suitability (MEDITEM), through which it is possible to develop temperamental models in specific activities, demonstrating their validity and effectiveness in samples of athletes. The sports being modeled have been: Wrestling, Volleyball and Men's Judo, all with elite athletes. (Fuentes, 2015, p. 75)

Until the moment the investigation begins, no reports have been found that this model has been developed in athletics, so, taking into account the previous arguments, he set out to undertake this challenge.

The scientist Eysenck argues that the person is a structural unit because, although it is diverse in its peculiarities, psychological relationships and properties (character, temperament, capacities and interests), these factors are interdependent, that is, they are presented as a structural unit. (Eysenck, 1997, p.27)

The leading role of temperament in sports performance is scientifically proven, based on the correspondence between the psychodynamic qualities required by each discipline in particular and those that predominate in elite athletes in different sports; Therefore, considering that temperament has a high biological component that determines its psychodynamic stability throughout life, which favors forecasting, it would be very useful to study and distinguish these particularities in order to contribute to a better selection of talents and sports performance of the athlete, through the control and regulation of their temperamental behavior.

Closely linked to this, the selection of talents is considered as another fundamental problem, since generally when selecting an individual to carry out a certain physical activity, only the conditions are taken into consideration from the point of view the somatotype of the subject and the results in the physical efficiency tests and the psychological characteristics of the subject are ignored.

Nowadays, specialists give this aspect great importance for the achievement of the objectives set in training, where in addition to the conditions of the athlete, the emotional response of the athlete is very present, in the face of various external and internal stimuli and the way in which it is able to adapt and overcome them, then it is affirmed that the temperamental psychophysiological characteristics of the athlete is a field where it can still be explored for sporting benefits.

The aforementioned is among the reasons that stimulate the realization of this research to contribute to the solution of the problem.

METHODS

The sample used is made up of the members of the 1st category athletics team in the women's 100 and 200/meters events, as well as the coaches of these athletes. We worked with the total population.

There were discerned the main elements that make up the investigative process to determine its particularities.

There was determined the historical evolution of the aspects related to the performance of the athletes in the sample during training and competitions, as well as the modeling to develop the psychodynamic model.

Through the observation were determined the temperamental traits that are manifested in the athletes and determine the type of temperament that predominates in each of them.

The specialists were interviewed to know their criteria about the technical performance of the athletes. Besides, the samples were characterized to determine the temperamental mixture.

RESULTS

IDETEM-I application

First, a temperament diagnosis was made from the application of (IDETEM -1) of (Fuentes, 2017, p.125). The temperamental mix was determined by the two highest scores achieved from the four temperaments. The temperamental predominance of the sample can be seen in the following table:

Table # 1: Temperamental dominance of female athletes

ATHLETE..... Temperamental mix.

A_____	Blood - Phlegmatic (Table 1).
B_____	Blood - Phlegmatic (Table 2).
C_____	Blood - Phlegmatic (Table 3).
D_____	Blood - Melancholic (Table 4).
E_____	Melancholic-Choleric (Table 5).
F_____	Sanguineous - Choleric (Table 6).
G_____	Blood - Phlegmatic (Table 7).
H_____	Blood - Phlegmatic (Table 8).

Source: self-made

After finding the temperamental mixture, it was determined which were the predominant items (evaluated between 4 and 5 points), these determined the referred mixture. As a result of the analysis, those that were present in more than 55% of the sample were selected, resulting in a total of 19 of the 56 items that make up the test. Subsequently, the predominant items were related, the properties of the Central Nervous System, the Psychodynamic Properties and the temperamental qualities that determine those actions with the parts that make up the 100 and 200/meters dash were analyzed. Example:

Item 1: Three subjects answered with 5 points, three with 4 points, one with 3 and one with 2 points, for 75%, corresponding to blood temperament. PSN: Balance-Mobility -Psychic Dynamism. CT: Motor Agility_ Dynamism- Precision of Movements.

Items 9: Six subjects answered with 5 points, two with 4 points, for 100%, corresponding to blood temperament.

Items 10: One subject answered with 5 points, four with 4 points, two with 3 and one with 2 points, for 62.5%, corresponding to the choleric temperament.

The qualities and properties identified in this analysis make up the Real Model, taking into account that they are the ones that predominate in the athletes in the sample.

REAL MODEL

Table # 2: Real Model

PROPERTIES OF THE CENTRAL NERVOUS SYSTEM	REAL MODEL
	Balance
	Mobility
	Inertia
	Psychic dynamism
	Strength
PSYCHODYNAMIC PROPERTIES	Excitement of attention
	Extroversion
	Low sensitivity
	Little emotionality
	Psychic resistance
	Plasticity
	Motor agility
TEMPERAMENTAL QUALITIES	Dynamism
	Motor agility
	Accuracy of movements
	Adaptability
	Patience
	Emotional control
	Tenacity
	Abstraction
	Premeditated decision
	Quick reaction
	Mental agility
	Self confidence
	Perseverance
	Equanimity
	Power of improvisation
High capacity for psychic work	
Sociability	
Jovial, jocular	
Organized	

	Psychic Resistance
	Restlessness
	Peace of mind, mildness

Source: self-made

Tempex application and results

The application of Tempex, allowed to evaluate the performance of speed athletes from the technical-tactical point of view, determined by the influence of the psychic dynamics of the temperamental characteristics that this sport demands.

The specialist criterion method is used through which a group of coaches from the high-performance speed area gave their opinion about the most used elements in speed races. Subsequently, a study was made of how each of these actions were revealed in practice and of what are the Psychodynamic properties and of the Nervous System that intervene in each one of them, with which an instrument was created whose function would be to evaluate each athlete in the sample. The procedure and its results are set out below.

Examples of temperamental manifestations that determine the psychic dynamics in the technical actions of the 100 meters sprint races.

The snatch in sprinting.

1. *Active*: The athlete must be dynamic, active both in training and in competitions, the snatch requires agility and strong movements of the legs and arms, as well as speed of reaction. *Property. CNS (psychic dynamism). Lability has special importance in this ability, since this property is manifested when the subject knows in advance the stimulus to which he must react. CT (quality of temperament)*
2. *Agile of mind*: When the athlete prepares for the start, once put in a ready position, he must be agile of mind while waiting for the starting shot, a delay in this sense can cost him the expected result. He must remember the possibilities that the opponent has and the speed of their reaction in the snatch. *Property of the S.N.C. (psychic dynamism). Psychodynamic property (Excitability of attention).*
3. *Agile motor*: Due to the characteristics of this modality where motor capacities predominate, fast force, explosive force, among others, you must

apply these capacities at the time of starting. *Property of the S.N.C. (psychic dynamism).*

RESULTS OF THE APPLICATION OF TEMPEX

As qualities necessary in general for the entire training and competitive process, they selected those listed below. They formed the Proposal Model. The qualities and properties identified in this analysis made up the proposed model, taking into account that in the opinion of the specialists they are the ones that are needed to successfully perform the women's 100 and 200/meters sprint races.

PROPOSAL MODEL

Table # 3: Proposal Model

PROPERTIES OF THE CENTRAL NERVOUS SYSTEM.	Balance
	Mobility
	Inertia
	Psychic Dynamism
	Strength
PSYCHODYNAMIC PROPERTIES.	Excitability of attention
	Extroversion
	Low sensitivity
	Little emotionality
	Psychic resistance
	Plasticity
TEMPERAMENTALS QUALITIES	Motor agility
	Dynamism
	Accuracy of movements
	Adaptability
	Patience
	Emotional control
	Tenacity
	Abstraction
	Premeditated decision
	Quick reaction
	Mental agility
	Self confidence
	Perseverance
	Equanimity
	Concentration of attention
High capacity for psychic work	

	Sociability
	Development of peripheral vision
	Reflexive
	Psychic Resistance
	Optimistic
	Observer
	Analytical
	Self-control
	Quick response to stimuli

Source: self-made

To form the psychodynamic or temperamental model, the previous models were compared and those qualities and matching properties were selected, obtaining the following result:

Table # 4: Comparison of the Real Model and the Proposed Model

	REAL MODEL	MODEL PROPOSAL
PROPERTIES OF THE CENTRAL NERVOUS SYSTEM	Balance	Balance
	Mobility	Mobility
	Inertia	Inertia
	Psychic dynamism	Psychic dynamism
	Strength	Strength
PSYCHODYNAMIC PROPERTIES	Excitability of attention	Excitability of attention
	Extroversion	Extroversion
	Low sensitivity	
	Little emotionality Psychic resistance	
	Psychic resistance	Psychic resistance
	Plasticity	Plasticity
TEMPERAMENTAL QUALITIES	Motor Agility	Motor Agility
	Dynamism	Dynamism
	Motor Agility	Motor Agility
	Precision of the movement	Precision of the movement
	Adaptability	Adaptability
	Patience	Patience
	Emotional control	Emotional control
	Tenacity	Tenacity

	Abstraction	Abstraction
	Premeditated decision	Premeditated decision
	Quick reaction	Quick reaction
	Mental agility	Mental agility
	Self confidence	Self confidence
	Perseverance	Perseverance
	Equanimity	Equanimity
	Power of improvisation	Power of improvisation
	High capacity for psychic work	High capacity for psychic work
	Sociability	Sociability
	Jovial, jocular	Jovial, jocular
	Organized	Organized
	Psychic Resistance	Psychic Resistance
	Restlessness	Restlessness
	Peace of mind, mildness	Peace of mind, mildness

Source: self-made

As can be seen, a large majority of the properties and qualities coincide, however, there are qualities of the real model that are not present in the proposed model and that according to specialists are necessary for the successful performance of this modality and vice versa, as they are in the first case: concentration of attention, development of peripheral vision, rapid response to stimuli, analytical and self-control. Only the calm, the mildness, the restlessness, the power of improvisation, jovial and humorous are not present in the proposed model, because they are not necessary for success in this sporting activity.

The properties and qualities that coincide in both models and those that are necessary and that were mentioned above make up the psychodynamic or temperamental model.

TEMPERAMENTAL MODEL

Table # 5: Temperamental Model

PROPERTIES OF THE CENTRAL NERVOUS SYSTEM.	Balance
	Mobility
	Inertia
	Psychic dynamism
	Strength
	Excitability of attention
	Extroversion



PSYCHODYNAMIC PROPERTIES.	
TEMPERAMENTAL QUALITIES.	Psychic resistance
	Plasticity
	Accuracy of movements
	Adaptability
	Patience
	Emotional control
	Tenacity
	Abstraction
	Premeditated decision
	Quick reaction
	Mental agility
	Self confidence
	Perseverance
	Equanimity
	Concentration of attention
	High capacity for psychic work
	Sociability
	Development of peripheral vision
	Analytical
	Psychic resistance
Self-control	
Quick response to stimuli	

Source: self-made

DISCUSSION

The psychodynamic or temperamental model of the 100 and 200 meters sprint runners in elaborated athletics constitutes a useful tool since it allows an effective selection of talents for the specialty under study, as well as for the elaboration of forecasts taking into account that the Temperament has a high biological component that determines its psychodynamic stability during the athlete's career, which would favor obtaining better results in competitions from controlling and regulating their temperamental behavior.

To carry out this research, the criteria of various authors were taken into account, such as Fuentes (2016), who assumed the types of temperament determined by this researcher, as well as the relationship between this and the psychodynamic qualities of the Activities analyzed to determine these elements in the athletes under investigation.



Eysenck (1997) considered her criterion on the structural unit that, although diverse in its peculiarities, psychological relationships and properties constitute an independent structure.

It agrees with Hippocrates (460-337 a.n.e.) and Dzhangarov (2015) by providing convincing arguments to underline the leading role of psychodynamic peculiarities in the pedagogical-sports process, as well as with the athletics goals proposed by Ameller (2015).

Regarding the psychodynamic behavior of man, it is consistent with that proposed by Rudik (1999) that this is a set of individual psychic properties that determine human psychic activity.

These criteria constituted important theoretical references when defining fundamental questions for the concrete work with the temperament of flat speed athletes through the model proposed for the selection of talents in athletics in the modality under study.

The psychodynamic or temperamental model of the 100 and 200 meters sprint runners in athletics was developed based on the criteria of high-level specialists in athletics, as well as the result of the diagnosis of the temperament of elite athletes. The practical utility of diagnosing temperament in the sports training process is demonstrated by verifying:

Through the bibliographic study, the influence of temperament on the athlete's performance. The criteria of the specialists when selecting the ideal temperament qualities for the practice of this sport, which, at the same time, demonstrated their manifestation in the main technical actions of this sport.

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