

Parakhonko V.
senior lecturer at the Department of Health and Sports Technologies
Khimich I.
Ph.D., Associate Professor of Health and Sports Technology
National Technical University of Ukraine Igor Sikorsky Kyiv Polytechnic Institute

FACTORS AFFECTING THE FORMATION OF MORPHOLOGICAL STATUS OF SWIMMING STUDENTS

The article reveals the influence of factors on the morphological status of student swimmers. It is established that in sports selection taking into account the morphological type is one of the criteria. In modern sports conditions, it is especially important to identify the most talented, promising athletes, and record achievements are typical for athletes who have the most optimal performance inherent in this sport.

Thus, it is determined that on the one hand, students-swimmers, differing in their morphological, functional, psychological characteristics, differently adapt to different conditions of activity, and on the other - purposeful activity affects the selection of the most talented athletes and their formation specific morphofunctional status.

Growth of sports achievements in most sports, including swimming, requires further study of individual capabilities athletes. In modern conditions of sport of the highest achievements, special significance acquires the identification of the most talented, promising athletes, as

record achievements are typical for athletes with the most optimal indicators characteristic of this sport.

The study of the problems of sports selection has led to the identification of a number genetically determined morphofunctional indicators, allowing to determine the prospects with a greater degree of probability athletes in swimming at a certain stage of long-term training. Rapid growth of sports results in the Olympic water Cyclical sports show that they become the most champions talented athletes, adapted to high loads, both in volume and in intensity, in good health.

Key words: *swimming, students, athletes, morphological status, physical exercises.*

Парахонько В., Хіміч І. Фактори, що впливають на формування морфологічного статусу студентів, які займаються плаванням. В статті розкрито вплив факторів на морфологічний статус студентів-плавців. Встановлено, що при спортивному відборі врахування морфологічного типу є одним із критеріїв. У сучасних умовах спортивної діяльності, особливу значимість набуває виявлення найбільш обдарованих, перспективних спортсменів, а рекордні досягнення характерні для спортсменів, які володіють найбільш оптимальними показниками, притаманними даного виду спорту. Таким чином, визначено, що з однією сторони, студенти-плавці, що відрізняються за своїми морфологічними, функціональними, психологічними особливостями, по-різному адаптуються до різних умов діяльності, а з іншого – цілеспрямована діяльність впливає на відбір найбільш обдарованих спортсменів і формування в них специфічного морфофункціонального статусу.

Ключові слова: *плавання, студенти, спортсмени, морфологічний статус, фізичні вправи.*

Formulation of the problem. The problem of preparing a full-fledged reserve is the most acute for the national swimming school. Often there is such a situation when swimmers of both sexes and specializations, which differ sharply in terms of the development of their skills, are "squeezed" into the framework of education and training. Particularly relevant is the development of a system of scientific and practical support for selection, orientation and training in sports such as swimming, which have a greater number of medals played at the Olympic Games and world championships [4].

This raises the question of how to properly evaluate potential capabilities of the future swimmer in terms of his physique (anthropometric and functional characteristics) and what objective data can be relied upon to correctly predict future sports [1].

The current level of sports achievements in swimming imposes strictly specific and rather stringent requirements on the morphotype of a swimmer. In accordance with this, the development of selection criteria and forecasting the prospects of young swimmers is an urgent problem in the preparation of high-class athletes.

Swimming is a cyclic sport with the performance of work of varying power, but in terms of conditions it differs significantly from other sports specializations.

Body characteristics are one of the indicators, influencing success in competitive activity in swimming. In connection with the problem of sports selection and orientation in sports body measurements gain more appreciation specialists. These indicators of athletes are studied by specialists, as in our country and abroad, where the prospects are determined athletes of different ages, genders, qualifications, specializations and roles [7].

Physique is one of the factors determining success in swimming, however, as many years of practice have shown, an athlete's discrepancy even in one of the many factors forces him to compensate for this discrepancy at the expense of other body systems. Such compensation is inappropriate, because it forces the body to be in a state of maximum stress of all functional systems, which causes an additional waste of energy. This, in turn, leads to the depletion of the body, its reserve capabilities and ends, as a rule, occurrence and exacerbation of various chronic diseases. In this regard, the more an individual corresponds to a sports model of activity and the lower the level of factors that limit the possibility of achieving high sports results and, accordingly, the lower the requirements for compensatory mechanisms, the higher the reliability of the biological system and the longer the period of high sports longevity [5].

Analysis of literature sources. According to foreign and domestic scientists, exercise in water improves the body's

cardiorespiratory system, speeds up metabolism, is characterized by high energy power of physical activity, unloads the musculoskeletal system, hardens and enhances immunity [8].

According to V. Volkov, swimming provides students with the formation of vital motor skills, the ability to use different styles of swimming, submarine and preparatory exercises, additional technical means for the development of psychophysical qualities [6].

At the same time, the student needs a high level of mental capacity, withstand the effects of strong psychological stimuli, be able to concentrate and quickly switch attention, maintain optimal emotional tone during the day. Thus, the issue of introducing innovative technologies in swimming lessons to improve motivation, increase motor activity, psycho-emotional state of students of higher education is relevant.

Presentation of the main material of the study. The motivation for choosing a future specialization is largely determined by the initial somatic status of the athlete. If sports activity is adequate to the morphological and functional characteristics of the organism, then the possibilities of the gene pool are revealed most fully and are realized in the somatic status of those involved. As a result, an intermediate somatic type is formed as a product of the combined impact of previous sports activities and the influence of genetic factors. The newly formed somatic status creates the motivation to achieve a certain sports result [2].

The latter forms target settings, in accordance with which further purposeful improvement of the somatic status takes place. In this regard, the organization of somatic status, the levels of its hierarchy, valid factors and their relationship are aimed at optimizing the functioning of the system in a specific sports activity.

The main dominant factors in the content of sports activities that influence the formation of the somatic status of athletes are the zone of relative physiological power and the nature of energy supply associated with it; posture in which training and competitive activities are performed; accentuating loads on links of the musculoskeletal system; projectile that is used in the performance of activities; sports role; technical arsenal. At the same time, one of the powerful social factors influencing the biological characteristics of the athlete's body is purposeful sports activity [3].

An analysis of the morphological variability of modern man testifies to the great diversity of his somatic types, i.e., options for the size and shape of the body structure. This fact is nothing short of striking.

Evidence of a wide range of adaptive capabilities of the human species. At the same time, among the many factors, morphophysiological differences in humans, first of all, it is necessary to note two powerful vectors:

ecological-biological and social. At the same time, without going into details, in the most general form, the ecological and biological vector can be represented by an exogenous level and endogenous. At the exogenous level, such environmental factors as temperature, humidity, sea level, soil and water geochemistry, radiation, insolation, magnetic field, and so on, are dominant. At the endogenous level - genetic, racial, sexual, constitutional, etc.

The dominant factors of the social level that influence the biology of human development are nutrition, professional activity, medical care, housing conditions, physical activity and physical education and sports and more.

There is no doubt that the ontogenetic development of a person is determined by interrelated endogenous, exogenous and social factors, however, in "sports ontogenesis", that is, in the period active sports, the leading factor in the morphofunctional development of the child is the social factor, and above all, purposeful sports activities [2].

Overcoming extreme loads in professional sports in case of discrepancy between the morphofunctional status of an individual of sports activity and the loads manifested often leads to the development of pathological processes in the body, and its premature aging and psychological trauma. Specialization in sports should be based on the adequacy of biological human capabilities of the activity presented.

Numerous studies show that athletes, differing from each other in their morphological and functional characteristics, adapt differently to various extreme conditions.

Sports activities; on the other hand, extreme factors of purposeful sports activity have an impact on the selection of the most suitable and on the formation of their specific morphofunctional status. It is also shown that resistance to various overloads in sports largely depends on the morphological status of those involved. All this emphasizes the relevance and necessity of sports selection, which turns into an issue that affects both personal and state interests, economic and moral aspects. The need for sports selection is also determined by a number of other objective circumstances, first of all, the limited period of high sports achievements - 5-7 years (although active sports activity can last 15-20 years) [1].

An integral feature sports activity is the requirement for maximum tension of the physical and spiritual strength of the athlete, more strict fixation requirements for sporting success.

Due to the inability to adapt the content of a specific sports activity, it is necessary to adapt a person to the activity.

This process will be more effective for individuals who are more appropriate in terms of their genetically determined morphological and functional indicators of this sports specialization.

Such a combination, even with the most favorable construction of many years of preparation and the presence of all the necessary conditions, is rare. Therefore, one of the central issues in the system of training athletes of the highest qualification is the problem of sports selection and training orientation athletes.

Purposeful long-term training and education of high-class athletes is a complex process, the quality of which is determined by a number of factors. One such factor is the selection of gifted children and teenagers, their sports orientation.

Sports orientation - the definition of promising areas for achieving higher, sportsmanship based on the study of the inclinations and abilities of athletes, individual characteristics the formation of their skills, orientation may relate to the choice of a narrow sports specialization within a given sport (sprinter-stayer etc.);

- determination of the individual structure of long-term training, dynamics of loads and growth rates of achievements;
- establishing the leading factors of preparedness and competitive activities that can have a decisive impact on the

level of sports results of a particular athlete;

- identification of means, methods, loads that can negatively affect the development of inclinations, suppress the individuality of an athlete.

Sports selection arose on the basis of professional selection and today it develops in parallel with it, it has a long multi-stage character, this is not a single study.

There are three main types of sports selection:

1. Selection and sports orientation of those wishing to play sports.
2. Selection for inclusion in national teams of various ranks in order to improve their training.
3. Selection to national teams of various ranks for participation in competitions.

Sports selection and orientation are not one-time events at one or another stage of sports improvement, but an almost continuous process covering the entire long-term training of an athlete.

This is due to the impossibility of clearly identifying abilities at a separate stage of age development or long-term training, as well as the complex nature of the relationship between hereditary factors that manifest themselves in the form of inclinations, and acquired ones, which are the result of specially organized training. The selection and orientation process uses a variety of studies that allow get enough complete information about the athlete:

- state of health and level of physical development;
- body features;
- features of biological maturation; - properties of the nervous system;
- functionality and prospects for improving the most important systems of the athlete's body;
- the level of development of motor qualities and their prospects improvement;
- ability to master sports technique and tactics, restructuring of motor skills and technical and tactical schemes;
- ability to transfer training and competitive loads, intensive flow of recovery processes;
- psychophysiological abilities of muscular-motor and spatio-temporal differentiation, operational perception of the situation and making adequate decisions;
- motivation, hard work, perseverance, determination. mobilization readiness;
- competitive experience, the ability to adapt to partners and opponents, the peculiarities of refereeing;
- the level of sportsmanship and the ability to implement it in extreme conditions, typical for the main competitions.

The effectiveness of sports selection largely depends on the quality of the training process, and it is largely due to the degree of consideration of the morphological and functional characteristics of children of different ages, individual characteristics of the growth and development of the body of each involved, sensitive periods of motor functions. In addition, the selection should be based not on one or two, even important criteria, but on a whole range of indicators that could objectively evaluate individual characteristics of children and adolescents [4].

Conclusions. The article reveals the influence of factors on the morphological status of student swimmers. It is established that in sports selection taking into account the morphological type is one of the criteria. In modern sports conditions, it is especially important to identify the most talented, promising athletes, and record achievements are typical for athletes who have the most optimal performance inherent in this sport.

Thus, it is determined that on the one hand, students-swimmers, differing in their morphological, functional, psychological characteristics, differently adapt to different conditions of activity, and on the other - purposeful activity affects the selection of the most talented athletes and their formation specific morphofunctional status.

Reference

1. Domina Zh. G. (2010) Technique of navchannya has the right to coordinate the directing of the music teachers in the process of physical communication: author. dis. Cand. ped. Sciences: 13.00.02 / Zh. G. Domina .– Kiev: NPU imeni M.P. Dragomanova, - 22 p.
2. Kruchevich T. Yu., Andreeva O. V., Blagii O. L., Sadovskiy O. O. L. Blagiy, O. O. Sadovskiy (2018) // "Molodiy Vcheniy". No. 4.2 (56.2).- S. 24-29.
3. Lawrence D. (1999) The complete guide to exercise in water / D. Lawrence // A&C Black London, 1999. – P. 15–26.
4. Shirkovets E.A., Serafimova B.S. (2002) Functionality - one of the prerequisites for early achievements in sports swimming // Theory and physical practice. culture No. 5. - S. 56 - 59.
5. Vicente Banachelo (1995). Hidrogimnastica / Banachelo Vicente. Santos-CER 11035-050 da Praia.-30 p.
6. Volkov V.L. (2004) Fundamentals of professional and applied training of student youth: navch. posibnik / V.L. Volkov. - K: Knowledge of Ukraine, 81 p.
7. Yagomyagi G.O., Ulk K. (1979) Anatomical characteristics of movements swimmer (front crawl). – Tartu. 74s.
8. Yurov I.A. (2009) On the dynamic somatotype of swimmers // Theory and practice physical culture - No. 7. - S. 20 - 21.