

IMPROVEMENT OF TRAINING SYSTEM OF HIGHLY QUALIFIED WEIGHTLIFTERS ON THE FITNESS TYPES BASIS

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Modelling of sports mastership is one of the perspective investigations in the sphere of big-time sport.

According to the celebrities in this field (V.V.Kuznetsov, O.O.Novikov, B.N.Shustin, 1975; V.V.Petrovsky, 1978; V.M. Platonov, 1980), the modelling process itself is one of a multistage nature for both: the structure and dynamics of the sports mastery establishment. Common place for all the above mentioned experts is that all of them claim the process of modelling characteristics development to be started with investigating and modelling of competitive activities first, whereas modelling characteristics of special physical, technical, special psychological and other aspects of fitness should be in full conformity with the level of certain aspects of competitive activities necessary for the sports results which are forecasted.

The goal of our research was to study and to develop a quantitative model of characteristics of special physical fitness (SPF), technical preparedness on the basis of the analysis of competitive activities, as well as to investigate the most significant factors of special psycho readiness and to develop the means of control of model characteristics of SPF in highly qualified weightlifters.

To achieve the goal we used the method of biochemical cinematography. With the help of the method applied the performance of 68 Masters of Sport and Masters of Sport International Class were shot during the competitions ranking not lower than national. The shooting was executed with a special camera 400 frames per second frequency. The tape was analyzed with a special Japanese "Nac-Sportias" film analyzer connected to automatic computer.

A total number of 42 data were registered, calculated and divided into two groups. 1-st group contains data pertaining to weightlifters special physical fitness and reflects the attempts in major phases of lifting the bar in classical exercises. 2-nd group involves the data concerning space-and-time characteristics of the "athlete-bar" system which depicts weightlifters technique.

All the data obtained were subjected to mathematic analysis to check the relationship with sports results. Investigations carried out allowed us to come up with certain modelled characteristics. For SPF, for instance, these characteristics express themselves in the parameters of efforts applied by an athlete to the bar at various stages of lifting during certain phases.

Modelled characteristics of technique included: maximum height of lifting the bar as well as the height at which maximum speed of bar movement is reached.

The total number of 11 modelled characteristics being discovered, we calculated their quantitative values for the athletes of all 10 weight categories.

At present we undertake the research of modelled characteristics for weightlifters psycho-fitness.

Data choice of psycho-fitness of highly qualified weightlifters for the competitions arose from the fact that weightlifting is an individual kind of sport with rigid competitive regulations. To our mind those characteristics would be most informative which reflect current mental state of a sportsman. Those data might contain determination of a sportsman's character type, state of mental and body health as well as of his anxiety state.

Applying method of computer diagnostics which includes the evaluation of the body-and-mind type according to Izenk method, anxiety state according to Spilberg test and health state according to San and Lasher, investigations were held among the weightlifters -- members of the Ukrainian National Olympic Team at the pre-Olympic training session in June 1996.

All the athletes agreed with their psychological portraits and the coaches took into consideration all our recommendations meant to optimize the training process.

A quick-term measuring device for testing and fixing process rates of modelled characteristics of SPF during training process was elaborated (author's certificate No 1049763). Also the tests were worked out which imitate by biomechanical and time parameters the efforts developed by weightlifters during competitions with real lifting the bar of maximum weight.

To determine the level of SPF with weightlifters at a certain period of training process the comparison of the test results with the modelled characteristics was made. After that corresponding corrections were introduced to the individual training programmes. To eliminate the divergences, specially meant for each push and jerk phase exercises were elaborated to be performed on the training device.

We came to a conclusion that our approach to the improvement of training system for highly qualified weightlifters makes it possible to connect the results of the competitive activity investigations with the modelled characteristics of various types of fitness as well as with the control methods of its level. It might significantly improve the quality of the training process.

СОВЕРШЕНСТВОВАНИЕ ТРЕНИРОВОЧНОЙ СИСТЕМЫ ВЫСОКОКВАЛИФИЦИРОВАННЫХ ТЯЖЕЛОАТЛЕТОВ НА БАЗЕ ОБЩЕЙ ФИЗИЧЕСКОЙ ПОДГОТОВКИ

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УДОСКОНАЛЕННЯ ТРЕНУВАЛЬНОЇ СИСТЕМИ ВИСОКОКВАЛІФІКОВАНИХ ВАЖКОАТЛЕТІВ НА БАЗІ ЗАГАЛЬНОЇ ФІЗИЧНОЇ ПІДГОТОВКИ

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