Prediction of Olympic Results in Skiers of Russia on a Distance of Fifty Kilometers

Sivakov Vladimir Ilyich, Belousova Natalya Anatolyevna,
Kamskova Yuliana Germanovna, Perepelyukova Elena Viktorovna,
Matveeva Polina Alexandrovna, Matveev Vitalyi Vladimirovich
South-Ural State Humanitarian, Pedagogical University, Lenina, 69, 454128 Chelyabinsk, Russia

Abstract: The skiers of Russia in a mass start at fifty kilometers at the Olympic Games in Pyeongchang revealed a different color energy system, consisting of purple, green, yellow, light red, dark red, red which are interconnected in predicting a sports result at a distance of fifty kilometers at the Olympic Games in Pyeongchang. The highest level of color energy system for skiers has not been identified. This accompanies the optimal level of energy and functional state of Russian skiers individually in a mass start at fifty kilometers.

Key words: Forecasting Olympic result, Russian skiers, mass-start fifty kilometers, interconnected, skiers, individually

INTRODUCTON

Skiers of Russian team have a developed energy state that determines the functional state and athletic performance at a distance of fifty kilometers in competitive activity. For skiers, athletic performance depends on the development of a powerful color energy system and energy control. The individual color energy system of Russian skiers realizes, shows individual sports results and the capabilities of a functional system over a distance of fifty kilometers at the Olympic Games in Pyeongchang. For skiers, a sporting result of fifty kilometers depends on the planned, performed, controlled, special physical and color energy load at the Olympic Games in Pyeongchang (Belousova *et al.*, 2018; Volkov and Oleynikov, 2011; Vladimirovna, 2016; Litvinenko *et al.*, 2016; Sivakov *et al.*, 2017, 2018; Tambovtseva, 2015).

It is today that it is necessary to introduce changes in training and competition activities that relate to operational control and functional readiness through the maintenance of the color energy system of skiers which helps to increase special training in achieving optimal results. The above foundation of the color energy system which will simultaneously be the operational pedagogical, psychological, physiological and medical control in determining the functional readiness of highly qualified skiers for competitions this predetermined the basis of the study.

In our opinion, this will bring significant changes to the theory and methodology of skiing, to the theory and methodology of physical culture and sports which will affect the qualitative basis of the training and competitive process of training athletes. At the present stage of the training and competitive load in skiing, we did not note the introduction of a color energy system in the assessment of the individual, operational, functional readiness of highly qualified skiers.

For skiers, according to the individual color energy system in the competitive work, one can quickly determine pre-launch readiness or not ready for competitive activity as well as determine quickly fatigue, overwork, overstrain, overtraining before and after the race.

Research hypothesis: The achievement of high sports results in the marathon distance of skiers at the Olympic Games is facilitated by the high or highest pre-start state of the color energy system of skiers having (bright red, red) in the form of an ellipsoid circle or vertical square and due to the optimally performed color energy control of special physical activity. The high level of the color energy system of skiers contributes to the athletic form and functional performance, thereby providing high predictive functions and recovery processes in achieving high prizes at the Olympic Games in Pyeongchang.

The purpose of the study: The scientific substantiation of the quantum method in the study of the color energy system and functional state in predicting the athletic performance of Russian skiers in a fifty-kilometer mass start at the Olympic Games in Pyeongchang.

The objective of the study: To determine the pre-start color energy and functional state, the special physical fitness of Russian skiers in predicting a sports result of fifty kilometers at the Olympic Games in Pyeongchang.

Corresponding Author: Sivakov Vladimir Ilyich, South-Ural State Humanitarian, Pedagogical University, Lenina, 69, 454128 Chelyabinsk, Russia

MATERIALS AND METHODS

Material and research methods: analysis of scientific and methodological literature, ascertaining experiment, analysis and generalization of information, method of mathematical statistics. The method of mathematical processing of the results of the experiment provided for the calculation of the reliability of the student t-test where the differences between the comparative results of the pedagogical experiment were determined. Statistical processing of the results of skiers was carried out according to the method between sample average indicators at a 5% significance level ($p < 0.05$) which is recognized as a completely reliable criterion for research. The study used the method of quantum estimation of the energy and functional state of skiers of the national team of Russia at the Olympic Games in Pyeongchang. The quantum method is a contact or remote impact on the energy system of skiers used for diagnostics, assessing the restoration of a functional state during and after a game of educational, training and competitive activity. The performance in competitive activity was determined among skiers: functional state, recovery process, color energy level in competitive activity.

Moreover, the distance between the quantum method of the ski team in the process of restoring the color energy system and the functional state does not matter. The color energy system of the teams was rated in points from 1-10.

Four energy levels were determined by the quantum method of informational energy forms of skier's energy systems: low-a horizontal square with green-red energy, middle-a vertical square with yellow-red energy, high-a vertical square with a red content, light red, green-red, red-green color energy and the highest is an ellipsoidal circle containing red, light red, green-red, red-green color energy. The Russian team did not reveal the highest energy system for skiers but only a high, average level of the energy system was revealed.

Study participants: The study involved skiers of the Russian national team at the Olympic Games in Pyeongchang.

Organization of the study: The study was conducted at the Olympic Games in Pyeongchang during a fifty kilometer marathon.

RESULTS AND DISCUSSION

The results of the study showed that the skiers of Russia in the mass start at fifty kilometers had an energy level-medium and high-in the work of the energy centers of the energy system of the spinal canal, neuromuscular, autonomic and central nervous system. The skiers of Russia in the mass start of fifty kilometers at the Olympic Games in Pyeongchang revealed a different color energy system, consisting of purple, green, light red, dark red, red which are interconnected and predicting a sports result at a distance of fifty kilometers Olympic Games in Pyeongchang.

For Russian skiers, in a fifty-kilometer mass start, the average level of the power system consisted of dark red, green and yellow colors in the seven energy centers of the spinal canal. The average level of the energy system of skiers in Russia does not contribute to successful competitive activity as evidenced by the low recovery process of fifty kilometers at the Olympic Games in Pyeongchang. Skiers of Russia up to the thirtieth kilometer of a fifty-kilometer race showed a high level of the power system: purple, light red, red, green and the dark red color of the average level of the power system began to appear only after thirty kilometers of the fifty-kilometer distance.

At the Olympic Games in Pyeongchang on February 24, 2018, the results of energy and functional analysis showed in a mass start at fifty kilometers that the skiers of Russia performed in the competition, taking into account individual energy characteristics. The individual energy status of skiers in a mass start at fifty kilometers indicates a medium-high energy state and functional medium-high special preparedness.

Let us analyze the individual, energy and functional state of Russian skiers at the start of 50 kilometers of the marathon race. At the start, the energy system was determined: A. Bolshunov-7.8 points with red energy, A. Chervonkin the energy system contained 8, 3 points with red energy and A. Larkov the energy system showed 10.0 points with red energy. This confirms the high level of energy and functional state of Russian skiers at the start. At D. Spitsov, the power system at the start had only 5, 8 points of light red which is due to the lack of a high sports form. The results of the study revealed a high color energy level and functional system at the start of A. Bolshunov, A. Chervonkin, A. Larkov and the average level of the energy system at D. Spitsov. This indicates a lack of functional special preparedness which does not correspond to competitive preparedness at a distance of fifty kilometers he spoke at the expense of special training but not at the expense of high athletic form. In the skiers of Russia, in a mass start of fifty kilometers, a change in the energy state shows a psychophysiological stress which contributes to a decrease in functional performance.

At the same time, we note that D. Spitsov was not in the best functional state, since, his imperfect energy state determined the dark red and weak red colors of energy, only the bright red color of energy can indicate a state of high athletic form, high functional capabilities of skiers Russia in a mass start at fifty kilometers. The energy state in form, content and color of D. Spitsov looked like a

Table 1: Content of the pre-launch color energy system of the (red) skiers of Russia in the mass start taking into account the occupied places of fifty kilometers at the Olympic Games in Pyeongchang in (points)

Russian skiers	Color energy system of skiers	Points	Sport results	Took place on competition
A. Bolshunov	Red color	7.8	2, 08, 40, 8	2
A. Chervonkin	Red color	8.3	2, 10, 59, 6	12
A. Larkov	Red color	10.0	2, 13, 14, 2	3
D. Spizov	Red color	5.8	2. 16, 24, 6	20

Table 2: The color energy system of Russian skiers in the mass start of fifty kilometers at the Olympic Games in Pyeongchang in (points)

The content of the color energy system of skiers	Mass start	X±m	--Values-- t	p
Red color	Start	7.5±1.0		
Dark red color	Ending	3.3±0.7	2.88	<0.05
Purple color	Start	1.0±0.5		
Dark red color	Ending	3.3±0.7	3.10	<0.05
Light red color	Start	1.5±0.5		
Dark red color	Ending	3.4±0.6	316	<0.05

light red horizontal square which did not contribute to increasing functionality in a fifty-kilometer mass start at the Olympic Games in Pyeongchang.

For Russian skiers, in a mass start fifty kilometers after a fifty-kilometer distance, the color energy system was detected at the level of A. Bolshunov-3.9 points of dark red, A. Chervonkin-6, 3 points of dark red energy and of A. Larkov-2, 1 points of dark red, D. Spitsov-6, 9 points of dark red energy. D. Spitsov showed 6.9 points after a fifty-kilometer distance fatigue of the functional system during the performance of the competitive load.

Fatigue of the functional system after a fifty kilometer distance was marked by 3.9 points of dark red for A. Bolshunov, 6.3 points for A. Chervonkin, 2, 1 points for A. Larkov and 6.9 points for D. Spitsov at the end of the marathon race.

For Russian skiers, researchers note statistically significant changes at the start in colored red energy-from 7.5±1.0 to 3.3±0.7 at the end of a fifty-kilometer mass start at a significant level of significance. For Russian skiers, statistically significant-from 1.5±0.5 to 3.4±0.6 ($p<0.05$), dark red and light red and violet color energy systems changed. The decrease in red and light red color energy among skiers is associated with the onset of fatigue and the higher the score of dark red energy, the more rapidly fatigue manifests itself and the lower the score of color, red violet energy, the faster the fatigue of functional performance occurs Table 1 and 2.

In achieving high athletic performance of skiers, it is necessary to take into account not only the color of the power system but also the content of the form which determine the energy capacity of the functional system. Thus, in order to exclude technical, tactical, psychological, energy and functional errors when completing the ski marathon team where the determining component is a high level of energy condition of skiers. The energy state of skiers in competitive activity was determined by the quantum method of assessing the energy and functional state of skiers for each the energy state and the point forecast of competitive activity are individually determined. The application of the quantum method in the professional activities of skiing specialists will exclude professional errors in the application of the techniques when completing a real, rational and effective team of Russian skiers for fifty kilometers.

A. Bolshunova-7.8 points with red energy with A. Chervonkin the power system contained 8, 3 points with red energy with A. Larkov the power system showed 10.0 points with red energy. This confirms the high level of energy and functional state of Russian skiers at the start. At D. Spitsov, the power system at the start had only 5, 8 points.

The novelty of the study lies in the fact that the sport method of skiers which depends on the state of the color energy system was justified by the quantum method. The individual color energy system of skiers allows a specialist to comprehensively diagnose, predict, identify the functional state and determine the rational composition of the team of the most energy-efficient skiers-racers who have high functional performance at the time of the competition (day) regardless of the sports status, position and sympathy for skiers in the competition activities at the Olympic Games.

On the functional sports capabilities and the willingness of athletes on the day of the competition will have different manifestations of colors. The color energy state of skiers is an energy prerequisite for the diagnosis and prediction of successful competitive activity (Sivakov *et al.*, 2018; Tambovtseva, 2015). There are studies and researchers who believe that the color energy system affects the functional performance of athletes in competitive activity and it has diagnostic value in determining the functional state of athletes (Sonkin and Tambovtseva, 2018).

Static analysis of the studies shows that the color background is red, green energy systems of athletes is an indicator of prognostic function. This is also evidenced by the research of Belousova *et al.* (2018) that the energy systems of athletes are interconnected with the functional state and functional performance of athletes in the education of general and special physical and motor qualities and believe that a low level of special physical fitness reduces the energy and functional capabilities of athletes.

In his research, Tambovtseva (2015) identified the relationship between the performance of the power system and the special physical qualities of athletes.

In the study of bioenergy in sports, Volkov and Oleynikov (2011) applying correlation analysis established positive correlation relationships between developed and undeveloped energy systems of athletes in educational and competitive activities (Vladimirovna, 2016).

Findings: At the Winter Olympics, the energy state of skiers must be monitored in the competitive activity of the color energy system which is dynamic, cyclical, wave-like, changes throughout the day and throughout the competition distance of fifty kilometers. At the same time, the color energy control evaluates the functional prelaunch state, special physical fitness and fitness in predicting the athletic performance of Russian skiers at the Olympic Games in Pyeongchang.

The pre-start state of the color, red power system determines the functional state of skiers to exclude technical, tactical, psychological, energy and functional errors where the determining component is the high red level of energy state of skiers. The skiers of Russia in the mass start of fifty kilometers at the Olympic Games in Pyeongchang revealed a different color energy system, consisting of purple, green, light red, dark red, red which are interconnected and predicting a sports result at a distance of fifty kilometers Olympic Games in Pyeongchang.

CONCLUSION

The energy state of skiers in competitive activity is determined by the quantum method of assessing the energy and functional state of skiers and for each individual color energy state is established and a point forecast of competitive activity is carried out. The quantum method in the professional activities of skiing and top-notch sports specialists will make it possible to forestall professional errors that occur when completing a real, rational and effective team of skiers for fifty kilometers. For skiers, according to the individual color

energy system in the competitive work, one can quickly determine pre-launch readiness or not ready for competitive activity as well as determine quickly fatigue, overwork, overstrain, overtraining before and after the race.

REFERENCES

Belousova, N.A., V.I. Sivakov and V.P. Maltsev, 2018. [Psychophysiological predictors of success of the implementation of the educational trajectory of young hockey players (In Russian)]. J. Theor. Pract. Phys. Culture, 12: 60-62.

Litvinenko, S.N., L.A, Golikov and I.M. Lyatina, 2016. [Analysis of world record achievements in running disciplines of athletics in the context of bioenergy processes (In Russian)]. J. Theor. Pract. Phys. Culture, 10: 72-74.

Sivakov, V.I., S.A. Aitkulov and I.F. Cherkasov, 2017. [Quantum energy method for diagnostics and competitive success forecasts in elite sports (In Russian)]. Theory Pract. Phys. Culture, 6: 26-26.

Sivakov, V.I., S.A. Aitkulov, I.F. Cherkasov, E.V. Perepelyukov and L.M. Kravtsova, 2018. [Quantum energy method in forecasting of continental hockey league game matches (In Russian)]. J. Theor. Pract. Phys. Culture, 6: 62-64.

Sonkin, V.D. and R.V. Tambovtseva, 2018. [The Development of Muscle Energy and Performance in Ontogenesis]. Book House Librocom, Moscow, Russia, ISBN:978-5-397-06268-8, Pages: 368 (In Russian).

Tambovtseva, R.V., 2015. [Characteristics of anaerobic glycolysis in untrained boys depending on age and physical load (In Russian)]. J. Theor. Pract. Phys. Culture, 11: 24-26.

Vladimirovna, K.O., 2016. [Bioenergy factors of special endurance in long and long distance running]. MSc Thesis, Russian State University of Physical Education, Sport, Youth and Tourism, Moscow, Russia. (In Russian)

Volkov, N.I. and V.I. Oleynikov, 2011. [Bioenergy of Sports: Monograp]. Soviet Sport, Moscow, Russian, ISBN:9785971805250, Pages: 160 (In Russian).