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COLD AS A USEFUL FACTOR IN PHYSICAL EDUCATION

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Abstract

The article raises the problem of an interdisciplinary study of the influence of natural cold on the intellectual development of a person, on the spiritual and physical condition of a person. In the welfare countries, the historically formed attitude of fear of the cold is replaced by the controlled management of the subjugated, restrained power of the cold, which has become the source of business, entertain ment and a tourist brand. The authors introduce the concepts of “dual cold”, “frozen culture” to study the cold as a useful factor in physical education. The article substantiates the conclusion that the usefulness of cold as an educational tool is based on five basic principles of survival in extreme cold: sensation, harmonious beauty of the body and spirit, mutual assistance, creativity and freedom, which have specific forms and contents under the influence of natural and climatic influences on the vitality of man. For the first time, the results of a sociological study conducted in 2017 to identify the range of comfortable winter and summer temperatures in the Republic of Sakha (Yakutia) (n = 332) are presented. The authors propose introducing into the educational process of professional educational organizations in the field of physical education and sports the study of the peculiarities of physical education in extreme cold.

Keywords: Cryolithozone, extreme natural cold, physical education

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1. Introduction

The human environment under extreme climatic conditions of cold remains outside the field of view of the social sciences and humanities that do not accept the challenge of natural cold: ultimately low air and cryolithozone temperatures. For thousands of years, in response to this challenge, the phenomenon of a man who survived in the conditions of “double cold” was formed in the high-latitude zones of the earth. Here we use the “double cold” metaphor (Gotovtsev, Vinokurov, & Maksimov, 2017, p. 4), bearing in mind the low air temperature reaching – 68 degrees Celsius and the layer of perennial permafrost, which are features of the natural environment of human culture in the cryolithozone.

2. Problem Statement

The dominant extreme natural environment with severe frosts has taught humans special methods of co-evolution with the environment and the formation of a "permafrost culture." People at high latitudes of the planet established themselves on the earth not because of victory over others, but the ability to live where others cannot (Golubchikov, 2014, p. 21). This is the achievement of wise ethnic cultures. Although human settlement and resettlement throughout the entire Arctic circumpolar region has been proven since ancient times, the Arctic human culture of the permafrost zone remains a white spot in science.

3. Research Questions

To study the cold as a useful factor in physical education, the authors introduce the concepts of “dual cold” and “permafrost culture.

4. Purpose of the Study

The purpose of the study is to study the cold as a natural condition that forms a special ecosocial factor in the culture of a person living in extremely low conditions of cold regions.

5. Research Methods

Research methods and organization. Cold as a condition of the human environment is of interest to representatives of various sciences. The socio-natural ecology of the human body, the health status of the indigenous and alien population in the heliomagnetic environment of the Arctic are studied by comparative methods of polar medicine. Economists consider the factor of cold as a criterion of economic zoning. Scientists in the field of physical education and sports of the highest achievements are focused on the organization of winter sports, extreme tourism, etc. Studying the influence of natural cold on the formation and decay of civilizations, the intellectual development of man, on the spiritual and physical condition of man becomes an interdisciplinary problem.

The theory of cold winters explains why Europeans and natives of East Asia developed a high IQ. The theory of cold winters is supported by a correlation of 0.62 between the average volume of the skull

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and the distance from the equator, obtained on the material of 20,000 skulls (Rashton, 2011). The increase in the general welfare of the society in the Nordic countries made it possible to change the attitude of fear of the cold towards the management of a subjugated, restrained force. Cold finds its application in business, in the entertainment industry, becoming a tourist brand, a source of entertainment. In the circumpolar world, a peculiar process of liberation from the so-called "captive consciousness" (captivemind) (Rysakova, 2013, p. 180) is taking place—a special view of the world generated by an uncritical perception of Western intellectual tradition.

A sociological survey was conducted in 2017 on the topic "Comfortable air temperature in winter and summer in Yakutia" in order to identify a range of comfortable (uncomfortable) temperatures in the Republic of Sakha (Yakutia) (n = 332).

6. Findings

The principles of education in extreme natural cold. One of the directions of restoring the values of "frozen culture" is the education of physical culture in cold conditions. The study of ethno-pedagogical methods in the use of cold as a useful factor of peoples living in the cold belt of the earth leads to the conclusion that the principle of sensation, which manifests itself in the pleasure of exposure to cold, is the basic principle of education. When it is cold enough, a person's intellect and his attention are sharpened to the limit. Dulling sensations is death in extreme cold. Therefore, in no case should you fall asleep in the winter tundra, in a snowstorm, etc. The geo-informational environment affects the features of the formation of human sensory abilities (Shachin, 2019; Yakovets, 2019).

Here are some results of a survey of the population of Yakutia (n = 332). From the answers of the respondents we can single out the range of the most comfortable winter temperature as from minus 15 to minus 35 C. Although 8.1% of respondents tolerate temperatures up to minus 45 degrees normally (Figure 1).

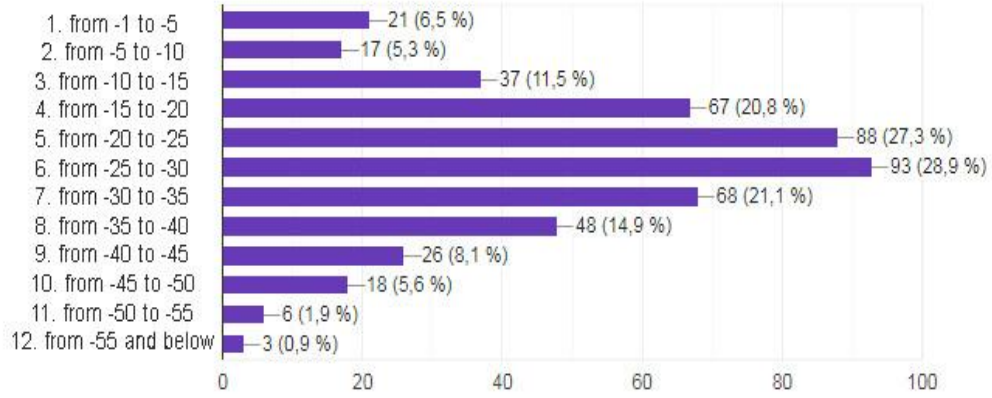

Figure 1. Most comfortable winter temperature in Yakutia

Residents of Yakutia confirm that winter temperatures go below –55 °C (64.4 %). These results confirm the principle of education in conditions of extremely natural cold (Figure 02).

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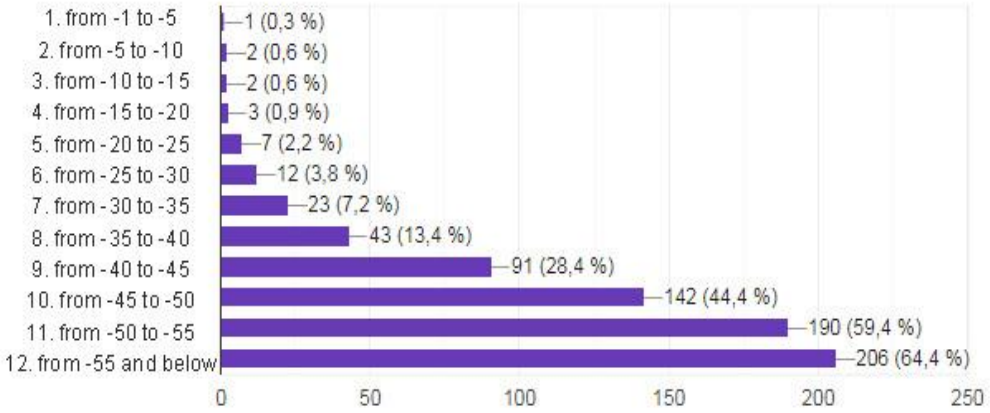

Figure 2. Low winter temperature in Yakutia

The second principle of the usefulness of cold is the principle of harmonious beauty of the body and spirit of man. Kindness and Beauty complement each other in the system of physical education. Beauty in permafrost culture is one of the leading values and is understood as harmony in everything: in nature, people's relationships, the characteristics of a person, his spiritual aspirations for creativity, and works of culture. Following the traditional lifestyle of ancestors is the key to longevity. Yakutia always takes a stable second place in the number of centenarians after the Caucasus. Life expectancy in Yakutia was 72.0 years, including 77.1 years for women, 66.4 years for men, and this indicator of the republic is the highest among the regions of the Far Eastern Federal District.

The next principle of the usefulness of the cold is the principle of mutual assistance, expressed in ethical standards for the behavior of cooperation, salvation, respect for the life of any person and all living things. Russian sociologist Tomalintsev introduces the concept of "Extreme of Russia" (Sleptsov-Sylyk, 2013, p. 83), taking into account the natural-geographical and cultural-civilizational features of the location of Russia between the West and the East. Creative altruism, the theoretical foundations of which were developed by Sorokin, proceeds from the ideas of social solidarity, mutual assistance and compassion inherent in the Russian mental culture (Tomalintsev, 2007). We have expanded the scope of applicability of this theory based on environmental factors of the human environment in cold conditions. In conditions of natural cold, the warmth of social relations develops, but at the same time, the harsh climate requires a person to form such a person's quality as "composure" as a psychological characteristic, and in physiological terms it manifests itself as the ability to hibernate as animals. The mechanisms that immerse the animal in hibernation are regulated by temperature, daylight hours, and food availability. A reduction in these parameters signals the approach of winter (Ashcroft, 2016).

The fourth principle of the usefulness of the cold is following the principle of creativity. Nicholas Roerich gave an example of how poor Yakuts celebrated the victory of the spring sun: "Until recently, the Yakuts to be extinct sang with their cold-numb tongues about the spring holiday" (Roerich, 2005, par. 4, p. 38). Meeting the spring, the Yakuts gathered for national games that developed speed and agility of movement, ingenuity of mind and body endurance, creative spirit (Vinokurova et al., 2017). This tradition is developing creatively in modern conditions of the priority of Olympism, the revival of the values of spiritual and physical improvement. Yakut ethnopedagogy was formed in the harsh natural and climatic

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conditions of permafrost. In such conditions, the ability to rejoice, to strengthen the taste for life, to educate “people of long will” and the dignity of life’s creativity become a condition for mastering and managing the “solar threads” of their destiny.

The principle of creativity is compatible with the principle of freedom, which is manifested in the polar oikumens by actual freedom from many manifestations of a technogenic civilized society. The need to survive in extreme conditions fosters inner freedom and sovereignty of consciousness of representatives of permafrost cultures. The optimistic scenario of fate, suffered in the harsh conditions of the cold, tuned to virtue. Freedom of sight, for classes outside discrete time, movement, where the concept of roads and paths creates a man-centered model of counting time and space in the form of living landscape compasses. The human body and the direction of its movement become a living compass. So, in the Yakut culture, the east direction is denoted by the word “ilin”, which means the front of the person’s body, the west is “arҕaa”, that is, the back of the person, the north is “khotu”, i.e. the direction where the eyes look, etc. In the Even culture, the designation of changing seasons corresponds to the projection of the human body. Sensual awareness of one’s place of residence in the conditions of invisibility of the polar blizzard, night can be explained by the term “nonlocal nature of awareness”, which expresses the state when a person goes deeper into his awareness and tunes in to the wave field of the “sensing earth”—the planet. The nonlocality of awareness is expressed in the fact that indigenous peoples identify themselves with their environment, call themselves children of nature and earth. So, the natives of the Yimitir tribe understand the parts of the body as related to the directions of the earth (Kaznacheev & Trofimov, 2004). Thus, the human body is an aspect of the earth, and human experiences are closely related to the state of respiration of the earth. Yakut biophysicist Sleptsov revealed the peculiarities of the influence of the state of permafrost, called in Yakut "sir tyyna" on the mental and physical health of a person. In his opinion, the effects of the thawing layer of permafrost, geopathic zones due to fires, earthquakes, and anthropogenic changes in the landscape are especially harmful to humans (Sleptsov-Sylyk, 2013). A man brought up in natural conditions, has a sense of attunement with space, expressed in the observance of a kind of rhythm associated with nature, with the seasons of the seasons. Thus, cold is a complex factor affecting a person and the environment he creates. Therefore, an appropriate amount of knowledge about the cold factor should be introduced into the educational process.

Cold as a subject of education at a higher school in physical education and sports has not yet received a worthy place in academic disciplines. Certain attempts are being made at foreign polar universities. So, natural cold as an object of education is actively represented at the University of Alaska at Fairbanks, where the following subjects are taught: engineering of frozen soil, ice engineering, sea ice, engineering of Arctic hydrology and hydraulics, distribution of utility of the Arctic; Arctic heat and mass transfer, economic anthropology, regional sustainability, northern indigenous peoples and contemporary issues. Doctor of Medical Sciences, native scientist from the Arctic Tyrylgin (2000) studied the origins of the phenomenal vitality of the Sakha people and concluded: “The Sakha people have wonderful qualities proven by time: bright ideals, high creative potential, huge vital energy, excellent spiritual and physical health, which predetermines its worthy historical perspective” (p. 288). Such strategies for living in extreme cold have not yet become the subject of study and training for the training of the younger generation of high latitude residents.

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7. Conclusion

Cold as a useful factor in the spiritual, mental and physical development of man is proved in many events in human history. One convincing example is the feat of the Siberian Panfilovites, who defended Moscow during the Great Patriotic War and achieved a turning point in the course of World War II. According to the testimony of the Irkutian, Army General Beloborodov, Siberians were resistant to colds, the ability to act in deep snow and long low temperatures in the open air.

Nevertheless, the dictum "General Frost won the war" indicates a lack of attention to the centuries-old traditions of educating the younger generation in the extreme climatic conditions of the cold at high latitudes of Russia. This unique heritage is currently being replaced by the general concept of "environmental education", and does not stand out as a special useful factor in teaching physical education and sports. Winter sports, national winter types of games and entertainment—a unique feature of the culture of the peoples of Siberia, the North and the Far East—can become one of the most effective factors in educating a Russian with a northern specificity of physical education.

Thus, there is a need to introduce into the educational process of professional educational organizations in the field of physical culture and sports the study of the features of physical education in extreme cold, in accordance with the identified principles: acuity, mutual assistance, creativity and freedom, which take specific forms and are filled with special content under the influence of climatic factors affecting human vitality.

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