



IMPORTANCE OF PHYSICAL EDUCATION

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Abstract

This article examines the comprehensive effects of physical education on the human organism, psyche, and social life. It explores the role of physical activity in addressing the problem of hypodynamia, its importance in maintaining hormonal balance, and its methodological foundations in developing intellectual potential. The article also analyzes the preventive significance of physical education from the perspectives of modern sports medicine and valeology.

Keywords: physical education, anthropometry, hypodynamia, endorphins, cognitive development, immunomodulation, valeology, metabolic syndrome, neuroplasticity.

Introduction

With the development of human civilization, the share of physical labor has decreased while intellectual and sedentary work has increased significantly. The "technogenic society" has limited human movement, leading to a global problem known in medicine as "hypodynamia." Today, physical education is no longer merely recreation or a hobby but has become a fundamental biological need for the survival of the species and the preservation of individual health. The concept of



physical education encompasses not only muscle development but also the formation of a person's volitional, intellectual, and moral qualities.

Physical education and physical culture play a crucial role in modern society, contributing to people's overall well-being, health, and development. This article investigates the importance of physical education and physical culture, focusing on their relevance in contemporary society. It reviews the methods used, discusses the outcomes of promoting physical activity, and offers conclusions and recommendations for further improvement.

Physical education holds a significant place in society by strengthening individual and collective well-being, physical and mental health, and developing various life skills.

Brief overview of their role and importance in society:

- **Physical health and fitness:** Physical education strengthens physical fitness and overall health. It helps develop strength, flexibility, and endurance, while reducing the risk of chronic diseases such as obesity, cardiovascular diseases, and diabetes. Regular physical activity also improves bone density and muscle strength.
- **Mental health:** Exercise can reduce stress, anxiety, and depression, thereby improving mental health. Physical activity stimulates the release of endorphins, which enhance mood and psychological well-being.
- **Social interaction:** Physical education and sports promote social communication, teamwork, and interpersonal relationships. They foster cooperation, communication, and mutual respect.



Physiological and Biological Mechanisms of Physical Education

Physical exercise delivers a "systemic shock" (in a positive sense) to all internal systems of the body, renewing their functional activity.

- **Cardiovascular system:** Regular physical activity increases the heart's stroke volume. In active individuals, the heart beats less frequently at rest (bradycardia) while pumping more blood, preventing heart muscle fatigue. Vascular elasticity improves, significantly reducing the risk of hypertension.
- **Respiratory system:** Exercise expands lung vital capacity. Blood oxygen saturation improves, accelerating metabolic processes in tissues.
- **Musculoskeletal system:** Calcium absorption in bone tissue improves, serving as the most effective prevention of osteoporosis in old age. The muscle corset supports internal organs and prevents spinal disorders (scoliosis, hernias).
- **Metabolism and endocrine system:** Physical education enhances insulin sensitivity, playing a key role in the treatment and prevention of type 2 diabetes. Lipid metabolism improves, lowering levels of "bad" cholesterol.

The Impact of Physical Activity on Psychological Health and Neuroplasticity

Many people consider physical education solely for the body, but the most significant changes occur in the brain.

- **Hormonal balance:** Physical activity stimulates the production of "happiness hormones" — endorphins, serotonin, and dopamine — in the brain. These substances naturally reduce stress levels and stabilize psychological state.
- **Cognitive functions:** Exercise boosts the production of brain-derived neurotrophic factor (BDNF), which promotes the formation of new neural



connections (neuroplasticity). As a result, memory improves, attention span increases, and the risk of cognitive decline in old age (including Alzheimer's) decreases.

- **Volitional qualities:** Engaging in sports fosters self-confidence, discipline, and resilience. By controlling their body, individuals learn to manage their life and emotions.

Social and Educational Significance of Physical Education

On a societal level, physical education is one of the most cost-effective and efficient ways to build a healthy society.

- **Social integration:** Team sports (football, basketball, volleyball) enhance communication among people, promote mutual support, and create a sense of unity toward common goals. This is especially important in youth as a preventive measure against crime and harmful habits (drug addiction, alcoholism).
- **National gene pool and economy:** A healthy nation means fewer sick leaves and higher labor productivity. Physical education reduces state healthcare expenditures, as prevention is several times cheaper than treatment.
- **Patriotism and pride:** Success in international sports arenas unites the nation, elevates national pride, and serves as a tool of soft power, enhancing a country's international reputation.

Conclusion and Recommendations

Physical education is a strategic resource that determines the quality and duration of life. The analysis in this article demonstrates that a well-rounded generation cannot be raised without physical activity. Physical education must become not only a



school or university subject but also a personal "philosophy of life" for every individual.

Practical recommendations:

1. Engage in at least 30–40 minutes of moderate-intensity physical activity daily.
2. To prevent hypodynamia, perform 5-minute light exercises after every hour of sedentary work.
3. Make regular participation in mass sports events a habit.

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