



LEVEL OF STUDY IN ASSESSING THE HYGIENIC IMPACT OF MENTAL-EMOTIONAL STATE AND PHYSICAL EDUCATION

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Annotation: This article analyzes the impact of physical education classes on the mental and emotional health of students from a hygienic point of view. A review of international scientific research on the impact of physical activity on depression, stress, anxiety and well-being is provided. Also, hygienic criteria for physical education classes, methods for assessing the mental and emotional state of students, and practical recommendations for educational institutions are developed.

Keywords: mental and emotional health, psychological stress, depression, hygienic, monitoring.

Psixolog olimlar (I.P. Pavlov, A.N. Leontyev, B.G. Ananyev va boshqalar) tomonidan olib borilgan izlanishlarda: Nowadays, the mental and emotional health of students is one of the most pressing problems in the education system[1]. Exams, high academic workload, social pressure, the need to demonstrate one's abilities can lead to stress, anxiety and depression in students[2]. According to the World Health Organization (WHO), 35–40% of young people experience varying degrees of psychological stress [7]. Mental health problems, such as depression or anxiety, have been and remain a serious health crisis worldwide. Mental and emotional state is associated with the functioning of the nervous system, and during times of stress, the body secretes appropriate hormones[10]. Recent data show that 792 million people in the world suffer from mental disorders. A survey in China showed that one in five Chinese children and adolescents experienced symptoms of depression, with rates ranging from 10% to 50% in different regions. Similarly, in the United States, Ghandour et al. recently reported that 7.1% and 3.2% of children and adolescents were diagnosed with anxiety or depression, respectively. These data indicate that mental health problems are a serious social crisis throughout the planet. The issues of psycho-emotional state and the hygienic effect of physical education are located at the intersection of psychology, physiology, pedagogy and hygiene sciences, and many scientific studies have been conducted in this direction. Studies by world and local scientists have scientifically substantiated the positive effect of regular physical training not only on the physical development of the human body, but also on psychological factors such as mental stability, normalization of emotional state, and stress resistance.

In research conducted by psychological scientists (I.P. Pavlov, A.N. Leontyev, B.G. Ananyev, etc.):

- Emotional stress
- Nervous system activity,
- Mental fatigue and stress

Has been proven to be reduced by physical activity.

Modern research shows that physical exercise:

- Reduce depression and anxiety,
- Enhance positive emotions,
- It has been found to be an important factor in maintaining psycho-emotional balance.

Research in this area has been conducted using the following methods:

- Psychological tests (stress, anxiety, mood levels),
- Physiological indicators (heart rate, blood pressure),
- Pedagogical observations,
- Hygienic assessment criteria.

Through these methods, the impact of the physical education process on the psycho-emotional state was comprehensively assessed.

Given that most adult mental health disorders begin in adolescence, adolescent mental health issues need to be addressed in a timely, comprehensive, and effective manner. Increasing students' physical activity is recommended to reduce the burden of mental health problems in students, as strong evidence has shown a link between physical activity and mental health problems, suggesting a protective effect of physical education on mental health [9]. For example, a study conducted on a sample of Chinese adolescents found that adequate physical education was associated with a lower risk of depression and anxiety symptoms [10]. Similarly, Norwegian adolescents reported lower levels of depression symptoms due to their high levels of physical exercise. Therefore, it is important to organize physical education activities that meet hygienic requirements for students. Proper organization of physical education classes, compliance with hygiene requirements, and regular inclusion of active physical activity in the daily routine of students are important factors in ensuring psycho-emotional stability. Scientific studies confirm that physical exercise reduces the level of stress hormones (cortisol), increases the release of endorphins, improves cognitive function, and strengthens mental stability. Literature review; In recent years, dozens of meta-analyses have been published that study the effects of physical activity on psychological well-being in students. In particular: 1. Crawled (2025) found that physical exercise reduces depression and anxiety among university students by 25–40%. 2. A study published in the journal *Frontiers in Psychology* found a strong negative correlation between physical activity and depression. Self-esteem and psychological capital in students played a mediating role in this process (Frontiers, 2024). 3. A meta-analysis in PubMed has shown that physical exercise significantly reduces stress levels, increases attention, motivation, and energy levels. The effects of physical exercise are mediated through several psychological and biological mechanisms. For example, it can improve mood, reduce stress, increase self-confidence, and improve memory and attention [3]. Physical education classes for students should meet the following hygienic criteria:

- Ventilation of the gym (air exchange, optimal temperature 16–18°C).
- Disinfection of floors and equipment.
- During training, the CO₂ level in the air should not exceed the regulatory requirement (1000ppm).
- The lighting standard should be in the range of 300–500 lux.
- Availability of reserve water and a first aid kit [6].

These aspects affect not only the physical, but also the mental health of students. For example, dirty, unventilated rooms can cause headaches, decreased attention, and fatigue. Properly organized training structures ensure the safety and mental stability of students. For example, these include; muscle training, cardiovascular activation, aerobic and anaerobic exercises of moderate intensity, breathing restoration, and heart rate normalization. First of all, we know that there is a lack of multinational studies assessing the relationship between physical education and mental health indicators. At the same time, there are also shortcomings in the practice of hygienic assessment of this situation. The use of samples from different countries helps to increase the generalizability of research results on this topic. Second, previous studies examining the relationship between physical education and mental health outcomes have not accounted for some important confounders, such as behavioral factors (e.g., physical activity and sedentary behavior). Including these confounders is of great importance for a more accurate study of the relationship between physical education and mental health outcomes. To address these shortcomings in the literature, this study aims to examine the relationship between physical education and mental health outcomes using data from multiple countries around the world. To address this issue, health professionals are taking a hygienic approach. That is, a hygienic assessment of the role of physical education in the psycho-emotional state of students. This study can inform policies related to physical education in different countries, as well as programs aimed at preventing or intervening in mental health problems among adolescents. The following international tests can be used to assess the psycho-emotional state of students: 1. DASS-21 – measures the level of stress, anxiety and depression; 2. WHO-5 Well-Being Index – assesses the level of well-being; 3. PANAS – identifies positive and negative emotions; 4. CD-RISC – psychological resilience test [8]. When diagnostic training is carried out before and after training, the real effect of physical education exercises is determined. In addition, it is advisable to use the following method.

Hygienic monitoring. The study of the compliance of physical education conditions with hygienic requirements is carried out and includes the lighting of sports halls, air exchange, temperature and humidity, sanitary conditions, load standards, clothing and head hygiene. The purpose of this method is to study the influence of hygienic factors on the psycho-emotional state. Expected results. Based on scientific literature, the following results are expected:

- Depression levels decrease by 20–30%;
- Stress levels decrease by 25–40%;
- WHO-5 Well-being Index increases;
- Positive emotions increase [5].

Discussion. Scientific studies have shown that the psycho-emotional state of students is directly related to physical education classes. The results of the study show that physical activity significantly reduces the level of stress and anxiety, stabilizes mood, and prevents depressive states. According to the results of the DASS-21 scale, students who regularly engaged in physical education in the experimental group reduced the level of stress and anxiety by 20–30% compared to the control group[3]. This is due to the effect of physical activity on the neuroendocrine system, namely, an increase in the level of endorphins and serotonin. The results discussed also show that the integrity of hygienic conditions in students has a significant impact on psycho-emotional stability. The ventilation of the gym, the level of lighting, the quality of equipment, and the volume of training directly shape the mood of students. Regular

physical education, in compliance with hygienic standards, leads to improved sleep quality among students, reduced fatigue, and increased overall psychological stability. Group exercises strengthen communication skills among students, increase mutual support, and reduce stress through social support. This allows physical education classes to be used not only as a physiological, but also as a psychological hygiene tool. The results of the analysis showed that in order to increase the psycho-emotional stability of students, it is necessary to plan physical education based on hygienic standards. The weekly volume, intensity, recovery period, and conditions of classes support physical and mental health. The results of the study also show that the effectiveness of physical education is inextricably linked to personal motivation, psychological support, and hygienic conditions. In general, the results discussed confirm the close relationship between physical education and psycho-emotional states and indicate the scientific importance of using psychometric tools such as DASS-21 for more effective monitoring of students' health. At the same time, these results reinforce the need for students to conduct physical education classes in hygienic conditions and serve as a basis for developing recommendations aimed at improving psychological health.

In conclusion, the above scientific literature, analyses and observations show that the hygienically correct organization of physical education is one of the decisive factors in strengthening the psycho-emotional state of students. Physical exercises directly affect not only physical development, but also stress resistance, attention stability, mood balance, motivation and increased academic performance. Modern psychological and physiological studies prove that physical activity activates neuropsychological processes, enhances the production of "happiness hormones" such as serotonin and endorphins. When the level of students' engagement in physical education is assessed based on hygienic requirements, their health indicators, psychological stability and social adaptability are significantly improved. Regularity of training, load standards, clean and safe sports facilities, and adherence to personal hygiene rules further increase the psycho-emotional benefits of physical education. It has also been scientifically proven that a sedentary lifestyle in students leads to an increase in stress levels, depressive states, anxiety and fatigue. Therefore, it is important to organize physical education classes in higher education institutions based on scientific and hygienic criteria, integrate them with programs that support psychological health, and create conditions that encourage students' physical activity. In general, physical education is an integral part of the educational process, and its correct hygienic assessment and effective implementation play a central role in ensuring not only the physical, but also the psycho-emotional stability of students. This serves to form their academic activity, active social participation, and a healthy lifestyle.

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