






A healthy lifestyle of student youth in the context of a dangerous social and environmental environment in Ukraine

Iryna Skrypchenko¹, Oleksandr Morhunov², Ratko Pavlovic³, Kseniia Yarymbash⁴,
Vlada Bilohur⁵

¹ Department of Physical Education and Tactical & Special Training, Dnipropetrovsk State University of Internal Affairs, Dnipro, Ukraine. ² Dnipropetrovsk State University of Internal Affairs, Kharkiv, Ukraine. ³ Faculty of Physical Education and Sport, University of East Sarajevo, East Sarajevo, Bosnia and Herzegovina. ⁴ Department of Physical Rehabilitation and Sport Medicine, O. O. Bogomolets National Medical University, Kyiv, Ukraine. ⁵ Department of Physical education, Uzhhorod National University, Uzhhorod, Ukraine.

Abstract

Received:
February 20, 2024

Accepted:
May 17, 2024

Online Published:
June 30, 2024

Keywords:
Behavior, cognitive and emotional components, distance learning, healthy lifestyle, physical activity, wartime conditions.

Maintaining a healthy lifestyle and sufficient physical activity contributes to the preservation of health and self-improvement of student youth. Today in Ukrainian universities, there is a decrease in the number of hours for physical education and a transition to distance learning, which negatively affects the health, level of physical fitness and motivation of young people. The transfer of physical education to a distance form of education caused the need to find new forms and methods of teaching, taking into account new rules for the organization of physical culture and health activities of students in order to preserve their health in extremely limited conditions motor loads. The purpose of our research was to study the factors of a healthy lifestyle of student youth in the context of a dangerous social and ecological environment in Ukraine. 28 first-year students took part in the research. The work used a complex of general scientific theoretical methods: the method of analyzing scientific literature, synthesis, systematization, generalization, the method of surveying applicants (online in the Google Forms application), testing the profile of a healthy lifestyle, methods of mathematical statistics. The results of the testing showed that during the year, under the influence of the change in the socio-ecological state of the environment caused by military actions in Ukraine, four indicators reliably (probably) changed among students: Health Responsibility (HR), Physical Activity (PA), Nutrition (N), Spiritual Growth (SG) and Stress Management (SM), ($p < 0.05$). It was determined that the behavioral constructs (HR, PA, and N) and the cognitive-emotional component of student youth (SG, IR and SM) are above average and change as a result of the adverse socioeconomic environment. When students choose physical activity, preference is given to aerobic exercises, which have a positive effect on relieving a stressful situation, and breathing exercises from yoga when overcoming panic attacks.

Introduction

A healthy lifestyle is not just a fashion trend, but a unique approach to life based on the value of health, self-development and self-improvement. It implies a constant striving for perfection, both physical and psychological, and involves a combination of many factors. It is an integral part of modern culture and calls on every person to realize his responsibility for his health and well-being, as well as for the health of the environment and society as a whole. Some scientists (Von Bothmer et al., 2005; Wei et al., 2012; Henning et

al., 2018; Algahtani, 2020; Garcia-Perez et al., 2023) are concerned with the problems of forming a healthy lifestyle for young people. It is also relevant in Ukrainian society, because the formation of healthy lifestyle habits will make an invaluable contribution to solving the problem of health and physical potential of the nation, the normal functioning of its economy and the provision of all components of state security, etc. After all, one cannot fail to realize that the solution to all these tasks depends to a large extent on the intellectual and physical potential of the population of our country, on its vitality, on the ratio between the number of healthy

✉ R. Pavlovic, e-mail: pavlovicratko@yahoo.com

able-bodied people and the number of those who, due to age or health, need self-care by the state (Imas et al., 2018; Savchuk et al., 2018). According to the National Doctrine of the Development of Physical Culture and Sports (Chou, 2007; Fed et al., 2023), the formation of stable traditions and motivations among the population regarding physical education and mass sports as an important factor in ensuring a healthy lifestyle is one of the main tasks of state policy in this area. In this regard, society and the health care service face the task of transforming the lifestyle of the country's population into a healthy one, which would not destroy, but strengthen the health of the population.

Today, leading Ukrainian and foreign scientists have defined a holistic view of health that integrates its four components: physical, mental, spiritual, and social (Putrov, 2017; Fed et al., 2023). Scientists have proven that the state of human health is determined by various social, economic, and environmental factors (Shandruk et al., 2017; Mekhed et al., 2021). As for the relationship between lifestyle and health, it is most fully defined in the concept of a healthy lifestyle, as an active activity of people aimed at Anikeev (2009) preservation and improvement of one's own health, improving the health of the body, combating bad habits and risk factors for health, forming a positive psychological attitude to preserve and strengthen not only one's own health, but also the health of others. In addition, one should take into account the factors that condition a person's lifestyle, namely: attitude to smoking, alcohol, drugs, adherence to the daily routine and diet, tempering, physical activity, psychological comfort, level of sexual culture, etc. One of the main means of maintaining health, physical activity, and optimal psychophysical condition of student youth is leading a healthy lifestyle. The way of life in general is a biosocial category that integrates the idea of a certain type of human activity and is characterized by its labor activity, daily life, the form of satisfaction of material and spiritual needs, the rules of individual and social behavior (Sharanova, 2023). At the same time, a person's lifestyle includes three categories:

- The standard of living is, first of all, an economic category that reflects the degree of satisfaction of a person's material, spiritual and cultural needs;
- Quality of life – a measure of comfort in satisfying human needs (primarily a social category);
- Lifestyle characterizes the peculiarities of behavior in a person's life, that is, a certain standard to which the

psychology and psychophysiology of the individual is adjusted (social-psychological category).

Ivanii (2014) adds that many habits of a healthy lifestyle, including self-esteem and resistance to external influences, are currently being formed while studying at a higher education institution.

In addition, chronic diseases acquired at a young age can affect health in adulthood. Student years are the final stage of a purposeful pedagogical process, therefore it is especially important at this age to educate the need for motor activity and other components of physical activity associated with it. This process involves the acquisition of certain knowledge (cognitive component), skills development and skills development component), as well as the formation of ideas and beliefs (value-emotional component) in relation to the value of health, leading a healthy lifestyle. According to Golubeva et al. (2022) with whom we agree, the formation of a culture of health takes place among students only through physical education. In today's conditions, we support the opinion of many Ukrainian experts who emphasize the need for radical changes in the education and upbringing system, which today does not provide motivation for a healthy lifestyle (Griban et al., 2020). Unfortunately, the modern system of physical education in higher education institutions of Ukraine cannot change the attitude of students towards a healthy lifestyle, so the purpose of physical education, in addition to the formation of physical skills and the development of physical qualities of students, should be educational work aimed at forming a positive attitude towards a healthy lifestyle.

Today, in Ukrainian universities everywhere, the number of academic hours allotted for physical education classes is decreasing. The insufficient amount of mandatory training classes (4 hours per week, and in some universities of Ukraine 2 hours per week or less, or their absence at all) cannot ensure the strengthening of health and increase the level of physical fitness of students and form a sufficient positive attitude to health care (Kosheleva et al., 2021). Scientists note the presence of a close relationship between everyday lifestyle habits and academic performance; however, the conditions and organization of the educational process in physical education at the university do not contribute to improving the health of students and do not increase their mental capacity (Sánchez-Hernando et al., 2021). The fact of the deterioration of physical health was also complicated by the COVID-19 pandemic, which led to self-isolation and significant changes in the way of life of students. They switched to distance learning and online

communication with their friends and relatives, and being forced to stay in the closed space of the apartment for many days challenged all relationships, which increased the development of mental health problems among students says scientists (Fuchko, 2023; Eremenko et al., 2023). The study of Kuznetsov et al. (2022), with whose opinion we fully agree, claims that the transfer of physical education to a distance form of education caused the need to find new forms and methods of teaching, taking into account new rules for the organization of physical culture and health activities of students in order to preserve their health in extremely limited conditions motor loads.

Unfortunately, since 2022, Russian aggression has spread to almost all spheres of activity in Ukrainian society, including the educational sphere. Limited volume of live communication, lack of boundaries between working and free time, technical problems of participation in education (computer malfunctions, unstable Internet, lack of electricity), emergence of health problems due to a sedentary lifestyle and constant strain on the eyes, long-term work; lack of a sense of belonging to a student group - all this has become the reality of the modern student present. In addition, the result of limited communication with classmates and other students is the deterioration of mental health and loss of motivation (Lunov et al., 2023; Strnadova et al., 2023; Khizhnyak et al., 2023; Ovcharenko, 2023; Moroz et al., 2023). Thus, the definition of the main components of a healthy lifestyle in an unsafe socio-ecological environment in Ukraine is relevant and will contribute to the subsequent development and implementation of recommendations for maintaining the quality of life of students.

The purpose of our research was to study the factors of a healthy lifestyle of student youth in the context of a dangerous social and ecological environment in Ukraine. In particular, this is the attitude of students to their own health, maintaining the level of their physical activity, attitude towards healthy eating, opportunities for internal (spiritual) growth, maintaining communication skills and the ability to manage stress in conditions of military operations.

Methods

Participants

The work was carried out within the framework of the approved National strategy for healthy physical activity in Ukraine for the period until 2025: "Physical activity -

healthy lifestyle - healthy nation", on the basis of DSUIA (Dnipropetrovsk State University of Internal Affairs) at the department of "Physical education and tactical of special training" in the period from 2021 to 2023. 28 first-year students took part in the research, who studied by distance learning in the 2021-2022 academic year (during the Covid-19 pandemic) and in the 2022-2023 academic year (during the introduction of martial law as a result of military aggression). The average age of the subjects was 17.9 ± 1.1 years. The participants were selected from a random sample of 6 groups (198 students) from the Dnepropetrovsk state university of Internal Affairs in Dnipropetrovsk region of Ukraine. During the research, the students were within the borders of Ukraine, but were located directly at their place of residence (in different regions, and the vast majority in Dnepropetrovsk region). 17% of respondents in the 2022-2023 academic year were in war zones, de-occupied and temporarily occupied territories, where they continued their studies in a distance form.

Design Study

The work used a complex of general scientific theoretical methods: the method of analyzing scientific literature, synthesis, systematization, generalization, the method of surveying applicants (online in the Google Forms application), testing the profile of a healthy lifestyle, methods of mathematical statistics.

The testing was anonymous and was conducted according to the Health-Promoting Lifestyle Profile (HPLP-II) questionnaire Petrash et al. (2018) which was developed to measure the multicomponent structure of a healthy lifestyle and is widely used by foreign researchers for ego assessment, both among healthy people and in the context certain diseases. The approach proposed by the authors makes it possible to assess the accompanying factors influencing behavior aimed at preserving and strengthening health. The authors of the methodology refer to the first three scales as constructs that examine observed behavior (responsibility for health, physical activity, and nutrition), and the remaining three (spiritual growth, interpersonal relationships, and stress management) as cognitive and emotional components of well-being and call them psychosocial well-being.

High scale values indicate the formation of behavior aimed at strengthening one's health. The maximum values are 32 and 36 points. To assess the internal consistency of the characteristics and to test reliability, the Cronbach alpha score was calculated for all

proposed scales of behavior research and scales for assessing the cognitive and emotional components of well-being ($\alpha = N * r / (1 + r * (N - 1))$).

Scale of Health Responsibility (HR) - is associated with attention to one's health, with understanding the importance of improving health. A positive connection with the "vitality" parameter indicates a high level of vital activity in the case when a person takes responsibility for his health. Positive relationships with scales of psychological well-being - personal growth, life goals and self-acceptance - reflect a positive attitude towards oneself, towards one's life, understanding and acceptance of strengths and weaknesses, striving for development and realization of one's potential. This allows you to treat your health responsibly, solving problems, including by attracting external resources. ($\alpha = 0.86$)

Scale of Physical Activity (PA) - implies compliance with a certain regimen of regular physical exercises. Positive relationships with the parameters of physical functioning, general health, vital activity, and mental health indicate that physical activity improves health, allows you to accumulate strength and energy, and also avoids depressive and anxiety states, while maintaining a positive emotional state ($\alpha = 0.82$).

Scale of Nutrition (N) - includes knowledge and selection of food products necessary for maintaining health, as well as creation of a nutrition system. The relationship with the emotional and volitional characteristics of the personality and the parameters of psychological well-being is shown. The fact of direct connections with the psychological and physical components of health confirms the positive contribution of the nutrition factor to the overall state of health. ($\alpha = 0.84$)

Scale of Spiritual Growth (SG) - means striving for the development of internal resources, achieving self-realization, having goals in life. A pronounced volitional component of the personality, the desire for creation and self-improvement, the ability to resist social pressure, think and behave independently, the desire for new things, the realization of one's potential, the presence of goals in life - these are all things that reflect the factor of internal growth. ($\alpha = 0.86$)

The Interpersonal Relations (IR) scale reflects how well a person is able to use communication to maintain relationships and a sense of closeness with others. The desire for an active social life, the presence of a benevolent, understanding attitude towards people, the

ability to get satisfaction from communication with others, with high emotional stability are the keys to favorable interpersonal relationships. This fact can be a reflection of favorable physical and psychological health. ($\alpha = 0.87$)

Stress Management Scale (SM) - includes recognition of stress sources, taking measures to counteract stress, as well as the use of special techniques that help relieve stress. In the event of health problems, a person with strong stress management skills will consult a doctor and carry out appropriate appointments. Direct connections with mental health reflect the absence of anxiety and depression, with vitality / vital activity - characterize the presence of strength and energy. Also, stress management positively correlates with the scale of emotional stability, which in itself indicates high emotional control and mental well-being, as well as with the scales of psychological well-being - competence, personal growth, and self-acceptance. The method of surveying applicants (online in the Google Forms application) was used for the purpose of clarifying the obtained test results regarding the determination of the motor activity of students in different social and ecological environments in the process of distance learning ($\alpha = 0.86$).

Statistical Analysis

Data analyses included determination of mean, standard deviation (SD), maximum and minimum indicators, Kurtosis, Skewness determination of correlations, reliability of differences in mean values (Student's t-test) at $p=0.05$.

Results

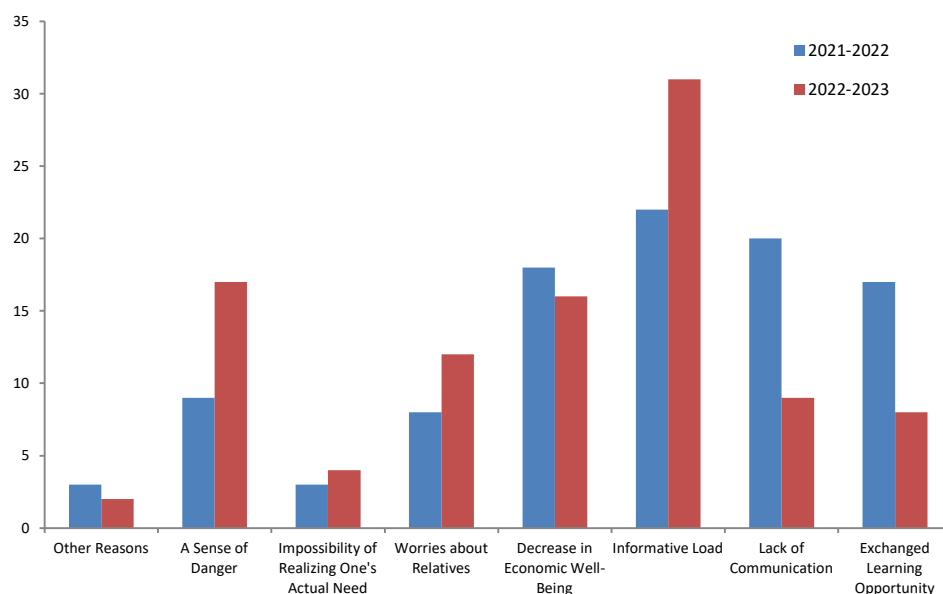
The results of the test showed that during the year, under the influence of the change in the socio-ecological state of the environment caused by military actions in Ukraine, four indicators of students changed reliably (beneficially): Health Responsibility (HR), Physical Activity (PA), Nutrition (N), Spiritual Growth (SG) and Stress Management (SM), ($p < 0.05$).

Only the indicators of Interpersonal Relations remained unchanged ($p > 0.05$), which decreased not significantly by only 2 points. However, from Table 1, we see that it is at a fairly high level (out of 36 possible points), which indicates the importance of communication skills for providing support to each other, showing kindness, compassion and high emotional stability.

Table 1

Results health-promoting lifestyle profile of students.

Scales	2021 – 2022 year					2022 – 2023 year					T-test
	Mean±SD	Max.	Min.	Kurt.	Skew.	Mean±SD	Max.	Min.	Kurt.	Skew.	
HR	25.3±4.69	35	19	-.794	.702	28.7±3.9	35	22	-1.12	-.154	p<0.05
PA	21.5±5.3	3.2	14	-.805	.141	18.1±3.4	26	14	.000	.771	p<0.05
N	25.2±3.9	31	17	-.770	-.138	22.9±3.6	31	17	-.281	.363	p<0.05
SG	29.03±4.6	36	21	.536	-.690	21.6±3.8	33	20	-.717	-.085	p<0.05
IR	31.4±4.9	36	21	.389	-1.03	29.4±4.5	36	20	-.044	-.772	p>0.05
SM	23.5±3.4	32	17	.617	.685	18.7±2.8	24	13	-.707	-.013	p<0.05

**Figure 1.** The causes of the stressful situation according to the results of the student survey.

We can state the fact that in the conditions of the military conflict, students' value priorities have changed, and the understanding of the significance and importance of health has strengthened in their minds. The HR indicator increased by 3.4 points. Of course, under such circumstances, we can state an increase in the level of stress among students. Thus, according to the results of the "Gradus" study (Moroz et al., 2023), as of September 2022, 71% of surveyed Ukrainians felt stress and anxiety. Among young people aged 18-24, 67% of respondents most often felt anxiety. Scientists emphasize that students are most worried about the lack of desire to do any work (65.5%), insomnia or sleepiness (58.6%) and decreased attention (55.2%). The lack of opportunity to study at higher educational institutions in war zones also depresses Ukrainians and leads to a lack of motivation, anxiety about the future, irritation and anger, which creates stress in the future. According to the results of our survey on determining the causes of stressful situations among students, the first place is informational load (Figure 1). First, it is connected with

a large amount of negative and depressing information about the news of the pandemic, and then the news from the war. Secondly, with the need for the student to perform educational tasks independently in order to obtain relevant knowledge and skills, to prevent the formation of academic debt in the conditions of compliance with the security regime, especially in areas of active hostilities, it is not always possible for students of higher education to attend classes in online mode. A significant stressor is also the decrease in the economic well-being of the family and the feeling of danger, which, unfortunately, does not decrease during the two-year state of war, but undergoes an adaptive process.

From the data in Table 1, we can see the dynamics of a decrease in the physical activity of student youth (by 3.4 points), a decrease in control over nutrition (by 2.3 points) and work in relation to the spiritual condition (by 7.4 points).

The survey showed that the lack of free time is among the factors that prevent physical activity (Figure 2). Technically, Ukrainian education was ready for distance

learning, because on March 12, 2020, according to the resolution of the Cabinet of Ministers of Ukraine, in connection with the COVID-19 pandemic, training in all educational institutions of Ukraine was transferred to the online mode. The experience of organizing the educational process during the COVID-19 pandemic made it possible to establish distance learning, and there were even advantages for students and teachers. For example, students were able to more easily combine work and study, and therefore received practical application of acquired knowledge from various disciplines, receiving theoretical knowledge in educational institutions. In addition, the time that was previously spent on the way to the educational institution could now be used for hobbies or recreation. However, there are always a percentage of students who

understand the need for physical activity, but do not have the desire or willpower to tear themselves away from their gadgets.

As a result of research, it was found that under quarantine conditions, 37.7% of applicants fulfill the requirements for minimum physical activity per week, 30.7% of applicants engage in physical activity only during the NPP online physical training classes, and 31.6% - have a low level of physical activity. Under martial law, the situation is slightly different. 25.6% of applicants fulfill the requirements for minimum physical activity per week, 18.7% of applicants engage in physical activity only during NPP online physical training classes (if the necessary conditions are present: availability of the Internet, light, absence of air alarms, etc.) , and 55.7% have a low level of physical activity.

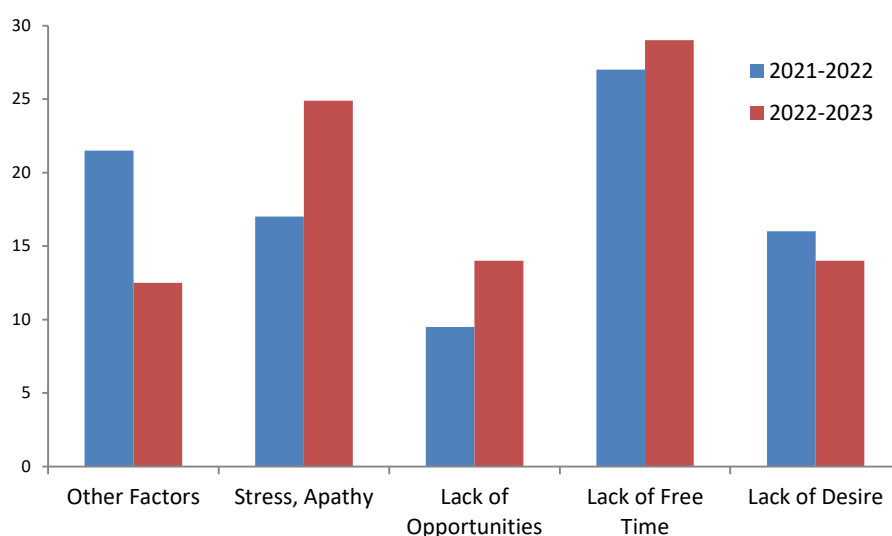


Figure 2. What prevents you from engaging in physical activity - the results of a student survey.

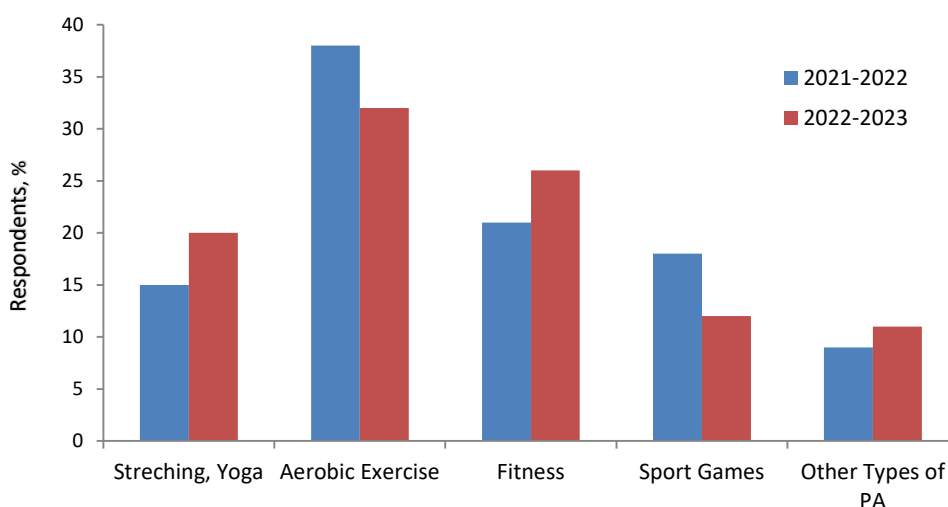


Figure 3. What types of physical activity are priorities for student youth - survey results.

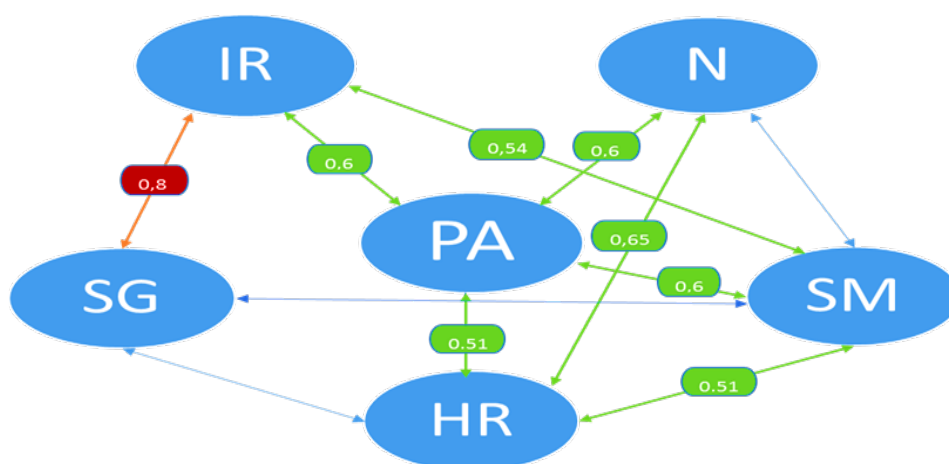


Figure 4. Indicators of correlation between Health Responsibility, Physical Activity, Nutrition, Spiritual Growth, Stress Management and Interpersonal Relations

Among those who engage in physical activity independently or by visiting gyms, students prefer aerobic exercises (Figure 3). Aerobic exercise (low-intensity exercise), which includes walking or hiking (biking), running, skating and rollerblading, stair climbing, and dancing, have lost some of their popularity.

Among the types of physical activity, the winners prefer various types of fitness (aerobics (aqua aerobics), shaping, fitness dances, fitball, gyms, and workouts). During the waxing state, stretching (callanetics, Pilates, breathing exercises, body flex) and yoga have become more popular because they can reduce stress and control panic attacks. Therefore, mastering breathing exercises has become the number one task for all segments of the population, including young people.

Among the sports games, football is undoubtedly the most popular, where the majority of male respondents preferred it. Due to the fact that in the conditions of martial law, all sports facilities, educational and sports schools must be equipped with bomb shelters, the number of participants has significantly decreased. Unfortunately, for two years, the leadership of the regions did not manage to solve the issue of equipping and building bomb shelters in every educational institution.

Determination of the correlation relationship between Health Responsibility, Physical Activity, Nutrition, Spiritual Growth, Stress Management and Interpersonal Relations determined the presence of a close relationship between Spiritual Growth and Interpersonal Relations ($r=0.796$). It was found that physical activity has an average relationship with four parameters ($r=0.51-0.65$) and has a positive effect on both the nutritional system and the stress state (Figure

4). The ability to manage a stressful situation also has the largest number of medium and weak correlations with all the studied indicators, which shows how the external and internal environment affects the mental properties of student youth.

Discussion

Millions of Ukrainians now feel stressed, eat poorly, do little physical activity and have poor sleep. All these are risk factors that can affect health in the future and cause non-communicable diseases such as diabetes, cardiovascular diseases, mental disorders, etc. (Pyvovarov et al., 2022).

The results of our research are consistent with the data of the authors Jakobsdottir et al. (2023), which indicate that the COVID Pandemic -19 had a significant impact on the way of life of university students. Studies have shown that lifestyle and mental health are highly dependent on each other. The COVID-19 pandemic has had a significant impact on the lifestyles of university students and this study has revealed how lifestyle choices and mental health seem to be highly affected by one another. A large number of diverse irritants affected the indicators of the stress state of student youth and complicated the process of managing and recognizing a stressful situation, taking measures to combat stress in a timely manner. The researchers recorded an increase in the number of psychosomatic symptoms in the student environment by 10%, the symptom of fatigue with loss of strength increased, as well as the symptoms of tachycardia, headaches became more frequent (Strnadová et al., 2023). In 2022, symptoms of memory impairment were very common in men (42%), in

women in the same year the most common symptom was fatigue (54%).

According to the results of our empirical research, before the start of the war in Ukraine, student youth were mostly experiencing stress of a standard nature, which is related to the perception of their own personality and the search for their place in society. Student youth successfully cope with this type of stress. In contrast to the indicators of pre-war life, after the first 3 months of full-scale hostilities on the territory of Ukraine, the influence of stressogenic factors shifts its vector and begins to affect the deeper structures of the students' psyche, which causes their emotional burnout and psychological exhaustion (Khizhnyak et al., 2023; Kurapov et al., 2023).

Considering that most of the students at the time of filling out the questionnaire were in Ukraine, where active hostilities are taking place and there are constant air raids, in addition, most of the students are studying online and in conditions of power outages, still we do not observe traumatization mental state. We can assume that this is related to their adaptation to life in wartime conditions without negative consequences for themselves, because at the time of filling out these questionnaires, the war in Ukraine has been going on for one year, and it is possible that this impact was more traumatic before (Ovcharenko, 2023; Moroz et al., 2023).

Even in wartime, doctors recommend that young people do not forget about physical exercises and devote at least half an hour a day to them, as this helps reduce stress levels and strengthen the body. Nowadays, physical activity is especially important, because during physical activity, the level of the stress hormone cortisol decreases. The vast majority of students know about the rules of nutrition and their bad eating habits. However, during the pandemic, there were violations in the organization of students' daily nutrition in relation to an excess of simple (fast) carbohydrates and fats of animal origin and trans fats in food, as well as a deficiency in the use of fresh vegetables, fruits and berries. In wartime, these problems were compounded by violations of the food regime due to the inability to prepare food, to purchase quality goods due to their unavailability on sale, or the inability to purchase them due to their high cost (prices increased by 50-200%). Each of these violations has a negative impact on health. However, it is rational nutrition that is an important factor in the prevention of various diseases, which in

turn contributes to increasing work capacity and increasing life expectancy (Kaliuzhna, 2023).

Irrational nutrition contributes to the activation of chronic diseases of the gastrointestinal tract, which do not give the opportunity to actively perform physical exercises, but only to perform them in a sparing mode. Thus, a set of exercises for distance learning must be selected individually, taking into account the state of health for the current period. Our studies have confirmed the existence of a close relationship between physical activity of student youth and healthy nutrition, which helps to maintain optimal weight indicators, as noted in the works of Chu et al. (2023). It is shown that practicing any kind of sport gives numerous advantages in anthropometric, respiratory and physical factors. Our research confirmed the existence of a correlation between physical activity and responsibility for one's health and chosen lifestyle ($r=0.514$) that is shown in research Mohunko et al. (2023). The sedentary way of life of students during distance learning negatively affects the training of the heart, the condition of their musculoskeletal system and, in particular, the spine. Moreover, prolonged sitting at the computer weakens the tone of the blood vessels, causes edema, venous stasis and heaviness in the legs, and provokes dilatation of the veins of the lower extremities (Horodetska, 2023). Independent physical exercises with a weekly volume, which should be from 3 to 6 hours or more, according to scientists (Griban et al., 2020; Golubeva et al., 2022), contribute to reducing the negative influence of a sedentary lifestyle on students during their distance learning. At the same time, scientists (Petrasch et al., 2018; Eremenko et al., 2023; Strnadova et al., 2023) note that a greater amount of physical exercise means a lower risk of developing a severe course of COVID-19 and a reduction in stress. Students were recommended to exercise of medium intensity, while almost half of the students were engaged in aerobic exercises. Moreover, even daily 30-minute walks are enough to help the body fight various diseases (Skrypchenko, 2023; Zhytova et al., 2023). Therefore, students who avoided physical activity for many reasons had health problems, which were noted as a factor that prevents them from doing physical exercises. Regarding inner spiritual growth, our results coincide with the studies of Zabolotska et al. (2023). It has been confirmed that the Ukrainian youth is increasingly beginning to value freedom, spiritual values, to take direct selfless participation in helping society and the army (volunteering, fundraising), almost never showing egocentric markers of such activity. Young people have undergone a leap in mental

maturation. However, priorities regarding their lifestyle and self-realization through sports activities in this period took a back seat. We explain the phenomenon of inattention to one's health in the conditions of martial law by the switching of deep-value subject-centric mental mechanisms.

Conclusions

The conducted studies revealed changes in the attitude of students to a healthy lifestyle during distance learning in institutions of higher education with specific study conditions in Ukraine during the covid-19 pandemic and during martial law and changes in subject-centric values. It was determined that the behavioral constructs (responsibility for health, physical activity, and nutrition) and the cognitive-emotional component of student youth (spiritual growth, interpersonal relationships, and stress management) are above average and change as a result of the adverse socioeconomic environment. It was determined that high values on 6 scales indicate the formation of behavior in Ukrainian student youth aimed at strengthening their health.

The results of the testing showed that during the year, under the influence of the change in the socioecological state of the environment caused by military actions in Ukraine, four indicators reliably (probably) changed among students: Health Responsibility, Physical Activity, Nutrition, Spiritual Growth and Stress Management ($p < 0.05$). There are no changes in the Interpersonal Relations indicator ($p > 0.05$), which indicates the formed high communicative abilities of students. The survey revealed the causes of stressful situations among Ukrainian students, mainly information overload (negative news and distance education with extensive educational content, mainly for self-study). It was determined that leading an active lifestyle in modern conditions is hindered mainly by the lack of free time (the need to work, volunteer, etc.). When choosing physical activity, preference is given to aerobic exercises, which have a positive effect on relieving a stressful situation, and breathing exercises from yoga when overcoming panic attacks. The presence of significant relationships between almost all indicators ($r = 0.514-0.796$) has been proved mathematically, which shows the importance of each component in the acquisition of a healthy lifestyle by young people.

Acknowledgement

The authors would like to thank the Ukrainian students of the Dnipropetrovsk State University of Internal Affairs, who

agreed to take the survey remotely, as well as their mentors and the administration of educational institutions for their understanding and assistance.

Authors' Contribution

Study Design: IS, OM, KY, VB; Data Collection: IS, OM, KY, VB; Statistical Analysis: IS, OM, KY, VB, RP; Manuscript Preparation: IS, OM, KY, VB, RP; Funds Collection: IS, OM, KY, VB, RP.

Ethical Approval

The study was approved by Ethics Committee the Department of Physical Education and Tactical and Special Training of the Dnipropetrovsk State University of Internal Affairs of the University of Dnipro from 27.12. 2023 (no. 9/2023) and was conducted in accordance with the Code of Ethics of Declaration of Helsinki.

Funding

The authors declare that the study received no funding.

Conflict of Interest

The authors hereby declare that there was no conflict of interest in conducting this research.

References

- Anikeev, D. M. (2009). Problems of formation of an able-bodied mode of life of student's youth. *Pedagogics, Psychology, Medical-Biological Problems of Physical Training and Sports*, 2, 6-9.
- Algahtani, F. D. (2020). Healthy Lifestyle among Ha'il University Students, Saudi Arabia. *Int J Pharm Res Allied Sci*, 9(1), 160-167.
- Chou, Z. (2007). A view of holistic health. *The Journal of Nursing (Hu Li Za Zhi)*, 54(3), 20-26.
- Chu, T., Liu, X., Takayanagi, S., Matsushita, T., & Kishimoto, H. (2023). Association between mental health and academic performance among university undergraduates: The interacting role of lifestyle behaviors. *Int J Methods Psychiatr Res*, 32(1), e1938.
- Eremenko, N. P., Kovaleva, N. V., & Uzhvenko, V. A. (2023). Mental health of student youth of Ukraine during the war. *Trends and Prospects of the Development of Science and Education in the Conditions of Globalization*: coll. of science Pereyaslav Ave, 92, 90-93.
- Fuchko, O. L. (2023). Study of psycho-emotional states of pedagogical workers and students of higher education in the period of pandemic and war. *Scientific Journal of National Pedagogical Dragomanov University*, 4(163), 221-225.
- Fed, I. A., & Bondarchuk, V. (2023). A holistic view of health as a fundamental characteristic of the health-preserving priorities of the future physical education teacher. In *The 8th International Scientific and Practical Conference "Science and technology: problems, prospects and innovations"* (May 11-13, 2023) CPN Publishing Group, Osaka, Japan, 285 [Ukrainian].
- Griban, G.P., Yavorska, T. Ye., Tkachenko, P. P., Kuvaldina, O. V., Dikhtiarenko, Z. M., Yeromenko, E. A., Lytvynenko, A. M., Hresa, N. V., Okhrimenko, I. M., Ovcharuk, I. S., &

- Prontenko, K. V. (2020). Motor activity as the basis of a healthy lifestyle of student youth. *Wiadomości Lekarskie*, LXXIII(6), 1199–1206.
- Golubeva, V., Uskova, S., & Prus, N. (2022). Physical education as a means of forming a culture of health in students of higher education institutions. *Scientific journal National Pedagogical Dragomanov University*, 8(153), 7-9.
- García-Pérez, L., Villodres, G. C., & Muros, J. J. (2023). Differences in healthy lifestyle habits in university students as a function of academic area. *J Public Health (Oxf)*, 45(2), 513-522.
- Henning, M. A., Kragelof, C. U., Dryer, R., Moir, F., Bilington, R., & Hill, A. G. (2018). Wellbeing in higher education: Cultivating a healthy lifestyle among faculty and students. Routledge.
- Horodetska, O. O., Dmytrenko, S.M., Khurtenko, O. V., Romanenko, O. I., & Herasymyshyn, V. P. (2023). Ways of forming a healthy lifestyle in higher education students. *Scientific journal of the National Pedagogical Dragomanov University*, 6(166), 32-36.
- Imas, Y. V., Dutchak, M. V., Andrieieva, O. V., Kashuba, V. O., Kensytska, I. L., & Sadowskyi, O. O. (2018). Modern approaches to the problem of values' formation of students' healthy lifestyle in the course of physical training. *Physical Education of Students*, 22(4), 182-189.
- Ivanii, I. V. (2014). Methodological basis for the formation of physical culture personality. *Pedagogics, Psychology, Medical-Biological Problems of Physical Training and Sports*, 18(5), 32-36.
- Jakobsdottir, G., Stefansdottir, R.S., Gestsdottir, S., Stefansson, V., Johannsson, E., Rognvaldsdottir, V., & Gisladdottir, T. L. (2023). Changes in health-related lifestyle choices of university students before and during the COVID-19 pandemic: Associations between food choices, physical activity and health. *Plos One*, 18(6), e0286345.
- Kosheleva, O., Skrypchenko, I., Singh Ram Mohan, Porohnyavyi, A, Schastlyvets, V, & Lastovkin, V. (2021). Curricular analysis and student engagement as an indicator of the efficiency of the physical education system in university. *Scientific Bulletin of the Dnipropetrovsk State University of Internal Affairs*, 2, 415-427.
- Kurapov, A., Danyliuk, I., Loboda, A., Kalaitzaki, A., Kowatsch, T., Klimash, T., & Predko, V. (2023). Six months into the war: a first-wave study of stress, anxiety, and depression among in Ukraine. *Front Psychiatry*, 14, 1190465.
- Kaliuzhna, O. (2023). Vplyv tradytsiinoi ukrainskoi kukhni na formuvannia zdoroviazberihaiuchykh kompetentsii studentiv. [The influence of traditional Ukrainian cuisine on the formation of students' health-preserving competencies]. Aktualni pytannia prava ta sotsialno-ekonomichnykh vidnosyn, 484. [Ukrainian].
- Lunov, V., Lytvynenko, O., Maltsev, O., & Zlatova, L. (2023). The impact of Russian military aggression on the psychological health of Ukrainian youth. *Am Behav Sci* 67(3), 426-448.
- Mekhed, O., & Nosko, M. (2021). *The biological and social fundamentals of healthy living of participants of the educational process. Bioresources and Human Health* (A. Krynski, G. K. Tebug, S. Voloshanska, eds.). Częstochowa: Publishing House of Polonia University.
- Moroz, L., & Oksiuta, I. (2023). Vplyv stresu na povedinku ta yakost navchannia studentiv v umovakh viiny. II Vseukrainska naukovo-praktychna internet-konferentsiia "Upravlinnia personalom u systemi menedzhmentu orhanizatsii: tendentsii ta perspektyvy rozvytku": zbirnyk tez dopovidei. Lviv: Vydavnytstvo Lvivskoi politekhniki, 113. [Ukrainian].
- Mokhunko, T. M., Havrylova, N. Ye., & Sabirov, O. S. (2023). The influence of physical and health activities on the lifestyle of students. *Scientific Journal of the National Pedagogical Dragomanov University*. 3(162), 290-293.
- Ovcharenko, O. Y. (2023). *The influence of modern distance education technologies on the formation of students' stress resistance during the war*. Baltija Publishing. Republic of Poland.
- Putrov, S. Y. (2017). Valeological discourse on formation, strengthening and preservation of human health. *Scientific Journal of the National Pedagogical Dragomanov University*, 3K (84), 398-401.
- Petrash, M. D., Strizhitskaya, O. Y., & Murtazina, I. R. (2018). Validation of the questionnaire "Health-Promoting Lifestyle Profile" in the Russian Sample. *Counseling Psychology and Psychotherapy*, 26(3), 164–190.
- Pyvovarov, A. A., & Tsybrovskiy, A. I. (2022). Problemy zaniat iz fizychnoi kultury pid chas karantynu ta viiny. *International Scientific Innovations in Human Life*, 274-278. [Ukrainian].
- Shandruk, S.K., Krupnyk, Z.I., & Osetrova, O.A. (2017). Issue of formation of responsible attitude to health in modern youth. *Scientific Bulletin of Polissia*, 3(11), 190-196.
- Savchuk, P., Bakiko, I., Kovalchuk, V., & Savchuk, S. (2018). Health and healthy lifestyle: views, thoughts, relevance of research topic. *Physical Education, Sport and Health Culture in Modern Society*, 1(41), 11–17.
- Sánchez-Hernando, B., Antón-Solanas, I., Juárez-Vela, R., Gea-Caballero, V., Carboneres-Tafaner, M.I., Ferrer-Gracia, E., Gállego-Diéguez, J., Santolalla-Arnedo, I., & Gasch-Gallén, Á. (2021). Healthy lifestyle and academic performance in middle school students from the region of Aragón (Spain). *Int J Environ Res Public Health*, 18, 8624.
- Skrypchenko, I. T. (2023). Students' experience of using ergometer "Concept-2" during independent physical education in the process of education in university. *Physical Culture in University Education: World Practice and Modern Trends: a collection of materials from the International Scientific and Practical Conference* (Dnipro, April 13, 2023). DSUIA, 90.
- Sharanova, Y. V. (2023). Educational process during wartime. The experience of overcoming stress by students of the american university in Beirut. *Modern Information Technologies and Innovation Methodologies of Education in Professional Training Methodology Theory Experience Problems*, 67, 172-185.
- Strnadová, V., Voborník, P., & Provozničková, K. (2023). Research on the symptoms of civilizational stress among university students during the Covid-19 Pandemic, the war in Ukraine and the ongoing economic crisis in the European region. In *EDULEARN23 Proceedings* (pp. 2878-2888). IATED.
- Von Bothmer, M. I., & Fridlund, B. (2005). Gender differences in health habits and in motivation for a healthy lifestyle among Swedish university students. *Nurs Health Sci*, 7(2), 107-118.

- Wei, C. N., Harada, K., Ueda, K., Fukumoto, K., Minamoto, K., & Ueda, A. (2012). Assessment of health-promoting lifestyle profile in Japanese university students. *Environ Health Prev Med*, 17(3), 222-227.
- Zhytova, O., & Butuzova, L. (2023). Psychoemotional health of students in distance learning conditions. *European Humanities Studies: State and Society*, (1), 41-55.
- Zabolotska, S., Zamishchak, M., Savchyn, M., Vasylenko, L., Zymianskyi, A., Bilozerska, S., Ozhubko, H., & Mashchak, S. (2023). Subjective Attitude to the Health of Ukrainian Youth during the War. *BRAIN. Broad Research in Artificial Intelligence and Neuroscience*, 14(1), 75-87.