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## Theoretical and methodological aspects of developing a value-based approach to health among university students

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**Abstract.** The article addresses the theoretical and methodological aspects of fostering a value-based approach to health among university students. The research aims to identify effective strategies for motivating students to adopt a healthy lifestyle, taking into account internal and external factors affecting their well-being. A combination of theoretical methods was applied, including analysis, synthesis, comparison, induction and deduction, as well as a pilot survey among students of the Academy of Physical Education and Mass Sports (Astana, Kazakhstan).

The study contributes novelty by integrating educational, pedagogical and student level interventions into a three-level model and emphasizing the potential of digital technologies such as artificial intelligence and gamification – to enhance student engagement in health-promoting practices. The results highlight that students' health is strongly influenced by sleep quality, nutrition, physical activity and stress management, which directly affect academic achievement and personal development. Empirical findings confirm low awareness of preventive health behaviors and significant challenges during the COVID-19 pandemic and online learning. The proposed model suggests concrete approaches, including checklists, health guides, interactive training and AI-based personalized recommendations. This research offers practical implications for university administrators and faculty, providing tools for integrating health literacy into educational environments, and supporting sustainable student well-being and human capital development.

**Keywords:** healthy lifestyle, higher education, healthy literacy, motivation, digital technologies, gamification, artificial intelligence.

### Introduction

Health is an important aspect of effective personal growth, facilitating productive participation in intellectual, physical, and creative undertakings. Moreover, students tend to redirect their priorities to academic success, at times making health issues secondary considerations.

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Therefore, fostering a value-based attitude toward personal health and motivating students to adopt a healthy lifestyle are among the essential educational tasks that should be addressed within the academic environment.

Despite the high awareness of the principles of a healthy lifestyle, modern students demonstrate low motivation to comply with them. Causes include academic stressors, lack of structured university support, digital overload and socioeconomic constraints (Zhang et al., 2024). International and domestic studies confirm the relevance of the formation of a value approach to health among students. Foreign studies show that comprehensive interventions involving educational strategies, psychological support and the creation of supportive environments contribute to youth well being and healthy lifestyles (Gipson et al., 2024; Liu et al., 2024). For example, Liu et al. (2024) showed that student interest in sports and psychological resilience play a key role in reducing academic stress, and Zhang et al. (2024) identified an association of academic self-efficacy and stress with problematic AI use, highlighting the impact of the digital environment on student motivation and health. Similar trends were identified in studies by Pontes et al. (2024) и Jagiello et al. (2024), highlighting the role of social support, self-management skills, and psychological adjustment in managing academic stress and anxiety. At the same time, domestic studies record a low level of student awareness of the principles of a healthy lifestyle, a moderate level of physical activity and growing academic stress (Issabekova & Aringazina, 2021; Abdrakova et al., 2023; Suleimenova, 2021).

Khoroshev et al. (2020) emphasized that the development of a healthy lifestyle (HLS) among university students is closely linked to educational factors, underscoring the responsibility of modern society to nurture health-conscious and resilient professionals. This objective, according to the authors, can be effectively supported by educational institutions through active engagement of both leadership and faculty. The study further identified students as one of the most vulnerable population groups, whose health is influenced by a combination of external and internal factors - including the structure and demands of the academic environment, urban living conditions, and emotional well-being. Moreover, the findings revealed that many students lack basic awareness of HLS principles and fail to understand the long-term impact of their lifestyle choices on personal health.

In their study on the role of physical education in fostering a healthy-oriented behaviors among students, Kosyreva et al. (2020) similarly identified a range of negative influences on student health, including harmful habits, inadequate nutrition, and irregular daily routines. The authors observed a concerning trend: a steady decline in the overall health of young people in recent years. They argued that targeted reforms within the educational system - particularly in the structure and delivery of physical education as a core component of university curricula - are essential not only for strengthening students' physical well-being but also for supporting their academic achievement.

Abdrakova et al. (2023) explored the psychological and pedagogical aspects of HLS development among university students, observing that modern students are significantly influenced by negative factors that affect not only their health but also their academic, professional, and creative development. According to Abdrakova and colleagues, addressing student health concerns is primarily an educational issue that can be effectively managed through institutional support, physical education, HLS promotion, and health-related training programs.

Mukhambet and Avsiyevich (2020) described methods for motivating students to engage in independent physical activity, concluding that the most effective approaches to fostering students' commitment to a healthy lifestyle (HLS) include faculty serving as role models, promoting the benefits of a healthy lifestyle and regular exercise, and creating supportive environments that encourage HLS adoption.

Issabekova and Aringazina (2021) examined the state of health literacy among university students in Kazakhstan, concluding that overall health literacy levels remain at a moderate level. The authors attributed these deficiencies to insufficient educational outreach, the prevalence of unhealthy behavioral patterns, and unfavorable socio-economic conditions. Complementing these findings, Suleimenova's (2021) study at the Medical University of Karaganda revealed that a substantial proportion of students fail to participate in preventive medical checkups, with 41% reporting insufficient physical activity levels required for maintaining health. These results highlight the urgent need to foster a value-based orientation toward health among students and to actively promote the adoption of healthy lifestyle practices. The study further emphasized the role of social institutions in shaping students' motivation for disease prevention and HLS adherence, identifying universities as key platforms for influencing youth behavior and stressing the importance of expanding health-related outreach initiatives in academic settings.

Thus, educational institutions play a key role in promoting a value-based approach to student health. The reviewed studies reveal low levels of health literacy and awareness of healthy lifestyle (HLS) principles among students, largely due to insufficient health education. Notably, the health status of the student population is showing a downward trend, with many students lacking a value-based commitment to their own health. However, existing studies fail to provide specific recommendations to address this issue and to foster health-conscious attitudes among students. This underscores the need for deeper analysis and the development of methodological guidelines aimed at improving students' orientation toward health.

At the same time, most existing studies are largely descriptive: they mainly present statistical data or highlight negative trends, but rarely propose a comprehensive framework integrating pedagogical, institutional, and technological solutions. Furthermore, there is a notable lack of comparative analyses across different approaches, which limits the identification of gaps in health promotion practices. This study addresses these shortcomings by combining theoretical analysis with empirical evidence, drawing on both a pilot survey and case studies, and by offering a three-level model that systematically integrates educational, pedagogical, and student-centered strategies. The inclusion of digital technologies, particularly artificial intelligence and gamification, further enhances the distinctiveness of this research, providing an innovative perspective on motivating students to adopt a sustainable healthy lifestyle.

The objective of this study is to substantiate the theoretical and methodological foundations for a value-based approach to student health. To achieve this, the paper proposes a three-level model - institutional, pedagogical, and student-centered- that motivates young people to adopt healthy lifestyle practices. Unlike prior works that mainly describe health challenges without offering systemic solutions, this research combines theoretical analysis with empirical evidence and addresses existing gaps by integrating pedagogical, institutional, and technological strategies. A distinctive feature of the model is the use of innovative tools such as artificial intelligence and gamification, which are embedded within each level to enhance student engagement and motivation. The study not only explains the causes of declining student health but also provides

actionable recommendations for higher education institutions in Kazakhstan, with potential applicability in other educational contexts facing similar challenges, to improve student well-being and long-term academic success.

## **Methods**

This study employed a mixed methodological approach that combined empirical data collection, case-based analysis, and review of the literature.

To strengthen the empirical base, a pilot survey was conducted among 124 students of the Academy of Physical Education and Mass Sports (APEMS, Astana). The questionnaire included items related to the frequency of physical activity, quality of sleep, dietary habits, preventive medical practices, and students' self-assessment of how their health affects academic performance. The survey instrument was adapted from well-validated instruments previously used in higher education health studies (e.g., ISSP Health Module; WHO Health Behaviour in School-aged Children questionnaire) and underwent expert review by three faculty members to ensure content validity.

Descriptive statistics were applied to quantify trends in students' health behaviors and their perceived academic implications.

In addition, a case-study analysis was carried out to examine institutional health-promotion practices. Particular attention was paid to initiatives implemented in Kazakhstani universities, such as the "Healthy University" program at Karaganda Medical University, which combined awareness campaigns, regular medical check-ups, and student fitness programs. These cases were analyzed to assess the effectiveness of institutional-level interventions and their potential applicability in other higher education settings.

Furthermore, a literature review was conducted to compare international and domestic evidence on health literacy, academic stress, and healthy lifestyle promotion among students. Sources were retrieved from Scopus and Web of Science databases, covering publications from 2020-2024, and included peer-reviewed empirical studies and systematic reviews. This review enabled a comparative perspective and provided a broader context for interpreting the empirical findings from Kazakhstan.

## **Results and Discussion**

### **The role of a value-based approach to health in the lives of university students**

Student studies are an important stage in which the foundations of professional and personal development are laid. Academic performance, practical experience and the development of competencies allow the student to become competitive in the labor market. Additionally, students who receive a high-quality education are likely to advance more easily in their careers and achieve higher salaries (Ong et al., 2021). However, for successful professional growth, students need more than just knowledge, skills, and personal qualities; they must also maintain good health and a commitment to a healthy lifestyle (HLS). These factors significantly impact productivity and the results they can achieve in the workplace.

A healthy lifestyle and a value-based approach to personal health go beyond merely maintaining good physical fitness (Dubuc et al., 2019). HLS is now also seen as a factor that positively affects

students' cognitive abilities (such as memory, attention, perception, imagination, speech, and thinking), which in turn supports academic success (Hammoudi et al., 2023). Moreover, positive academic outcomes are often linked to students' emotional well-being, self-confidence, and self-belief – attributes fostered through a genuine commitment to personal health.

Conversely, an unhealthy lifestyle, harmful habits, and emotional stress can detrimentally affect students' cognitive function, physical health, and psychological wellbeing, ultimately impacting their academic performance and learning outcomes. In the future, these same issues may impair professional performance and productivity, underscoring the need for students to develop a value-based commitment to health while still in university.

Thus, the educational institution serves as a crucial environment for instilling a value-based attitude toward physical and mental health in students (Vaillant, 2012). Universities can set a positive example by promoting and reinforcing the value of HLS and personal health. A supportive educational environment can positively influence students' psychological and emotional well-being, providing a foundation for nurturing a positive attitude toward HLS. This, in turn, encourages students to care for their health and pay attention to factors that affect it.

While existing literature highlights the general importance of health for academic success, there is a lack of systematic approaches that connect value-based health education with modern pedagogical innovations. Most prior studies describe health promotion as a supplementary activity, whereas this research positions it as central educational objective. Furthermore, the proposed three-level model emphasizes the interaction between institutional policies, pedagogical practices and student self-regulation, offering a holistic perspective rarely addressed in earlier works. The incorporation of digital technologies, such as AI-driven personalization and gamified engagement strategies adds an innovative dimension that distinguishes this study from previous descriptive analyses.

### **Factors Influencing Student Health**

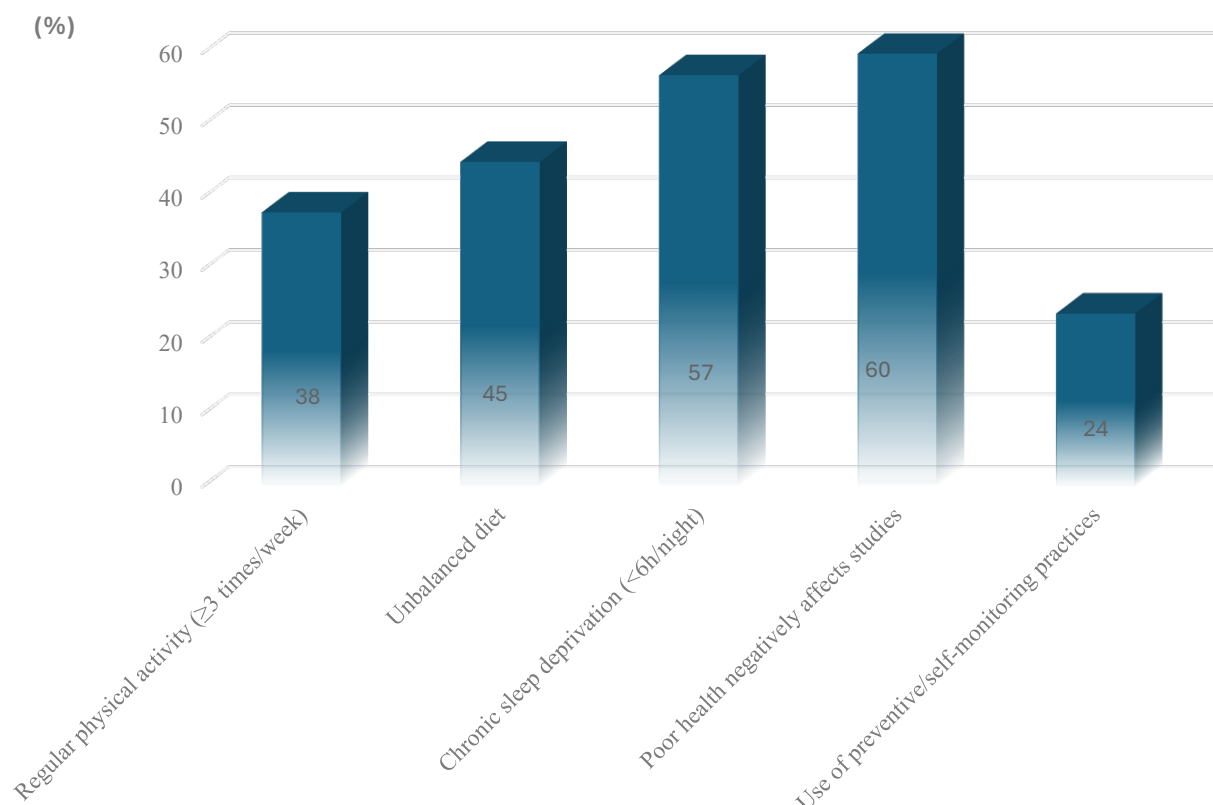
When beginning university studies, students tend to show little concern for their health. This may be explained by the various changes in their lives: a new social life, changed daily habits, greater academic pressure, and other responsibilities. Many also relocate to new cities, and this brings with it extra causes of stress – being away from family and familiar environment, learning to live with strangers in dorms, and conforming to new regulations. Students might also face changes in their system of values. Following the hard work of gaining university admission, issues of academic achievement, exam passes, and the threat of expulsion tend to prevail, usually leading the student to place too much importance on their studies at the expense of other aspects, sometimes even sleep, nutrition, and exercise-keys to health.

The pilot study conducted at APEMS provided quantitative confirmation of health-related challenges among students. Only 38% of respondents reported engaging in regular physical activity (at least three times per week), while 62% admitted to exercising occasionally or not at all. Dietary patterns also raised concerns: 45% of students indicated that their nutrition was unbalanced, with frequent reliance on fast food and irregular meal schedules. Sleep quality emerged as a critical issue, with 57% of participants suffering from chronic sleep deprivation (less than 6 hours of sleep per night) (Figure 1).

More than 60% of students acknowledged that poor health and lifestyle practices negatively affected their academic performance, concentration, and motivation. However, only 24% reported using any form of preventive or self-monitoring practices (such as regular medical

check-ups or health-tracking applications). This discrepancy between awareness and behavior highlights a gap in students' ability to translate knowledge of healthy lifestyle principles into consistent practice.

These findings not only substantiate the necessity of targeted health-promotion strategies but also provide a basis for the proposed three-level model. In particular, the high prevalence of sleep problems and poor nutrition aligns with global reports on student health decline during and after the COVID-19 pandemic, while the extremely low rate of preventive practices underscores the importance of institutional support and digital tools for behavior monitoring.



**Figure 1. Distribution of health-related behaviors among students (pilot survey, APEMS, n=124)**

Sleeping habits are a critical factor in maintaining the stability of the nervous system, which directly affects students' emotional balance, work capacity, and particularly their learning ability (Mariano et al., 2023). Poor sleep routines undermine concentration, memory, and retention of information, reducing academic performance. These findings are consistent with our pilot survey, where 57% of students reported chronic sleep deprivation (<6 hours per night). While international studies emphasize irregular sleeping routines due to the need to balance social and academic responsibilities (Mariano et al., 2023), our data further highlight the role of digital overload during online learning periods, which students identified as a major disruptor of healthy sleep patterns.

Nutrition also plays a central role in student health. Correct dietary balance ensures adequate energy and cognitive functioning, yet students often replace nutritious meals with fast foods and

snacks (Wimitzer et al., 2023). Our survey confirmed this trend: 45% of respondents reported following unbalanced diets. In line with global findings, Kazakhstani students demonstrated a preference for easily available, inexpensive meals, which reflects both lifestyle choices and socio-economic constraints. This supports evidence from Zaheer et al. (2023), who found low-income students to be particularly vulnerable to unhealthy nutrition.

Physical activity emerged as another key determinant. International studies report gender and year-of-study differences, with female students showing higher fitness engagement (Nola et al., 2010). In our case, only 38% of respondents engaged in regular physical activity, which is lower than in many Western samples. This suggests that institutional and infrastructural barriers may play a stronger role in Kazakhstan, reinforcing the need for university-level interventions.

Finally, social and psychological determinants further compound these challenges. International studies confirm that academic stress, adaptation to a new environment, and lack of social support amplify unhealthy routines (Lopez-Fernandez et al., 2021; Solberg et al., 2023). Our findings align with these results, as more than 60% of students reported that poor health directly affects their academic performance. At the same time, only 24% reported engaging in preventive practices, which indicates an especially sharp awareness–behavior gap in the Kazakhstani context. While national programs such as Salamatty Kazakhstan (Ministry of Health of the Republic of Kazakhstan, 2021) provide a preventive framework, their integration into university settings remains fragmented, thereby justifying the need for institutionally embedded models such as the one proposed in this study.

The analyzed factors suggest that balanced nutrition, sufficient sleep, and stable mental health positively influence students' well-being, which subsequently affects academic performance, goal achievement, and interpersonal communication. Findings from the pilot survey at APEMS are consistent with international data: 57% of students reported chronic sleep deprivation and 45% unbalanced diets, which aligns with similar trends identified by Llorent-Bedmar et al. (2022), who emphasized that lifestyle improvements often occur only in later years of study as students adapt to academic demands.

At the same time, the pilot data revealed that more than 60% of respondents believed poor health negatively influenced their academic performance, yet only 24% used preventive practices. This gap between awareness and actual behavior reflects the broader issues described in global literature on health literacy deficits (Gipson et al., 2024) but provides additional evidence from the Kazakhstani context.

External factors such as the COVID-19 pandemic and the transition to online learning further exacerbated these problems. Our findings on poor sleep and concentration difficulties resonate with results from the United Arab Emirates (Suleymanova et al., 2023), where students in online settings reported increased irritability, lower self-confidence, and higher distraction levels compared to in-person peers. While global research stresses the overall higher stress of face-to-face learning, our data highlight that online education may be more detrimental to students' daily health practices, particularly in terms of sleep quality and consistent nutrition. (Table 1).

Thus, the comparative analysis shows both overlap with existing literature and new accents: the significant role of digital overload, the gap between awareness and practice, and the differences in health-related behaviors across online and offline educational environments. These insights confirm the necessity of institutional measures and targeted interventions to foster sustainable student well-being.

**Table 1. Comparative Health Characteristics of Students in Online vs. In- Person Learning Environments**

	Online learning	In-Person learning
Irritability	Students report higher levels of irritability due to constant toggling of microphones and cameras.	Students report lower levels of irritability.
Attention Concentration	Students experience attention issues due to distractions from social media, games, and surrounding activities.	Students report fewer distractions during classroom-based learning.
Fear of Missing Deadlines	56% of students feel they can meet deadlines without stress.	63% of students feel they can meet deadlines without stress.
Stress	52% of students find online learning stressful.	73% of students find in- person learning stressful.
Self-confidence	Students report lower self- confidence during exams, online projects, and class participation	Students report higher self- confidence in exams, project submissions, and classes.

### **Methods and Approaches for Motivating Students Toward a Healthy Lifestyle and Valuing Health**

Developing a positive attitude toward health among students is a multi-stage process. For effective motivation toward a healthy lifestyle, this process must be comprehensive and implemented across various levels: at the state level, at the leadership level of higher education institutions, at the level of the teaching staff, and finally, among students themselves.

The process of instilling a value-based attitude toward health among students involves three main stages (Merced Len et al., 2022) (Figure 2).



**Figure 2. Stages of Developing a Value-Based Attitude Toward Health Among Students**

Efforts to cultivate a value-based attitude toward health among university students should begin at the national level through the development of a comprehensive strategy. This strategy should not only outline effective methods and pedagogical approaches for fostering health-conscious values but also provide detailed implementation guidelines, including step-by-step stages, anticipated challenges, and recommended solutions. The formulation of such a strategy must involve collaboration between educators and healthcare professionals, ensuring both pedagogical and clinical relevance. Upon completion, official directives should be disseminated to educational institutions to facilitate consistent and coordinated implementation.

The second stage involves targeted work with teaching staff, guided by the directives received. Faculty members should undergo preparatory and awarenessbuilding activities to



equip them for meaningful engagement with students on issues related to health and healthy lifestyle practices. It is essential that educators recognize their dual role - not only as conveyors of information but also as mentors who support students in adopting and sustaining health-promoting behaviors. The success of value - based health education largely depends on the awareness, commitment, and involvement of academic staff.

The third stage focuses on direct engagement with students. This can be achieved through comprehensive awareness campaigns, interactive training sessions, and the integration of modern tools—such as artificial intelligence technologies, social media platforms, and gamification techniques. Among the most effective approaches for nurturing health values is sustained awareness-raising across all levels of the educational environment, including institutional leadership, faculty, and students themselves.

Awareness campaigns may take the form of printed materials such as brochures and posters, as well as digital formats like checklists and user-friendly guides. For example, checklists offer a structured framework of actionable steps, supporting students in systematically adopting healthy habits and ensuring that critical components of healthy living are not overlooked (Table 2).

**Table 2. Example Checklist Template for Motivating Students to a Healthy Lifestyle**

<b>№</b>	<b>Action</b>	<b>Mark of completion</b>
1.	Get an annual preventive medical check-up	
2.	Make morning exercise a mandatory daily activity	
3.	Buy a water bottle to assist in recalling to drink the daily suggested quantity of water	
4.	Make a list of your favorite foods and prepare healthy recipes with them.	
5.	Adjust sleep pattern: sleep no later than 10:00 PM, wake up no later than 7:00 AM	
6.	Attend a training course in healthy lifestyle practices	
7.	discard negative habits	
8.	Create new, healthy habits that are fun, like running to the tune of favorite music or walking in the park with a pet	
9.	Reduce the influence of negative factors on emotional health	
10.	Share this list with friends and contacts to identify like-minded partners	

A checklist can be made appealing in order to draw attention and increase motivation to complete its tasks. A guide is a publication on a particular theme that describes the main ideas and terms in detail in order to give a comprehensive understanding. In order to motivate students towards healthy lifestyles, it would be suitable to develop guides to nutrition, physical activities, and methods of substitution of negative habits with positive ones. Guides can assist students in understanding the value of a healthy lifestyle, organize a balanced diet, determine nice and comfortable physical activities, drop harmful habits, and form new and more constructive routines.

Educational activities can also be conducted in the form of discussions, theme sessions, and integrated learning. For example, aspects of a healthy lifestyle can be included in university

curricula - e.g., studying health-related vocabulary in foreign language classes or creating health and wellness programs in computer programming classes.

One other useful way of introducing a positive attitude towards health among students is through training sessions. Such sessions can cover major issues that might be of concern to students, such as designing a balanced diet and introducing new healthy habits. Through the use of theoretical knowledge combined with practical tasks and group work, these sessions promote a positive environment and allow students to receive first-hand experience. Since teachers might lack specialized knowledge in health issues, it is useful to invite health specialists to conduct these sessions to provide students with accurate, high-quality information.

Another valuable approach would be fostering an exchange of experiences between educational institutions, including student and faculty exchanges, to broaden perspectives and enrich educational efforts around health, benefiting both students and educators who can serve as role models.

According to researchers, in addition to traditional methods for motivating students toward healthy lifestyles, modern technologies and methods should also be incorporated (Merced Len et al., 2022). Social media, artificial intelligence, and gamification can be especially useful.

Social media, for instance, can facilitate both health education and communitybuilding among like-minded students. For educational purposes, institutions could post health-promoting content on their official social media pages, sharing insights on the importance of healthy lifestyles, encouraging students to participate in polls, share opinions, and join discussions.

A dedicated account focused on nutrition, sports, and wellness could also be created, featuring announcements for university or citywide health-related events. This setup allows students to gain support not only from the academic staff but also from peers, which can positively influence their attitudes toward health and motivate them to adopt healthier habits.

The potential of artificial intelligence lies in its ability to provide personalized health support. AI-based applications can recommend individualized exercise routines, track stress levels and design adaptive schedules. Several recent studies (Zhou et al., 2022; Kim et al., 2023) confirm that AI-powered platforms significantly increase adherence to healthy lifestyle practices in university populations. This research integrates such approaches into the proposed model, highlighting their relevance for Kazakhstani higher education.

Gamification also offers exciting potential for encouraging healthy habits among students. Incorporating elements like competitions, such as who can do the most pushups by the end of the year or quit all bad habits by the semester's end, can be motivating. Dedicated apps could enhance this experience, for example, apps that reward users with bonuses or gifts for a certain number of steps, or that allow users to grow virtual plants by tracking their water intake.

Empirical evidence demonstrates the effectiveness of gamified strategies. For instance, Pérez-López et al (2017) reported that students involved in gamification-based programs showed a 25% higher rate of healthy habit adoption compared to control groups. More recent research (Chan et al., 2021) highlights the importance of integrating game mechanics with social interaction showing that peer-based gamification significantly enhances motivation. Including such findings strengthens the argument for gamification as a key pedagogical tool in student health promotion.

Finally, creating a specialized app where students complete tasks to build their foundation for a healthy lifestyle would also be an engaging addition. In promoting a health-conscious mindset among students, several key considerations are essential (Len M., 2022):

1. Well-structured process, either by training or technology, activities must be built to stimulate students» desire to work on themselves and gain new knowledge.

2. Ongoing support. Ongoing support should be offered at all levels of engagement.

3. Accessible language and subject matter, particularly for non-medical students, it is necessary to use simple language and select applicable topics according to each group.

4. Individual approach. Health values are most effectively developed using an individualized approach, with each student's personal preferences for physical activity, diet, and lifestyle.

5. Motivational framing. Explain clearly the prospects of a healthy person, including success in studies, career development, serving the country and family, and the contribution of a healthy life to family life and child-rearing, and how it can be a boon for future generations.

### **Other Factors Influencing Students' Health.**

This research identifies major determinants that affect students» health, such as sleeping habits, diet, and exercise.

Muniz and Garrido discussed how the health habits of young adults change after they start higher education, describing how new responsibility and study demands affect every part of students» health, so they have to adjust and adapt. This agrees with the findings of the current study, which indicate that students tend to have less sleep, eat less healthy, and have changing emotional states related to study success and relationships with peers and professors (Muniz et. al., 2021).

These adjustments can detrimentally influence students' academic achievement and interfere with their capacity to attain personal aspirations, indicating the significance of promoting a health-oriented mentality for students.

Chiang and Arendt also looked at the impact of sleep on academic performance and found that students tend to place other areas of life above sleep, which they view as less immediately relevant. They found in their study that students who slept fewer than six hours a night tended to have poorer academic outcomes than students who slept seven or more hours.

Additionally, the quality of sleep impacts emotional well-being and academic success, with students who experience interruptions due to noise, poor room ventilation, or other factors showing higher irritability and lower academic performance (Chiang et. al., 2017).

Zaheer et al. investigated the role of lifestyle, specifically dietary habits, on student health. Their findings indicate that university life shifts students» perspectives on daily routines and eating habits. The study noted a pronounced decline in nutritional quality, especially among dormitory residents. Researchers attribute this trend to the high cost of healthy foods and the relative affordability of fast food and unhealthy snacks.

Another issue identified by this study is a lack of knowledge about planning a nutritious diet within a limited budget and time constraints. This gap emphasizes the need for educational initiatives and workshops to help students learn how to plan their schedules and improve their diets (Zaheer et al., 2023).

Online learning, a change prompted by the COVID-19 pandemic, emerged as a significant factor impacting student health. Aghaei et al. found that the shift to online education increased stress and anxiety among students, who had to adapt to new learning environments, adjust their biological rhythms, and alter their lifestyles. However, some students reported reduced stress levels due to lessened worries about infection, for themselves and their families (Aghaei Sabet et al., 2022). The study also highlighted online learning's downsides, such as procrastination and "learned helplessness." Procrastination refers to students' tendency to delay important tasks in

favor of less meaningful activities, while learned helplessness is described as a state in which individuals feel incapable of controlling their circumstances or achieving positive outcomes. These conditions can harm students' health, leading to stress, frustration, and even depression as they struggle to see the results of their efforts and engage meaningfully in the educational process.

MacIntyre and his colleagues similarly examined the link between online learning, stress, and well-being, finding that students' motivation and self-confidence decreased, while stress and negative emotions rose during and after the pandemic. Returning to in-person classes can also be stressful, requiring students to readjust to a traditional learning environment, further underscoring the psychological toll of online education (MacIntyre et al., 2020).

Alaraj et al. further identified excessive screen time as another downside of online learning. The researchers point out that although digital devices are indispensable for online learning, they can also divert students' attention away from the educational content. Extended use of such gadgets may have adverse effects on physical health, especially in terms of vision and the musculoskeletal system (Alaraj et al., 2018).

### **The Role of Educational Institutions in Shaping Health-Oriented Values Among Students**

The research highlights two key social institutions that influence students' lives: the family and the educational environment. During the university years, educational institutions and academic staff frequently act as significant authority figures and role models for young people. A crucial component of educational efforts involves communicating the value of health, providing guidance in embracing healthy lifestyle habits, supporting students in addressing related concerns, and demonstrating these values through personal example.

At the same time, research by Solberg et al. on student mental well-being emphasizes that in order for educators to successfully engage with all students and promote a health-conscious outlook, they must receive targeted training. Many teachers are insufficiently trained in health-related issues, which is confirmed by the results of this study and indicates the need for their professional development (Solberg et al., 2023).

The importance of cooperation with medical specialists and the exchange of effective practices between educational institutions to enhance the quality of health-saving education is also emphasized.

### **Methods and approaches to the formation of health-oriented values among students**

Promoting healthy behavior is a key factor in forming an informed attitude towards students' health. Bhuiyan et al. (2017) emphasize the importance of recognizing and supporting students' aspirations for a healthy lifestyle, which is consistent with the findings of this study. Research by Masol and Linnik focuses on the role of motivation in the formation of sustainable healthy habits (Masol et al., 2023). An important step is for students to realize the connection between healthy lifestyle and their future well-being, career and family, which forms internal motivation and resistance to stress.

El-Sayed (2023) indicates that access to reliable information on health and prevention contributes to changing public attitudes towards health issues and increasing interest in early diagnosis. He also highlights the low awareness of rare and chronic diseases. Raising awareness promotes a more responsible attitude towards one's own health and the formation of sustainable behavioral attitudes. The effectiveness of education, in his opinion, directly depends on the adaptation of educational formats to the characteristics of the target audience.

Recognizing this lack of modern technological tools in HLS education, our research noted the potential of social media and gamification in motivating students. Al-Khudari and co-

authors examined the use of social media in disseminating health information among students, concluding that its widespread use among young people makes it an effective educational tool (Al Khudari et al., 2023). However, motivation remains crucial in the success of social media-based health initiatives. The stronger the student's intrinsic motivation to adopt a healthy lifestyle, the more likely they are to absorb and apply the health information encountered online.

Perez-Lopez et al. promoted gamification as a tool for motivation, considering students' active use of social media, mobile applications, and games. Their study presented a medieval-themed role-playing game in which players strive to become "Health Warriors" through the completion of health-related challenges, quizzes, and minigames (Perez-Lopez et al., 2017). To progress through the game, students scanned QR codes from health-related destinations, including hospitals, schools of health, and sports complexes. Students had to perform particular activities to obtain specific codes, and success in the game was dependent on acquiring health knowledge and forming healthy habits. Authors' results showed that students who were exposed to this gamified intervention acquired a greater knowledge of HLS principles and more successfully achieved positive changes in their lifestyle compared to students who were not involved in the game.

### **Main Characteristics of Forming a Positive Attitude Toward Health in University Students**

The results of this research suggest that students at the university level are experiencing a period of critical personal development, marked by changes in value orientations. Researchers explain these changes by the onset of novel responsibilities, changing expectations, and changes in living conditions. During this period of transition, attitudes of students towards health and health-related behaviors such as sleep hygiene, nutrition, and physical activity are especially prone to transformation. Among the numerous factors affecting student well-being, online learning has been found to be particularly influential. Researchers point out that the online learning environment can generate a significant amount of stress and adversely impact students' overall health.

In order to successfully develop a health-aware mindset in students, a synthesis of approaches is suggested, encompassing educational outreach, training sessions, social media communication, artificial intelligence tools, gamification, and exchange of peer experience. All these methods are well substantiated in the literature. Educational outreach is revealed to make students more aware of certain health issues and promote preventive behaviors, for example, leading healthier lifestyles and going for regular medical checkups.

However, experts caution that social media, while powerful, must be leveraged strategically ideally in conjunction with motivational incentives due to the overwhelming volume of competing content in digital spaces. Gamification, recognized for its accessibility and engaging format, has also demonstrated strong potential in shaping positive health-related attitudes and behaviors among university students.

A crucial factor in encouraging students' commitment to a healthy lifestyle is motivation. Researchers suggest that educators can foster this motivation by explaining the positive effects of a healthy lifestyle on academic performance, career success, and family life, as well as by setting a personal example through the methods outlined.

Thus, the methods reviewed in this study are seen as effective for developing a health-conscious mindset among university students.

## **Conclusion**

This study substantiated the theoretical and methodological foundations for developing a value-based approach to student health in higher education. It was established that student well-being is shaped by a combination of individual factors (daily routine, nutrition, sleep hygiene, level of physical activity) and external conditions (education environment, socio-economic status, digital load, and the consequences of the COVID-19 pandemic).

A key contribution of the research is the development of a three-level model for fostering a value-based approach to health, which includes institutional, pedagogical, and student levels. Unlike most existing studies that are predominantly descriptive and focus on isolated dimensions – such as physical education reforms, psychological support, or institutional awareness campaigns – this model integrates these elements into a single framework. Its distinctiveness lies in combining classical pedagogical strategies with innovative tools, particularly digital technologies, artificial intelligence, and gamification, thereby addressing both structural and motivational aspects of student health.

This comprehensive approach not only ensures practical applicability but also highlights the potential of higher education institutions in Kazakhstan to cultivate sustainable health-oriented values among students. The practical significance of the study lies in its applicability for designing targeted programs, preventive initiatives, and digital services aimed at strengthening student health. At the same time, further empirical validation through large-scale surveys and experimental studies is required to confirm the effectiveness and scalability of the proposed model, thereby increasing its applied value within the higher education system.

### **Authors' contribution:**

**B.A. Duketayev** – main contribution: conceptualization of the research, methodology development, data collection and analysis, writing the initial draft and article;

**Zh.S. Mukhambet** – engaged in data collection and processing, participated in editing the final version of the article and preparation of materials for publication;

**Kh.N. Kassenov** – developed the methodology of the research and was responsible for writing the Methods section;

**Ye.Zh. Shakenov** – consulted the whole process of writing, helped with interpretation of data and writing the Discussion;

**A.K. Kuatov** – contributed to the theoretical framework and literature review, assisted in interpreting the results, and supported the preparation of visual materials (figures, tables) for the article.

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### **Жоғарғы оқу орнындағы студенттер арасында денсаулыққа құндылыққа негізделген көзқарасты дамытудың теориялық және әдістемелік аспектілері**

**Аңдатпа.** Мақала жоғарғы оқу орны студенттерінің денсаулыққа құндылықтық қатынасын қалыптастырудың теориялық және әдіснамалық аспектілеріне арналған. Зерттеудің мақсаты – студенттердің әл-ауқатына ықпал ететін ішкі және сыртқы факторларды ескере отырып, оларды салауатты өмір салтын ұстануға ынталандырудың тиімді стратегияларын айқындау. Мақсатқа жету үшін талдау, синтез, салыстыру, индукция және дедукцияны қамтитын теориялық әдістер кешені қолданылды, сондай-ақ Дене шынықтыру және бұқаралық спорт академиясы студенттері арасында пилоттық сауалнама жүргізілді (Астана, Қазақстан).

Зерттеудің ғылыми жаңашылдығы институционалдық, педагогикалық және студенттік ықпал ету деңгейлерін үш деңгейлі модель аясында интеграциялауда, сондай-ақ жасанды интеллект пен геймификацияға (gamification, білім беру үдерісін ойындандыру) сияқты цифрлық технологиялардың әлеуетіне назар аударуда көрініс табады – студенттердің денсаулық сақтау тәжірибелеріне белсенді қатысуын арттыру үшін. Нәтижелер студенттердің денсаулығына ұйқының сапасы, тамақтану, дене белсенділігі және күйзеліске қарсы тұру деңгейі айтарлықтай әсер ететінін көрсетті, ал бұл факторлар олардың академиялық үлгеріміне және тұлғалық дамуына тікелей ықпал етеді. Эмпирикалық деректер студенттердің денсаулықты сақтауға қатысты профилактикалық мінез-құлық туралы хабардарлығының төмен деңгейін, сондай-ақ COVID-19 пандемиясы кезеңінде және онлайн-оқуға көшу барысында туындаған

елеулі қиындықтарды растады. Ұсынылған модель нақты тәсілдерді қамтиды, соның ішінде чек-листтер, денсаулыққа қатысты әдістемелік ұсынымдар, интерактивті тренингтер және жасанды интеллект негізіндегі персонализацияланған ұсынымдар. Зерттеу нәтижелері университеттердің басшылары мен оқытушылары үшін практикалық мәнге ие болып, оларға денсаулықты қалыптастыру және оған байланысты құзыреттерді білім беру процесіне енгізуге арналған құралдарды ұсынады, сондай-ақ студенттердің тұрақты әл-ауқатын қолдауға және білім беру ортасында адами капиталды дамытуға ықпал етеді.

**Түйін сөздер:** салауатты өмір салты, жоғары білім, денсаулық сақтау сауаттылығы, мотивация, цифрлық технологиялар, геймификация, жасанды интеллект.

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### **Теоретико-методологические основы формирования ценностного отношения к здоровью у студенческой молодежи**

**Аннотация.** Статья посвящена теоретическим и методологическим аспектам формирования ценностного отношения студентов вуза к здоровью. Цель исследования заключается в выявлении эффективных стратегий мотивации студентов к ведению здорового образа жизни с учётом внутренних и внешних факторов, влияющих на их благополучие. Для достижения цели применялся комплекс теоретических методов, включая анализ, синтез, сравнение, индукцию и дедукцию, а также был проведен пилотный опрос среди студентов Академии физической культуры и массового спорта (Астана, Казахстан).

Научная новизна исследования состоит в интеграции институционального, педагогического и студенческого уровней воздействия в рамках трёхуровневой модели, а также в акценте на потенциал цифровых технологий, таких как искусственный интеллект и геймификация (gamification, игровизация образовательного процесса) – для повышения вовлеченности студентов в здоровьесберегающие практики. Результаты показали, что на здоровье студентов существенно влияют качество сна, питание, физическая активность и управление стрессом, которые напрямую отражаются на академической успеваемости и личностном развитии. Эмпирические данные подтвердили низкий уровень осведомленности о профилактическом поведении по отношению к здоровью, а также значительные трудности возникшие в период пандемии COVID-19 и перехода на онлайн-обучение. Предлагаемая модель включает конкретные подходы, такие как чек-листы, методические рекомендации по вопросам здоровья, интерактивные тренинги и персонализированные рекомендации с использованием искусственного интеллекта. Результаты исследования имеют практическое значение для руководителей и преподавателей университетов, предоставляя им инструменты для интеграции вопросов формирования здоровья и связанных с ним компетенций в образовательный процесс, а также способствуя поддержке устойчивого благополучия студентов и развитию человеческого капитала в образовательной среде.

**Ключевые слова:** здоровый образ жизни, высшее образование, здоровьесберегающая грамотность, мотивация, цифровые технологии, геймификация, искусственный интеллект.

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