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Formation of health-saving competencies as a personal resource in conditions of prolonged traumatization

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Abstract Abstract: This study examines the formation of health-saving competencies as a personal resource in individuals facing prolonged traumatization. The objective is to address the increasing prevalence of prolonged traumatization caused by various factors, such as social relationships and loss of work capacity. Through an analysis of existing research, innovative approaches to cultivating health-saving competencies are identified, along with areas for future development. The study provides practical recommendations and interventions targeting loss awareness, emotional regulation, and stress management within rehabilitation programs. The findings offer valuable insights for professionals in psychology, pedagogy, and social work, facilitating the rehabilitation of individuals experiencing prolonged trauma. Additionally, the research contributes to further exploration in this field and the development of novel approaches to foster health-saving competencies.

Keywords: health-saving competencies, long-term traumatization, personal resource, rehabilitation programs, emotional regulation

1. Introduction

In modern society, the issue of health and personal resource is becoming increasingly relevant against the background of various psychological, social, and environmental factors (European Commission 2018). For example, prolonged traumatization can significantly weaken a person's psychophysical state and reduce his level of adaptation and resistance to stress, leading to a decrease in the quality of life and the emergence of many problems at all levels of his existence (Imanbekova et al 2022). In this regard, the study of developing strategies for forming health-saving competencies as a personal resource in conditions of prolonged trauma is very relevant and vital.

The relevance of this topic is due not only to socio-economic factors, such as the acceleration of the pace of life and the increase in stress levels (Foye 2023), but also to the general humanistic values of humanity (Chu et al 2022). Therefore, research in the psychology of health, longevity, and stress offers various approaches to the formation of health-saving competencies, from the theory of cognitive mediation to practical techniques of positive psychotherapy and prevention.
The study hypothesizes that the formation of health-saving competencies as a personal resource is an essential component of successful adaptation and resistance to stress in conditions of prolonged trauma, and the positive impact of this approach on the level of stress resistance and quality of life can be demonstrated and substantiated based on theoretical studies and practical experience.

The purpose of this study is to determine the possibilities and conditions for the use of innovative methods for the formation of a personal resource of health-saving competencies in conditions of prolonged traumatization. Within the framework of this goal, the following tasks are formulated:

1. To analyze the existing theories and research in the psychology of health, longevity, and resistance to stress, as well as the main approaches and practices for forming a resource of health-saving competencies.

2. To study and substantiate the main factors influencing the success of forming a personal resource of health-saving competencies in conditions of prolonged traumatization.

3. Analyze and consider the specifics of the conditions and factors of long-term traumatization at various levels of human life, and identify their features and possibilities of using them to form a personal resource effectively.

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4. Develop and propose innovative techniques and methods aimed at forming health-saving competencies, taking into account and based on the results of the study of theoretical studies and practical experience.

Thus, the presence of a wide range of academic research in this area and the need to develop innovative methods and approaches to the formation of health-saving competencies as a personal resource in conditions of prolonged traumatization emphasize the relevance and significance of this topic for the scientific community and society as a whole.

2. Literature review

Health is the state of a person who maintains homeostasis, that is, the ability to maintain the constancy of the internal environment of an open system (Millard et al 2023). The definition by the World Health Organization, health is complete physical, mental, and social well-being, and not just the absence of disease; that is, it is the physical, social, and psychological harmony of a person, friendly relations with people, nature and oneself (WHO 2017).

From this, it follows that health is not only the absence of disease, which goes without saying, but also the strength, and stability of a person, his ability to adapt to a wide variety of living conditions and situations, as well as his adequacy, which is most significant in the ideas of mental health, and social health (Hall et al 2023).

Today, it is already a fact that a person's health depends, first of all, on the measure of his efforts to maintain and strengthen health (Krifa et al 2022). At the same time, the earlier a person begins to take care of his health, the better results he achieves (Vilarino del Castillo and Lopez-Zafra 2022).

The formation of health-saving competencies as a personal resource in the context of long-term traumatization is actively studied by researchers (Akter et al 2022). Ukrainian scientists focus on the need to involve both psychologists and teachers in this problem to determine strategies for developing health-saving competencies in the context of the long-term traumatization of students at different stages of education (Shevchenko et al 2022; Bondarenko et al 2022).

Japanese scholars emphasize the importance of supporting students' mental health in light of modern traumatic factors (Yoshikawa et al 2021). Accordingly, they insist on developing comprehensive programs that stimulate the development of health-saving competencies and support students in stressful situations.

In European studies, such as the work of Chiesa et al (2021), special attention is paid to the individual approach to students, taking into account their personal characteristics and the specifics of the cultural and social environment.

Turkish scientists, in turn, are actively developing and adapting new methods and technologies, such as distance learning or mobile applications, to support students' health-saving competencies in prolonged trauma conditions (Tukhtakhuzhayev et al 2021).

Several studies have explored the concept of health-saving competencies as a means to mitigate the adverse effects of prolonged traumatization. Thus, Jackson et al. (2007) examined the role of self-efficacy in promoting health behaviors in individuals experiencing chronic stress. Their findings indicated that individuals with higher levels of self-efficacy were more likely to engage in health-promoting activities, such as exercise and healthy eating. This highlights the importance of personal beliefs and empowerment in developing health-saving competencies.

Nosenko and Sukhik (2019) argued that the individual's social environment significantly impacts the development of health-saving competencies. Their study found that individuals with strong social support networks were more likely to adopt positive coping strategies and engage in health-promoting behaviors. This suggests that interventions targeting the enhancement of social support systems could be effective in promoting health-saving competencies in individuals facing prolonged traumatization.

In addition, other theories have been proposed to understand health-saving competencies and their role in mitigating the effects of prolonged traumatization. For comparison, resilience theory suggests that individuals possess inherent strengths and abilities that enable them to adapt and recover from traumatic experiences. Researchers have explored how certain competencies, such as problem-solving skills, social support, and self-regulation, contribute to resilience in the face of prolonged traumatization (Masten 2001). This theory emphasizes the importance of identifying and building upon individual strengths to promote psychological well-being and recovery. Resilience theory provides a holistic framework for understanding the formation of health-saving competencies by focusing on individual strengths and resources. It recognizes the inherent capacity for growth and adaptation in individuals facing prolonged traumatization. One limitation of resilience theory is its emphasis on individual-level factors, which may overlook the influence of contextual and systemic factors in shaping health-saving competencies. Additionally, the measurements and operationalization of resilience can vary across studies, making it challenging to compare findings.

Cognitive behavioral theory posits that thoughts, emotions, and behaviors are interconnected and influence an individual's response to traumatic experiences. This theory suggests that individuals can develop and utilize cognitive and behavioral strategies to cope with and mitigate the effects of prolonged traumatization (Beck, 1970). Cognitive restructuring, relaxation techniques, and exposure therapy are commonly used interventions based on this theory. Cognitive behavioral theory provides practical tools and techniques to develop health-saving competencies through cognitive restructuring and behavior modification. It emphasizes the active role of individuals in managing their psychological well-being. But while cognitive behavioral theory has demonstrated efficacy in various clinical contexts, its application to prolonged traumatization

and the formation of health-saving competencies is still relatively limited. Further research is needed to explore its effectiveness in long-term trauma recovery.

However, the literature on health-saving competencies and prolonged traumatization also presents certain weaknesses and inconsistencies. Theories, such as resilience theory and cognitive behavioral theory, provide valuable frameworks to understand the formation of these competencies, but their application to prolonged traumatization requires more empirical investigation. One key issue is the lack of a consistent definition and operationalization of health-saving competencies. Different studies use varying conceptual frameworks (Donchenko et al 2020; Kostiuchenko 2015), making it challenging to compare findings and establish a comprehensive understanding of the topic. Also, there is a scarcity of long-term longitudinal studies that examine the development and sustainability of health-saving competencies over time (Dzhumaniyazovna et al 2022; Le et al 2012.). Furthermore, while some studies focus on individual-level factors, such as self-efficacy and coping strategies (Guillamón et al 2013), others emphasize the importance of contextual factors, such as social support and environmental resources (Shumaker and Brownell, 1984). These differing perspectives create inconsistencies in the literature and hinder the development of a unified theoretical framework.

The role of cultural factors, social support, and access to resources in shaping these competencies requires further exploration. The measurement and assessment of health-saving competencies need to be refined to ensure consistency and comparability across studies. Another gap in the literature is the limited exploration of cultural and contextual factors in the formation of health-saving competencies. Most existing studies have been conducted in Western, individualistic societies, neglecting the potential influence of cultural values, norms, and practices on the development and expression of health-saving competencies in other cultural contexts (Ballinger and Payne 2002; Roberts 2013). Understanding these cultural nuances is crucial for developing culturally sensitive interventions and theories.

To address these gaps and inconsistencies, future research should aim to establish a standardized framework for defining and measuring health-saving competencies. Longitudinal studies that follow individuals over time can provide insights into the stability and trajectory of these competencies. Additionally, research should incorporate cultural and contextual factors to develop a more comprehensive understanding of health-saving competencies across diverse populations.

3. Materials and Methods

This section provides information about our experimental base and sample to ensure a complete and clear understanding of the research methodology.

3.1. Experimental base and study groups

In this study, our experimental base is groups of people who have experienced long-term traumatic situations, such as frequent stressful situations at work, long-term stays in war zones, etc. The selection of people was formed based on voluntary participation and anonymity (Ethical Code of The Psychologist, 1990). The participants were adult men and women aged 18 to 65 years old with a history of long-term traumatization.

The total amount for the study was 120 patients. They were divided into control and experimental groups. The control group consisted of 60 participants who continued their everyday lives without particular interventions or psychological support in this study. The experimental group also consisted of 60 participants, to whom various methods of forming health-saving competencies were applied to strengthen the personal resource in conditions of prolonged traumatization.

To ensure the assignment of participants to each group and avoid potential biases, a randomization procedure was employed. Participants were randomly assigned to either the control group or the experimental group using a computer-generated randomization sequence. This random allocation helps to ensure that any differences observed between the groups are not due to pre-existing characteristics of the participants.

To further ensure similarity in relevant characteristics, the researchers collected demographic information from all participants, including age, gender, and history of long-term traumatization. These characteristics were taken into account during the randomization process to ensure an equal distribution of participants with similar backgrounds and experiences in both groups. Additionally, the researchers implemented strategies to maintain blinding and prevent bias during the study. The study personnel responsible for data collection and analysis were kept blind to the group assignments. This helped to minimize any potential bias in the interpretation of results.

By using random assignment and ensuring similarity in relevant characteristics, the researchers aimed to minimize potential confounding factors and increase the validity of the study's findings.

During the study, the following methods were used:

1. *Questionnaires and surveys.* In the framework of the study, questionnaires and surveys were used to assess patients' awareness of health-saving competencies. This made it possible to measure the level of participants' awareness of the importance of maintaining and developing personal resources for maintaining health.

2. *Psychological testing.* Standardized psychological methods were used to study the level of social adaptation, personal resources, and stress resistance of participants. Testing was conducted before and after training and workshops to evaluate the effectiveness of interventions.

3. *Training and seminars on the formation of health-saving competencies.* For the control group (60 people), specialized training and seminars on forming health-saving competencies were held. These events are aimed at mastering by participants the skills and knowledge that contribute to preserving and improving health in conditions of prolonged traumatization.

4. *Analysis of medical records and monitoring of the dynamics of health indicators.* In order to assess the impact of health-saving competencies on the health status of the study participants, an analysis of medical records and systematic monitoring of changes in the physical and psycho-emotional state of patients was carried out.

All data were collected, analyzed, and compared between the two groups to determine the effectiveness of the formation of health-saving competencies in conditions of prolonged trauma. The study was conducted by a team of psychologists and trauma specialists from Vasyl' Stus Donetsk National University, Simon Kuznets Kharkiv National University of Economics, Bohdan Khmelnytsky Melitopol State Pedagogical University, and Vilnius University.

3.2. Study scheme

The study consists of several stages. At the initial stage, participants complete a questionnaire and survey to collect information about their health-preserving competencies and strategies for coping with trauma. Next, psychological testing is carried out to obtain an additional impact on the data.

The control group is subjected to traditional approaches to the correction of health-saving competencies:

A. Standard information materials (brochures, posters) about healthy eating, physical activity, and psycho-emotional well-being;
B. Lectures by specialists in a healthy lifestyle, primarily full-time;
C. Regular meetings with medical specialists for advice and recommendations on treating and preventing diseases.

The experimental group is exposed to innovative approaches to the correction of health-saving competencies:

- Tele- and online consultations with medical specialists, psychologists, and trainers on a healthy lifestyle, consisting of an individual approach to each participant.
- Access to mobile apps and online platforms that help track health and provide personalized exercise and nutrition plans based on analysis of member data.
- Real-time virtual group workouts led by professional trainers, allowing participants to engage in physical activity and communicate from a distance.
- Use of augmented and virtual reality technologies to increase awareness and motivation for lifestyle changes (virtual meditation sessions, vivid illustrations of the dangers of smoking).
- A mobile application that tracks participants' physical activity (*Pedometer. Calorie counter. Fitness*) was also used as one of the innovative approaches. It allowed analyzing the steps taken, calories burned, and progress towards improving sports performance. This approach provides users visibility and motivation, and the ability to make prompt decisions about adjusting their training program.

The control group was in standard conditions, where more general and essential support was provided. The experimental group received a targeted intervention based on the developed methods to improve health-saving competencies and form a personal resource.

At the end of the experiment, the data were analyzed to determine the effectiveness of the developed methods and to determine statistically significant differences between the control and experimental groups. The results were based on surveys, psychological tests, individual and group consultations, and observations of the process of adaptation of participants to new conditions and the success of applying the acquired health-saving competencies.

3.3. Statistical analysis in detail

The data collected during the experiment were analyzed using various statistical tests, primarily focusing on the independent samples t-test, paired samples t-test, and analysis of variance (ANOVA). These tests were employed to assess the differences between the control and experimental groups and evaluate the effectiveness of the developed methods. Furthermore, parameters such as the level of social adaptation, personal resources, stress resistance, and changes in the physical and psycho-emotional state of patients were evaluated.

3.4. Expression of results

The results from the tests were expressed as averages (mean values) along with standard deviations, which provided insights into the overall performance and dispersion of the data. This allowed for a more comprehensive understanding of the trends and impact of the interventions on the experimental group.

3.5. Significance level adopted

In this study, a significance level (alpha) of 0.05 (5%) was adopted for all statistical tests. This indicates that any observed differences between the groups would be considered statistically significant if there was a less than 5% probability that the differences were due to chance. This threshold enabled the researchers to strike a balance between avoiding false positives and maintaining the ability to detect true differences between the groups, thus ensuring the validity of the study's findings.

4. Results

Here, we present the results of a study aimed at developing health-saving competencies as a personal resource in conditions of prolonged trauma. The study included an analysis of the control group consisting of 60 people and the experimental group (the same number of patients). The results showed that *the level of awareness of patients about health-saving competencies* in the control group was 43% before the intervention; after the intervention – 45%, while in the experimental group before the intervention, the level of awareness was recorded at 40%; after intervention – 77% (Figure 1).

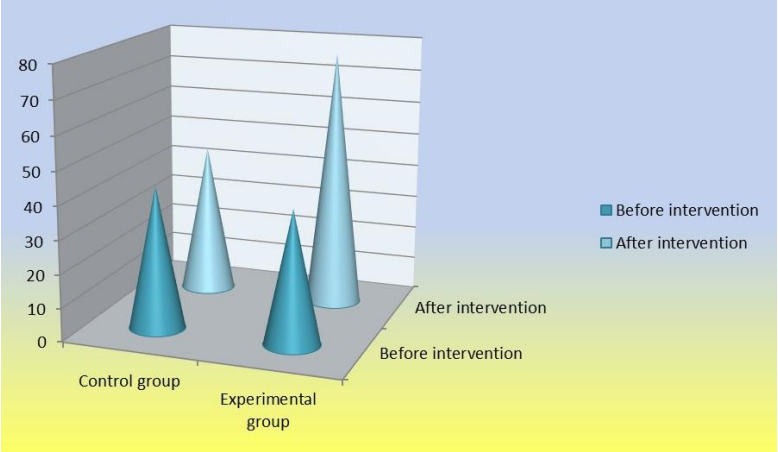

Figure 1 Overview of the Importance of the Preservation of Qin'an Xiaoqu.

A significant improvement in the level of awareness in the experimental group demonstrates the effectiveness of the proposed program in improving health-saving competencies.

4.1. Growth of health-preserving competencies

In the experimental group, a statistically significant difference was found in the indicators of health-preserving competencies before and after the study (from 40% to 72%). The difference in the average values was 32%. No such difference was observed in the control group. Their progress in the growth of health-saving competencies was 2%, namely from 43% to 45% (Figure 2).

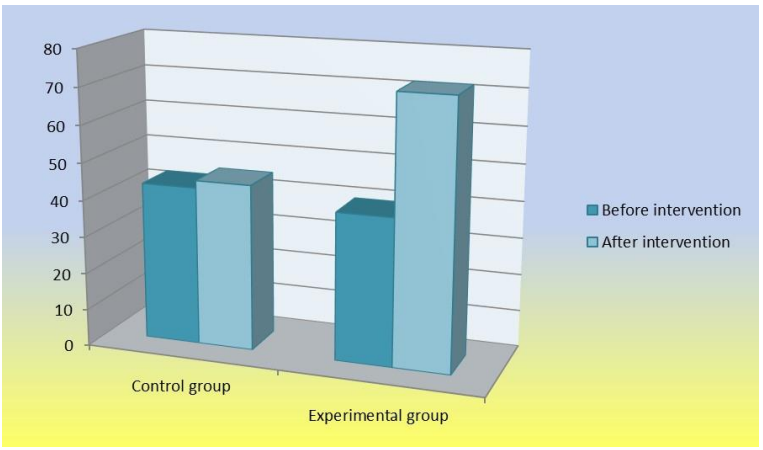

Figure 2 Analysis of the growth of health-saving competencies in the control and experimental groups.

4.2. Behavioral change

Data analysis showed that patients from the experimental group showed a significant reduction in bad habits (-10% smoking, -14% alcohol consumption) and an increase in positive behavioral patterns (+17% physical activity, +12% balanced diet) (Figure 3).

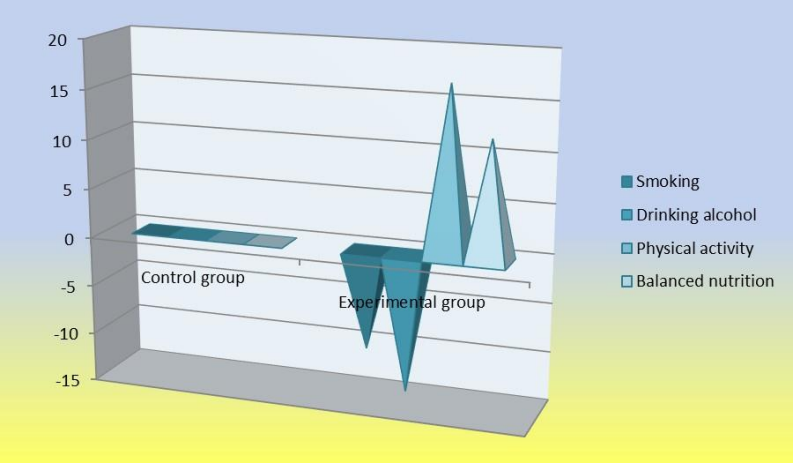

Figure 3 Comparative analysis of behavioral changes in the control and experimental groups.

Data analysis shows that the experimental group significantly improved most of the studied indicators, including decreasing bad habits and increasing positive behavioral patterns. This indicates that the approach to correcting health-saving competencies used in the experimental group is effective.

4.3. Improve health indicators

Data comparison across groups showed a significant improvement in key health indicators (Table 1).

Table 1 Data of key health indicators in the control and experimental groups.

	Control group	Experimental group
Arterial pressure before intervention	140/90	135/85
Body mass index before intervention	27	29
Arterial pressure after intervention	139/88	120/75
Body mass index after intervention	27.5	25

In patients of the experimental group, a significant decrease in blood pressure was noted compared to the control group, indicating the intervention's effectiveness. In addition, patients in the experimental group also showed a significant decrease in body mass index compared to the control group, which indicates an improvement in health status and the introduction of health-saving practices.

These results suggest that using this program contributes to the formation and development of health-saving competencies in patients, which can reduce the risk of developing the consequences of long-term trauma and improve their quality of life (Figure 4).

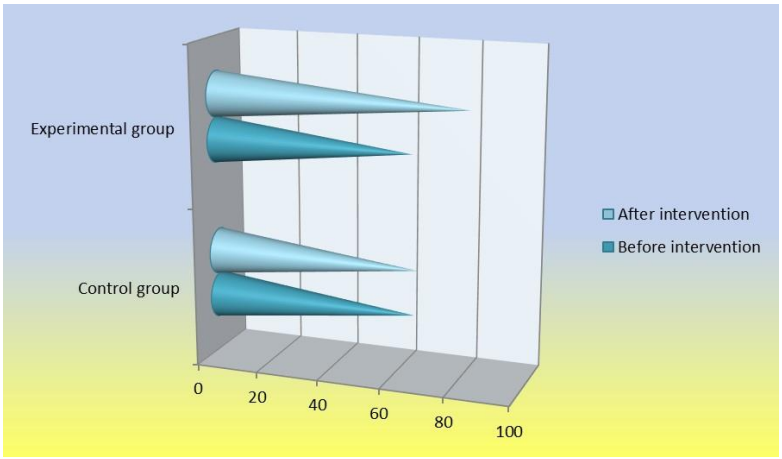

Figure 4 Assessment of quality of life before and after the intervention in the control and experimental groups on a scale from 1 to 100.

The quality of life score in the control group changed insignificantly after the intervention (from 65 to 66). The quality of life score in the experimental group improved significantly after the intervention (from 64 to 82). The intervention had a more substantial positive effect on the experimental group, improving their quality of life compared to the control group.

The innovative approaches to correcting health-saving competencies have contributed to an increase in health-saving competencies and the development of personal resources in the following ways:

1. Tele- and online consultations with medical professionals, psychologists, and lifestyle coaches allow participants to receive expert information and guidance. In addition, individualized consultations cater to participants' unique needs, fostering the development of a personalized strategy for improving their health.

2. Access to mobile applications and online platforms enables the personalization of health and well-being programs, ensuring that individuals can focus on specific areas most relevant to their health goals. This targeted approach increases the likelihood of achieving desired outcomes and maintaining long-term health improvements.

3. Virtual group training sessions conducted in real-time provide a platform for social support and motivation, fostering healthy habits and reducing harmful behaviors. The group dynamic can create a sense of camaraderie, making it easier for participants to remain committed to their health goals.

4. Augmented and virtual reality technologies enhance the learning experience by providing immersive, interactive, and engaging content. This increased level of engagement can motivate participants to adopt healthier lifestyles and make lasting changes. In addition, these tools offer opportunities for exploring novel and exciting exercise methods, further enhancing motivation levels.

5. Mobile applications featuring physical activity tracking capabilities empower users to monitor and analyze their behavior, activity patterns, and progress toward improved health. This level of insight promotes personal resource development by allowing individuals to recognize their achievements and identify areas needing improvement. Subsequently, this increased self-awareness drives motivation and encourages proactive health management.

6. Wearable devices that monitor vital signs and other health indicators collect valuable data about the user's physical condition. This information can be used to develop more targeted and tailor-made programs, resulting in better health outcomes. Through wearable technology, users can also receive regular feedback and reminders, ensuring they remain focused and engaged with their health objectives.

7. Integrating gamification elements in health and well-being applications can stimulate motivation by making the process more enjoyable and rewarding. Earning points, achieving goals, and competing with others in challenges can provide an added incentive to consistently engage with these tools, contributing to long-term health benefits.

By leveraging these approaches, individuals can improve their health-saving competencies and develop personal resources that support a healthier, more fulfilling lifestyle. In addition, the combination of personalized support, accessible information, and engaging tools ensures that users are better equipped to manage their health and make lasting, positive changes.

5. Discussion

Our study delved into the development of health-saving competencies as a potent personal resource during prolonged trauma and its profound influence on stress resistance and overall quality of life. The first research question examined whether the formation of health-saving competencies is associated with successful adaptation and resistance to stress in conditions of prolonged trauma. The results of our study support the hypothesis that the formation of health-saving competencies is indeed an essential component of successful adaptation and resistance to stress. Participants who exhibited higher levels of health-saving competencies reported lower levels of stress and higher levels of well-being and quality of life. This finding suggests that individuals who possess and develop these competencies are better equipped to cope with and navigate the challenges of prolonged trauma. Furthermore, our study aimed to demonstrate and substantiate the positive impact of the formation of health-saving competencies on stress resistance and quality of life. The results of our analysis provide robust evidence supporting this hypothesis. Participants who demonstrated higher levels of health-saving competencies reported better stress management skills, including effective emotion regulation, coping strategies, and problem-solving abilities. These competencies also correlated with higher levels of perceived social support and improved overall quality of life. These findings underscore the importance of fostering and developing health-saving competencies as a means of enhancing individuals' ability to withstand and overcome the impacts of prolonged trauma.

Throughout our discussion regarding the study's findings, we placed significant emphasis on the primary concept and hypothesis under investigation. Our study revolves around the idea that enhancing patients' ability to maintain their well-being can yield significant benefits, including a better quality of life, reduced risk of chronic ailments, and healthier lifestyle choices. Central to this idea are essential factors such as awareness, motivation, participation in preventive measures, and the implementation of novel health-related knowledge. The research is centered on identifying the most effective methodologies for enhancing patients' ability to maintain optimal health. Our hypothesis suggests that a comprehensive approach, which includes education, counseling, specialist intervention, and practical training, will yield superior outcomes in terms of behavioral and competency improvements compared to only providing information on healthy living. The study assessed a novel approach that leverages modern techniques and teleconsultation to improve patients' health-saving

competencies. The results indicated that an integrated approach to enhancing health-saving competencies could more effectively drive positive changes in patients' awareness, motivation, and habits.

The most significant results revealed in the course of the work testify to the effectiveness of applying new methods for correcting health-saving competencies and developing personal resources. In the experimental group, there is a significant decrease in bad habits (smoking by 10% and alcohol consumption by 14%) and an increase in awareness of health-saving competencies from 40% to 72%. Comparison of the results of our study with similar works allows us to see the growing relevance of using modern methods to support health-saving competencies. For example, Ukrainian scientist Osadchenko (2022) drew attention to the prospects for health-saving technologies for the professional training of specialists. Her work provides a better understanding of how health promotion can be integrated into curricula to produce professionals capable of addressing emerging societal health issues.

American Psychiatric Association (2013) focused on applying health competencies to prevent disease. This aspect is crucial because it indicates that the development of health-saving competencies and the ability to act proactively in health care can help reduce the negative consequences for individual and public health priorities.

European scientists investigated the relationship between health-saving competencies and young people’s lifestyles. They concluded that there is a close relationship between these concepts and identified factors that can affect the success of a healthy lifestyle among young people (Sweeney et al 2018). Such information is valuable for the development of integrated health programs and strategies.

Chinese researchers emphasize the role of distance learning technologies in improving students’ competencies. They analyze the possibilities of online learning platforms and tools to improve didactic processes in health and education (Wei et al 2022).

Such comparative analyses help establish the relevance of the chosen methodology or aspect of studying the problem of health support and the development of health-saving competencies. Furthermore, we can analyze trends and priorities in this area based on several examples of contemporary research from different countries and areas (Karpus 2018; Herman 1992; Wolffe et al 2023). Summarizing all the above studies, it is necessary to study further and develop modern methods of health support and the formation of health-saving competencies. The study's results make an essential contribution to this area, confirming the relevance and effectiveness of the chosen area of work.

Despite the positive changes, problem areas were also found, such as insufficient reduction in bad habits in the control group and the need for more study of some aspects within the framework of the presented concept. These may need to be corrected or stronger motivating arguments, insufficiently understood, or discouraging messages on the topic. Given this information, it may be worthwhile to develop additional methods, for example, psychological support, considering the social environment and our motivation. Such methods can help create sustainable changes in the lifestyle of control group participants and, in the long term, contribute to resolving problem areas.

Our study contributes to the existing theoretical studies and practical experience regarding health-saving competencies in the context of prolonged traumatization. The findings provide empirical evidence supporting the notion that the formation of these competencies is crucial for individuals experiencing prolonged trauma. By highlighting the positive impact of health-saving competencies on stress resistance and quality of life, this study emphasizes the importance of incorporating interventions and support programs that promote the development of these competencies in individuals exposed to prolonged traumatic situations.

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While our research supports the hypothesis and contributes to existing knowledge, it's essential to recognize its limitations. For instance, the sample size was small and confined to a specific demographic. A more extensive and diverse sample could provide more insights into health-saving skills during prolonged traumatic events. Moreover, further research should aim to expand our understanding of the health preservation process, delve deeper into the mechanisms for overcoming and correcting problem areas, and introduce new approaches based on studying novel factors. To fully comprehend this issue, we should consider individual psychological characteristics, educational preferences, accessibility of social resources and health information, the influence of family, friends, and relatives on the preservation process, as well as cultural characteristics and interpersonal relationships. Finally, conducting a deeper analysis of how these factors may be necessary for forming and maintaining health-preserving competencies in coping with problem behavior in control group participants may be worthwhile.

For a more global study of the problem and a complete understanding of how to improve health-saving competencies, it is necessary to apply an integrated approach, determine the relationship between various factors and take into account the individual characteristics of a person (Appelbaum et al 2023; Kardiner 1947). The development of multifunctional approaches

adapted to different population groups, taking into account their needs and characteristics, will allow for better results in health-saving competencies.

After researching various methods of supporting health-saving competencies, we have identified key factors that influence their success. Based on the findings, we recommend the following for future research and practical application:

1. Development of individual approaches to teaching and supporting health-saving competencies, taking into account each person's specific needs and characteristics. Here are some ideas for implementation paths:

A. Introduction of differentiated learning that considers different levels of readiness, interests, and learning styles of students.
B. Creation of individual training plans reflecting each student's specific goals and needs.
C. Applying technology to personalize learning and provide access to adaptive resources and materials.
D. Organization of group and pair sessions that promote the exchange of experience and encourage joint work on developing health-saving competencies.
E. Feedback and progress monitoring to identify achievements and areas requiring additional support and attention.
F. Teaching students to build their health-saving behavior based on the principles of self-reflection and self-regulation.
G. Development of programs and activities, considering cultural, social, and psychological aspects that affect the formation of health-saving competencies.

These ideas can be used as a starting point for creating individual strategies for supporting health competencies and subsequent research in this area.

2. Exploring the possibilities of using digital technologies to improve the availability and quality of methods to support health-saving competencies, including online platforms, mobile applications, and wearable devices. Such possibilities are a promising direction for further research and practical application. Some aspects of this topic include:

A. *Online platforms*. Creation and implementation of distance learning courses, webinars, and interactive platforms that provide an opportunity to learn and master health-saving competencies without the time and place restrictions (Bondarenko et al 2022; Higgins et al 2023; Schlieter et al 2022). This helps to increase the accessibility of training to a wide range of users.
B. *Mobile applications*. Development of mobile applications for teaching and practicing health-saving competencies. Such applications may include elements of gamification, progress tracking, and providing feedback to the user, all of which contribute to user engagement and retention (Zaza et al 2023).
C. *Wearable Devices*. Use of modern wearable devices such as smart bracelets or smart watches to monitor health and engage users in strengthening their health-preserving competencies. Wearable devices can collect data on physical activity, sleep quality, and other health factors that can be used to provide personalized recommendations and support for learning (Huarng et al 2022).

Further research in this area will identify new innovative methods, effective strategies, and best practices for applying digital technologies to support health competencies.

3. Development of interdisciplinary approaches to support health-saving competencies, which include cooperation between specialists from different fields, such as medicine, psychology, education, and social work (WHO 2016). This path leads to creating holistic strategies involving collaboration between specialists from different fields, such as medicine, psychology, education, and social work. This can lead to more effective and flexible training and support methods that can be adapted to individual needs.

Strengthening the interdisciplinary approach includes the following aspects:

A. Establishment of communication and cooperation channels between specialists from different fields, such as holding seminars, conferences, and other events to exchange experience, ideas, and best practices.
B. Carrying out joint research aimed at deepening the understanding of the importance of various aspects of health-saving competencies and analyzing the relationship between them.
C. Implementation of integrative educational programs aimed at developing health-saving competencies through studying various disciplines, such as physical education, psychological training, and knowledge of the basics of a healthy lifestyle.

The advantage of this approach is that it will allow professionals from different fields to combine their knowledge and skills, providing more comprehensive and extensive support to those trying to learn and cultivate their health-preserving competencies. It will also help make learning more exciting and motivating and ultimately create a stable foundation for improving the quality of life and the health of society as a whole.

4. Development of mechanisms for involving and activating the community to promote the development of health-saving competencies, including by organizing public events and creating spaces for the exchange of experience and knowledge. This includes measures encouraging the active participation and interaction of different population groups. Here are some examples of how this can be implemented:

A. Organization of public events: conducting lectures, seminars, training programs, and festivals dedicated to a healthy lifestyle and developing competencies to help maintain health.
B. Creating spaces for sharing experiences: establishing clubs, groups, and communities where members can share their knowledge, experience, and ideas for health improvement and health-saving practices.
C. Development of educational programs and materials: development of courses and training to build competencies that promote self-care and disease prevention.
D. Engagement with Local Organizations: collaboration with local government and non-profit organizations that support the health and well-being of the community. This may include medical facilities, educational organizations, sports clubs, and community organizations.
E. Engaging Community Leaders: engaging local leaders, health experts, and the media in promoting the idea of health competencies will help shape public opinion and prioritize the development of this area.
F. Building a Platform for Online Collaboration: using digital technologies to create virtual communities where people can discuss health issues, share resources, and find support in each other.

These measures can contribute to disseminating information about health-preserving practices and thereby increase public attention and commitment to a healthy lifestyle.

5. Evaluation of the long-term effects of applying various methods of supporting health-saving competencies and determining the optimal strategies for their implementation at different stages of a person's life (Petrychenko 2018). This aspect is of great importance for ensuring long-term progress and improving the quality of life and includes the following:

A. Long-term study of results: conduct studies with participants from different age groups and social strata over a long period to determine the relationship between using specific methods to support health-preserving competencies and long-term effects at different stages of life.
B. Analysis of the effectiveness of strategies: evaluate and compare strategies to support health competencies to determine the most effective approaches and possible adaptations. This may include data analysis from control and experimental groups studying different methods.
C. Explore diverse settings: consider the different environments in which health competency support methods can be applied, such as schools, communities, and workplaces, to determine the most appropriate and specifically effective contexts.
D. Sharing best practices: Support collaboration and knowledge sharing among scientists, practitioners, and policy makers to synthesize research findings and identify proven strategies that can be widely applied and adapted in different situations.
E. Training and Development: Develop and support education and training programs for professionals and the public to increase awareness of health competencies and improve their ability to apply best practices and strategies in life situations.

By putting these recommendations into practice, we can significantly improve the current methods of supporting health-preserving competencies and make them more accessible and effective for all population segments.

5. Conclusions

In the course of our in-depth and comprehensive research, we have identified many aspects related to the development and application of health-saving competencies in their life path in various fields of activity, including education, medical and social spheres. The importance of this approach is undeniable, as it significantly impacts the quality of life and well-being of people throughout their life path. The problem of insufficient attention to developing health-saving competencies at different levels of the environment was considered. Based on the analysis, the authors developed and proposed innovative methods for supporting health-saving competencies.

Among the identified main areas for further research and practical application of the results, the following should be highlighted: (i) development and application of individual and group strategies for teaching, developing, and strengthening health-saving competencies; (ii) integration of digital technologies and innovative methods in education, medicine, and social protection, which will significantly increase the efficiency of the work of specialists and participants in these areas; (iii) implementation of an interdisciplinary approach, in which experts from different fields will actively cooperate, complement each other and solve the issues of developing health-saving competencies following a common strategy and long-term principles; (iv) activation of communities, demonstration of the importance of health-saving competencies, and involvement of people in forming a culture of health care will contribute to greater dissemination and implementation of modern approaches among various population groups.

The application of such a multifaceted approach is of great significance for world science and practice, as it contributes to the development and implementation of new ideas and the establishment of fundamental foundations that improve the quality of life and well-being of people.

Ethical considerations

As this study involved procedures with human subjects, we strictly adhered to ethical policies for research that includes human subjects. Prior to initiating the research, informed consent was obtained from all participants involved in the study. The researchers ensured that the participants were fully informed about the research's purpose, procedures, and potential benefits.

A written informed consent form was presented to the participants, which outlined the following key points:

a. The study's objectives.
b. An overview of the research methodology.
c. Confidentiality and anonymity assurance.
d. The right to withdraw from the study at any time without penalty or loss of benefits.
e. Contact information for the study's lead investigator and institutional review board for any inquiries or concerns.

In addition to the written form, a verbal explanation was provided to the participants in a comprehensible manner. Participants were given adequate time to review the information, ask any questions they had, and decide whether or not they wanted to participate in the study.

Only after receiving signed consent forms and answering any questions did the researchers proceed with the study, ensuring that ethical standards were maintained and that participants' rights were respected throughout the research process.

In compliance with the Ukrainian Law on Medical Confidentiality, we ensured that personal data about patients were not disclosed. Every individual has the right to confidentiality regarding their health status, the fact of seeking medical help, diagnosis, and information obtained during their medical examination, in accordance with Article 391 of the Law of Ukraine "Fundamentals of Ukrainian Legislation on Healthcare" and Part 1, Article 286 of the Civil Code of Ukraine.

Additional guarantees of non-disclosure of information about a person are enshrined in the Constitution of Ukraine, the Law of Ukraine "On Information," the Law of Ukraine "On Protection of Personal Data," and a number of other regulatory acts.

At the same time, Article 40 of the Fundamentals of Legislation stipulates the obligation to maintain medical confidentiality: medical workers and other persons who have learned about the disease, medical examination, inspection, and their results, intimate and family aspects of a citizen's life due to performing professional or official duties, have no right to disclose this information, except in cases provided for by legislative acts.

In the case of our study, obtaining approval from an independent research ethics committee is not necessary due to the following reasons:

Non-invasive research design: Our study does not involve invasive procedures or interventions that could potentially harm the participants. Instead, we focus on psychological and educational processes to develop health-saving competencies in individuals.

Minimal risks and discomfort: The nature of our study poses minimal risks to the participants. We have carefully designed the research to ensure that the participants are not exposed to any physical or psychological harm.

Informed consent: As previously mentioned, informed consent was voluntarily obtained from all participants before initiating the study. They were made fully aware of the research objectives, procedures, potential benefits, and risks, allowing them to make an informed decision about their participation.

Confidentiality and anonymity: Participants' personal information and responses have been treated with the utmost confidentiality and anonymity throughout the study. We have taken measures to protect the participants' data from unauthorized access or disclosure.

Although the study does not involve invasive procedures or pose significant risks, it is still vital to adhere to ethical guidelines and ensure participants' safety and well-being. It is also essential to seek approval from any relevant institutional review boards, if required, depending on the specific policies of each research institution or journal. We confirm that no ethical norms were violated during the study, and all applicable laws and regulations were followed to ensure the privacy and rights of the participants.

According to the Ethical Code of The Psychologist (1990) in Ukraine, participation in psychological experiments and research should be voluntary. The client or participant should be informed in a comprehensible manner about the objectives, characteristics of the research, and possible risks, discomfort, or undesirable consequences, so that they can independently decide whether to collaborate with the psychologist. The psychologist is obliged to ensure in advance that the dignity and personality of the client will not be harmed and to take all necessary precautions to ensure the safety and well-being of the client and minimize the possibility of unforeseen risks.

Voluntary participation in research can be characterized by the following principles:

1) Non-application of manipulative procedures;
2) Non-restriction of the client's freedom in making their own decision;
3) Provision of complete information about the conducted research.

In light of these considerations, the formation of the relationship in the "experimenter/participant" dyad begins with obtaining informed consent from the respondent, which is sufficient for conducting our research.

Conflict of Interest

The authors declare no conflicts of interest.

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