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The most common mental disorders in young people and middle-aged people in the modern world

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Abstract. The relevance of the study is due to the fact that in the modern world, young and middle-aged people are exposed to numerous negative factors that can lead to mental disorders. Since these groups are the foundation of any society, maintaining their mental health is a very important task. In this regard, the article is aimed at reviewing and analysing mental disorders that are most common among young and middle-aged people. The main research methods used were analysis, synthesis, induction, deduction and comparison, which helped to identify a wide range of mental disorders typical of young and middle-aged people. The empirical part of the study is represented by a questionnaire conducted to assess the psychological state and causes of mental disorders among young and middle-aged people. The article defines the concept of "mental disorder"; analyses the relationship between genetic, psychological, social factors and their impact on the onset of disorders; analyses the work of psychologists, psychiatrists, and physicians who deal with the issue of helping people with mental problems; the types of mental disorders are considered; the most common types of classification of mental disorders are compared; the mental disorders that are most common among young and middle-aged people are identified; various methods and ways of diagnosing disorders are described; current types of treatment of mental disorders are presented. The article makes a contribution to the psychological science of the general mental health of modern society in the face of negative external influences. The work is of theoretical and practical value for psychologists, psychoanalysts, physicians, and sociologists who can help people with existing mental disorders

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Keywords: psychology; disease; depression; anxiety; social phobia

INTRODUCTION

In today's world, maintaining a person's psychological and mental health is an important task. It is also no secret that young and middle-aged people are the foundation and future of any society. Therefore, the mental disorders they suffer from have a significant impact on the functioning of society and therefore require more attention. The relevance of the stated problem lies in the harmful impact of mental disorders on the social and professional activities of young and middle-aged people, which has significant consequences for both the patients themselves and society as a whole, and the need to combat them.

S.N. Shapse (2008) argues that mental disorders are now being studied as behavioural and psychological syndromes that arise in a person as a response to stress or other negative experiences, and not just as a normal reaction to a particular event. Mental disorders are considered in descriptive and behavioural definitions. The scientist also draws attention to the fact that the symptoms of mental disorders can be a rather blurred phenomenon, as people with the same disorder may have very few behavioural traits in common, although they minimally meet the defining features of a particular disorder. A group of researchers,



M. Christensen *et al.* (2020), point out that in the 21st century, mental disorders are quite common around the world. One in three people is at risk of developing a mental disorder in their lifetime. Although most disorders now have effective treatments, the presence of a mental disorder can be quite a significant problem for a person. Researchers attribute this to the fact that certain behavioural and physical manifestations of disorders can alienate other people from the patient, preventing them from fully functioning as a member of society. M. Subramaniam *et al.* (2020) conducted a study that showed that one in seven Singaporeans experience mental disorders in their lifetime (the most common were anxiety, mood disorders, and obsessive-compulsive disorder). It was also noted that young people are one of the most vulnerable groups in the population, and researchers suggest creating treatment centres targeted at them. That is why it is worth paying attention to why young and middle-aged people are the most vulnerable groups to mental disorders. J. Firth *et al.* (2020) conducted a study on the impact of lifestyle on the risk of these disorders, namely: sports, quantity and quality of sleep, nutrition, bad habits, stress at work and in personal life. As a result, the researchers concluded that sufficient physical activity and a healthy diet not only reduce the risk of mental disorders, but can also be used as a treatment method in some cases. There was also a link between tobacco, alcohol, and drug use and the risk of both mild and severe mental disorders. R. von der Warth *et al.* (2022) found that major depressive disorder, anxiety disorder (including social anxiety disorder), adjustment disorder, and a number of personality disorders are the most common disorders among young and middle-aged people, given the factors that trigger their onset (Conway *et al.*, 2023). Therefore, the purpose of the study is to examine mental disorders common among young and middle-aged people, their classification, diagnosis, and treatment.

MATERIALS AND METHODS

The following methods were used in the study: analysis (to study the peculiarities of the development of mental disorders); comparison, generalization (to systematize the theoretical material related to the object of study); description (to present the results); comparative (to compare approaches and materials for studying the most common mental disorders among young and middle-aged people); classification (to distinguish between types of mental disorders, methods of their diagnosis and treatment). The study was conducted in Kyiv, Ukraine. The sample consisted of 1018 people, including 543 women and 475 men aged 16 to 50 years. The group of “youth” was defined as 16-30 years old, and “middle-aged people” as 30-50 years old. The assessment of psychological state and causes of mental disorders was carried out using standardized questionnaires (compiled by the author), psychodiagnostic methods and tests (GMHAT/PC – Global Mental Health Assessment Tool – Primary Care, developed by Cheshire and Wirral NHS Trust in collaboration with the University of Liverpool, UK

(Sharma *et al.*, 2004). All procedures carried out in participatory research complied with ethical standards, did not violate the honour and dignity of respondents, considered the age characteristics of the respondents and were conducted with the anonymity of the results. In the course of the survey, the interviewer followed the recommendations of the American Sociological Association’s Code of Ethics (1997).

The method of analysis was used to theoretically collect and describe existing approaches in psychology, psychiatry, and medicine to the issue of current mental disorders among young and middle-aged people in the modern world; information from books, electronic articles, monographs, conferences, dissertations, which deeply and comprehensively reveal aspects and manifestations of mental disorders common among young people, was considered. The method of comparison helped to reveal the relevance of this issue based on the study of works devoted to this problem, its features, characteristics, and approaches to explanation; to show the causes of the development of mental disorders and to identify the most appropriate definition for this phenomenon. The classification was also used to identify the types of mental disorders, provide brief overviews of research by scientists, and identify unexplored issues. The method of analysis was used to determine the most effective ways and methods of diagnosing and subsequent treatment of mental disorders based on the use of certified medications and psychotherapy. Empirical methods were used to identify the main mental disorders that are most common among young and middle-aged people. Various factors that directly or indirectly influence their occurrence were considered separately. The method of induction was used to examine negative trends and the prevalence of disorders among young and middle-aged people during Russia’s military invasion of Ukraine and subsequent hostilities, which helped to diagnose common factors and symptoms of the most common mental disorders among the described population groups. Using the methods of generalization and description, the author substantiates the aspects of the psychological research work carried out; the conclusions obtained during the writing of the research paper are systematized. In addition, with the help of various theoretical methods (the method of comparing approaches and classification), the data obtained during the work were classified and compared with other scientific and theoretical works of scientists; theoretical and practical conclusions and results of the study were substantiated. The comparison method was used to compare studies and approaches aimed at a detailed study of the problem of the prevalence of mental disorders among young and middle-aged people; the main approaches and standards for classifying mental disorders were shown.

RESULTS

Mental disorders, their types, and causes

Before moving on to the issue of the most pressing mental disorders among young and middle-aged people in the modern world, it is worth considering in more detail the

concept of “mental disorder” and its types. A mental disorder is a disorder whose manifestations are mainly signs or symptoms of a psychological (emotional and/or behavioural) nature (Spitzer & Endicott, 2018). According to another definition, it is a behaviour determined by certain mental factors that leads to significant stress and negatively affects a person’s performance (Bolton, 2008). Mental disorders affect a person’s ability to cognition, emotions and behavioural control, and significantly interfere with the ability to function adequately both independently and with others. The symptoms can be permanent, recurrent or occur as individual episodes, and they also vary significantly between individual disorders. It is worth noting that mental disorders can only be diagnosed by specialized doctors, i.e. psychologists or psychiatrists. In modern psychology and psychiatry, there are two points of view on the classification of mental disorders: the ICD (International Classification of Diseases) and the DSM (Diagnostic and Statistical Manual of Mental Disorders). The ICD is an international classification of diseases, in which a separate section is devoted to mental disorders, and it is used when registering mental diagnoses in those medical institutions that provide official statistics. The DSM is an American classification of mental disorders, but it is widely used in other countries as well, as it has a number of advantages over the ICD. Despite some differences, the classification of mental disorders in them is somewhat similar. Therefore, mental disorders can be divided into the following groups: organic mental disorders; substance-related disorders (alcohol, tobacco, drugs, and caffeine); schizophrenia and schizotypal disorders (schizoaffective disorder, brief psychotic disorder); mood disorders (depressive disorders, anxiety); stress disorders; disorders related to the patient’s physical health; personality and behavioural disorders; disorders affecting the patient’s psychological development; behavioural and emotional disorders diagnosed in childhood and adolescence; unspecified mental disorders (Tyrrer, 2014).

When it comes to the causes of mental disorders, there are quite a few, and some of them are quite unclear. The most common are genetic causes, environmental influences, and the person’s psychological state. There is a spectrum of certain mental disorders related to family composition (depression, anxiety, narcissistic personality disorder). There is also a high chance that twins will develop the same disorders (Torgersen *et al.*, 2000). It is also worth noting that gender also affects the risk of mental disorders: Men are more likely to develop attention deficit hyperactivity disorder and autism; women have a higher risk of major depressive disorder and anxiety (Jamison *et al.*, 2006). Environmental factors play a key role during pregnancy and at birth. For example, the use of alcohol or psychoactive substances during pregnancy or the lack of it can provoke mental disorders in the child. Complications during childbirth can have the same effect, and inadequate care in the first months of life can lead to cognitive impairment (Fumagalli *et al.*, 2007). The impact of drug use is also worth mentioning. In particular, cannabis and alcohol can lead to

anxiety disorders, depression and bipolar personality disorder, while cocaine and amphetamines can lead to schizophrenia and psychosis (Khan & Akella, 2009). Psychological and social factors include childhood abuse by parents and peers, childhood trauma, and negative life experiences in general. In adulthood, mental disorders can lead to problems in personal life or at work, as well as employment and career problems. Stress associated with difficult life situations (discrimination by society, forced migration, war, disasters) also contributes to the onset of mental disorders (Hiday, 1995). Thus, the causes of mental disorders can be diverse: both congenital and acquired as a result of various environmental influences (stress, exposure to various chemicals, social conditions, etc.).

The most common mental disorders among young people and middle-aged people

The mental and psychological stability of young and middle-aged people is an extremely important component of maintaining stability and well-being in society, as they are its foundation. In the 21st century, these populations are affected by numerous harmful factors that lead to mental illness and disorders. These factors can be both psychological and social. In this context, it seems important to identify the mental disorders that are most common among young and middle-aged people. Based on the analysis of the survey results, it was concluded that there is a certain distribution between age groups, gender and mental disorders that occur in representatives of these groups. For example, young men were more likely to have attention deficit hyperactivity disorder, social phobia and mood disorders (Fig. 1). In turn, young women are more prone to depression, anxiety disorders, and post-traumatic stress disorder (PTSD) (Fig. 2).

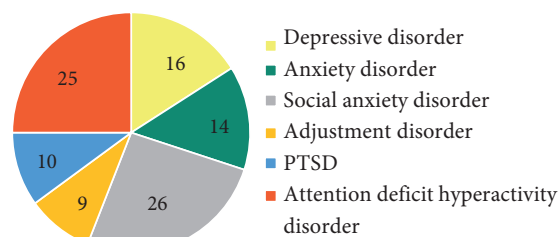


Figure 1. The most common mental disorders among young men, %

Source: author’s development

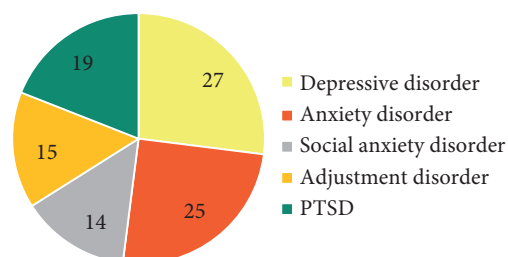


Figure 2. The most common mental disorders among young women, %

Source: author’s development

A similar pattern was observed among middle-aged people, where women were more prone to depression and anxiety disorders (Fig. 3), and men to PTSD (Fig. 4).

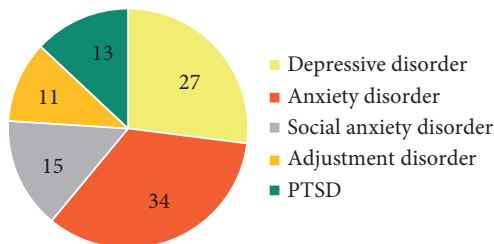


Figure 3. The most common mental disorders of middle-aged women, %
Source: author's development

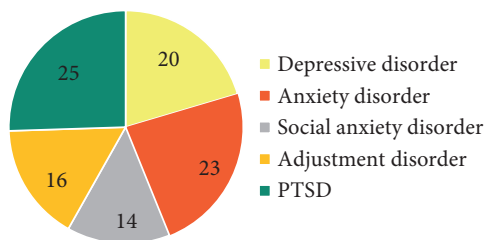


Figure 4. The most common mental disorders among middle-aged men, %
Source: author's development

Characteristically, depression and social anxiety disorder are more common among young people, while adjustment disorders and PTSD are more common among middle-aged people. The reasons that had the greatest influence on the occurrence of mental disorders in young people and middle-aged people were determined. For the interviewed young women, the main causes of mental disorders were genetic factors, violence by parents in childhood (Fig. 5), and for young men – genetic factors, social pressure, difficult financial situation, and military operations (in the case of young soldiers) (Fig. 6).

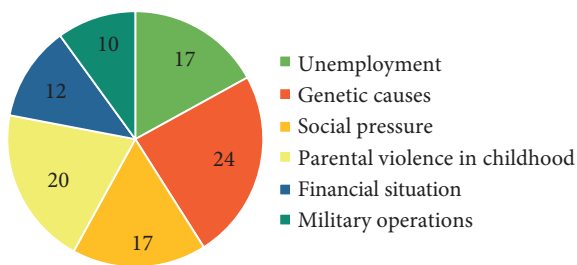


Figure 5. Causes of mental disorders among young women, %
Source: author's development

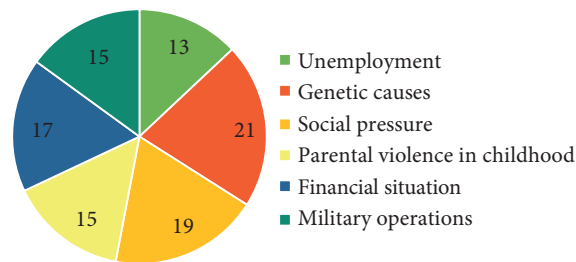


Figure 6. Causes of mental disorders among young men, %
Source: author's development

With regard to middle-aged people, it was determined that the difference between the causes of mental disorders in women and men is not very different (except that women are more susceptible to the effects of hostilities). Among those interviewed, these were: Unemployment, stress at the workplace, problems with finances and genetic predispositions (Fig. 7-8).

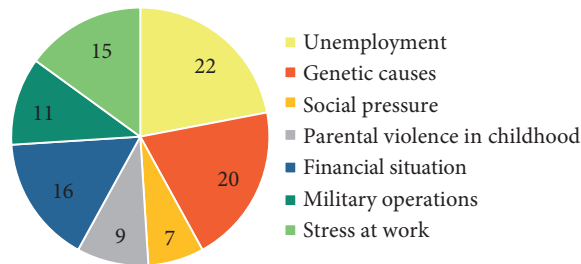


Figure 7. Causes of mental disorders among middle-aged men, %
Source: author's development

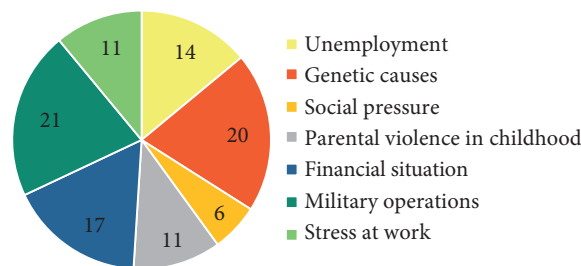


Figure 8. Causes of mental disorders among middle-aged women, %
Source: author's development

Taking into account the results of the study, it is worth considering in detail each of the disorders that are common among young and middle-aged people. Many factors cause depressive disorders. For young people, one of the most significant is unemployment. It has been proven that depression is three times more common among unemployed young people. Other influential factors include satisfaction with their financial situation, place in society, relationships with the opposite sex, and the level of well-being in general.

Importantly, all of these factors are also relevant for middle-aged people (Bartelink *et al.*, 2019). Anxiety disorder is characterized by exaggerated feelings of anxiety and fear, sometimes panic. On the physical level, it manifests itself through trembling and increased heart rate. The causes of this disorder can be divided into psychological, genetic and external factors. People who suffered from parental violence (physical and/or psychological) in childhood, have a difficult financial situation, or have relatives who suffered from a certain disease are more likely to develop anxiety disorders. Numerous studies have also shown that unemployed young people, those with higher education, and those who are single are at higher risk of developing the condition (Goodwin *et al.*, 2020). Social anxiety disorder, also known as social phobia, is a mental disorder that affects a person's ability to function in society. The main causes of this disorder are negative psychological experiences in childhood. Most often, this is associated with bullying by peers, bullying, unsuccessful public speaking experiences, etc. As a result, a person develops a fear of any social activity (whether it is public speaking or just communicating with people) (Mohammadi *et al.*, 2020). An adjustment disorder is a mental disorder that occurs during periods of adaptation to major changes in a person's life and is characterized by significant stress and emotional fluctuations that interfere with a person's normal functioning. It can be caused by various life situations that require a person to adapt. For example, the death of loved ones, forced migration, financial instability, uncertainty in professional activities, family problems and serious illnesses that force a change in lifestyle. An interesting fact is that among young and middle-aged people, women are twice as likely to develop this disorder (Dragan *et al.*, 2021). PTSD is a serious mental condition that occurs as a result of events that have an extremely powerful negative impact on the human psyche. Hostilities and constant missile attacks lead to a massive spread of this disorder. Particularly noteworthy is the fact that the main risk group for PTSD in wartime is young military personnel (18-30 years old). For them, the factors of influence are: the use of weapons; death of comrades-in-arms and loved ones; and hard life in the field.

Diagnosis and treatment of mental disorders

In order to treat a mental disorder effectively, it must first be correctly diagnosed. Much attention began to be paid to this problem about twenty years ago, when the extraordinary diversity of mental disorders led to the realization that they could not be treated in the same way. This was the impetus for the development and further use of the DSM.

The DSM-IV provided recommendations for the diagnosis of mental disorders in patients along several "axes":

1. Axis 1 – the presence or absence of a mental illness. Its use allows for the diagnosis of serious disorders, such as schizophrenia and post-traumatic stress disorder.
2. Axis 2 – the presence or absence of background psychopathology. It is used to diagnose personality and developmental disorders. Such disorders are diagnosed when personality traits lose their functionality and adaptability.

3. Axis 3 – the presence or absence of somatic diseases. It reveals physical conditions that can directly affect psychological health.

4. Axis 4 – psychosocial factors. It helps to assess the severity of psychological and social stressors that may have contributed to the onset or exacerbation of the disorder.

5. Axis 5 – general level of patient adaptation. It characterizes the general level of psychological, social and professional functioning of a person (Shapse, 2008).

However, DSM-IV was replaced by an updated version – DSM-5, which stands out from its predecessor by the presence of the so-called spatial approach. The spatial approach is an approach to the classification of mental disorders that, instead of categorizing them, quantifies the patient's symptoms and represents them using numerical values on one or more scales. As physicians are now often faced with patients who have symptoms of two or more different mental disorders (e.g., panic attacks in a depressed patient), this leads to two concurrent diagnoses. It is in this situation that the new approach can provide the necessary assistance, as it assesses the magnitude of individual symptoms. The spatial model helps to assess and map the course of a mental disorder. This makes it possible to separate normal from abnormal behaviour (Vahia, 2013). It is important to note that effective treatment is provided only by specialists in psychology and psychiatry. The main ways to treat mental disorders are psychotherapy and the use of certified medications. Regular exercise, proper and healthy diet, and support from the environment can be additional treatments that do not require the intervention of a doctor.

Psychotherapy is a way of helping people with a variety of mental illnesses and emotional difficulties. Talk therapy is used to eliminate or control anxiety symptoms. Its goal is to improve a person's functioning and well-being (Karls-son, 2011).

There are several types of psychotherapy:

1. Cognitive behavioural therapy (CBT). It allows identifying and getting rid of habits that provoke the onset of mental disorders. It is especially effective for depression.

2. Interpersonal therapy (IPT). It allows learning how to express one's own emotions and communicate with other people.

3. Dialectical behavioural therapy. It involves the formation of new habits that allow the patient to feel responsible for dealing with a mental disorder. It is usually used to treat patients with suicidal tendencies.

4. Psychodynamic therapy. It consists in working through and subsequently getting rid of childhood traumas that caused the disorder.

5. Psychoanalysis. It is a more intensive form of psychodynamic therapy.

6. Supportive therapy. A type of psychotherapy that helps patients improve their self-esteem, reduce anxiety and develop coping mechanisms (Wiswede, 2014).

As already mentioned, the second most effective way of treating mental disorders is through the use of special medications prescribed by a psychiatrist or family doctor.

They can be classified as follows: Antidepressants used for major depressive disorder; anxiolytics prescribed to combat anxiety disorder; mood stabilizers, which are useful in the treatment of bipolar personality disorder; antipsychotics used in the treatment of schizophrenia; stimulants prescribed for patients with attention deficit hyperactivity disorder (Cipriani *et al.*, 2018). In summary, it is worth saying that the mental disorders have been successfully identified that are most common among young and middle-aged people and are also relevant for these populations.

DISCUSSION

Considering the problem of mental disorders among young people, it is worth paying attention to the work of M. Vasileva *et al.* (2021). It presents the results of a study of the prevalence of mental disorders among certain population groups and compares them with other works on this topic. The researchers concluded that the most common mental disorders observed among young people were oppositional defiant disorder and anxiety disorders of various types. However, given that the study was based on data from psychiatric institutions, the researchers suggest that the results may not be sufficiently representative of the general population. The researchers' conclusions that anxiety disorders are common among young people coincide with the results of this article. As for the methods of treatment of mental disorders, it is worth considering the article by K.R. Merikangas *et al.* (2013). In this article, the researchers investigated the way mental illnesses are treated among American youth. After interviewing 123 people aged 13-18, they concluded that 14.2% of respondents with existing mental disorders were treated with certified psychotropic drugs. There was also a certain correlation between the types of drugs and the types of disorders that patients had. For example, patients with mood disorders used antidepressants; stimulants were used by patients with attention deficit/hyperactivity disorder; antipsychotics were observed among people with serious developmental disorders. Scientists found it interesting that even people without diagnosed mental disorders were taking psychotropic drugs to combat psychological stress and anxiety, which, if not controlled, can lead to serious consequences for mental health and the body as a whole. The opinions of researchers regarding the use of antidepressants for depressive and mood disorders coincide with the results of this study. In continuation of this topic, it is worth considering the work of M. Solmi *et al.* (2022). In it, the researchers concluded that young people are at risk for such mental disorders as depressive disorder, anxiety disorder, and various psychotic disorders. In the context of combating them, it was concluded that regular exercise can have a positive impact on the course of depressive disorders and anxiety disorders. The researchers also noted that improving social relations in schools and higher education institutions can reduce the risk of mental disorders among young people. The conclusions of scientists that young people are at risk for depression and anxiety disorders and the findings of this study have a common basis.

J. Wu *et al.* (2020), in their study on new factors influencing the onset of mental disorders, note that climate change-related problems can create new psychological conditions that will negatively affect both young people with pre-existing mental disorders and the risks of developing them in healthy people. Scientists also point out that natural disasters, such as hurricanes, floods, and forest fires, can be the cause of depression, anxiety, and post-traumatic stress disorders. Although the study presented here looks at the problem of mental disorders among young people from an unusual perspective that differs from the one presented in this paper, it is worthy of attention. Given that stress at work is a fairly common cause of mental disorders among middle-aged people, it is worth having a closer look at the research on this topic. The article by E.C. Schreiber *et al.* (2020) is just such a work. In it, the researchers call workplace stress one of the biggest threats to employees' psychological health. They define it as stress that occurs when the needs of the job exceed the resources and capabilities of employees to cope with them. The main social and psychological factors that provoke stress at work are: The intensity of work; the social environment of employees; and the availability of support from the environment (colleagues, friends, family). The present study of stress at work as a factor that increases the risk of mental disorders examines the stated problem from a perspective not considered in this paper. When considering the treatment of anxiety disorders among young people, it is worth paying attention to the work of C. Creswell *et al.* (2020). They draw attention to the fact that anxiety disorders among young people are not given enough attention, and even more so, some doctors do not recognize them as a serious problem. As a result, many young people do not receive the necessary treatment and continue to suffer from the inability to function fully in society. This becomes even more relevant as research in the US shows that many young adults (14%) and middle-aged people (7%) complained of increased anxiety. The largest jump in the number of diagnosed anxiety disorders was observed among young people aged 18-25. The results of the presented work on the large number of young people suffering from anxiety disorders coincide with the results of this study.

Since post-traumatic stress disorder has become a significant issue among Ukrainians, it is advisable to refer to article by G. Dyomina (2022). She considers PTSD as a type of neurosis that occurs as a response of the human psyche to traumatic events. As hostilities continue on the territory of Ukraine, war crimes are being committed in the occupied territories, and terrorist missile attacks on civilian infrastructure are taking place in the rear cities, PTSD is becoming more widespread. The researcher notes that the most at-risk populations are young military personnel, internally displaced persons and refugees, residents of frontline and occupied territories, and civilians directly or indirectly affected by the war. Similar to this work, G. Dyomina (2022) notes the urgency of the problem of PTSD among Ukrainians and draws attention to the fact that

young military personnel are at risk. Considering the problem of depressive disorder among young and middle-aged people, it is worth mentioning the work of M.A. Villarroel and E.P. Terlizzi (2020). They define depression as a condition in which a person feels sad, empty, becomes more irritable, and certain physical and cognitive changes occur. For this condition to be called depression, it must last for at least two weeks. After conducting a survey, the researchers learned that in the two weeks preceding the experiment, 18.5% of respondents experienced symptoms of depressive disorder, which is a significant figure. Most often, symptoms occurred in young people (21%) and middle-aged people (16.8%). Thus, the findings of M.A. Villarroel and E.P. Terlizzi (2020) on the prevalence of depressive disorder among young and middle-aged people coincide with the results of this study. Continuing the study of mental disorders among young people, it is worth noting the work of G. Beaudry *et al.* (2021). The researchers analysed the results of 47 scientific papers on mental disorders among young people. It was determined that behavioural disorders, attention deficit disorder, and depressive disorder are the most common among men. Among females, symptoms of depressive disorder and post-traumatic stress disorder were more common. Analysing the information provided, it is possible to learn that the conclusions of this research paper regarding the prevalence of depressive and anxiety disorders among young people are correct.

CONCLUSIONS

After conducting the study, it is worth concluding that mental disorders are an urgent problem in the modern world. They can arise under the influence of stressful, psycho-emotional factors or in the presence of a genetic (hereditary) predisposition. Without professional treatment, disorders can only worsen, so timely and high-quality diagnosis is important. This is of particular importance for

young and middle-aged people, for whom full functioning in society is very important. The paper examines in detail the concept of mental disorders, describes their types and the difference in classifications. The article also describes various genetic, psychological and sociological factors that can trigger the onset of mental disorders. It is concluded that the most common mental disorders among young and middle-aged people are the following: depressive disorder; anxiety disorder; adjustment disorder; social phobia; and PTSD. In addition, the criteria for diagnosing mental disorders are defined. The difference between psychotherapeutic treatment and medication is described. The materials of the article may be relevant for psychologists, students of psychological faculties, sociologists, psychiatrists, social workers, who need to be aware of the aspects and stages of development of mental disorders in order to prevent their occurrence. The results of the study will also be informative for the scientific community, as it will expand the aspects of studying the problem of psychological health of modern youth and middle-aged people in the face of negative external influences. It is worth continuing the study and deepening it, revealing the problem of the spread of mental disorders among young and middle-aged people based on psychological and medical methods and approaches. This study does not exhaust all aspects of this psychosocial problem, as it is worth studying such issues as: the connection of one disorder with the emergence of others; the impact of the Russian-Ukrainian war on the risk of mental disorders; creating the right conditions for working with patients with mental disorders.

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CONFLICT OF INTEREST

There is none.

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Найпоширеніші психічні розлади в молоді та людей середнього віку в сучасному світі

Анотація. Актуальність дослідження зумовлено тим, що в сучасному світі молодь та люди середнього віку піддаються впливу великої кількості негативних факторів, що можуть привести до виникнення психічних розладів. Оскільки ці групи населення – основа будь-якого суспільства, збереження їхнього психічного здоров'я постає дуже важливим завданням. У зв'язку з цим стаття спрямована на розгляд та аналіз психічних розладів, що мають найбільше розповсюдження серед молоді та людей середнього віку. Провідними методами дослідження стали аналіз, синтез, індукція, дедукція та зіставлення, які допомогли визначити широкий спектр психічних розладів, характерних для молоді та людей середнього віку. Емпірична частина дослідження представлена анкетуванням, проведеним задля оцінки психологічного стану та причин виникнення психічних розладів у молоді та людей середнього віку. У статті дано визначення поняттю «психічний розлад»; проаналізовано взаємозв'язок між генетичними, психологічними, соціальними факторами та їх впливом на виникнення розладів; проведено аналіз робіт психологів, психіатрів та медиків, які займаються питанням допомоги людям з психічними проблемами; розглянуто види психічних розладів; порівняно найпоширеніші види класифікації психічних розладів; визначено психічні розлади, що мають найширше розповсюдження серед молоді та людей середнього віку; описано різноманітні методи та способи діагностування розладів; представлено актуальні види лікування психічних розладів. Стаття робить внесок у психологічну науку стосовно питання загального психічного здоров'я сучасного соціуму в умовах негативних зовнішніх впливів. Робота має теоретичну та практичну цінність для психологів, психоаналітиків, медиків та соціологів, які можуть допомогти людям з наявними психічними розладами

Ключові слова: психологія; захворювання; депресія; тривожність; соціофобія

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Coping behaviour of women in the situation when their partner cheated

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Abstract. The topic of overcoming the negative emotional consequences of adultery, which is always important in the context of studying the psychological aspects of marriage, has become even more relevant in the context of the war in Ukraine, as the number of adulterers has increased significantly due to the fact that numerous couples have been forced to be separated for a long time. The purpose of the study is to theoretically substantiate and empirically study the peculiarities of women's coping strategies (coping behaviour) in a situation of infidelity. To achieve this goal, a set of methods was used, including analysis, synthesis, comparison, and generalization to clarify theoretical aspects. Online testing was also conducted and methods of qualitative and quantitative data processing were used. The study, conducted in two groups of participants, revealed significant differences between the group of women who had experienced betrayal and the group of women who had not experienced betrayal in close relationships. It was found that in the group of women who experienced betrayal, such coping behaviours as avoidance, self-control, confrontational coping, and emotions stand out significantly. In the group of women who did not experience betrayal in their close relationships, positivity and planning to solve the problem were observed. It is proposed to use a correctional and therapeutic approach to influence a woman's behaviour in a situation of betrayal, the main stages of which are to expand knowledge about stress coping strategies (coping), increase motivation to improve coping behaviour, help in understanding the peculiarities of their own behaviour and repertoire of coping strategies, their constructiveness/destructiveness in the context of crisis situations in relationships. It is recommended to conduct trainings on learning new strategies of constructive behaviour and assistance in individual planning and design of behavioural strategies for different life situations, as well as post-training support. The results obtained in the study can be used in psychological work with partners and couples who have experienced betrayal and will help strengthen the family institution

Keywords: marriage; relationship in a couple; factors of divorce; family crisis; adulterer

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INTRODUCTION

The study of women's coping behaviour in the situation of partner infidelity is a relevant and important area for understanding the psychological well-being of women in society. The modern socio-cultural context introduces its own differences in understanding and solving problems of interpersonal relationships, taking into account changes in roles and expectations. Cheating on a partner is a serious emotional challenge for women, and studying their coping strategies provides a unique insight into the ways they adapt to this difficult life situation. Infidelity is a frequent but serious challenge in romantic relationships. It is estimated that infidelity occurs in 20-25% of marriages (Rokach & Chan, 2023). Despite being a fairly common occurrence, infidelity is one of the most damaging relationship disruptions, with the rejected partner (i.e. the partner who has been betrayed) experiencing increased symptoms of poor mental health, including post-traumatic stress symptoms, depression, and anxiety. The underlying cause of the emotional consequences of infidelity is complex, encompassing social, cultural and evolutionary reasons, such as perceiving infidelity as a violation of relationship ideals, feeling wasted time spent in an unhappy relationship, violation of societal norms and sanctions, family values, expectations, loss of trust, and others.

The study by Z. Antonova *et al.* (2019) shows that cheated partners may experience depression, anger, abandonment, feelings of rejection, lowered self-esteem, and symptoms of post-traumatic stress. The cheating partner may also experience negative emotions related to the situation, such as guilt, anger, embarrassment, and depression. Couples experiencing infidelity report more distress than couples experiencing other problems. Infidelity is associated with numerous harmful consequences for couples, including but not limited to. These include: Decreased trust, increased conflict, reduced sense of unity and shared identity, and relationship instability. Therefore, infidelity is a very significant crisis situation that traumatizes the individual, the couple, and the family as a whole, leading them to the traumatic experience of the possibility of destroying the built-up trust (Baucom *et al.*, 2017). Historically, couples have had some "excuses" for male infidelity. At each stage of society's development, these reasons were different, but for a long period of time, society favoured a certain normativity towards men's infidelity and a complete rejection of women's infidelity. This tendency was rooted in stereotypical and unequal attitudes towards representatives of different sexes (Krugla, 2017). However, over time, as the gender paradigm has changed and the stigma of women cheating on men has decreased in public opinion, researchers have noted an increase in the number of such infidelities. However, according to statistics, infidelity by a man to a woman remains more common (Ryhel & Posatskyi, 2021). Problems in marital relationships affect not only their quality but also the entire family system. Children are particularly affected by the tension in communication between their mother and father. Children can be "included" in this conflict as an "observer", "third party", "someone who knows the secret", etc. This whole reper-

toire of "adult" roles has a negative impact on the child's development. According to the attachment theory, a model of relationship with oneself and society is formed in the process of developing attachment to a constant loving object, most often the mother. Her emotional stability is the driving force in creating a safe and comfortable developmental space for the child. A mother who is in a difficult emotional state, experiencing intense and negative feelings, depression, anxiety, cannot always perform her functions well enough and be a constant object of attachment for her child (Shatynska, 2018). This developmental gap in the early stages of childhood can have a significant impact on the personality. Thus, it should be emphasized that the peculiarities of experiencing and coping with adultery in women are a relevant area of research. The purpose of the study is to examine the peculiarities of using coping strategies by women who have been cheated on by their partners. Objectives of the study: To analyse situations of betrayal in close relationships and their consequences; to determine the essence of coping behaviour, adaptive strategies of women's behaviour in a relationship crisis; to conduct an empirical study of women's coping behaviour in a situation of betrayal; to provide practical recommendations for overcoming negative emotional states of women in a situation of betrayal.

MATERIALS AND METHODS

The theoretical basis of the article is based on a number of scientific studies on family and psychological issues, which make it possible to recreate an understanding of the phenomenon of betrayal, the peculiarities of its experience by women as a traumatic, difficult life situation in the light of the latest challenges of our time, which are inherent in the Ukrainian social space in times of war and family separation, and show ways to overcome this crisis both in interpersonal and personal space. In the course of the research, a specific search method was used, which allowed obtaining theoretical information on the chosen topic. After a thorough analysis of the literature on the phenomenon of coping strategies in the situation of betrayal, only those that give the best view of the coping strategies used by the individual in the situation of betrayal and represent different views on the nature of this phenomenon were selected. The logical-synthetic method was used to analyse, systematize and generalize the provisions on the phenomenon of infidelity in marital relationships. This method helped to develop a general idea of the problem of women's experience of infidelity as a difficult life situation, and to present and comprehend Ukrainian and foreign studies. Before proceeding to the direct collection of empirical research material, it is necessary to outline the main methods and stages of the study. The theoretical stage included collecting information about the problem under study and analysing the results of previous studies. The empirical stage involved a diagnostic examination, which consisted of selecting diagnostic tools, determining the sample parameters and conducting psychodiagnostic procedures with the subjects.

Mathematical and statistical methods of analysis were used to process the data, mathematical criteria were used to test statistical hypotheses, and the results were presented and grouped graphically and tabularly. It is important to note that Statistica 10.0 was used for this purpose. The interpretation stage included analysis and explanation of the identified psychological features, as well as the choice of a strategy for interpreting the results.

The following methods were chosen for the study: Questionnaires (the author's questionnaire "Attitudes towards infidelity"); "The Marital Coping Questionnaire" (Bowman, 1990); "Coping Behavioural Patterns" (Lazarus & Folkman, 1984), the "Coping Behaviour in Stressful Situations" test (Macrodimitris & Endler, 2001), and the "Jealousy Reactions" methodology (Pines & Maslach, 1978). The study was conducted between November 2022 and February 2023. The subjects were asked to answer a series of questions in the format of a video call on the Zoom platform. The study sample consisted of two groups. The first group consisted of 20 women aged 25 to 38 who had experience of close (romantic or marital) relationships. They had been cheated on (cheated on by their partner) no more than one year ago. 5 people from this subgroup kept the relationship, the rest broke up with their partner. The second group included 20 women, aged 24 to 40, who had not experienced infidelity in their close relationships. Particular attention was paid to the ethical issues of the research, including protecting the confidentiality and anonymity of the respondents, as well as obtaining their consent to participate in the study. All references to the individual data of the subjects were presented in a coded form, and the study took into account the general condition of the subjects and their attitude to testing to avoid extraneous variables. The study took into account and eliminated extraneous variables that could affect the results of the survey of the sample respondents (unsatisfactory psychophysical condition; state of increased excitement, etc.). All research procedures involving human subjects were conducted in compliance with the American Psychological Association's (2002) ethical principles of psychologists and code of conduct and the European Commission's (2021) guidance note on ethics and data protection.

RESULTS

Any betrayal is associated with moral or material damage. The main factors that initiate infidelity in romantic or family relationships include: Experience of premarital relations, age of the person, and personal characteristics of the partners. Betrayal in dyadic relationships can both strengthen the union by revealing positive traits of partners that were not previously properly appreciated, and destroy the relationship along with their carriers (Kosheva *et al.*, 2019; Tkach, 2020; Buzhynska & Hubanova, 2020). Coping behaviour is a process that is seen as an individual's efforts to address specific demands that are overwhelming or exces-

sive to experience. Coping is an individual method of interaction with a situation that corresponds to one's own logic, significance in one's life, and psychological capabilities. Coping behaviour is expressed in the use of various coping strategies based on the resources of the individual and the environment. Betrayal in a close relationship is a significant stress factor, the impact of which requires immediate mobilization of human resources. In order to reduce the traumatic impact of information, it is possible to use mechanisms of psychological protection of the individual (Fedorenko, 2022). The perception of betrayal can manifest itself in different ways. Firstly, the processes of defensive reaction are activated. In addition, mechanisms are used that distort or completely supplant traumatic information in order to "build a barrier" and preserve the relative psychological comfort of the individual.

A survey of the sample to identify attitudes towards infidelity revealed the following results. The overwhelming majority of the respondents (70% of the first group and 60% of the second group) believe that betrayal is betrayal by the person they trusted the most. The most serious motive for cheating is new love (65% of the first group and 55% of the second group). The second place is occupied by the total breakdown of the relationship (25% of the first group and 30% of the second group). A casual affair is also considered a significant motive. This refers to short-term sexual arousal or intense love mediated by sexual desire. Men are believed to be guilty of infidelity by 80% of the first group and 55% of the second group, women – by 5% of the first group and 10% of the second group. In the first group, 25% answered "yes" to the question "Should one forgive infidelity?" and 75% answered "no". In the second group, 20% answered "yes", 45% – "no", and 35% – "undecided". The difference in the results can be preliminarily explained by the fact that women in the first group, being in a difficult situation full of various negative affective tendencies (anger, resentment, etc.), see the man who betrayed them as a clear and unambiguous figure with guilt. Analysing a couple's relationship requires seeing both themselves and their partner, which is quite difficult in an emotionally charged situation. According to the results of the marital coping questionnaire, the first group is dominated by such coping as self-blame (mean score – 37.2), conflict style (mean score – 36.1), followed by avoidance (mean score – 31). The least used styles are selfishness (mean score: 27) and positivity (mean score: 22.4). This may indicate a tendency of the subjects to use negative coping strategies, preferring them to positive ones. It can also be seen that the respondents tend to avoid joint problem-solving. These results may be related to relationship disorders and lack of intimacy in the relationship. The second group is dominated by positivity (mean score – 41.2), conflict style (mean score – 32.4), and self-blame (mean score – 35). Avoidance (mean score: 28.2) and egoistic style (mean score: 23.8) are the least used. Table 1 presents the results of the marital coping questionnaire.

Table 1. Results of the marital coping questionnaire

Scales	Average score (1 group)	Average score (group 2)
Conflict style	36.1	32.4
Self-blame	37.2	35
Positivity	22.4	41.2
Selfish style	27	23.8
Avoidance	31	28.2

Source: authors' development

Next, it is worth analysing the results of the questionnaire "Coping behaviours" (Table 2). In the first group, there is a predominance of self-control strategies (mean score – 12.2) and avoidance (mean score – 11.2). When analysing efforts to cope with the situation of betrayal, it can be noted that avoidance strategies are used more often. This may in-

dicate the complexity of experiences in such situations and indicate that the subjects have a tendency to avoid traumatic experiences in order to maintain relative psychological comfort. The second group is dominated by problem-solving planning (mean score – 11.1) and self-control (mean score – 10.1) and positive reassessment (mean score – 10.1).

Table 2. Results of the "Coping behaviours" questionnaire

Scales	Average score (1 group)	Average score (group 2)
Confrontational coping	9	7.3
Self-control	12.2	10.1
Finding social support	11	9.8
Acceptance of responsibility	7.3	9.9
Avoidance	11.2	7.3
Planning to solve the problem	10	11.1
Positive reassessment	9.9	10.1

Source: authors' development

According to the results of the test "Coping behaviour in stressful situations" (Table 3), it can be seen that in the first group, as in the previous methods, such coping behaviour as avoidance prevails (average score – 12.1). Coping

focused on emotions is also at a high level (average score – 10.2). In the second group, problem-solving coping (average score – 9.1) and emotion-oriented coping (average score – 7.3) prevail.

Table 3. Results of the "Coping behaviour in stressful situations" test

Scales	Average score (1 group)	Average score (group 2)
Solving problems	9.2	9.1
Emotions	10.2	7.3
Avoidance	12.1	6.1
Distraction	4.2	3.3
Social distraction	3.1	4.2

Source: authors' development

Next, the results according to the "Reactions to jealousy" method (Table 4). In the first group, 50% of respondents have a high intensity of physiological reactions, normal manifestation – 30%, absence – 20%. 70% have a high intensity of emotional reactions, 30% have a normal man-

ifestation. In the second group, 20% of respondents have a high intensity of physiological reactions, 70% have a normal manifestation, and 10% do not. 30% have a high intensity of emotional reactions, 50% have a normal expression, and 20% have none.

Table 4. Results of the "Reactions to Jealousy" technique

Scales	1 group			2 group		
	Absence	Normal manifestation	High intensity	Absence	Normal manifestation	High intensity
Physiological reactions	20%	30%	50%	10%	70%	20%
Emotional reactions	–	30%	70%	20%	50%	30%

Source: authors' development

Next is a description of the obtained results of the diagnostic examination using the methods of mathematical statistics. The use of the above-mentioned diagnostic program made it possible to obtain the following

results. In order to identify differences between the presented groups, the Mann-Whitney test was used (for comparison of independent samples). The results are shown in Table 5.

Table 5. Comparative analysis of research results according to the Mann-Whitney test

Scales	Sum of ranks (1 group)	Sum of ranks (group 2)	Mann-Whitney test value (critical value 114)
Conflict style	451	392	153.5
Self-blame	353.5	466.5	175.5
Positivity	317	503	107*
Selfish style	357	421	161
Confrontational coping	466.5	353.5	110.5*
Self-control	535	301	92*
Finding social support	457	421	201
Acceptance of responsibility	343	228	146
Avoidance	500	321	99*
Planning to solve the problem	333.5	508	105.5*
Positive reassessment	442	392	120
Solving problems	256.5	378	132.5
Emotions	510	387	105*
Distraction	228	342	144
Social distraction	256	354	152
Physiological reactions	496	291	111*
Emotional reactions	564	331	96*

Note: * significant differences are presented at the 0.05 level of statistical significance

Source: authors' development

The analysis of the results by the U-Mann-Whitney criterion revealed some significant differences between the group of women who had experienced betrayal and the group of women who had not experienced betrayal in their close relationships. In the group of women who have experienced betrayal, such coping behaviours as avoidance, self-control, confrontational coping, emotions, and physiological reactions stand out significantly. These strategies in combination create the basis for a rather complex emotional colouring of life. This is manifested in the constant focus on the situation of betrayal, which exhausts the mental apparatus and can provoke depressive and anxious behavioural patterns. Betrayal as a situation of grief, longing for a lost relationship, requires the experience of painful emotions, their awareness, talk through, and mentalization. And the identified coping strategies block the grieving process. Avoidance and self-control are ways of denying and ignoring the problem. Confrontational coping and emotional response, although they provide instant relief through the release of negative, aggressive emotions, also work to stop a truly balanced decision to change one's internal situation. After all, when a person manifests negative emotions in actions, they provide relief for a while, but do not allow them to reach the turning point of pain (suffering). The same tendency is demonstrated by the emergence of physiological reactions, which allows "digesting" emotional experience through bodily reactions. But this path leads to the emergence of diseases, often chronic ones. The identified tendencies indicate a certain regression, which is

appropriate to the situation of trauma, and infantilism as its manifestation (ignoring the problem). It is worth noting that in the therapeutic sense, such coping strategies in the early stages of experiencing a difficult situation save the psyche from negative consequences. Some time should pass after the stage of acute experience of a traumatic event before working on the problem.

In the group of women who have not experienced infidelity in their close relationships, such coping behaviours as positivity and planning to solve the problem stand out significantly. These strategies include both emotional and cognitive components, and they are considered quite effective. They are aimed at working through situations, thinking, and rethinking irrational beliefs. This difference in coping strategies can be justified by the fact that women in the first group are in a difficult stressful situation, experiencing the consequences of a traumatic event that has significantly changed their lives. And now they need to adapt to a new relationship or a new thing in the relationship (the fact of betrayal) and cope with all the challenges in the ways they know. The next step is to recognize the need to rethink the situation, to acknowledge the difficulties they have faced, and to understand the irreversibility of the changes that are coming. Based on the theoretical analysis of the literature and generalization of the results of empirical research, the author proposed stages of correctional and therapeutic influence on optimizing women's coping behaviour in situations of betrayal. The technology included the following stages of implementation of corrective measures:

1. Expanding knowledge about coping behaviour and signs of its effectiveness. Study of constructive coping strategies, their characteristics, and impact on effectiveness. Consideration of cognitive and semantic barriers to the use of effective strategies, which provides an understanding of the relationship between subjective attitudes and behaviour in situations of betrayal. To achieve this goal, mini-lectures and discussions are used;

2. Increasing motivation for self-change and clarifying expectations. The emphasis is on clarifying expectations from the training, the level of expectations and ideas about self-concept. Identification and correction of resistance to self-change is carried out through group discussions, personal tasks and project tests;

3. Assistance in understanding the peculiarities of behaviour and coping strategies. Use of psychodiagnostic tools, such as project tests and questionnaires, to understand the repertoire of coping strategies and their constructiveness/destructiveness in the situational context of a relationship crisis. The analysis of coping behaviour in games is also used to achieve this goal;

4. Teaching new strategies for constructive behaviour. Use of various methods of active feedback on behaviour in situations that model crisis situations. Emphasis on activation of responsibility and flexibility of coping behaviour to achieve a higher level of subjectivity when dealing with situations of relationship crisis;

5. Assistance in individual planning of behavioural strategies. Expanding the space of goals and subgoals, learning the principles and criteria of effective goal setting, as well as discussing coping strategies to achieve success in different life situations;

6. Post-training support. Monitoring and support in the use of constructive coping strategies in real life situations. This is achieved through individual and group counselling in the 2-3 month post-training period.

DISCUSSION

The article examines coping behaviour in the situation of betrayal, which threatens psychological comfort and is perceived as difficult. Its mastery requires considerable personal resources. Despite the high interest in this topic, women's coping strategies and behaviours in situations of infidelity have not been studied sufficiently. The importance of the study was to understand how the perception of infidelity by an uninvolved partner affected their mental health; how to reduce these negative consequences by reducing the impact of ineffective coping strategies. The research of M. Lonergan *et al.* (2021) confirms that the strong emotional background in which women who have experienced infidelity are experiencing includes specific emotional manifestations of trauma: Feelings of intense anger, insecurity, rage, shame, guilt, jealousy, and sadness. As their participants demonstrated clinically significant indicators of psychological distress, which was associated with intrusive images, memories, and reflections on their previous unfaithful relationships. The findings are consistent

with the conclusion reached in this article that women who have experienced infidelity have a traumatic experience that is difficult and long-lasting.

Divorce or partner infidelity can be an extremely painful and stressful experience for women. In such situations, it is important to find effective coping strategies aimed at overcoming emotional pain and restoring psychological well-being. In the study by I. Kornienko (2017), one of the options for coping, namely distraction, which can take different forms, was examined. The author divides it into six aspects. The first aspect of distraction is taking up new hobbies. Focusing on new interests or hobbies can serve as an effective means of distracting from painful thoughts and contribute to psychological recovery. It can be sports, art, music or any other activity that brings joy and pleasure. The second aspect is the development of education and career. Focusing on professional development allows distracting from personal problems and finding satisfaction in achievements in other areas of life. Immersion in education or career development can help you forget about personal difficulties. The third aspect is social activity. Meeting with friends and family can be an important element of distraction. Communicating with others, participating in various events and having fun can help to improve mood and distract from personal problems. The fourth aspect is therapy. Seeing a psychotherapist provides an opportunity to express feelings, gain an understanding of the situation and develop coping strategies. Professional support can be an effective tool in dealing with emotional pain. The fifth aspect is self-development. Focusing on self-development by reading books, participating in trainings or listening to motivational lectures can help you discover your inner reserves and find a new attitude to life. The sixth aspect is travelling. Going out or travelling can be an effective way of distraction. In general, the author argues that in practice, women most often resort to distraction to forget about infidelity. Despite the fact that the opinions of I. Kornienko's opinions are quite thorough, it is worth disagreeing that in practice women are more likely to resort to this model of coping. In particular, the survey revealed that problem-solving and emotional outlet are more popular types of coping.

M.R. Shrout and D.J. Weigel (2020) argue that the emotional trauma caused by a partner's infidelity is often perceived as an extremely difficult situation. The attachment that has been built between partners is severely tested by an act of infidelity. Reactions to this trauma may mimic behaviours and attitudes observed in the disorganized attachment style, according to Bowlby's (1969) theory. Visible dysregulation in the emotional, psychological and cognitive domains among those who have been betrayed can cause significant stress. It is worth agreeing with these opinions of M.R. Shrout and D.J. Weigel (2020) since, as already shown in the results of this study, emotional trauma in women after a partner's betrayal causes a strong negative reaction, which then turns into coping behaviour. In their study, B. Warach and L. Josephs (2021) emphasize that women who have been cheated on show less willingness

to forgive compared to those who have not been tested by infidelity. Moreover, they show a higher level of suspicion of future relationships. According to the authors' research, the disruptive impact of an act of infidelity has serious consequences for a person's ability to openly accept further romantic relationships. They argue that infidelity in a loving and secure partnership can have a long-term impact on a person, creating barriers to openness and trust in future romantic pursuits. These ideas are reasonable and consistent with the findings of the survey conducted for this study. The study by N. Atapour *et al.* (2021) indicates that women who have been betrayed in a romantic relationship overwhelmingly have a certain tendency towards selfish behaviour. After such an unpleasant experience, they may manifest such traits as self-absorption and focus on their own needs and desires. One of the typical reactions is the desire to ensure their own safety and protection. Women who have experienced betrayal may be more cautious and vigilant in relationships, aimed at protecting themselves. This can be expressed in increased suspicion, avoiding openness and important conversations about emotional state or relationships. N. Atapour *et al.* (2021) also emphasized that in such situations, it is possible to develop so-called self-protection or self-protective egoism. Women who have experienced pain due to betrayal may be more likely to put their needs first, opposing the possibility of repeating the pain and the risk of being betrayed again. It is important to keep in mind that these are only trends, and in real life, each woman reacts to such situations uniquely. Self-defence and selfishness may be temporary coping strategies that arise in response to trauma. These theses are quite thorough, but it is worth disagreeing with them, since, as already noted in the statistical results of the study, selfish behaviour is not dominant.

J.D. Gossner *et al.* (2022) argue that preventing infidelity in relationships is an essential aspect of ensuring a strong and healthy partnership. Participation in training and education can be an effective tool to develop skills and strategies that promote fidelity and strengthen relationships. First, communication skills training can provide participants with tools to improve communication as a couple. Understanding your partner's needs, emotions, and expectations helps to avoid misunderstandings that could lead to possible infidelity. Increased mutual understanding can also be achieved through participation in relationship psychology training. These activities can provide partners with the tools to effectively resolve conflicts and build mutual support, thereby reducing the likelihood of situations that could lead to infidelity. In addition, emotional intelligence training can help develop self-control skills, contributing to a balanced and healthy emotional atmosphere in the relationship. This can be particularly useful in avoiding destructive behavioural responses that may arise from stress or disorder in one's personal life. Generally, raising the consciousness of the relationship through educational activities can also help to strengthen the partnership. Sharing values, setting common goals, and understanding the importance of commitment can lead to a stronger bond and a

lower likelihood of infidelity in the relationship. Therefore, active participation in training and education can go a long way towards strengthening relationships and making them more resilient to external challenges, including the possibility of infidelity. It is worth agreeing with these opinions and emphasizing that increasing psychological education can help many couples to protect themselves from infidelity. Thus, conceptualizing infidelity as its own unique traumatic experience can help to accurately capture the impact of these situations, while shedding light on the complex emotional, cognitive and behavioural reactions that betrayed partners face.

CONCLUSIONS

The overwhelming majority of respondents believe that infidelity is a betrayal by the person they trusted the most. The most serious motive for cheating is new love. The second place is the total breakdown of the relationship. The results of the marital coping questionnaire showed that in the first group, such coping as self-accusation and conflict style prevail, followed by avoidance. The second group is dominated by positivity, conflict style, and self-blame. Avoidance and egoistic style are used the least. The results of the questionnaire "Coping Behaviours" showed that self-control and avoidance prevail in the first group. The second group is dominated by problem-solving planning and self-control and positive reassessment. According to the test "Coping Behaviour in Stressful Situations", it was determined that in the first group, avoidance coping behaviour prevails again. Emotion-oriented coping is also highly prevalent. The second group is dominated by problem-solving coping. According to the results of the Reactions to Jealousy technique, in the first group, 50% of the subjects have a high intensity of physiological reactions, 30% have normal manifestations, and 20% have no reactions. High intensity of emotional reactions was observed in 70% of the subjects, and normal manifestation in 30%. In the second group, 20% of the respondents have high intensity of physiological reactions, 70% have normal manifestations, and 10% have no manifestations. High intensity of emotional reactions was observed in 30%, normal manifestation – 50%, absence – 20%. According to the statistical analysis of the results using the Mann-Whitney test, significant differences were found between the group of women who had experienced betrayal and the group of women who had not experienced betrayal in their close relationships. In the group of women who have experienced betrayal, such coping behaviours as avoidance, self-control, confrontational coping, and emotions stand out. In the group of women who have not experienced betrayal in their close relationships, such coping behaviours as positivity and planning to solve the problem stand out significantly.

Based on the results of the study, a plan of correctional and therapeutic work to overcome betrayal as a difficult life situation is presented. Thus, the purpose of the study was achieved; it expanded the scientific knowledge about the

consequences of adultery. There are limitations that need to be discussed. It is advisable to conduct an additional clarifying study that limits the participation of women who have been cheated on in the last three months to isolate the reactions of the acute grief phase. The women in the study were young, and thus the results are limited to this age group. Future work should clarify the specifics of the experience of betrayal among those in relationships of different durations. Additional contexts, such as family or religious considerations, might be useful to include. Studying

the different aspects of infidelity provides an opportunity to find the best ways to overcome this difficult situation and to find meaning, emotional strength, and reflection on the continuation or end of the relationship.

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There is none.

CONFLICT OF INTEREST

There is none.

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Копінг-поведінка жінок у ситуації, коли зрадив партнер

Анотація. Тема подолання негативних емоційних наслідків подружньої зради, завжди важлива в контексті дослідження психологічних аспектів шлюбу, набула ще більшої актуальності в умовах війни в Україні, адже кількість адюльтерів значно зросла через те, що велика кількість пар зазнала вимушеної тривалої розлуки. Мета дослідження – теоретично обґрунтувати та емпірично вивчити особливості стратегій подолання стресу (копінг-поведінки) у жінок у ситуації зради. Для досягнення цієї мети застосовано комплекс методів, зокрема аналіз, синтез, порівняння та узагальнення для з'ясування теоретичних аспектів. Також проведено онлайн-тестування та використано методи якісної та кількісної обробки отриманих даних. Дослідження, проведене у двох групах учасників, дало змогу встановити значущі розбіжності між групою жінок, які пережили ситуацію зради, та групою жінок, які не переживали зради в близьких стосунках. Виявлено, що в групі жінок, які пережили зраду, значимо виділяється така копінг-поведінка, як уникання, самоконтроль, конфронтаційний копінг, емоції. У групі жінок, які не переживали зради в своїх близьких стосунках, спостерігалася позитивність, планування вирішення проблеми. Запропоновано використовувати корекційно-терапевтичний підхід для впливу на поведінку жінки в ситуації зради, основні етапи якого полягають у розширенні знань про стратегії подолання стресу (копінг), підвищенні мотивації для вдосконалення копінг-поведінки, допомозі в усвідомленні особливостей власної поведінки та репертуару копінг-стратегій, їхньої конструктивності / деструктивності в контексті кризових ситуацій у стосунках. Рекомендовано проводити тренінги щодо засвоєння нових стратегій конструктивної поведінки та допомога в індивідуальному плануванні та проектуванні стратегій поведінки для різноманітних життєвих ситуацій, а також післятренінговий супровід. Отримані в процесі дослідження результати можуть бути використані в психологічній роботі з партнерами та парами, які пережили зраду, і сприятимуть зміцненню інституту сім'ї

Ключові слова: шлюб; стосунки в парі; чинники розлучення; сімейна криза; адюльтер

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Formation of communicative competence of future ship engineers using critical thinking technologies based on the “World Café” method

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Abstract. The transition to a new educational model that will ensure the independence of thinking and speech activity of the future mechanic-officer is a strategic vector of improvement and change in the educational space, which will help maintain the competitiveness of both the teacher and the student. The purpose of this study was to exchange experience of theoretical and practical application of the World Café method as a tool for critical thinking in the context of formation of communicative competence of future ship engineers. To fulfil this purpose, the survey method was used to collect and analyse information on the development of productive critical thinking of education students during discussion in English language classes for professional orientation. The main characteristics and requirements for critical thinking in the professional training of future ship engineers were defined, namely: clarity, accuracy, validity, logic, impartiality. It was proved that the process of forming critical thinking is a necessary condition for independent and responsible actions of maritime specialists in problematic situations. Critical skills such as analysis, evaluation, explanation, and summarisation were highlighted, which are important when discussing professional situations. It was substantiated that critical thinking requires active learning and does not tolerate passive learning, and therefore classes should be interesting and exciting, productive, and motivational. It was emphasised that the main purpose of modern maritime education is not just the accumulation of knowledge and skills, but the training of cadets as independent subjects of educational activities capable of learning and improving their knowledge. The study described the advantages of the World Café method. It was noted that in distance education, “the world cafe” method is widely used in online classes on the Moodle, Zoom, Google Classroom, Whiteboard Miro platforms for group work and knowledge sharing. The practical value of this study is that its results can be used by teachers in preparation for classes in English (for professional purposes), literature, history, etc

Keywords: ability to analyse; online classes; independence; decision-making; professional education; maritime English

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INTRODUCTION

Recent decades have seen the beginning of a new phase in the teaching of English at a technical university. This stage is characterised by innovative approaches to defining the purpose, content, means of teaching and practical implementation of these approaches in addressing particular issues related to the achievement of new goals. In the new

communication space, increasingly more attention is being paid to the development of communication skills, including professional communication.

The formation of a new level of specialist involves the use of methods of activation and problematisation of language learning that develop creativity and independence.



The introduction of the latest technologies also raises the question of training a future mechanic-officer who will be able to find a solution to a problem in the context of professional activity, i.e., to teach them the ability to think through solutions to any situation, looking for a variety of options. Therefore, the problem of developing critical thinking skills in students is important and relevant today. A person who does not take anything for granted and thinks critically can observe and be attentive to details; carefully study information; identify the important, ignoring the secondary; and substantiate their opinion.

As students are increasingly writing tests using information technology, and control questions contain answers, they (students) are deprived of the opportunity to solve problematic tasks independently, using logical thinking operations (Kononova & Yurzhenko, 2019). And if critical thinking is the ability to evaluate different concepts and draw conclusions based on evidence, then the student must be taught to think independently (analyse, evaluate, establish objective truths) to master the problem and find the only correct solution, to express oneself competently, to be convincing (Mataniari *et al.*, 2020)

The purpose of education is an independent, creative person capable of self-development, not only of learning but also of using the necessary knowledge, skills and abilities in real life. Critical thinking requires active/interactive learning and does not tolerate passive learning, it is not a natural skill or skill set, and is therefore improved over many years through practice (Dewi *et al.*, 2022). Proceeding from the purpose of critical thinking, teachers should engage their students in interactive activities, and the quality of arguments and thinking should become a personal practice of using English and critical thinking at the same time (Chen, 2022). Since students mostly have no prior experience and can only rely on information from the cases they read, it is still necessary to engage students in “thinking through and finding solutions” (Butler & Halpern, 2020). The introduction of the interactive technology “World Café” in the educational process affects the change in the type of thinking and the level of creativity of students (Skrypnyk & Rybak, 2022). This technology, as a process that increases the effectiveness of large groups, today includes many methods and techniques used by teachers in various educational institutions (Arisoy & Aybek, 2021).

The World Café method is one of the tools for developing critical thinking. The exact time of the method's emergence is unknown, but most opinions agree that the date of birth can be considered 1995, when business owners and scientists met at the home of Juanita Brown and David Isaac in Mill Valley, California to discuss the future of economic development. They worked in mixed groups and then discussed their findings. Many interesting solutions emerged from the discussion, and the methodology has been applied in different countries and in different areas of activity (The World Café format as a tool for community development, 2017).

Although there are many studies on this topic, it is still relevant to consider the feasibility of using this method in

teaching maritime English, as the problem has been understudied. The purpose of the article is to substantiate the feasibility of using the “World Café” method as a tool for building communicative competence and developing productive critical thinking when learning English at a maritime college, both in the classroom and online.

MATERIALS AND METHODS

The study used a set of interrelated methods: empirical (observation, survey), theoretical (analysis, generalisation, comparison). A pedagogical experiment was conducted to introduce the World Café method into the educational process. It was attended by 83 cadets of the mechanical department of the separate structural unit of the Maritime Applied College of Kherson State Maritime Academy (men, 17-19 years old, with various levels of English, with the same learning environment and curriculum).

The students were divided into two groups: 45 (experimental group) and 38 (control group, in which this method was not used in the classroom).

The observation method was used to monitor the implementation of the World Café method in the English language teaching and learning process. Using theoretical analysis, scientific sources were reviewed in terms of the relevance and prospects of implementing this method in various fields of activity today, including for students of several types of institutions; methodological developments of English language classes and educational activities for ship engineers were prepared. A pre- and post-experiment survey was conducted to determine productive critical thinking using a survey on the LMS Moodle platform (Fig. 1). The survey was conducted anonymously in class, online (September, December 2021). Students, answering questions of varying levels of difficulty, had to choose one or more of the options (level 1). The questions of the 2nd level of difficulty contained the following tasks: to determine the correct answer (to explain their opinion); to substantiate a true or false statement; to describe actions in the proposed situation (fuel spill; extinguishing a fire in the engine room/ on the upper deck; bunkering, etc.).

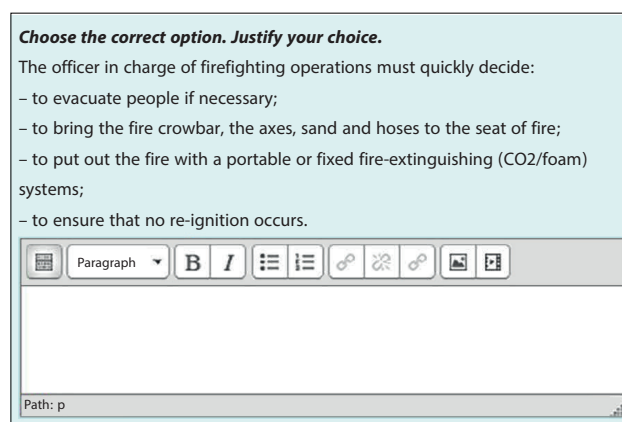


Figure 1. Tasks from the LMS Moodle platform (2nd level of difficulty)

Source: screenshot of the Moodle LMS platform window

The methods of generalisation and comparison were used to make a quantitative and qualitative analysis of

the results obtained. The results were processed using the answers on the Moodle LMS platform (Fig. 2).

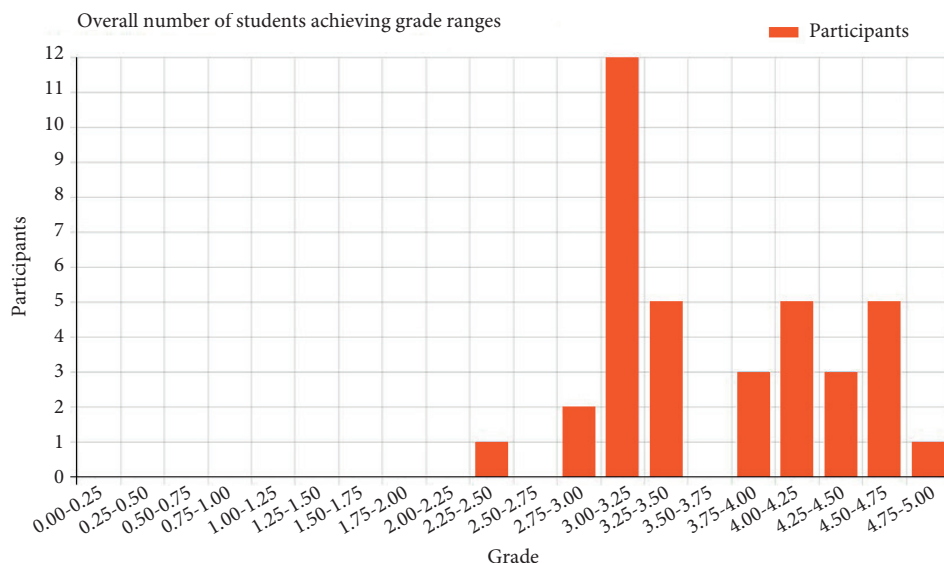


Figure 2. Graph of responses received on the platform

Source: screenshot of the programme window with the results

All processes conducted in the study comply with ethical standards, do not violate the honour and dignity of respondents; the psychological characteristics of students, including age, were considered. During the experiment, no one's rights were violated, and anonymity was preserved following the recommendations on the ethical aspect of conducting pedagogical research developed by reputable organisations, including the American Educational Research Association (2011) and the British Educational Research Association (2018).

RESULTS AND DISCUSSION

During the module, each teacher uses different methods and techniques (role-playing, discussions, conversations, brainstorming, etc.) to improve the memorisation and enhance students' knowledge. In the English for Specific Purposes classes, teachers try to create a problem situation that is close to the conditions of professional training of ship engineers. Therefore, it is vital that learners try to think and express their opinions (working in groups or pairs), choosing the best solution to the problem (Raj *et al.*, 2022). Shifting from conventional homework, such as completing an exercise, to more creative tasks, such as creating a project, can help with learning and critical thinking.

The World Café method allows for a lively discussion in small groups, which should lead to an optimal solution (to a task, problem, or situation). This method is an active assistant to gather information, share knowledge or experience, freely share ideas and opinions, and hear what others think about it. This allows each participant to be involved in the discussion and speak frankly and on equal terms (Tunjungari & Takwin, 2021). All this should teach future ship engineers to work in a team and respect each other's opinions.

This method makes it possible to work and move between desks, writing down theses, filling in tables, diagrams, or mind maps (to optimise the process, one can find a large sheet of paper, coloured pencils, or markers at each desk) (Fig. 3).

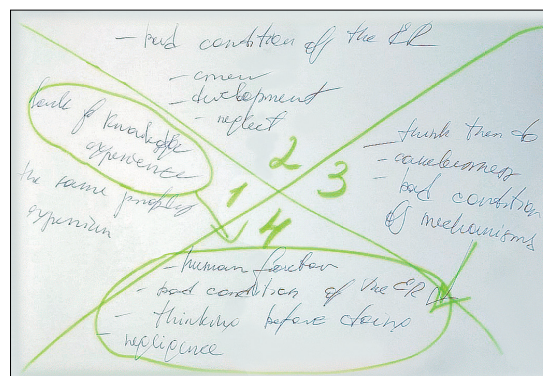


Figure 3. A sheet of paper with theses written down
Source: photographs taken by the author of this study

This method can also be used for distance learning. Different platforms allow students to work as a separate subgroup or together. For instance, Zoom and Moodle have separate "rooms" for discussion, while the Whiteboard Miro platform allows students to take notes, use drawings, fill in tables, and present their posters. Students can work on one or several topics at the same time, i.e., each subgroup works on a particular issue that is discussed and worked on.

The role of the moderator and team leaders is particularly important. Future specialists may not consider opinions and facts that are not inherent in their views, i.e., during the discussion they reject information that may be

important for solving a problematic professional situation (e.g., in the engine room). Therefore, the moderator's task

is to set up friendly work in groups (Fig. 4), preventing criticism of ideas (Saukh, 2021).

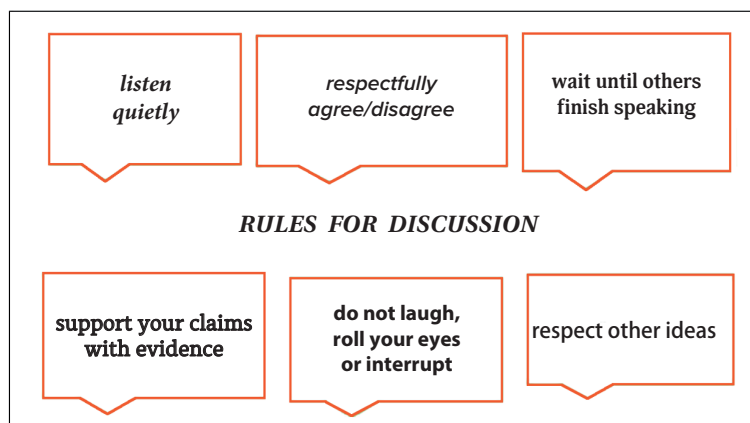


Figure 4. Rules for organising friendly work in groups

Source: developed by the author of this study

A dialogue or discussion in the format of a World Café involves several steps:

1) the participants divide into groups and choose a leader (there should be a balance between strong and weak students);

2) having understood the main goals and objectives of the discussion, the group proposes their ideas, the “scribe” records them; the discussion takes 15 minutes (it is useful to provide students with indicative questions to guide their thoughts in the right direction);

3) the leaders move to another desk and introduce the participants of the other group to their work, refine ideas, reject unsuccessful ones, suggest new ones; after 15 minutes, the next desk is changed, and so on – until the leaders return to their groups;

4) the leaders (with their original teams) share the results of their work and choose the best ones (10 minutes);

5) after that, poster presentations from each group are followed by a discussion (the discussion can be continued by forming a single large circle) (World café: how discussion in small mixed groups helps to find solutions. 2021)

The rules can be changed: it is not the leader who goes from desk to desk, but the group itself, and then communicates with its leader; perhaps each group is given a piece of text (different in content, but on the same topic; beginning, middle, and end), and, going between desks, each group fills in, e.g., a table, at the end getting a complete picture of the topic for discussion. One can change the name of the café, e.g., when discussing environmental protection, it can be called a “green café”, when studying the topic of “main and auxiliary mechanisms”, “rules of conduct in the engine room” – a “professional café”, etc.

The best way to teach critical thinking is to teach students to ask a lot of questions during a discussion and to look for answers on their own. Questions stimulate critical thinking, and by answering them, students analyse information, build hypotheses, and defend their opinion

(Tiaglo, 2017). The World Café discussion methodology is suitable for revisiting a completed module to gain a common understanding of a particular situation or to address various issues (e.g., bunkering stages or team actions during a fuel spill/fire, etc.) At the end of each module of the textbook, senior students have a “Case Study” or “Maritime Accident Report” – selected texts with a problematic quasi-professional situation on board a ship. After reading the “case”, future ship engineers should solve the problems (in the form of a discussion) by answering the main questions: how or because of what/who did it happen? what was the plan for the task? who was responsible for the task? what should be done to remedy the situation? what are the conclusions to prevent such a situation in the future?

At the end of the discussions, students can be asked to write an essay or a letter to a friend as homework, asking them to answer the following questions: what experience did you have during the class discussion; did you change your opinion after hearing another opinion, or, on the contrary, did you try to convince someone; did you feel comfortable during the discussion; what did you learn? It was found that the experimental and control groups (before the experiment) had almost the same indicators: critical thinking (10% difference), dogmatic thinking, i.e., they did not try to refute the opinion of another, but only to prove their own position, thus possibly leaving out the only correct opinion of the interlocutor (16% difference), and do not have their own opinion (25% difference) (Fig. 5). The purpose of the next step of the experiment was to find out the level of academic achievement. Having analysed all these questions for the second time (after using the method), students show understanding of the problem, seek reliable information, choose the best result among the available ones, substantiate their opinions and make decisions (61% discrepancy), dogmatic thinking (45% discrepancy), students who agree with everyone and do not have their own opinion (35% discrepancy) (Fig. 5).

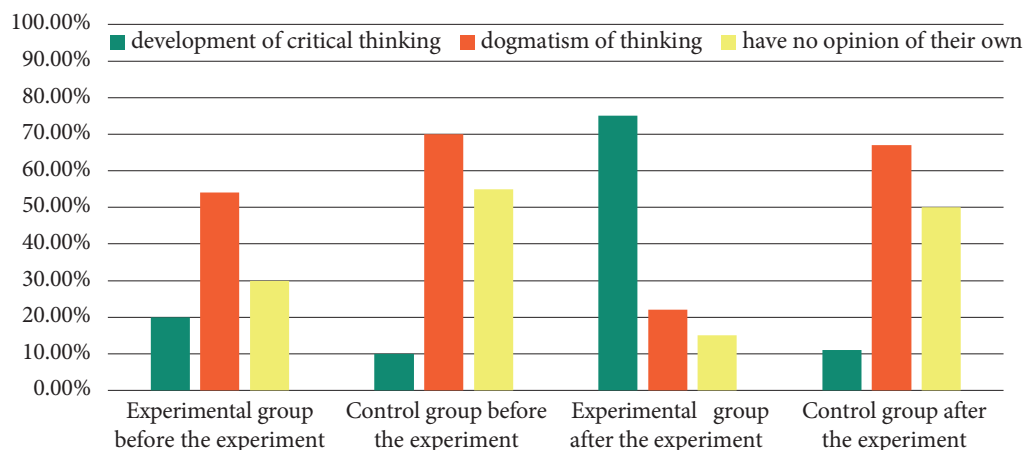


Figure 5. Diagram of the experiment results

Source: developed by the author of this study based on the findings

If the World Café method is implemented in the educational process of teaching English (for Specific Purposes) and is used purposefully and systematically in final classes and at educational events, the level of students' academic achievements will increase.

Many foreign and Ukrainian scholars have addressed the issue of developing critical thinking in general and the use of the World Café method in classes of different age groups and in the study of various academic disciplines. The researchers provided additional characteristics to better understand the concept of critical thinking, its importance and approaches to its formation. According to H.A. Butler and D.F. Halpern (2020), critical thinking is directed and balanced; Y.N. Dewi *et al.* (2022) consider it independent and well-founded; R.W. Paul (1993) – sceptical attitude towards the generally accepted; H.A.E. Shamboul (2022) considers it a productive and cognitive process of a person. S. Terno (2020) emphasised the importance of the dialogue model of learning for the effective development of students' critical thinking in collaboration. S. Skrypnyk and V. Rybak (2022) believe that the introduction of the interactive technology "World Café" in the educational process contributes to a change in the types of thinking, levels of creativity, which is the fundamental basis for improving the level of student achievement. The World Café method can be an effective educational practice that contributes to the formation of professional competencies (Arisoy & Aybek, 2021), a powerful tool for working on strategic tasks in decision-making (Mihail, 2022), combining many opinions for in-depth study of a problem (Saukh, 2021), helps to see the multilayered nature of the problems being worked on and multiple options for their solution (Tunjungsari & Takwin, 2021). The key to the success of this technology is a relaxed atmosphere, mutual respect, and the ability to listen and hear each other's opinions. This is one of the main factors that will contribute to the growth of the creative process and is the ideology of the "café" technology (Diahyleva *et al.*, 2021). Thus, the results of this study fit well into the general context of

scientific research and, specifically, once again confirm the need to develop critical thinking in students, and that the World Café method has proven to be an effective tool to help successfully accomplish this task.

Experiments related to those presented in this study have been conducted by other scientists. S. Skrypnyk and V. Rybak (2022) note that this approach will ensure a change in critical thinking and affect the levels of creativity of students, which was tested during the formative experiment. H. Ivanenko *et al.* (2022) believe that the use of these pedagogical technologies in the educational process will increase the overall effectiveness of the educational process; improve student activity in practical and seminar classes; increase motivation to acquire knowledge; and develop the necessary competencies. The World Café is a flexible and effective method for facilitating knowledge sharing, small group discussions to develop understanding and collaborative learning about a topic of interest, where all participants contribute to the discussion, have the knowledge and skills to address the issues and do not need to rely on an "external" expert judgement (Schiele *et al.*, 2022).

The use of technology has a positive impact on the scientific and creative activities of students. Everyone learns to work independently, develop their own intellectual, cultural, and ethical development, and demonstrate their creative potential, which underlies further professional development and individual success (Skrypnyk & Skarupa, 2022). The advantages of this method are as follows: it is suitable for exploring ideas and problem situations; it provides an opportunity to express many ideas in a short period of time; summarising the project; planning group work; it can involve 15 to 50 or more students in the discussion (I-III years for the final stage, e.g., "English Week").

The World Café method should not be used when dealing with material that the group has not studied before (or the first lesson of a module), because there is not enough material to compare with and students will not be able to find what to compare with what, or what arguments to make.

CONCLUSIONS

Facilitative methods of teaching English and their use in combination with conventional approaches to the organisation of learning activities are the key to the formation and development of students' qualitative communicative competence. They maximise the potential of all participants in the process, stimulate the activity and initiative of students and improve their learning. The educational value and pedagogical effectiveness of the introduction of the interactive technology "World Café" in the educational process was proved in the experiment, the results of which suggest that in the experimental group, after a series of classes and educational activities with the introduction of the interactive technology "World Café", critical thinking skills increased (by 55%) and the indicators of dogmatic thinking decreased (by 32%) and the number of those who did not have their own opinion decreased (by 15%). Therefore, the implementation of the World Café method in the educational process of teaching English (for Specific Purposes) to ship engineers is effective. It was substantiated that it affects changes in the type of thinking and the level of creativity of students. The World Café method was chosen for the study because it offers significant opportunities to improve the effectiveness of group decision-making (i.e., analysing the situation; identifying options for solving the problem; choosing the best option); increase the level of involvement of each student in the discussion process; stimulate initiative; encourage personal responsibility for the

process and the result, ensure the exchange of experience between participants; and promote personal development of discussion participants. It was found that students prefer situational modelling, which stimulates them to develop, express themselves freely and use their English language communication skills in various professional situations.

The purpose of this study was fulfilled, the updated results confirm that the implementation of the World Café method in the educational process of teaching at final classes and educational events increases the level of academic achievement of students. During the experiment, the necessary conditions were provided in order not to distract students from work, not to constrain their actions, but to make them more natural. The participants in the experiment were third-year cadets of the separate structural unit of the Maritime Applied College of the Kherson State Maritime Academy. The respondents answered questions of varying levels of difficulty (where they could choose from the answers provided or express their own opinion).

The prospect is to develop methodological recommendations for the implementation of this methodology in teaching English (and other disciplines) in various courses.

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CONFLICT OF INTEREST

None.

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Викладач

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Формування комунікативної компетентності майбутніх судномеханіків за допомогою технологій критичного мислення на основі методу «Світове кафе»

Анотація. Перехід до нової освітньої моделі, яка буде забезпечувати самостійність мислення та мовленнєву активність майбутнього офіцера-механіка, – стратегічний напрям удосконалення та змін в освітньому просторі, який сприятиме підтримці конкурентоспроможності як викладача, так і здобувача освіти. Мета дослідження – обмін досвідом теоретичного та практичного застосування методу World Café як інструмента критичного мислення в контексті формування комунікативної компетентності майбутніх судномеханіків. Для досягнення поставленої мети використовувався метод опитування, завдяки якому зібрано та проаналізовано інформацію щодо розвитку продуктивного критичного мислення здобувачів освіти під час дискусії на заняттях з англійської мови за професійним спрямуванням. Визначено основні характеристики та вимоги до критичного мислення в професійній підготовці майбутніх судномеханіків, а саме: чіткість, точність, обґрунтованість, логічність, неупередженість. Доведено, що процес формування критичного мислення – необхідна умова для самостійних і відповідальних дій морських фахівців у проблемних ситуаціях. Висвітлено критичні навички: аналіз, оцінка, пояснення та підсумовування – важливі під час обговорення професійних ситуацій. Обґрунтовано, що критичне мислення вимагає активного та не терпить пасивного навчання, тому заняття мають бути цікавими та захопливими, продуктивними та мотиваційними. Наголошено, що головна мета сучасної морської освіти – не просто накопичення знань і вмінь, а й підготовка курсантів як самостійних суб'єктів освітньої діяльності, здатних навчатися та вдосконалювати свої знання. У статті описано переваги методу «світового кафе». Зазначено, що в дистанційній освіті метод «світового кафе» широко використовується в онлайн-заняттях на платформах Moodle, Zoom, Google Classroom, Whiteboard Miro для групової роботи та обміну знаннями. Практична цінність дослідження полягає в тому, що його результати можуть використовувати викладачі в підготовці до заняття з англійської мови (за професійним спрямуванням), літератури, історії тощо

Ключові слова: здатність аналізувати; онлайн-заняття; самостійність; рішення; професійна освіта; морська англійська мова

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Modern psychological assistance technologies for internally displaced persons

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Abstract. Since the full-scale invasion of Ukraine by Russia, many Ukrainians have fled their homes in search of safer places, thus the problem of developing convenient and effective methods of providing psychological support to the maximum number of citizens has become urgent. The research aims to develop a technology for helping internally displaced persons based on exposure therapy methods. The study sample consisted of 84 respondents who had the official status of internally displaced persons. To quantify the parameters of the stressful state, the PCL-5 post-traumatic stress disorder diagnostic tool was used, and the updated Oxford Happiness Inventory (OHI) was used to determine the emotional state. At the beginning of the study, 67% of respondents in the sample had a level of symptoms sufficient to diagnose post-traumatic stress disorder, which indicates a high level of psychological distress. The methods of trauma-focused cognitive behavioural therapy and Eye Movement Desensitisation and Reprocessing were used for psychotherapeutic procedures. The use of both methods proved to be effective in improving the overall psychological state of the respondents. The use of trauma-focused cognitive behavioural therapy led to a 9.0% reduction in symptoms of post-traumatic stress disorder and a 37.73% increase in happiness compared to the control group. The method of desensitisation and eye movement processing led to a 15.41% reduction in symptoms of post-traumatic stress disorder and a 35.30% increase in subjective indicators of happiness compared to the control group. The combined use of both methods showed the best results: after three months, there was a 19.72% reduction in post-traumatic stress disorder symptoms and a 42.54% increase in happiness scores compared to the control group. Based on the data demonstrated in this paper, the combined use of trauma-focused cognitive behavioural therapy and eye movement desensitisation and reprocessing can be recommended to reduce the severity of post-traumatic stress symptoms and improve the well-being of internally displaced persons

Keywords: post-traumatic stress disorder; exposure therapy; trauma-focused cognitive behavioural therapy; eye movement desensitisation and processing; subjective sense of happiness

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INTRODUCTION

About 1.5 million Ukrainians have been displaced within the country since Russia invaded the Donetsk and Luhansk regions in 2014 (Kraieva, 2022). And since Russia's full-scale invasion of Ukraine on 24 February 2022, many Ukrainians have fled their homes in search of safe havens. According to the Ministry of Social Policy (n.d.), from the beginning of the war until May 2023, 4.9 million citizens were registered as internally displaced persons (IDPs). Therefore, the problem of organising and functioning of the psychological support system has been very acute since 2014. At that time, not only citizens in the armed conflict zone but also psychological and social services of Ukraine, which had no experience in organising support for victims of hostilities, found themselves in a crisis.

Refugees forced to flee their places of residence due to hostilities are always the group that suffers the most negative mental health consequences, as the stressful situation becomes chronic for them, leading to the development of distress (Acarturk *et al.*, 2022). People who were forced to change their place of residence faced humanitarian and social problems such as the loss of housing, jobs, and places of education for schoolchildren and students, as well as psychological problems: stress associated with being in the armed conflict zone, loss of familiar social environment, and separation from loved ones. The state and social organisations should organise a system of social and psychological support for such citizens. Foreign experience and cooperation can greatly contribute to the establishment of such a system.

Many researchers focus on the organisation of social and legal support and protection of internally displaced persons. For example, D. Lukanov and I. Syomkina (2021) believe that to improve public policy, IDPs need to be directly involved in solving the problems of internally displaced persons, and the state itself needs to improve the training of personnel working with this category of population. The authors also considered the creation of IDP interaction and development clubs, psychological support for all age groups of IDPs, as well as legal and social support necessary for employment to be important. The organisation of these measures has a significant impact on the sense of security, confidence, and psychological well-being of IDPs, but does not solve all problems.

At the same time, the scientific community is focused on analysing the psychological state of internally displaced Ukrainians, identifying their needs, and selecting effective and convenient methods of psychological support. Generalised statistics show that among IDPs who have moved from the war zone, 50% develop post-traumatic disorders or certain symptoms of maladjustment (Hrudii *et al.*, 2015). A.-M. Asanov Noha *et al.* (2022) present the results of a study of the mental well-being of 1165 migrant refugees and internally displaced persons, according to which 57% of respondents have severe psychological distress and

81% are at risk of developing depressive conditions. Those Ukrainians who receive psychological assistance significantly improve their mental well-being. Distress can also lead to psychosomatic illnesses and substance abuse. Kraieva (2022) describes the personality changes of internally displaced Ukrainians who had to move from the territories of Luhansk and Donetsk regions. The author demonstrates that the forced change of the month of residence results in changes in self-esteem, perception of time, and assessment of the future. It also shows the dominance of security values and identity crises. Thus, both physical health indicators and personality are affected.

V. Overchuk *et al.* (2023) developed the educational and professional programme "Rehabilitation Psychology in emergency situations", which summarises the best approaches to the rehabilitation of people in crises. M. Hrudii *et al.* (2015) analysed the main signs of stress reactions and crisis states that develop in witnesses of war events and internally displaced persons. The information is based on the analysis of data on people displaced from the occupied areas of Donetsk and Luhansk regions in 2014-2015. The authors emphasised the need to involve social workers, doctors, and psychologists in the adaptation of IDPs. The main areas of psychotherapeutic intervention to overcome crisis states in adults and children are described. O. Protas (2022) highlighted the need for social and pedagogical support for children who have been displaced by their parents to prevent maladjustment and disruption of their lives.

Many psychologists and psychotherapists have joined forces to provide free psychological assistance to internally displaced persons. Given the availability of qualified human resources, the problem of developing specific, most convenient, and effective methods that will allow the maximum number of people in need to receive the necessary therapeutic support is relevant. Therefore, the research aims to develop a technology for helping internally displaced persons based on exposure therapy methods. The methods under study are effective in many studies and represent the first line of therapy for various stress disorders.

MATERIALS AND METHODS

The study design was a psychological formative experiment in which the results were compared with a control group that did not receive any therapeutic interventions. The study sample included 84 people who had the status of internally displaced persons and had experienced an acutely stressful event related to a change in their usual place of residence, social environment, temporary loss of work and habitual lifestyle. Volunteers took part in the study: 42 women and 42 men aged 21 to 55. The respondents were evenly divided into four groups based on age and gender. The first, the control group, did not receive

psychotherapy, but their condition was monitored by questionnaires in parallel with the therapy groups.

To assess the state of internally displaced persons, indicators of stress symptoms and general sense of happiness were determined. To quantify these parameters, the Post-traumatic Stress Disorder Questionnaire (PCL-5) (2022) and the updated Oxford Happiness Inventory (OHI) (n.d.) were chosen. The PCL-5 (2022) is a self-assessment tool consisting of 20 questions related to the consequences of a traumatic situation and a person's attitude towards it. The questionnaire includes the following criteria: description of the traumatic event; intrusion symptoms, avoidance symptoms, negative thoughts, and emotions, and overreactivity. Each item should be scored from 0 to 4 points, so the maximum possible number of points in the test is 80. For ease of calculation and further data analysis, the scores obtained during the survey were converted into relative units - percentages. The diagnosis of post-traumatic stress disorder (PTSD) was considered probable if the respondent scored more than 33 points on the test (41.25%). The basis for the diagnosis of PTSD is the presence of exposure to a traumatic event, so this criterion was also mandatory.

The Oxford Happiness Inventory (n.d.) was developed to provide a self-assessment of happiness, which includes such factors as life satisfaction, and positive and negative emotions. The questionnaire consists of 29 items, each of which has four options for statements relating to a particular aspect, from which the respondent must choose one option that best expresses the respondent's attitude. Each item can be scored from 0 to 3 points. For the final calculation, the scores are converted to a percentage of a hypothetical maximum.

Two methods of conversational exposure therapy were selected based on scientific research and analysis of colleagues' experiences. Exposure therapy brings a person back to a traumatic situation or event and allows them to accept it cognitively and emotionally, to change traumatic behavioural patterns to more adaptive ones.

The first method used was traditional trauma-focused cognitive behavioural therapy (TF CBT). This method is recommended for use in post-traumatic disorders, as it allows focusing on the traumatic event and separating its consequences from the client's current state. The method is quite fast compared to other methods of talk therapy, twelve sessions are enough to achieve therapeutic progress. Therefore, in the current study, twelve sessions of one-hour duration were conducted with an interval of one week. The duration of the full course was three months.

The second method of psychological assistance was Eye Movement Desensitisation and Reprocessing (EMDR), which combines exposure therapy with a series of controlled eye movements. The method is based on alternate bilateral stimulation of the cerebral hemispheres. The hypothetical mechanism of this effect is that simultaneous

focus on traumatic experience and sensory stimuli promotes rapid reprocessing of the event and helps integrate memories into explicit memory, reducing PTSD symptoms. The sessions lasted 30 minutes each, with a one-week break between them. In total, the respondents had twelve sessions over three months.

The fourth study group received psychological assistance, which consisted of a combination of the two methods described above, using the same scheme. Sessions using different methods were held on the same day, with an interval of several hours between them. Individual sessions with clients participating in the study were held once a week online. The statistical significance of the results was determined using Pearson's test. The relationship between the severity of PTSD symptoms and indicators of subjective happiness was analysed using correlation analysis.

All research procedures involving human subjects were conducted following the American Psychological Association's (APA's) ethical principles of psychologists and code of conduct (2002) and the guidance note of the European Commission (2021) on ethics and data protection.

RESULTS

To begin with, the symptoms of post-traumatic stress disorder among the study sample were investigated. The respondents were divided into four groups, each of which separately studied the symptoms inherent in this condition. It should be noted that the intra-group variation was quite large, reflecting the diversity of individual reactions to stress. The overall level of PTSD symptoms in the study sample was $53.83 \pm 19.84\%$. This corresponds to the average level of severity of the disorder and the presence of problems with adaptation. Next, the initial level of symptoms was calculated separately for each study group to compare the dynamics of symptoms.

The initial level of PTSD symptoms in the control group was $59.57 \pm 20.67\%$, meaning that some respondents had severe symptoms of the disorder, while others did not; the same was true for the other groups: $54.95 \pm 20\%$ for the psychotherapy group, $61.45 \pm 23.86\%$ for the EMDR group, and $54.23 \pm 20.40\%$ for the combined therapy group. The total number of people with a response rate indicating a high probability of PTSD was 56 people (67%) in the study group. The main symptoms that occurred most often included sleep disturbances (45% of respondents), increased nervousness and fearfulness (37% of respondents), disturbing memories of the situation related to the circumstances of the move (33% of respondents), and sudden feelings about the situation (29%). Respondents in Groups 2, 3 and 4 underwent their chosen therapy method once a week, so by the time of the first follow-up survey, they had all had four therapy sessions. As it turned out, the positive changes that emerged occurred after this period, as shown in Table 1.

Table 1. Dynamics of PTSD symptoms in respondents who underwent various methods of rehabilitation

Method of therapeutic effect	Before therapy	1 month	3 months	Decrease since the observation starts, %	Compared to control, %
EMDR	61.45 ± 23.86	49.60 ± 20.81	40.35 ± 17.20	34.34	15.41
TF CBT	54.95 ± 20.07	43.76 ± 18.66	40.10 ± 14.10	27.02	9.00
TF CBT+EMDR	54.23 ± 20.40	50.73 ± 17.52	33.27 ± 9.36	38.65	19.72*
Control	59.57 ± 20.67	55.43 ± 16.69	48.10 ± 18.06	18.03	-

Note: * – data are statistically significant compared to the control (≤0.05)

Source: compiled by the authors

Figure 1 shows a tendency towards a decrease in PTSD symptoms in the control group, which did not receive any therapeutic interventions, but the respondents agreed to report their condition. Over the course of three months, the number of PTSD symptoms gradually decreased, as evidenced by the lower number of respondents with high test scores. However, after three months, the minimum level of indicators slightly increased, indicating the presence of anxiety that requires intervention. At the beginning of the observation, the average level of symptoms of stress disorder was 59.57 ± 20.67 of the maximum possible according to the questionnaire, while in three months it decreased to 48.10 ± 18.06, which, however, corresponds to a high probability of PTSD. The overall reduction in symptoms,

which is typical for a stress disorder, was 18.03% at the end of the observation period (three months). Three months after the start of the observation, out of 17 clients with clinically significant PTSD symptoms, 5 moved to the group with subclinical symptoms. Analysis of responses to the most common symptoms showed that there was a decrease in disturbing memories of the relocation situation (29%) and sudden feelings about the situation (24%). However, sleep disturbances, reported by 39 per cent of respondents, and feelings of nervousness and fearfulness (34 per cent) remained at a fairly high level. The greater spontaneous reduction in symptoms mainly concerned cognitive and psychological manifestations of PTSD, while neurological and psycho-emotional symptoms decreased to a lesser extent.

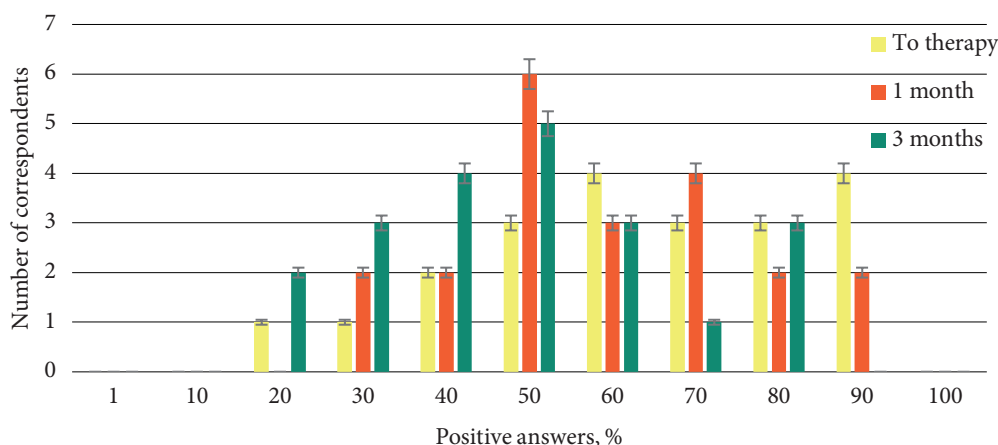


Figure 1. Dynamics of PTSD symptoms in respondents who did not undergo psychological rehabilitation (control group)

In the group that received individual psychotherapy using the method of trauma-focused cognitive behavioural therapy (TF CBT), similar positive dynamics were observed, but even more pronounced than in the control group (Fig. 2). At the beginning of therapy, the main symptoms were sleep disturbances (49% of respondents), increased nervousness and fearfulness (41% of respondents), and disturbing memories of the situation related to the circumstances of the move (36% of respondents). At the beginning of the study, the level of PTSD symptoms was 54.95 ± 20.07%, while in three months it decreased to 40.10 ± 14.10%. A pronounced decrease in the assessment of their condition as negative was observed after a month of therapeutic work, and this dynamic continued in

the future. In total, clients had 12 psychotherapy sessions during the study, and as a result, the overall reduction in trauma symptoms was 27.02%. This is 9.0% more than in the control group. As a result of therapeutic work with a psychotherapist, out of 15 patients who had symptoms of severe post-traumatic disorder at the beginning of therapy, 8 moved to a group with a sub-threshold level of symptom severity, which is more than in the control group. The analysis of the responses revealed that the clients reported improved sleep (31%), reduced nervousness and fearfulness (22%), and disturbing memories of the relocation situation (21%). Thus, the impact of psychotherapy had positive effects on reducing both cognitive psycho-emotional and neurological consequences of the stress experienced.

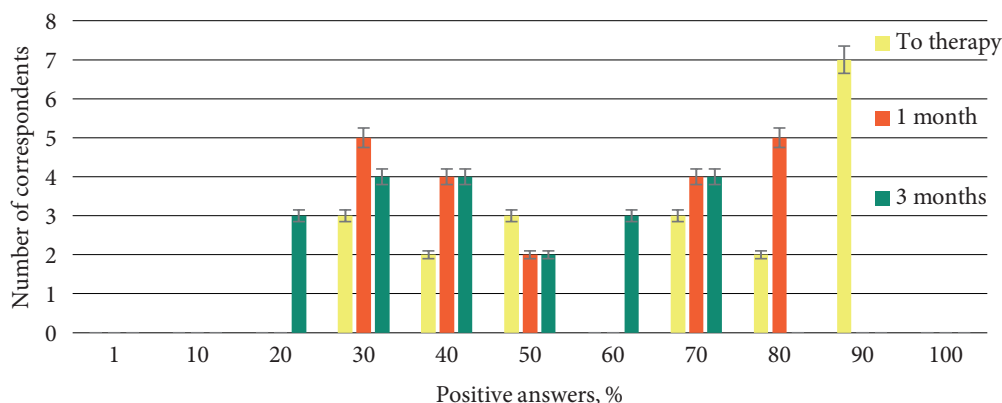


Figure 2. Dynamics of PTSD symptoms in respondents who underwent individual psychotherapy (TF CBT)

In the group receiving rehabilitation using the Eye Movement Desensitisation and Reprocessing (EMDR) technique, at the beginning of therapy, negative post-traumatic symptoms similar to other groups were observed: sleep disturbances (48% of respondents), increased nervousness and fearfulness (39% of respondents), disturbing memories of the situation related to the circumstances of the move (30% of respondents), and loss of previous interests (26%). The initial level of symptoms of stress disorder was higher than in other groups and amounted to $61.45 \pm 23.86\%$ of the maximum number of points in the questionnaire. The dynamics of post-traumatic symptom reduction are shown

in the diagram (Fig. 3). As can be seen from the figure, positive dynamics were observed from the first month of therapy. After 3 months, the overall level of PTSD symptoms decreased to $40.35 \pm 17.20\%$ of the maximum, which is 34.34% less compared to the beginning of the study. Compared to the control group, the difference was 15.41%. 7 out of 17 people who had a level of symptoms sufficient for the diagnosis of PTSD moved to the group of moderate and low symptom severity. The analysis of the responses revealed that clients reported a decrease in psychosomatic symptoms, sleep disturbances (29%), nervousness (23%), and disturbing memories of the relocation situation (25%).

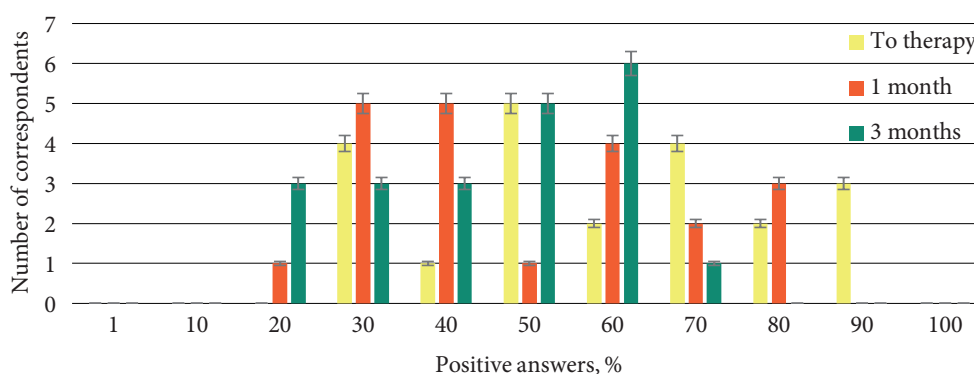


Figure 3. Dynamics of PTSD symptoms in respondents undergoing EMDR therapy

The results of the combination of the two selected methods had the most pronounced effect on reducing the negative effects of stress. Before therapy, the average level of PTSD symptoms was $54.23 \pm 20.40\%$. In addition, this group had the largest number of people with high-severity PTSD, with 7 people scoring 90% positive answers to the questionnaire. As a result of the combination of the two methods, this level decreased to 33.27 ± 9.36 in three months, which is the lowest result of all the therapeutic groups. Positive changes were already noticeable after the first month of therapeutic work (Fig. 4). However, the most significant reduction in symptoms occurred after

three months of therapy, compared to the control group, which did not undergo therapeutic intervention, it was 19.72% (results are statistically significant at $p \leq 0.05$). At the same time, out of 15 people who had a level of symptoms that met the criteria for PTSD, 9 people moved to the group of moderate and low severity of post-traumatic symptoms. Therefore, there is a pronounced trend towards a decrease in cognitive symptoms of negative thoughts (23%), physical and emotional reactions (sleep disturbances – 19%), and nervousness and fearfulness – 18%. Thus, the combination of methods is more effective than each of them alone.

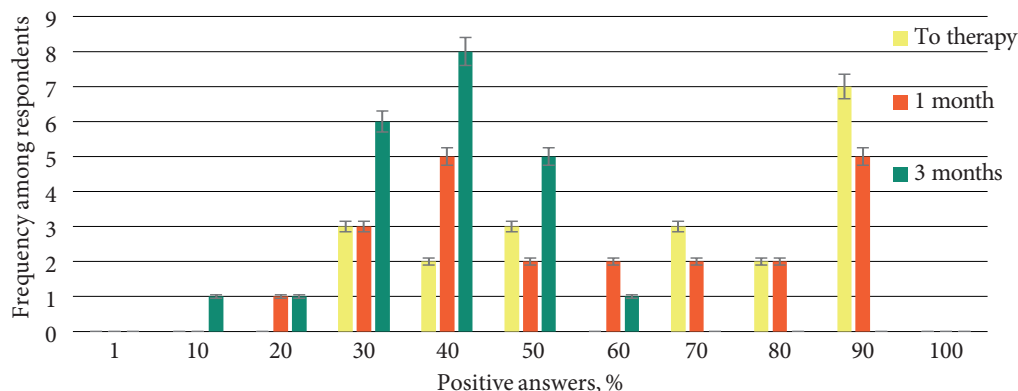


Figure 4. Dynamics of PTSD symptoms in respondents treated with a combination of TF CBT and EMDR

The next step was to analyse the impact of different therapeutic methods on the indicators of subjective happiness. The general data obtained in the course of the study are presented in Table 2. Thus, at the beginning of the survey, the study sample had a fairly even distribution of respondents by the level of happiness indicators, the average indicator in the group was $42.13 \pm 9.75\%$, which was in the range of 41-50%, and this corresponds to a lower average according to the methodology used. A paradoxical situation was observed in the group that

did not receive psychological assistance: at the end of the third month of observation, the level of subjective happiness in this group did not increase but decreased. At the beginning of the study, it was $42.48 \pm 11.20\%$, and at the end, it was $36.05 \pm 8.38\%$, a decrease of 15.13%. This was although the level of post-traumatic symptoms in this group was gradually decreasing, as discussed above. These results indicate that even a reduction in negative memories of the traumatic event is not a guarantee of improved psychological well-being.

Table 2. Dynamics of the subjective feeling of happiness in respondents who underwent various methods of rehabilitation, %

Method of therapeutic effect	Before therapy	1 month	3 months	Increase since the observation started, %	Increase, compared to control, %
EMDR	42.18 ± 9.09	44.86 ± 8.33	48.77 ± 7.54	15.59	35.30*
TF CBT	42.80 ± 9.95	43.20 ± 9.69	49.65 ± 11.33	16.00	37.73*
TF CBT+EMDR	41.05 ± 10.92	47.05 ± 10.79	51.38 ± 9.15	25.16*	42.54*
Control	42.48 ± 11.20	43.86 ± 10.63	36.05 ± 8.38	-15.13	-

Note: * – statistically significant compared to the control ($p \leq 0.05$)

Source: compiled by the authors

When analysing specific responses, the greatest deficit was observed in the area of positive emotions. Although people were getting rid of some of the cognitive problems

associated with their traumatic experience, their emotional sphere continued to be affected by depressing memories. The dynamics of the process are shown in the diagram (Fig. 5).

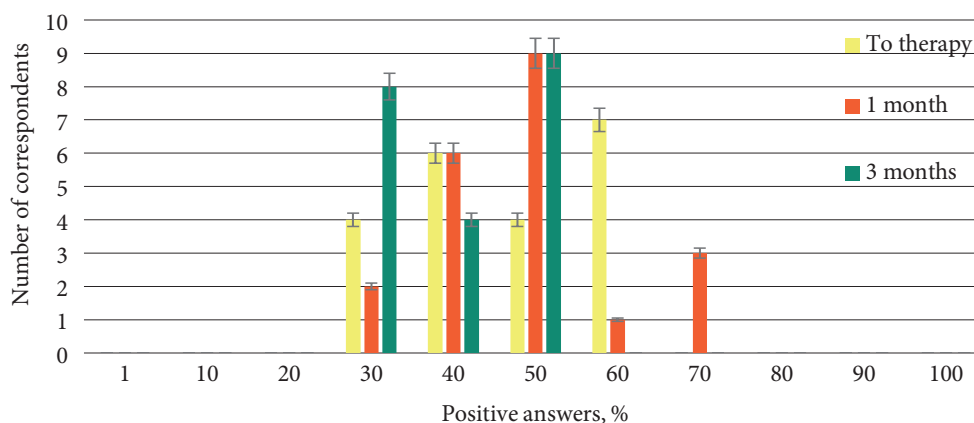


Figure 5. Dynamics of symptoms of subjective happiness in the control group

In the group receiving psychological care using the TF CBT method, the dynamics of happiness indicators were positive compared to the beginning of the study (Fig. 6). In the beginning, the average level of happiness according to the results of self-assessment was $42.80 \pm 9.95\%$, and after three months it was $49.65 \pm 11.33\%$, which is an increase in the level of happiness by 16.0%. At the same time, when

compared to the control group, this increase was 37.73% (statistically significant at $p \leq 0.05$). Three patients moved from the group with low to medium levels of happiness, and four more increased their scores from medium to high levels. Thus, the TF CBT methodology proved to be quite effective in improving the subjective state of internally displaced persons in the study sample.

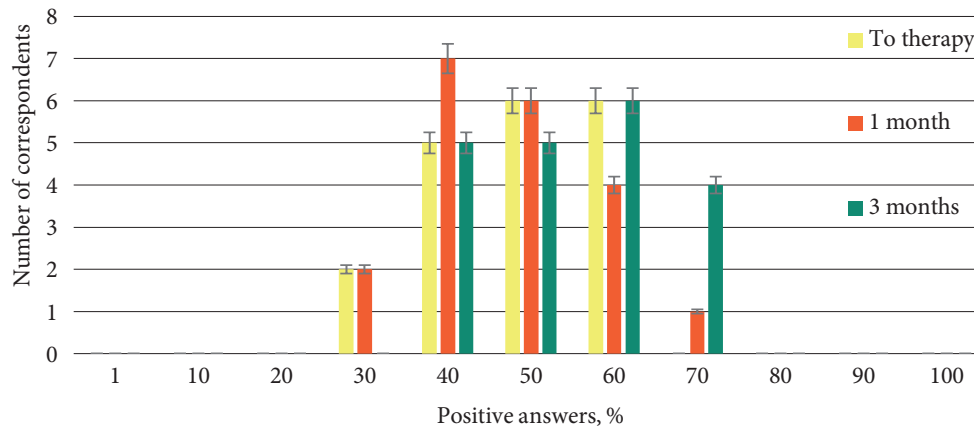


Figure 6. Dynamics of symptoms of the subjective sense of happiness in respondents undergoing individual psychotherapy (TF CBT)

Next, it is advisable to consider the impact of the EMDR technique on the dynamics of respondents' assessment of their state. As can be seen from Table 2, the results obtained are quite similar to those of the group that received CBT. At the beginning of the study, the average score of happiness in the group was $42.18 \pm 9.09\%$, and after three months it increased to

$48.77 \pm 7.54\%$, an increase of 15.59%. Compared to the control group, the results were 37.73% higher. This indicates the effectiveness of the chosen methodology in improving the emotional state of internally displaced persons. As a result of the therapy, 10 respondents increased their level of life satisfaction from a low level to an average and high level (Fig. 7).

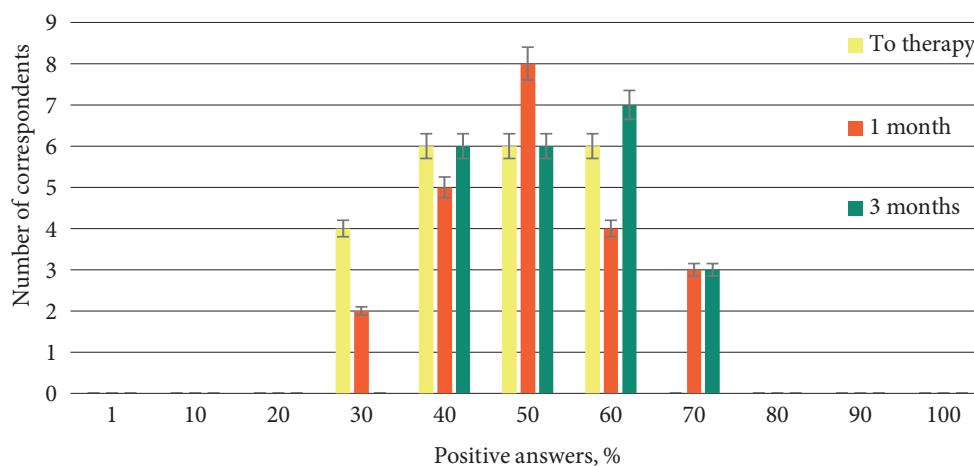


Figure 7. Dynamics of symptoms of subjective happiness in respondents undergoing EMDR therapy

The combination of the two studied methods – psychotherapy and EMDR – demonstrated the highest effectiveness in improving the emotional state of respondents. The initial level of happiness in the group was $41.05 \pm 10.92\%$, and at the end of the three-month course, it was already $51.38 \pm 9.15\%$, an increase of

25.16%, which is the highest in this study. Compared to the control group, the difference was 42.54%. Positive dynamics were observed in all group members, while 7 people from the sample increased their happiness scores from low to medium and 11 moved from the medium to high group (Fig. 8).

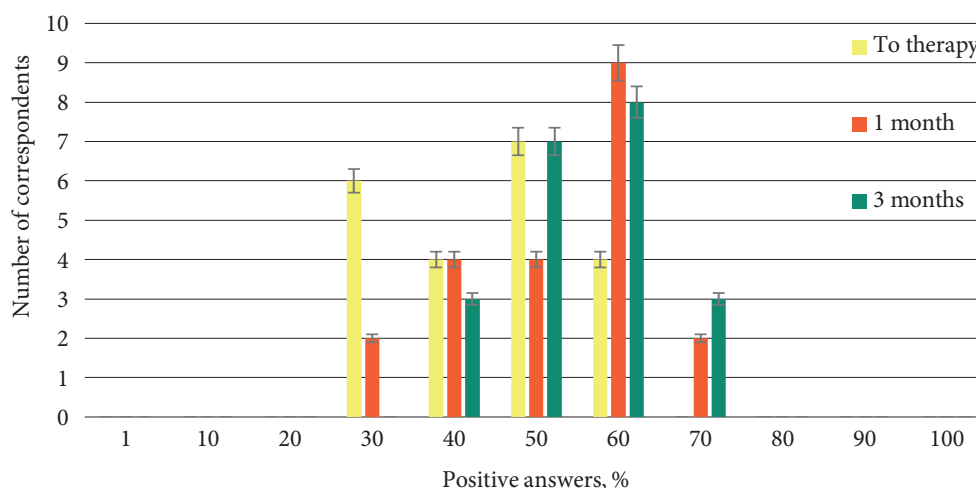


Figure 8. Dynamics of symptoms of subjective happiness in respondents undergoing therapy with the use of combination therapy

Thus, the combination of the two methods proved to be the most effective in reducing the symptoms of stress disorder and increasing the indicators of subjective happiness. All the studied variants of the applied methods of psychological assistance proved to be effective in comparison with the group that did not receive psychological support.

The correlation analysis showed a strong negative correlation between PTSD and subjective happiness (Pearson correlation coefficient – 0.34; statistically significant at $p \leq 0.01$). Thus, the reduction of symptoms accompanying post-traumatic stress disorder leads to a significant increase in subjective life satisfaction and the prevalence of positive emotions over negative ones.

DISCUSSION

A stay in an emergency zone is usually characterised by a high intensity of psycho-traumatic factors for people who suddenly find themselves in it. War carries numerous stressors, such as direct threats to life and health, uncertainty, and changes in the way of life. All of this is associated with the development of an acute stressful situation, which, according to many experts, is the most severe situation in terms of trauma and its consequences. B. Roberts *et al.* (2008) in their study of internally displaced persons during the military conflict in Uganda state that more than half of the refugees (54%) had severe symptoms of PTSD, and 67% had symptoms of depression. The level of symptoms depended on the age, gender, distance of displacement, and physical and social conditions of the person at the time of the survey. The current study found similar changes in psycho-emotional state: sleep and attention disorders, increased nervousness and fearfulness, disturbing memories of the situation related to the circumstances of the move, and sudden feelings about the situation. As well as personality changes: loss of interest in previous activities, obsessive thoughts and attitudes towards oneself and others, and a sense of isolation from others, these changes are also predictors of a possible

personality crisis. It has also been shown that the level of symptoms sufficient for the diagnosis of PTSD before the start of therapy was 67%, which is a high rate for the population and proves the presence of significant distress among internally displaced persons.

Many researchers pay attention to the importance of personal individual psychological characteristics in the structure of stress resistance. V. Overchuk *et al.* (2023) demonstrated that individual qualities of adaptation, such as self-control, endurance, and communication skills, contribute to a qualitatively better adaptation of people during wartime, especially when changing living conditions. At the same time, negativism, a tendency to oppositional behaviour, and distrust are factors in the development of maladaptive behavioural patterns. A.C. Fru-Ngongban (2023) provides statistics on the impact of individual psychological resilience of adolescents in Cameroon and concludes that it is a significant factor in stress resistance and psychological well-being during armed conflicts. The topic of individual psychological qualities that contribute to the adaptation of IDPs is addressed by I. Grabowska *et al.* (2023). When studying the adaptation of Ukrainian IDPs in Poland, they use the concept of “psychological capital”, which is a component of resilience that allows one to adapt to a forced sudden change in conditions. Among the components, the authors identify such indicators as hope, self-efficacy, resilience, and optimism. According to the results of the study, the Ukrainians included in the sample have a fairly high adaptive potential, which allows them to successfully overcome the crisis. The paper demonstrates that there is a large individual variation in the intensity of post-traumatic symptoms, reaching almost 40%. This may be due to such individual psychological characteristics. Compared with the results of the current study, it can be stated that the reduction of post-traumatic symptoms in the control group is a manifestation of the ability to adapt and self-help, but external psychological support significantly improves the psycho-emotional state of IDPs.

Therapy for post-traumatic conditions, including PTSD, is usually based on exposure therapy techniques, which allow for the actualisation and reliving of the traumatic situation. Trauma-focused cognitive behavioural therapy is the first-line method recommended for working with patients with PTSD. N. Ennis *et al.* (2021) conducted a systematic review of studies on TF CBT, which included 21 studies of individuals at repetitive risk of threat. The authors conclude that in most cases, the therapy is effective, but some studies point to the risks of side effects in the form of re-traumatisation when the traumatic situation is actualised. It should be noted that the internally displaced persons under study belong to this group with a recurring risk of threat, as they are in places of temporary residence, and military operations in the country continue. However, in the course of this study, no cases of deterioration of patients' condition in connection with TF CBT were reported. M. Zemestani *et al.* (2022) report the results of a randomised clinical trial of the culturally adapted TF CBT method. The study describes the effectiveness of the technique in reducing PTSD symptoms among a population of Iraqi women affected by military operations. Reductions in PTSD symptoms, anxiety, depression, and emotional dysregulation were reported within one month of starting therapy, with significant gains achieved after three months of weekly sessions. This study demonstrated a very similar pattern of positive response to therapy, as positive changes began in the first month and improved by the third month. The technique proved to be effective in reducing PTSD symptoms by 27% compared to baseline, and by 9% compared to controls. Self-reported happiness increased by 37.73%. E. Baroud and L. Dirani (2023) also emphasise the effectiveness of TF CBT as a therapeutic technique that helps to reduce PTSD symptoms in children and adolescents affected by war.

Eye movement therapy is widely used in the treatment of post-traumatic stress disorders, including combat veterans (Verstrael *et al.*, 2013; Vanderschoot & Van Dessel, 2022). Although not all studies show equally high positive results with traditional tests, respondents usually report a reduction in subjective suffering (Schrier *et al.*, 2016). L. Tay *et al.* (2018) showed neurobiological changes associated with a decrease in the activity of brain areas that were over-excited due to stress disorder (amygdala, thalamus, caudate nucleus, ventromedial prefrontal cortex). This indicates that the technique has effective mechanisms of physiological influence that can change the activity of brain structures, and thus lead to a clinical effect. The group of children is the most vulnerable to stress and its negative consequences and needs psychological intervention. The EMDR method is more accessible for use in the paediatric population compared to CBT methods. K. Banoğlu and U. Korkmazlar (2022) in a randomised controlled trial demonstrated the high effectiveness of eye movement reprocessing in reducing symptoms of PTSD, depression, and anxiety in Syrian refugee children during the war. In the present study, the authors confirmed the high effectiveness

of the EMDR technique in reducing PTSD symptoms by 15.41% compared to the control group and increasing subjective happiness by 35.3% compared to the control group.

As for comparing the effectiveness of the two methods described, large-scale reviews comparing the results of many studies are needed. G. Seidler and F. Wagner (2006) present the results of such a meta-analysis, which includes eight randomised controlled trials comparing the methods. The authors conclude that both methods are equally effective in reducing posttraumatic symptoms. This is confirmed by the results of the current study, as both methods were found to be effective, but their combination had a cumulative effect on both reducing PTSD symptoms by 19-42% and increasing subjective happiness by 42-54% compared to control.

It is worth emphasising the need for psychological intervention to help IDPs during hostilities, as the lack of timely assistance often leads to the transition of conditions to chronic ones. J. Kalyegira (2022) presents the results of a study of the psychological well-being of refugees of different ages and genders in sub-Saharan Africa. The author concludes that the availability of psychological care providers matters for subjective well-being in the same way as physical safety and material security. W. Tol *et al.* (2020) analysed a sample of female refugees from South Sudan and concluded that respondents have high levels of personal distress. The use of a psychological self-help programme for three months leads to a significant improvement in subjective well-being. S. Acarturk *et al.* (2022), analysing the methods of psychological assistance to Syrian refugees in Turkey, concluded that people's psyche undergoes certain changes that require the intervention of psychological assistance specialists. Psychosocial assistance significantly speeds up the process of psychological adaptation. As shown in this study, over time, the level of subjective happiness decreases in the group that did not receive psychological assistance, despite the same level of social support in the groups. In this study, the authors also found that in the absence of intervention, the negative effects of distress increase over time, but psychological help is effective after three months of follow-up, with the initial level of stress being important.

CONCLUSIONS

The study found that the majority of the sample of respondents had symptoms of post-traumatic stress disorder (PTSD) from mild to severe high severity. The average rate in the study sample was $53.83 \pm 19.84\%$, which corresponds to the average level of severity of the disorder and the possible presence of problems with adaptation. A fairly wide range of symptoms is noteworthy, indicating the contribution of individual psychological traits to the development of a stress reaction. In general, 67% of the sample had a level of symptoms sufficient to diagnose PTSD, which is a high rate for the population and proves the presence of significant distress among internally displaced persons. The most common symptoms included sleep disturbances (45% of

respondents), increased nervousness and fearfulness (37% of respondents), disturbing memories of the situation related to the circumstances of displacement (33% of respondents), and sudden feelings about the situation (29%).

The study of indicators of individual happiness showed that at the beginning of the survey, the sample had a fairly even distribution of respondents by the level of happiness indicators, the average indicator in the group at the beginning of the study was $42.13 \pm 9.75\%$, which corresponds to a lower average according to the methodology used. The use of both selected methods proved to be effective in improving the general psychological state of the respondents. The use of trauma-focused cognitive behavioural therapy led to a 9.0% reduction in PTSD symptoms and a 37.73% increase in happiness compared to the control group without intervention. The use of eye movement desensitisation and reprocessing techniques proved to be effective: PTSD symptoms decreased by 15.41% compared to the control group, while subjective indicators of happiness increased by 35.30%. The most effective was the combined use of both techniques, which led to a 19.72% reduction in PTSD

symptoms and a 42.54% increase in happiness scores after three months compared to the control group.

Therefore, the combined use of TF CBT and EMDR techniques can be recommended to reduce the severity of post-traumatic stress symptoms and improve the well-being of internally displaced persons. The issue of the psychological state of persons who were internally displaced during the war and the need for not only social and material, but also psychological support is highlighted in the study. The research is also of theoretical importance, as it contributes to the understanding of the effectiveness of the combination of two exposure therapy methods: TF CBT and EMDR. Further research should focus on the factors that may influence the effectiveness of both techniques among different target groups.

ACKNOWLEDGEMENTS

None.

CONFLICT OF INTEREST

None.

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Сучасні технології психологічної допомоги внутрішньо переміщеним особам

Анотація. З моменту повномасштабного вторгнення Російської Федерації в Україну багато українців покинули свої домівки в пошуках безпечніших місць, тож актуальності набула проблема розробки зручних та ефективних методик надання психологічної підтримки максимальному числу громадян. Метою роботи була розробка технології допомоги внутрішньо переміщеним особам, що базується на методах експозиційної терапії. Досліджена вибірка складалася з 84 респондентів, які мали офіційний статус внутрішньо переміщених осіб. Для кількісного визначення параметрів стресового стану використовувалася методика діагностики посттравматичного стресового розладу – PCL-5, для визначення емоційного стану – оновлений Oxford Happiness Inventory (ОHI). На початку дослідження встановлено, що 67 % осіб у вибірці мали рівень симптомів, достатній для діагностування посттравматичного стресового розладу, що свідчить про високий рівень психологічного дистресу. Для психотерапевтичної роботи використано методи травмофокусованої когнітивно-поведінкової терапії і десенсибілізації та переробки рухами очей (Eye Movement Desensibilization and Reprocessing). Застосування обох обраних методів виявилось ефективним щодо покращення загального психологічного стану респондентів. Застосування травмофокусованої когнітивно-поведінкової терапії призводило до зменшення симптомів посттравматичного стресового розладу на 9.0 % та підвищення рівня відчуття щастя на 37.73 %, порівнюючи з контролем. Методика десенсибілізації та переробки рухами очей призводила до зменшення симптомів посттравматичного стресового розладу на 15.41 % та підвищення суб'єктивних показників відчуття щастя на 35.30 %, порівнюючи з контролем. Комбіноване застосування обох методик продемонструвало найкращі результати: через три місяці спостерігалася редукція симптомів посттравматичного стресового розладу на 19.72 % та підвищувалися показники відчуття щастя на 42.54 %, якщо порівнювати з контролем. На основі даних, продемонстрованих у роботі, можна рекомендувати комбіноване застосування методики травмофокусованої когнітивно-поведінкової терапії і десенсибілізації та переробки рухами очей для зменшення вираженості симптомів посттравматичного стресу та покращення самопочуття внутрішньо переміщених осіб

Ключові слова: посттравматичний стресовий розлад; експозиційна терапія; травма-фокусована когнітивно-поведінкова терапія; десенсибілізація та переробка рухами очей; суб'єктивне відчуття щастя

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Comparative characteristics of individual psychological characteristics of patients with eating disorders

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Abstract. The relevance of the study is due to statistical indicators demonstrating the increasing prevalence of eating disorders and insufficient consideration of individual psychological factors in building a strategy for helping to achieve and maintain remission. The purpose of the study is to investigate the individual psychological characteristics of individuals with different types of eating disorders and compare them. The empirical research methods used are observation, analysis of medical records, the Eating Behaviour Rating Scale, and the 16-factor personality questionnaire by R.B. Cattell. The article presents the differences and similarities in the individual psychological characteristics of patients with eating disorders. It has been found that patients with different eating disorders have inherent characteristics. The analysis showed that there are features that have similar indicators in two groups of respondents, but differ in the third and vice versa. It has been found that respondents with compulsive overeating have the most chaotic personality profile when compared with patients of other groups. The main individual psychological features by type of eating disorder are summarized. It has been found that patients with anorexia have high rates of self-control, requirements for their own body, distrust in interpersonal relationships and suspicion with a tendency to control their desires. Indecision, suspicion, and anxiety scores are also high. Patients with bulimia have a more pronounced softness score among all groups of respondents, with high levels of carelessness and anxiety, along with indicators of gullibility, indecision, and emotional instability. Patients with compulsive overeating are characterized by pronounced emotional instability among all groups of respondents. It was found that patients with anorexia and compulsive overeating are more open to communication than patients with bulimia. Patients with anorexia and compulsive overeating are expressive, dynamic, and active in relationships, in contrast to patients with bulimia who have pronounced anxiety, hypochondria, and pessimism. The respondents of all groups have impaired feelings of satiety and hunger. The results showed that patients with anorexia and patients with compulsive overeating have a higher level of perfectionism than patients with bulimia. Dissatisfaction with the body and the desire for thinness are common to the three groups. The practical value of the article lies in the possibility of using the research materials for an effective strategy of psychotherapeutic care for patients with different types of food addiction

Keywords: typological features; food addiction; anorexia nervosa; bulimia nervosa; compulsive overeating

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INTRODUCTION

A review of personality changes at different stages of diagnosis and psychocorrection, taking into account individual psychological characteristics, is of particular relevance. Little attention is paid to studies that report on personality changes in eating disorders. It is important to identify the factors that contribute to the development and maintenance of these disorders and to analyse how they change during treatment depending on the individual psychological characteristics of patients.

Eating disorders are one of the most life-threatening mental health problems. According to Marina Diaz Mars, President of the Madrid Psychiatric Society, anorexia is one of the pathologies that increase the risk of mortality five-fold, while bulimia doubles it. Eating disorders are associated with serious medical and psychiatric morbidity and high mortality (American Psychiatric Association, 2013) and are the most gendered of all mental health disorders, with a typical manifestation in women (Mancini *et al.*, 2018). Since the 70s of the twentieth century, there has been an increase in the prevalence of eating disorders due to changes in the food environment (Treasure *et al.*, 2020).

Based on statistical data, it is possible to see that the prevalence of eating disorders has increased from 3.4% to 7.8% (Galmiche *et al.*, 2019). In addition, the seriousness of the disease is underlined by the fact that only about half of those diagnosed manage to recover. More than 1 billion people worldwide are obese – 650 million adults, 340 million adolescents and 39 million children. This number continues to grow. The WHO estimates that by 2025, an estimated 167 million people – adults and children – will be less healthy because they are overweight or obese (World Health Organization, 2023). The lifetime prevalence of any eating disorder is estimated to be 1.5% for men and 3.5% for women (Mohler-Kuo *et al.*, 2016).

The COVID-19 pandemic has had an impact on the mental health of many people, and since 2019, various regulations have been in place almost all over the world to prevent the further spread of the COVID-19 pandemic (virus: SARS-CoV-2). A separate area of work is devoted to the impact of all these measures on the human psyche, in particular with regard to eating behaviour and disorders (Walsh & McNicholas, 2020). The situation is even more serious for undiagnosed individuals who do not receive treatment. In addition, certain socioeconomic groups tend to remain underdiagnosed. Typological features help to explain 9-25% of psychopathological abnormalities, mainly depressive, anxiety and obsessive-compulsive symptoms, rather than the symptoms of the eating disorder itself. The use of a person-centred approach for eating disorders has been low in prevalence, but has been explored in other disorders where a large body of research supports the importance of personality to health, general functioning and well-being. Personality traits have been found to explain significant differences in the onset, maintenance, and symptomatology of eating disorders, and comorbid personality pathology is commonly asso-

ciated with poorer response to treatment for the disorder (Muzi *et al.*, 2021).

As M.A. Martinez & L.W. Craighead (2015) note, rather than classifying individuals based on the presence or absence of disordered eating behaviours, alternative approaches may lead to improved knowledge of more general dysfunctions in psychological processes across multiple domains of individual functioning that tend to be stable over time and across situations. These individual characteristics may include impaired mentalizing abilities, reduced interpersonal abilities, and impaired self-direction, self-awareness, and self-understanding (Lorca *et al.*, 2019). This strategy can be extremely useful in developing targeted and individualized treatment options to maximize successful outcomes (Norcross & Lambert, 2018).

Since the 2000s, significant advances have been made in psychotherapeutic interventions for eating disorders and a large evidence base has been developed to assess their effectiveness. However, these advances are relative, as they represent marginal improvements in the effectiveness of available treatments that can still be improved. This is especially important to consider in the context of clinical outcomes, healthcare resources and research funding, which rely heavily on evidence to make informed decisions.

The purpose of the study is to investigate the individual psychological characteristics of individuals with various types of eating disorders and to compare them. The research sets itself the task of identifying the commonalities and differences of the main individual and psychological features of patients with eating disorders; to compare the typical behavioural manifestations of the personality in the presence of one of the types of eating disorder; to analyse personality profiles and mean scale values in patients with anorexia, bulimia, and binge-eating disorder.

LITERATURE REVIEW

In an eating disorder, the perception of one's own body image is very different from the reality, and as a result, patients are unable to acquire healthy, intuitive eating behaviours. Eating disorders can be divided into three types: anorexia, bulimia and binge-eating. Anorexia is characterized by a severe calorie deficit and sports, which provides radical weight loss. At the same time, there is a disturbance in body image, accompanied by an intense fear of weight gain and restriction of food intake, which often leads to rapid weight loss at the beginning and persistent weight loss over time. In bulimia, there are "attacks on food" that precede measures to re-remove excess calories (e.g. vomiting, laxatives). In the case of binge-eating disorder, such attacks also occur, but no countermeasures are taken. It is also noted that what is striking about these diseases is that women are about twice as likely to have eating disorders as men (Wunderer *et al.*, 2020).

Eating disorders are usually associated with perfectionism, impulsivity, harm avoidance, reward dependence, sensation seeking, neuroticism, obsessive-compulsive

disorder; low self-direction, cooperativeness, and self-confidence. The focus is on being underweight, fear of gaining weight, constant preoccupation with food and weight, and body image disorders. The focus on these topics increases the severity of other symptoms, such as depression and compulsions (Ehrlich, 2021). It has been found that patients with insufficiently controlled/impulsive and avoidant/insecure behaviours have a worse prognosis, while high-functioning patients (i.e. those with an adaptive personality profile) have better indicators of psychocorrection (Thompson-Brenner *et al.*, 2008; Wildes *et al.*, 2011).

In general, clinical research refers to the general term body image disorder as a cognitive-affective attitude towards one's own body, which encompasses various concepts related to negative body perceptions, such as body dissatisfaction, avoidance or, conversely, compulsive control of one's own body, detachment, and feelings of alienation towards it, and concerns about specific body parts, shapes, or functions (Linardon *et al.*, 2019). All of these psychopathological dimensions seem to relate to an underlying feature that precedes the onset of behavioural symptoms, often persisting after treatment, and may be associated with a poorer prognosis and a higher likelihood of relapse after remission (Castellini *et al.*, 2020).

Research based on the full five-factor model of personality as a predictor of outcome and as a factor of influence in patients with eating disorders shows that individual patient characteristics change significantly during treatment, and this has a positive impact on eating disorder remission. A better understanding of patients' personality patterns and how they change over time in interaction with symptoms and psychological interventions offers many promising benefits. It allows for better prognosis at the diagnostic and history-taking stages, the identification of factors that can function as indicators of treatment, and the development of better treatment strategies. When problematic features can be identified and interventions developed, they can be incorporated into the regular treatment process (Levallius *et al.*, 2018).

Such research may address changes in individual functioning, as well as the potential indirect effects of the therapeutic alliance or therapist influence on eating disorder treatment outcomes (Groth *et al.*, 2020). It is likely that if a particular personality trait has served as a risk factor for eating disordered behaviour, it will continue to act as a pathopathological factor over time. It will be important to further investigate whether some typological features have a proper causal significance for severe eating disorders (Tanzilli *et al.*, 2018).

In summary, it is worth saying that the patient's personality plays an important role in the treatment of eating disorders. The individual psychological characteristics of the patient become a leading factor, which will be taken into account at all stages of the psychological care strategy. At present, clinical practice is largely supported by research indicating that treatment models based on individual-typological characteristics of the patient are becoming the

most effective for the treatment of eating disorders. The mechanisms underlying the symptoms and diagnosis of eating disorders are multifactorial, leading to a number of potential therapeutic targets. Food addiction encompasses a wide range of diagnostic presentations that require different therapeutic focuses, and thus some models of care have been adapted to fit specific types of eating disorders to provide more targeted treatment. Independent variables thought to be critical to the development and maintenance of the disorder are potential therapeutic targets. Psychotherapy targets maladaptive behaviours, personality traits and negative influences that typically span the spectrum of an eating disorder.

MATERIALS AND METHODS

To study the individual psychological characteristics of patients with eating disorders, the following methods were used: observation, analysis of medical records, the D.M. Garner eating behaviour scale in the adaptation of O.A. Ilchik, 16-factor personality questionnaire by R.B. Cattell (Vinogradov, 1997)

The Eating Disorder Inventory (EDI) is a questionnaire aimed at identifying the leading symptoms of eating disorders, primarily anorexia nervosa and bulimia nervosa. The scale contains 51 statements and is divided into 7 subscales. The statements are formulated in the first person. The respondent is asked to rate the statement based on the frequency of occurrence in their own life. The answers "always", "usually", and "often" are scored 3, 2, and 1; the answers "sometimes", "rarely", and "never" are not scored. Some statements are reversed. The questionnaire includes the following scales: thinness, bulimia, body dissatisfaction, inefficiency, perfectionism, distrust in interpersonal relationships, and interoceptive incompetence.

The 16-factor questionnaire by R.B. Cattell is designed to measure personality characteristics. It contains 187 questions that respondents (adults with at least 8-9th grade education) are asked to answer. Subjects are asked to enter one of the following answers to the question "yes", "no", "don't know" (or "a", "b", "c") in the registration form. The questionnaire is intended for people aged 16 and older. The assessment is based on each of the 16 factors, which are grouped into blocks: intellectual characteristics: factors B, M, Q1; emotional and volitional characteristics: factors C, G, I, O, Q3, Q4; communication properties and features of interpersonal interaction: factors A, H, F, E, Q2, N, L. There are also four second-order factors: anxiety (F1), introversion-extraversion (F2), sensitivity (F3), and conformity (F4).

Correspondence to the key is assessed at two points for answers "a" and "c", correspondence to answer "c" – at one point. The sum of the points shows the value of the factor. The resulting value of each factor is converted into walls. The walls are distributed on a bipolar scale, with extreme values of 1 and 10 points. In other words, the first half of the scale (from 1 to 5.5) is assigned a "-" sign, and the second half (from 5.5 to 10) is assigned a "+" sign. Taking into

account the indicators of 16 factors, a “personality profile” is built. When interpreting the profile, attention is paid to the shape of the profile, sharp corners and peaks, i.e. the lowest and highest values of the factors in the profile. Particular attention should be paid to the profile peaks, which range from 1 to 3 walls in the negative pole and from 8 to 10 walls in the positive pole.

The study was conducted in accordance with the recommendations of the American Psychological Association (2002) at the Medical Centre named after Dr Kadyrov in Kyiv in 2020-2021, and 90 respondents took part in it. The study was conducted among women aged 18 and older with one of the following diagnoses: Anorexia Nervosa, Bulimia Nervosa and Binge Eating Disorder. All respondents were surveyed at the initial stage of the rehabilitation process. The experiment was conducted in accordance with the principles of the Helsinki Declaration.

The study included a psychodiagnostic examination using blank questionnaires, namely the Eating Behaviour Rating Scale (by D.M. Garner adapted by O.A. Ilchik) and the 16-factor personality questionnaire by R.B. Cattell. Each respondent was told about the requirements and peculiarities of the study and given instructions. Having received the forms, each subject had to fill in their personal data, give consent to their processing and evaluate the statements. The experiment required complete silence and concentration. There were no difficulties with the techniques. External variables, such as the subjects' motivation and testing conditions, were controlled by creating constant

conditions. Upon completion of the study, each respondent was promised to be informed of the results of the study on an individual basis.

The primary data obtained in the course of the study were subjected to quantitative and qualitative analysis. When analysing the results, the sample was divided into three groups depending on the eating disorder. Each group consisted of 30 respondents. The first group consisted of patients with anorexia, the second group consisted of patients with bulimia, and the third group consisted of patients with compulsive overeating.

RESULTS

The tables show the results of a qualitative analysis of primary statistics obtained by processing the raw data of the two methods used and calculating measures of central tendency (arithmetic averages) for all groups of subjects for all significant parameters. Scores for the seven subscales of the Eating Behaviour Rating Scale for patients with anorexia are shown in Table 1.

According to the data in the table, it can be seen that for patients with anorexia, the indicators on the scales “Thirst for thinness” and “Interoceptive incompetence” reach the highest values. This suggests that patients in this group are overly concerned about weight and have systematic attempts to lose weight, with a lack of confidence in recognizing feelings of hunger and satiety. Scores on the seven subscales of the Eating Behaviour Rating Scale for Bulimic Patients are shown in Table 2.

Table 1. Main indicators according to the EDI method for the first group of respondents

Scale	Level of manifestation, %		
	Low	Medium	High
Desire for thinness	–	3.3	96.7
Bulimia	33.4	43.3	23.3
Dissatisfaction with body	–	43.3	56.7
Inefficiency	6.6	56.7	36.7
Distrust in interpersonal relationships	–	63.3	36.7
Perfectionism	–	56.7	43.3
Interoceptive incompetence	–	20	80

Source: author's development

Table 2. Main indicators according to the EDI method for the second group of respondents

Scale	Level of manifestation, %		
	Low	Medium	High
Desire for thinness	–	16.7	83.3
Bulimia	–	–	100
Dissatisfaction with body	–	46.7	53.3
Inefficiency	–	43.3	56.7
Distrust in interpersonal relationships	3.3	56.7	40
Perfectionism	3.4	63.3	33.3
Interoceptive incompetence	–	13.3	86.7

Source: author's development

The Table 1 and 2 shows that for patients with bulimia, the highest values are reached by the scores on the scales “Thirst for thinness”, “Interoceptive incompetence”

and “Bulimia”. The characteristics of these manifestations are similar to those of patients with anorexia with one difference – the presence of high values on the Bulimia score,

i.e., the urge to have episodes of overeating and purging. The scores for the seven subscales of the eating behaviour

assessment scale for patients with compulsive overeating are shown in Table 3.

Table 3. Main indicators according to the “EDI” method for the third group of respondents

Scale	Level of manifestation, %		
	Low	Medium	High
Desire for thinness	–	53.3	46.7
Bulimia	–	60	40
Dissatisfaction with body	–	46.7	53.3
Inefficiency	10	80	10
Distrust in interpersonal relationships	6.7	83.3	10
Perfectionism	–	56.7	43.3
Interceptive incompetence	–	23.3	76.7

Source: author’s development

The Table 3 demonstrates that for patients with bulimia, the highest values are reached in the Interoceptive Incompetence scale, i.e. the inability to feel hunger and satiety. An interesting trend is the tendency of the majority of respondents in this group to have average values on the Ineffectiveness and Distrust in Personal Relationships scales. This indicates a less pronounced feeling of general inadequacy (meaning a sense of loneliness, lack of securi-

ty) and inability to control one’s own life, as well as a sense of detachment from contacts with others, than among respondents in other groups. For respondents of the first and second groups, these indicators were also distributed between medium and high levels of manifestation. The mean values for the seven subscales of the eating behaviour rating scale for patients with all types of disorders are shown in Table 4.

Table 4. Average values of indicators according to the “EDI” method for all sample groups

Scale	Average value		
	Anorexia	Bulimia	Compulsive overeating
Desire for thinness	7.7	7.5	6.6
Bulimia	4.5	8.0	6.1
Dissatisfaction with body	6.5	6.7	6.7
Inefficiency	6.0	6.2	4.9
Distrust in interpersonal relationships	6.2	6.0	5.2
Perfectionism	6.3	5.9	6.3
Interceptive incompetence	7.3	7.6	7.4

Source: author’s development

If analysing the average values for all scales, it is possible to see that respondents from the first group have the highest values for the scales “Thirst for thinness” and “Distrust in interpersonal relationships”. On the Perfectionism scale, the respondents of the first and third groups have the same values. This means that patients with anorexia and compulsive overeating have the same level of perfectionism, which is higher than that of patients with bulimia. This indicates inadequately high expectations of high achievements; inability to forgive oneself for shortcomings and to perceive oneself and the world around one realistically. Respondents of the second group have the highest scores on the Bulimia and Ineffectiveness scales, which indicates the manifestation of episodes of overeating and purging in their lives, the presence of a pronounced sense of loneliness, danger, and inability to control their lives. It

should be noted that respondents of all groups have almost identical scores on the Interoceptive Incompetence scale, which indicates a deficit in recognizing feelings of satiety and hunger. The respondents of the third group have the same values for the indicator “Body Dissatisfaction” as the respondents of the second group. There is a tendency for the lowest value on the scale of “Distrust in interpersonal relationships”, which indicates a higher level of trust in relationships than in patients with bulimia and anorexia. The lowest scores were also found on the Ineffectiveness and Thinness tendencies scales, which indicates less pronounced tendencies of thinness and feelings of loneliness and inability to influence their lives than in patients with anorexia and bulimia. The mean values for the 16 factors of the Cattell Questionnaire for patients with all types of disorders are shown in Table 5.

Table 5. Key indicators according to the Cattell method for the entire sample and its various groups

Scale	Average value		
	Anorexia	Bulimia	Compulsive overeating
Readiness for contacts (+), A	5.5	4.2	5.5
Intelligence (learning ability), V	6.2	6.4	6.3
Emotional stability (+), S	4.6	3.9	3.5
Dominance (+) – subordination (-), E	4.7	4.0	3.8
Serenity (+) – concern (-), F	5.4	6.6	5.5
Control “over self” (+), G	5.7	4.2	3.3
Courage (+) – indecision (-), H	4.3	3.4	4.5
Softness (+) – hardness (-), I	5.8	7.1	6.3
Credulity (-) – suspicion (+), L	6.7	3.3	4.0
Practicality (-) – dreaminess (+), M	5.6	5.0	3.8
Diplomacy (+) – directness (-), N	5.4	6.1	4.6
Calm adequacy (+) – guilt (-), O	6.5	7.1	7.0
Inclination to innovation - (+) conservatism (-), Q1	4.7	4.6	4.2
Dependence on the group (-) – self-sufficiency (+), Q2	5.0	4.8	4.8
Low (-) – high integration of “I” (+), Q3	6.4	5.4	4.2
Calmness (-) – tension (+), Q4	5.9	5.3	3.4

Source: author’s development

Based on the results of the Table 5, it is possible to analyse the differences in the scores in the groups of respondents on the scales in which the greatest differences were found. Patients with anorexia and compulsive overeating are more open to communication than patients with bulimia. Although, in general, the average level of expression on the scale is closer to the low level, i.e., the tendency to be withdrawn. A significant difference is found in the scores on the Self-Control scale. Patients with anorexia are more prone to strict self-control than patients in other groups. Respondents with compulsive overeating have the lowest score on this scale, which indicates the instability of feelings, states, thoughts, and a tendency to change. Difficulty in following group and ethical norms, unwillingness to accept group rules of interaction. Disorganization, difficulty with responsibility, impulsivity, anarchy in relation to moral rules and standards, flexibility in compliance with social norms, unscrupulousness, tendency to antisocial behaviour and disregard for any restrictions. The table also shows that patients with anorexia have a higher level of suspicion than respondents from other groups. Patients with bulimia have a more pronounced softness score among all groups of respondents, which indicates weakness, dreaminess, discernment, moodiness, femininity, sometimes demanding attention, help, dependence, and impracticality.

Patients with compulsive overeating are characterized by pronounced practicality, high speed of solving practical problems, prosaicism, orientation to external reality, developed concrete imagination, practicality, and realism. Patients with anorexia and bulimia are characterized by a developed imagination, symbolic thinking, absorption in their own images and fantasies, easy doubts about the practicality of solutions, abstract conceptualization, and a tendency to immerse themselves in fantasies. Patients with anorexia have a highly integrated self, unlike patients from other groups. They are characterized by determination, strong will, and the ability to control their emotions and behaviour. Patients with compulsive overeating are characterized by low discipline, following their desires, dependence on moods, and inability to control their emotions and behaviour. And if talking about the Calmness – Tension scale, it is possible to see that patients with anorexia and bulimia have a higher level of tension, characterized by composure, energy, frustration, increased motivation, anxiety, agitation, and irritability. In contrast, patients with compulsive overeating showed relaxation, lethargy, apathy, calmness, low motivation, excessive satisfaction, and equanimity. Visually, personal characteristics are demonstrated on the graph, taking into account the personal profiles of all three groups of respondents (Fig. 1).

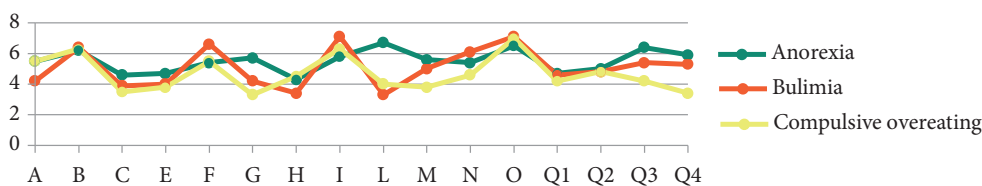


Figure 1. Graphs of the personal profile of respondents of three groups

Source: author’s development

The diagram shows the personal profiles of the respondents in three groups. Comparing these data, it is possible to say that the personal profile of respondents from the second group, who have an eating disorder in the form of bulimia, has a more chaotic character and shows the manifestation of borderline polarities with alternating higher indicators on the scales with lower ones. For respondents with anorexia, indicators of indecision, suspiciousness, and anxiety reach their peak values. Respondents with bulimia peaked on indicators of softness, carefreeness, and anxiety, along with indicators of gullibility, indecisiveness, and emotional instability. Patients with compulsive overeating have manifestations of restlessness, lethargy, low self-control, and emotional instability.

DISCUSSION

The issue of personality traits in eating disorders is a topic of interest, and research is showing that a better understanding of personality can facilitate clinical treatment. Most studies have focused on analysing the typological characteristics of adolescents in order to implement prevention and intervention programmes. A study by L. Dufresne *et al.* (2020) found that personality traits are associated with eating disorders in adolescents. The authors note that consideration of personality traits may lead to a better understanding of the aetiological and maintenance factors of eating disorders.

Interest in considering personality in the context of psychopathology has been going on for many years. Personality describes a set of relatively stable ways of thinking, feeling, behaving, and relating to others that result from the convergence of constitutional, developmental, and social and cultural experiences (Lingiardi & McWilliams, 2017). This variable has been found to affect a wide range of mental disorders, as well as patients' motivation, adherence, and response to treatment (Huber *et al.*, 2017). The relationship between personality, personality traits or disorders, and eating disorders has received considerable empirical testing, with links found between personality and eating disorder aetiology, symptomatology, and maintenance (Farstad *et al.*, 2016;). A meta-analysis by M. Martinussen *et al.* (2017) summarized the proportion of comorbid personality disorders in patients with anorexia and bulimia nervosa and explored possible moderating variables. Interestingly, no statistically significant differences were found between bulimia and anorexia. Both diagnoses had a similar comorbidity profile, with a high prevalence of borderline and avoidant typological features. L.R.R. Lilienfeld (2006) published a seminal article almost two decades ago in which they articulated the potential role that personality assessment can play in treatment planning. The researchers emphasized that personality and eating disorder type can interact in a variety of ways and proposed several conceptual models to describe potential causal or correlational relationships between them. Conflicting results were obtained in a study of personality traits in C. Steinert *et al.* (2015). The study reported that

personality was a predictive outcome when baseline symptoms were not controlled for, but studies that controlled for baseline symptoms could not support these findings. As a result, the researchers concluded that baseline personality assessments do not appear to have any additional value in predicting outcomes in inpatient psychotherapy beyond baseline symptoms.

However, research by J. Linardon *et al.* (2019) supports the assumptions made in this study and suggests that individual-typological features and personality disorders may predict baseline symptom expression and treatment outcome in eating disorders, and that a better understanding of patient-related moderators and mediators of outcome should be developed to improve treatment effectiveness. The majority of eating disorder treatment guidelines (Ramos-Grille *et al.*, 2013) share the view that individual differences in symptom severity, treatment history, and comorbid psychopathology should be explicitly acknowledged to guide the selection of appropriate psychosocial interventions within a stepwise therapeutic approach. Thus, there is a need for research to clarify the optimal integration of personality variables in the treatment of eating disorders. Only then can it be determined whether the shift from a "one size fits all" approach to a "person-centred" approach can represent an appropriate progression. R.M. Bagby *et al.* (2016) suggest that positive treatment is optimized when psychotherapists or other mental health professionals are armed with personality assessment information to guide treatment choices and treatment plans.

The topic of individual psychological characteristics of adults at different stages of the disease remains less researched. J. Levallius *et al.* (2018) published a study of adults based on the five-factor model of personality. The overall goal was to improve understanding of how normal psychological phenomena such as personality are related to pathological processes such as eating disorders. This was done by assessing the personality of patients with eating disorders several times during the course of treatment, and by tracking clinical intervention and eating disorder outcome.

Diagnostics using 16 personality factors and specific personality traits at a particular stage of the disease has not yet been conducted. However, the results of the study correlate with the indicators described by other studies. At the same time, they emphasize a completely different vector of individual psychological characteristics, which complements the general vision of the personality of a patient with an eating disorder.

J. Rohde *et al.* (2023) emphasized that the classification of anorexia nervosa into subtypes is relevant due to their different symptoms. However, the subtypes (restrictive and purging types) also differ in terms of personality functioning. Knowledge of these differences allows for better stratification of treatment. The differences in personality functioning and personality traits between the two subtypes of anorexia and bulimia nervosa were systematically investigated using three personality (functioning) constructs. The study indicated differences in structural abilities that can be

assessed by the system of operational psychodynamic diagnostics. Differences were observed in several sub- and core scales of the OPD-SQ. Patients with bulimia showed the lowest levels of structural personality integration, whereas patients with anorexia purgatorialis showed the highest levels of personality functioning. This study coincides with the aim of the further vector of the present research, which is to consider personality characteristics from the point of view of the psychodynamic approach.

It is worth agreeing with G. Castellini *et al.*, (2022), who noted that an integrated psychotherapeutic approach focused on typological features may make it possible to overcome the limitations of existing treatments, improve the prognosis of patients with eating disorders by taking into account the dimensions of the psychopathology of food addiction, as well as emotional, perceptual, experiential, relational and identity-related problems that together form the basis of these severe disorders in a single multidimensional psychopathological and treatment model.

Thus, these studies make it possible to formulate a psychotherapeutic strategy for working with patients with food addiction, based not only on individual indicators, but also on the formed commonalities in groups that can be influenced by group work. At the same time, the analysis of differences makes it possible to choose psychotherapeutic tools that will accurately affect the individual psychological characteristics of patients in a particular group of disorders. This makes it possible not only to use a wider range of methods and approaches, but also to monitor the changes that occur in the personality in the psychorehabilitation process and the factors that contribute to this.

CONCLUSIONS

The article focuses on the individual psychological characteristics of patients with eating disorders, namely anorexia nervosa, bulimia nervosa and compulsive overeating. A comparative analysis of the main individual psychological characteristics depending on the type of disorder is carried out.

The empirical research has revealed that patients with anorexia have tight self-control, high demands on their bodies, distrust in interpersonal relationships, and suspicion. They would be characterized by a tendency to control their desires, a strong will, restraint of affects, and purposefulness. At the same time, indecisiveness, suspicion, and anxiety scores reach their peak. Patients with bulimia have a more pronounced softness score among all groups of respondents, which indicates weakness, dreaminess, legibility, capriciousness, dependence, and impracticality. At the same time, the indicators of carelessness and anxiety reached their peak values, along with indicators of gullibility, indecision, and emotional instability. Patients with

compulsive overeating are characterized by the highest instability and emotional instability among all groups of respondents. It was found that patients with anorexia and compulsive overeating are more open to communication than patients with bulimia. It has been observed that patients with anorexia and compulsive overeating show expressiveness, dynamism and activity in relationships, expressed emotionality, and a desire for communication. In contrast, patients with bulimia have pronounced anxiety, hypochondria, pessimistic views of the present and future, and emotional coldness. The respondents of all three groups have impaired feelings of satiety and hunger. The results showed that patients with anorexia and patients with compulsive overeating have a higher level of perfectionism than patients with bulimia. Also, common to the three groups are body dissatisfaction and the desire for thinness. Moreover, in the latter indicator, the values in patients of the first and second groups are slightly higher than in the third group.

The scientific novelty of the study lies in the comparison of individual psychological characteristics of patients with anorexia nervosa, bulimia and compulsive overeating. The study of the main individual psychological characteristics of an addicted personality helps to create models of psychological rehabilitation based on the individual characteristics of a certain group of patients. The practical value of the article lies in the possibility of using the research materials to expand the understanding of the individual psychological characteristics of patients with different types of food addiction in order to build an effective strategy for psychotherapeutic care.

Areas for further research are related to the consideration of a person with food addiction in the psychodynamic paradigm with the analysis of unconscious structures, type of attachment, leading unconscious conflict, and mental organization of the personality, which will allow for a deeper understanding of individual psychological characteristics and complement the patient's overall vision in the process of providing psychotherapeutic care and choosing a treatment strategy.

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CONFLICT OF INTEREST

There are no conflicts of interest in the analysis of the raised issues.

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Порівняльна характеристика індивідуально-психологічних особливостей пацієнтів з розладами харчової поведінки

Анотація. Актуальність дослідження зумовлено статистичними показниками, що демонструють ріст розповсюдженості розладів харчової поведінки та недостатнє урахування індивідуально-психологічних факторів у вибудовуванні стратегії допомоги задля досягнення і збереження ремісії. Мета роботи – дослідити індивідуально-психологічні характеристики особистостей з різними видами харчового розладу та порівняти їх. Використано методи емпіричного дослідження: спостереження, аналіз медичних карток, шкала оцінки харчової поведінки, 16-факторний особистісний опитувальник Р.Б. Кеттелла. У статті представлено розбіжності та спільності в індивідуально-психологічних особливостях пацієнтів з розладами харчової поведінки. З'ясовано, що пацієнти з різними розладами харчової поведінки мають притаманні їм особливості. Аналіз показав, що існують риси, які мають схожі показники у двох групах респондентів, але різняться в третій і навпаки. Виявлено, що респонденти з компульсивним переїданням мають найбільш хаотичний профіль особистості, якщо порівнювати з пацієнтами інших груп. Узагальнено основні індивідуально-психологічні особливості за типом харчового розладу. З'ясовано, що пацієнти з анорексією мають високі показники самоконтролю, вимог до власного тіла, недовіри в міжособистісних стосунках та підозрливості зі схильністю контролювати свої бажання. Високих значень набувають показники нерішучості, підозрливості та тривожності. Пацієнти з булімією мають більш виражений показник м'якості серед усіх груп респондентів за високими показниками безтурботності та тривожності поряд з показниками довірливості, нерішучості та емоційної нестабільності. Пацієнти з компульсивним переїданням характеризуються вираженою емоційною нестабільністю серед усіх груп респондентів. Виявлено, що пацієнти з анорексією та компульсивним переїданням більш відкриті до спілкування, ніж пацієнти з булімією. Пацієнти з анорексією і компульсивним переїданням проявляють експресивність, динамічність і активність у стосунках на відміну від пацієнтів з булімією, що мають виражену тривожність, іпохондрію і песимістичність. У респондентів усіх груп спостерігається порушення почуття насичення та голоду. Результати показали, що в пацієнтів з анорексією та в пацієнтів з компульсивним переїданням показник перфекціонізму вищий, ніж у пацієнтів з булімією. Спільна для трьох груп – невдоволеність тілом та прагнення до худоби. Практична цінність статті полягає в можливості використати матеріали дослідження для ефективної стратегії психотерапевтичної допомоги пацієнтам з різними видами харчової залежності

Ключові слова: типологічні особливості; харчова залежність; нервова анорексія; нервова булімія; компульсивне переїдання

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Marital conflict and adolescent's psycho-social well-being: Mediation and moderation analysis

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Abstract. The research relevance is determined by the direct impact of marital conflicts on the psycho-emotional state of a child, particularly a teenager. The study aims to identify the variables capable of influencing the relationship between the tendency of marital conflict and the psycho-social well-being of children, and to determine the mediating and moderating role of the identified variables. The study was conducted in several stages. The first stage of the study identified variables capable of influencing the relationship between marital conflict and adolescents' psycho-social well-being. The second stage of the study analysed the mediating and moderating nature of the mentioned variables using a questionnaire. Results emphasize the ability to influence certain aspects of marital relations in Georgian society on various aspects of the lives of its members. The research found that the parents' financial situation, the feeling of their and their children's psycho-social support and the change in the functioning of the parents' family in Georgia derives from the family conflict index and is reflected in the deterioration of the adolescent's psycho-social well-being. As for the parenting style, which did not acquire a mediating and moderating role in the research, it can be related to the cultural peculiarity and defined as the interest of future research. On the one hand, it contributes to the expansion of theoretical knowledge in the field of family psychology, and on the other hand, it provides important information for the use of research results, which is one of the first steps forward for the study of the family and the use of therapeutic purposes

Keywords: family; children; family functioning; parenting styles; psycho-social support

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INTRODUCTION

Marital relationship is a prerequisite for the changing and developing processes of humanity. It plays a crucial role in the process of sharing values with children, forming their interests, and supporting their socialization. Marital relationship, in turn, determines the level of satisfaction of family members, and therefore, marital conflict reduces the psychosocial well-being of its members, especially adolescent children.

An improved marital relationship significantly influences the well-being of the child (Chakraborty, 2023). Aside from the internal family resources of the family, the state also has to support and aid the family. According to Article 24 of the Code on the Rights of the Child

of Georgia (2019), the parent is obliged to take care of the child and, as necessary, to participate in the child support programs offered by the state. Considering this, the state, according to the law, should create family support services, addressing the individual needs of the child. Currently, the number of family support and prevention programs in Georgia and access to them are limited. Furthermore, the effects of inter-parental conflict on children's well-being are understudied, which may put more and more children's well-being at risk (Gong *et al.*, 2023). Hence, the research relevance is determined by their care and the effectiveness of the planned measures. The study aims to address these challenges. Research suggests that adolescents' diminished



well-being is not unconditionally related to marital conflict, just as marital conflict does not directly reflect adolescent's psycho-social well-being. As J. Zhu *et al.* (2022) and Q. Gong *et al.* (2023) believe, there are variables in this process that disrupt and/or intensify this relationship. Therefore, to prevent the negative consequences of marital conflict and to deal with its harmful consequences, it is necessary to identify the variables capable of this influence and to study them. When searching for variables capable of influencing the relationship between marital conflict and adolescent children's psycho-social conflict, it is necessary to address the relationship between parents (an indicator of conflict) (Alelishvili *et al.*, 2019; Guevara *et al.*, 2021). Finding the probable cause in the research process will make it easier for the family researcher, and the therapist to choose the therapeutic direction and support the psycho-social welfare of the adolescent. The study aims to determine the variables capable of influencing the relationship between the marital conflict rate and the psycho-social well-being of adolescent children, as well as to conduct a moderation and mediation analysis. The study seeks to determine in what cases the relationship between the indicator of the conflict between husband and wife in the family and the well-being of the child changes.

Research statements are:

- An increase in the rate of marital conflict is associated with a decrease in the level of well-being of children. The psycho-social well-being of adolescent children of a family with a high rate of marital conflict is lower than the psycho-social well-being of adolescent children with a low rate of marital conflict.
- The reflection of a high rate of marital conflict on the psycho-social well-being of adolescents depends on the variables capable of influencing the relationship between the rate of marital conflict and the psychosocial well-being of children.

LITERATURE REVIEW

Conflict is an integral part of every family, and it is difficult to define its causes, however, it is necessary to predict and prevent the consequences. In some cases, the family successfully manages to overcome the conflict, yet sometimes the negative reflection of the conflict on the family members becomes unavoidable. Marital conflict and disagreements are a source of stress for children, increasing the risk of developing emotional and behavioural problems (van Dijk *et al.*, 2020).

According to D.H. Olson and Y. Lavee (1989), marital conflict is related to the imbalance between cohesion/tightness and adaptability. Cohesiveness refers to the strength of the bond between family members, and adaptability refers to the family's ability to adapt its structure to the needs of the family. Relationships, roles, and rules adapt to situational and or developmental needs. Imbalance is defined by very high and very low levels of cohesion/tightness and adaptability, when (even by agreement) roles are constantly changing, there is a clear leader and, conversely, neither

roles change nor there is a leader in the family. This imbalance causes discomfort, which becomes a source of conflict, the severity of which determines the change in family functionality; parent-child relationship style; parenting style; and the quality of support, and all this, in turn, affects the well-being of children. Hence, D.H. Olson (2000) notes that maintaining a balanced tension and adaptability between spouses is essential to promote the welfare of the family and its members, which will balance the existing roles and make the decision-making process in the family more flexible. M.E.P. Seligman's (2011) theory of well-being (PERMA) distinguishes five interrelated dimensions of good family relations, including a positive relationship and the potential to reinforce each other. According to the theory (PERMA), well-being is defined as positive emotion; engagement; relationships; a sense of meaning, and accomplishment. Psycho-social well-being in adolescence is determined by many factors, however, most of them are related to family relationships, finances, the presence of support, and generally a favourable environment, which provides an adolescent with an opportunity for self-realization and development (Guevara *et al.*, 2021). An important determinant of the psycho-social well-being of a teenager is family and marital relations. In a family with a harmonious atmosphere and no parent conflicts, the child is more likely to have a good emotional state, while marital conflicts are a prerequisite for negative behaviour and significant issues in the child's development. If the family harmony is disrupted, the child's development is worsened and delayed stage-by-stage (Hess, 2022). According to J. Zhu *et al.* (2022), the identified variables capable of influencing the relationship between marital conflict and child well-being are more or less common in all societies, however, the strength of their impact depends on the cultural and social context in which the family lives.

Q. Gong *et al.* (2023) believe that the change-invariance of family functioning during parental conflict determines the impact of marital conflict on children's well-being. Furthermore, if the function (especially, the father) of the family has not changed and it is still able to meet the needs of the child, it is unlikely that the marital conflict will harm the children. D. Tsela *et al.* (2022) emphasize, that parenting style has a significant impact on the child's development. It is possible to distinguish several parenting styles: Laziness (lack of discipline); hyperactivity (authoritarian discipline, aggression, etc.), and excessive verbalization (excessive verbal activity, instructions, reprimands). A high index in all three directions is associated with a problematic parenting style since effective feedback implies timeliness, systematicity, moderate intensity, and moderate severity. As noted by R.S. Mistry and L. Elenbaas (2021), financial stability and security are subjective factors, and the perception of the family's financial situation is determined not particularly by the amount of income, but by the perception thereof by family members. It can mediate and moderate marital conflict and adolescent psycho-social well-being (Ying *et al.*, 2023). A feeling of psycho-social support from family

members; a child's faith in parental support; the exchange of positive emotions from the relationship, communication, and the parent's ability to resolve conflict are positively related to the child's well-being (EPB, IPB), which may depend on marital conflict (Dominick, 2018). According to Q. Gong *et al.* (2023), the extent to which the negative consequences of marital conflict affect the child depends, among other things, on the child's gender, age, education, ethnicity, and quality of parent-child relationship.

MATERIALS AND METHODS

Initially, at the stage of the desk research, based on a review of the available scientific literature on the variables capable of influencing the relationship between marital conflict and psycho-social well-being of the adolescent, the variables capable of influencing the relationship between marital conflict and the psycho-social well-being of the adolescent child were determined: parenting style, family functioning, family financial income, psycho-social support, and demographic data. The next stage of the research employed a questionnaire method to study the moderating and mediating role of variables capable of influencing the relationship between the indicator of marital conflict and the psycho-social well-being of adolescent children. A pilot study was conducted in the second stage of instrument standardization. The pilot study aimed to determine the reliability and validity of the questionnaire developed during the research. The pilot study selected 31 families (couples/husbands) and their teenage children. A total of 31 teenagers. The research included 93 participants. The selection of research participants was non-probable, available. The characteristics of the target group were precisely observed (Bujang *et al.*, 2022). The survey was conducted in a face-to-face interview format at a location convenient for the subjects. Before assessing the reliability of the self-administered questionnaire, the study measured the construct validity of the scales by establishing convergent validity. Convergent validity was assessed by comparing the results of a pilot study on the respondents (husband and wife) with the answers given to similar, adapted questionnaires for two of the five scales developed (wife-husband conflict and family functioning scale) in the study (Panjikidze, 2014; Shanava, 2016), providing similar results. These scales were selected based on their importance in the study. Other existing methods are excessively complicated and were not suitable for this study. The obtained correlation of convergent validity is satisfactory ($r = .34; .49$), which implies that in the case of verification on a large sample, it will provide better results.

Out of 6 scales of the questionnaire developed for parents, 5 scales were developed in the research process, and their separate and unified reliability ($\alpha = .842$) was confirmed by the pilot study. The reliability of the questionnaire created for children was not confirmed in the pilot study data analysis ($\alpha = .49$), therefore, provisions needed to be reformulated, and re-piloting was deemed necessary. According to the data of the research conducted within the repilot of provisions, the reliability index of both scales

(psycho-social support and well-being) and subscales, together and separately, was high ($\alpha = .894$). In addition, with factor analysis, study goal achievability was determined (Bujang *et al.*, 2022). In the process of study methodology standardization, the factor analysis required a different distribution of statements in the sub-scales and, in some cases, changing the names of the scales in contrast to the reviewed literature. This is determined by the cultural peculiarity, which, to some extent, contributes to the research novelty. At this stage of research, an influential variable identification method was developed, which helped in the study of the influential variables and their role in the adolescent's psycho-social satisfaction in the family. Furthermore, the research hypotheses were formed, and the moderating-mediating role of the research aspects was verified in the third study stage.

Research hypotheses:

H.1.1.: The level of the mother's marital conflict tendency determines the level of psycho-social well-being of the adolescent child;

H.1.2.: The level of the father's marital conflict tendency determines the level of psycho-social well-being of the adolescent child;

H.2.1.: The level of the mother's functioning in the family plays the role of a mediator between the level of the mother's marital conflict tendency and the level of psycho-social well-being of the adolescent child;

H.2.2.: The level of the father's functioning in the family plays the role of a mediator between the level of the father's marital conflict tendency and the level of psycho-social well-being of the adolescent child;

H.3.1. Mother's parenting style has a moderating effect on the relationship between the mother's marital conflict tendency level and the level of psycho-social well-being of the adolescent child;

H.3.2. Father's parenting style has a moderating effect on the relationship between the father's marital conflict tendency level and the adolescent child's psycho-social well-being level;

H.4.1. The mother's perception of the family's financial situation has a moderating effect on the relationship between the mother's marital conflict tendency level and the level of psycho-social well-being of the adolescent child;

H.4.2. The father's perception of the family's financial situation has a moderating effect on the relationship between the father's marital conflict tendency level and the level of psycho-social well-being of the adolescent child;

H.5.1. Mother's perception of psychosocial support in the family has a moderating effect on the relationship between the mother's marital conflict tendency level and the level of psycho-social well-being of the adolescent child;

H.5.2. The father's perception of psycho-social support in the family has a moderating effect on the relationship between the father's marital conflict tendency level and the level of psycho-social well-being of the adolescent child.

SPSS Process macro models 1 and 4 were used to determine the mediation and moderating effect (Regorz, 2023).

At the final study stage, a hypothesis-verification study was conducted in Spring 2023, on 167 families, living in Georgia, a total of 501 people, 167 mothers, 167 – fathers, and their teenage children aged 11-18 years, participated in the research. Most of the married couples participating in the research are from Tbilisi, and the age of the majority of the interviewed parents is 30-45 years. Most of the respondent parents have higher education, are employed, have more than one child and most of them live only with their child/children. As for the age and gender of the children, both genders and age categories (11-14 and 15-17 years) are more or less equally represented in the sample. Participants in this phase of the study filled out a printed copy of the standardized self-report questionnaire from the first stage of the study, accompanied by an “informed consent form”. Participation in the study was voluntary, and all respondents were informed in advance of the purpose of the study, the details of the instructions for completing the questionnaire, and their right to skip unwanted questions and/or opt out of the study process. In the process of finding respondents, purposeful, accessible sampling and “snowballing” methods were used. A prerequisite for joining the study was a married couple with at least one adolescent child. In the case of several children of the mentioned age, only one child participated, and the parents expressed their position on the proposed provisions for the child participating in the study. Participants were asked to rate their level of agreement with the content of each statement in the questionnaire on a 1-5-point scale. Recommendations regarding the step-by-step validation of the received questionnaires were provided (Bujang *et al.*, 2022).

RESULTS

Hypotheses were formulated and validated during the research process. Following a comprehensive analysis of the research data, an investigation into the interrelationships among the variables was undertaken to assess the primary research hypotheses. The outcomes of this analysis disclosed the following. According to the results of the regression analysis, all four variables, the feeling of psycho-social support of both spouses; family functioning; the perception of the financial situation, and the feeling of the presence of psycho-social support by the child may have (in both parents) a mediating function between marital conflict and the adolescent's psycho-social well-being. The regression analysis also showed that the mother's and father's parenting styles did not stem from the conflict indicator. This implies that it could only have a moderating role (H.3.1. and H.3.2.), as the study shows, the regression analysis rejected several hypotheses, (H.4.1., H.4.2., H.5.1. and H.5.2), formed the basis for the verification of two hypotheses (H.2.1. and H.2.2) and raised the assumptions of the mediating role of parents' financial perception and perception of parents and children's psycho-social support, which was verified in the next step. In the mediation analysis of the variables, it was found that in the case of the mother and the father, the level of functioning of the family of the parents implied by the hypothesis performs a strong mediating function between the marital conflict and the child's psycho-social well-being. However, in the case of the father, there is a more pronounced presence of indirect mediation when compared to the mother (Tables 1 and 2).

Table 1. The mediating role of the mother's family functioning

R	R-sq	MSE	F	df1	df2	P
.7411	.5493	.1360	173.0511	1.0000	142.0000	.0000

X: a direct and indirect effect of a variable on Y: variable

direct effect .3396 indirect effect .0816

Note: X – mother's marital conflict tendency; Y – adolescent psychosocial well-being; M – mother's family functioning; R-sq – effect-size measures are presented to assess variance accounted for in mediation models; P – the degree of data compatibility with the null hypothesis; MSE – mean squared error; F – distribution and df1 and df2 – two different degrees of freedom

Source: compiled by the author

Table 2. The mediating role of the father's family functioning

R	R-sq	MSE	F	df1	df2	P
.8246	.6799	.0922	290.9813	1.0000	134.0000	0000

X: A direct and indirect effect of a variable on Y: Variable

direct effect .1649 indirect effect .3148

Note: X – father's marital conflict tendency; Y – adolescent psychosocial well-being; M – father's family functioning; R-sq – effect-size measures are presented to assess variance accounted for in mediation models; P – the degree of data compatibility with the null hypothesis; MSE – mean squared error; F – distribution and df1 and df2 – two different degrees of freedom

Source: compiled by the author

Furthermore, regarding both parents, the perception of financial status exhibits a limited mediating role. The sense of psycho-social support experienced

by both parents and adolescents demonstrates a moderate mediating effect for mothers and a mild one for fathers (Table 3).

Table 3. Verification of the assumptions of the mediation effect revealed in the research process

M: Perception of psycho-social support by parents							
	R	R-sq	MSE	F	dF1	Df2	P
Mother	.6206	.3852	.1613	91.4563	1.0000	146.0000	.0000
Father	.4446	.1977	.2527	17.2494	2.0000	140.0000	.0000
M: Perception of the financial situation							
	R	R-sq	MSE	F	dF1	Df2	P
Mother	.3918	.1535	.5816	26.3020	1.0000	145.0000	.0000
Father	.3099	.0960	.4990	14.9749	1.0000	141.0000	.0002
M: Perception of psycho-social support by child							
	R	R-sq	MSE	F	dF1	Df2	P
Mother	.5560	.3092	.2403	31.9979	2.0000	143.0000	.0000
Father	.4741	.2248	.1648	.405968	10000	140.0000	.0000

Note: X – mother's marital conflict tendency; Y – adolescent psychosocial well-being; M – mediator variables; R-sq – effect-size measures are presented to assess variance accounted for in mediation models; P – the degree of data compatibility with the null hypothesis; MSE – mean squared error; F – distribution and df1 and df2 – two different degrees of freedom

Source: compiled by the author

The moderating analysis of variables lost its meaning, as all the research variables were derived from the implied independent variable (parental marital conflict tendency), which predicted their mediating role. Only the parenting style of the parents was not derived from the independent variable, which could have a moderating

effect on the dependent variable (adolescent's psycho-social well-being), however, for this, Parenting style should have a predictive function for the dependent variable, which was not found, and therefore, a variable with a moderating effect was not identified in the research process (Table 4).

Table 4. Relationship between husband and wife's parenting style and adolescent child's psycho-social well-being

Model	B	Std. error	Beta	t	Sig.
Father's parenting style (X) and adolescent's psycho-social well-being (Y)	-.110	.071	-.125	-1.552	.123
Mother's parenting style (X) and adolescent psycho-social well-being (Y)	-.024	.077	-.026	-.314	.754

Note: B – original units besides the slope; std. error – expresses the degree of uncertainty in the accuracy of the dependent variable's projected values; beta – standardised coefficient between -1 to +1; t – measures how many standard errors the coefficient is away from 0; sig. – significant amount of variance in the outcome variable

Source: compiled by the author

As a summary of the data, it is possible to state, that the mother's and father's perception of the family's financial situation and psycho-social support plays the role of a mediator between the level of the mother's and father's marital conflict tendency and the adolescent child's level of psycho-social well-being. The results of this analysis revealed the following:

- The level of marital conflict tendency of the mother and father determines the level of psycho-social well-being of the adolescent child (confirmed – H1.1 and H1.2);

- The level of functioning of the mother and father in the family acts as a mediator between the level of the mother's and father's marital conflict tendency and the level of psycho-social well-being of the adolescent child (confirmed – H.2.1 and H.2.2);

- Mother's and father's parenting styles do not have a moderating effect on the relationship between the level of the mother's and father's marital conflict tendency and the

psycho-social well-being level of the adolescent child (not confirmed – H.3.1. and H.3.2.);

- The mother's and father's perception of the family's financial situation and psycho-social support do not have a moderating effect on the relationship between the mother's and father's marital conflict tendency level and the adolescent child's psycho-social well-being level (not confirmed – H.4.1, H.4.2, H.5.1, and H.5.2).

Based on the results of the research and the empirical foundation requirements in the therapeutic field, recommendations on significant improvement of the therapeutic, practical, and scientific research directions for further study of family psychology can be noted:

1. Conducting extensive research on homogenous families is recommended to address the limitations associated with the unidentified moderating role of parenting style and demographic data;

2. At the beginning of the therapy, in the assessment, the importance of the mediation variables (especially in the case of the father) should be shared with the beneficiary;

3. In the process of caring for the adolescent's psycho-social well-being, parental functioning improvement should be focused;

4. A recommended course of action addressing both the financial situation of parents and their child's perception of support within the family.

DISCUSSION

There are many studies and theories, which indicate the harm of marital conflict in the development of children's well-being and behavioural tendencies (Spremo, 2020; Chakraborty, 2023; Karkashadze *et al.*, 2023). Studies emphasize that the well-being of children depends on the level of marital conflict (how balanced their relationship is and/or how high the risk of conflict is) and a significant distinction exists in the welfare of children between families with high levels of marital conflict and those with low levels of such conflict. According to R. van Dijk *et al.* (2020) and A. Chakraborty (2023), the relationship between parents significantly influences the behavioural education of a child in a socially acceptable and problematic situation. Marital conflict in the family appears as a source of stress for children, reduces the well-being of the child/children, and increases the risk of emotional and behavioural problems. Scientists believe that this process is associated with the development of emotional and behavioural problems in children.

M. Spremo (2020) believes that marital conflict and divorce do not affect the well-being of children in all cases, however, it significantly increases the risk of developing negative consequences caused by the conflict and endangers the psychological well-being of the child and other family members. This opinion is supported by the research of Q. Gong *et al.* (2023), according to which the rate of marital conflict does not affect all children in the same way. Some children manage to overcome the stress caused by parental conflict and parental separation, while others develop psycho-social difficulties. According to Q. Gong *et al.* (2023), to understand the difference between the children of families with high, medium, and low levels of conflict in coping with stress and psychosocial difficulties caused by marital conflict in the family, it is necessary to study the variables capable of influencing the relationship between the level of marital conflict and the child's well-being. According to J. Zhu *et al.* (2022), the variables capable of influencing the relationship between marital conflicts and child well-being are more or less common in all cultures, however, the strength of their impact depends on the cultural and social context in which the family lives. The cultural peculiarity of the Georgian family explains the result difference between study expectations and research results of mediator variables. A characteristic feature of the Georgian family is the special responsibility and obligations assigned to the mother, which she fulfils unconditionally. There are high expectations and an unconditional reputation associated with

mothers. On the other hand, fathers have only recently become more involved in family activities, previously limited to providing financially and being the family leader. Today, as fathers don't have unconditional authority due to the ongoing maternal responsibilities, their impact depends on their relationship with the mother. As a result, during times of marital conflict, the quality of the father's functioning in the family gains importance (Sumbadze, 2006).

Regardless of what was expected of the moderating role of the mentioned variable/variables, these results fit other study findings, that in Georgia, the level of perception of the financial situation (mediation variable) and psycho-social support by husband (mediation variable) and wife (mediation variable) depends on what kind of relationship they have with each other. This emphasizes the cultural characteristics of Georgia, the tendency of interdependence and the priority of family and others' opinions in Georgian's daily life (Sumbadze, 2006), which has a significant impact on the subjective reality of husband and wife. When there is a conflict between husband and wife, as dependent members of society, parents experience less support, become confused, underestimate their finances, fail to provide a supportive environment for their children, and this affects children's well-being (Ying *et al.*, 2023). When explaining the findings, it is essential to consider the unique aspects of family dynamics and child-rearing practices in Georgian culture. Previous studies (Sumbadze, 2006; United Nations Children's Fund, 2020), exploring the specifics of Georgian families, highlight the cultural context, indicating that parenting styles in Georgia tend to be relatively uniform, reflecting parental attitudes with disposition. These styles, notably, are not significantly affected by changes in family dynamics and do not show a direct impact on children's well-being. However, the study was unable to establish a direct relation between parenting style and child well-being, which might be attributed to the non-homogeneity of the sample. This result calls for further research to identify the potential variables influencing this process.

CONCLUSIONS

By analysing the relationship between the variables conducted to check the main research hypotheses, it was concluded that the high tendency for marital conflict between both parents hurts the psycho-social well-being of adults; the negative impact of the high tendency of marital conflict between both parents on the psycho-social well-being of adolescents is to some extent explained by the parent's perception of their financial situation, their and their child's feelings of psycho-social support, and the change in the functioning of the parents' family, which is accompanied by an increase in the indicator of marital conflict. Therefore, if, despite the marital conflict, the functioning of the family and the perception of financial status and support are not changed or supported, the degree of reflection of the marital conflict on the adolescent's psycho-social well-being will be low. Variables with a moderating role (demographic data and parenting style) could not be identified, which either

strengthens or weakens the reflection of marital conflict on the level of psycho-social well-being of the adolescent. It could be explained either by cultural reasons, a small sample size, or the inhomogeneity of the sampled families.

Study results show that, in Georgia, the feeling of belonging to a spouse, marital relationship, and emotional interdependence play a leading role in the perception of the well-being of other research variables. Even when the independence of family members (even husband and wife) is achieved and there is a basis for autonomy (finances, etc.), there is still a sense of control and interdependence, achieving independence does not imply separation. The scientific novelty of this study is the meaning of marital relationships for Georgian spouses and the mediation roles of studied variables affecting the relationship between marital conflict and adolescents' psycho-social well-being. Furthermore, until this research, there was no reliable and valid resource in the Georgian scientific community, which could be used

to study the factors affecting the psycho-social well-being of adolescents. In the present study, a screening tool commonly referred to as a screening instrument was employed to aid psychotherapists and family researchers in examining and detecting altered indicators of marital conflict that impact adolescent well-being, to inform family therapy planning. A deliberate focus on them will reduce the negative impact of marital conflict on adolescents. Research-based scientific reasoning will create a more empirical basis for family psychology as a therapeutic practical direction.

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CONFLICT OF INTEREST

None.

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Подружній конфлікт та психосоціальне благополуччя підлітка: аналіз медіації та модерації

Анотація. Актуальність дослідження зумовлено тим, що подружні конфлікти безпосередньо впливають на психоемоційний стан дитини, зокрема підлітка. Мета роботи полягала у виявленні змінних, здатних вплинути на зв'язок між схильністю до подружніх конфліктів і психосоціальним благополуччям дітей, а також визначити посередницьку та модераційну роль ідентифікованих змінних. Досягнення поставлених завдань відбувалося в кілька етапів. Насамперед визначено змінні, здатні вплинути на зв'язок між подружнім конфліктом і психосоціальним благополуччям підлітків. На другому етапі розроблено інструмент дослідження (опитувальник) для ідентифікованих змінних, а потім проаналізовано, як ці змінні здатні опосередковувати та модерувати психосоціальний стан дітей. Отримані результати підкреслюють здатність подружніх відносин у грузинському суспільстві впливати на різні аспекти життя його членів. Дослідження показало, що фінансове становище батьків, відчуття психосоціальної підтримки їх і їхніх дітей і зміни у функціонуванні батьківської сім'ї в Грузії походять від індексу сімейних конфліктів і відображаються на погіршенні психосоціального благополуччя підлітків. Щодо стилю виховання, який не набув у дослідженні посередницької та модераційної ролі, то його можна пов'язати з культурною особливістю та визначити як завдання для майбутніх досліджень. Стаття має теоретичне (сприяє розширенню теоретичних знань у галузі сімейної психології) та практичне застосування (дає важливу інформацію для використання результатів дослідження, що є одним із перших кроків уперед для вивчення сім'ї та використання в терапевтичних цілях).

Ключові слова: сім'я; діти; функціонування сім'ї; стилі виховання; психосоціальна підтримка

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Teachers and principals' assessment of schools as professional learning communities in a district in the North-West Province of South Africa

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Abstract. As researchers continue to seek strategies to bring systemic change in schools, many have turned to professional learning communities due to the valuable possibilities that these communities offer in reforming schools. The study aims to analyse how teachers and principals in the Dr Kenneth Kaunda District in the North-West Province of South Africa perceive their schools as professional learning communities. A quantitative approach was used to sample 87 schools for this study. Questionnaires were given to 1,260 teachers and principals in this district. The questionnaire was based on the conceptual framework of professional learning communities. The Statistical Package for the Social Sciences software program was used to analyse the data. Assessing schools as professional learning communities remains a significant way to re-examine educational institutions to determine their performance outcome. The main findings included respondents who strongly agreed to all the core components ranging from 21% (Supportive conditions – structures) to 28% (Shared supportive leadership and Supportive conditions – relationships). Respondents who agreed with all the core components rated all the components above 50% and ranged from 55% (Supportive conditions – structures) to 65% (Additional statements). While respondents who disagreed ranged from 9% to 18%, respondents who strongly agreed only ranged from 1% to 6%. Principals rated their schools as professional learning communities more than the teachers. This study also established other problems facing educational institutions in this district, adding to those already highlighted by previous researchers. Schools should be encouraged to use this self-assessment method for their respective evaluations. This article is intended mainly for teachers and principals and all those who are involved in schools' reconstruction, including the Ministry of Education

Keywords: collective creativity; shared supportive leadership; shared values and vision; school improvement

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INTRODUCTION

South Africa's education system is still transitioning from the former racially divided education system to the all-inclusive education system where schools are open to all racial groups. As politicians, researchers and ordinary South Africans continue to demand improvement of learners and teachers' school performance, this time employing professional learning communities (PLCs) to determine how teachers and principals assess their schools.

J. Zhang *et al.* (2023) define PLCs as a group of people sharing and employing their practices in an ongoing, collaborative, inclusive, learning-oriented and growth-promoting way. D. Nkengbeza (2017), however, believes that PLCs are inclusive education institutions that are continuously and collectively questioning the status quo, seeking better means to improve their institutions. PLCs offer teachers real opportunities to improve. Allowing teachers to assess themselves will provide them with an opportunity for self-improvement. In South Africa, some teachers tend to be satisfied with their learners' performance and therefore deem change as unnecessary. Introducing the concept of continuous inquiry in schools will eliminate this perception. O. Avidov-Ungar *et al.* (2023) noted that PLC as a term has been frequently mentioned in many educational discourses. They define a PLC as a group of colleagues who seek new, better ways to address challenges, set new goals and create approaches to achieve them. D.H.L. Lee and N.K.K. Ip (2023) believe that PLC has a highly positive influence on teacher leadership skills. According to them, when teachers employ PLC skills in their classroom activities, both teachers' leadership skills and learners' performance improve. PLCs have been recognized for their efforts in reducing the isolation of teachers and learners – a community that is driven by shared goals and purpose. O. Avidov-Ungar and R. Konkes Ben Zion (2019) stated that PLCs do achieve ongoing professional development and greater pupil attainment. According to M. Antinluoma *et al.* (2018), PLCs influence teachers, teacher learning, school processes, and pedagogical processes for both teachers and students. PLCs increase the commitment of all stakeholders to the school's vision and goals and Principals facilitate the operation of PLCs in their schools by providing the necessary conditions and participating in PLC meetings (Antinluoma *et al.*, 2021). P. Johannesson (2022) notes that even though much has been researched on PLC and its effects on school improvement, there is still a need to address principals' and teachers' evaluation of their PLC activities. These types of studies were not conducted in the Northwest Province of South Africa. The study aims to determine how teachers and principals assess their schools as PLCs.

MATERIALS AND METHODS

Quantitative research method

In this study, quantitative data were collected to obtain a complete image of the situation in schools in a whole district in the North-West Province of South Africa.

Selection of the district and schools

The district was selected using the convenient sampling method. This district was selected due to its proximity to the researchers. The convenient sampling method was thus selected because of "accessibility" (Kumar, 2014). Concerning "geographical location", the researchers were based in the same district, and even though they had to commute great distances to distribute the questionnaires, the distance would have been greater if a different district had been selected. The duration for distributing the questionnaires would have also increased. There are 225 primary and secondary schools currently in Dr Kenneth Kaunda District (Official website of the North West..., 2023). The Department of Education aided in the distribution of the questionnaires. Only 87 schools returned the questionnaires consisting of 64 principals and 1196 teachers making a total of 1260 respondents. This data was collected in 2015, but due to some challenges, the writing of the articles was not completed.

Data collection method: Questionnaires

The data were collected employing questionnaires. There were two separate questionnaires for teachers and principals. The questionnaires were constructed from the essential practical components of PLC (Lee *et al.*, 2011; Nkengbeza, 2017). This type of questionnaire had been used by previous researchers, such as D.F. Olivier and K.K. Hipp (2010), but it was modified for the South African school context. The questionnaire comprised two sections. Section A consisted of respondents' and schools' information, and Section B consisted of statements on the core components of PLCs. Seventy-one (71) questions/statements are divided into seven sections: shared supportive leadership, collective creativity, shared values, and vision etc. A four-point Likert scale was used. The only difference between the questionnaires for teachers and principals was in Section A, where the principals were asked for additional information, such as the school location, the level of the school, and the number of learners and teachers in the school. The targets were 100 schools and 1,000 teachers. To meet the aforementioned targets, the questionnaires were provided to all schools (Gr. 1 to 12) in the district. The questionnaires were printed and put in envelopes addressed to the respective school principals. The Department of Education offices helped distribute the questionnaires to the respective schools in their areas. Even though the schools were reminded to collect the questionnaires from their area offices and to return them to the same office or the organizers' office, only 87 schools returned their questionnaires. A total of 1 260 teachers and principals completed the questionnaires. All the above procedures were in line with the suggestions of N. Matović and K. Ovesni (2023).

Ethical considerations

The research was approved by the research and ethics committees of North West University. The Department of Education also provided a letter of approval to conduct the research in the selected district. Meetings were held with all the area managers of the district to explain the study aim and questionnaire distribution and advise on how

they could help distribute the questionnaires. This line of communication was kept throughout the data collection process as they could also remind the principals of various schools to collect and/or return the questionnaires. Each principal received a letter with step-by-step instructions on how to collect the questionnaires at the area office, distribute them to the teachers, and return the questionnaires to the area office. A consent letter was sent to the principals, teachers, and the school governing boards' (SGB) chairpersons. These consent letters explained explicitly the study aim, where the research was to take place, the potential risks, and benefits of participating in this research, the confidentiality of respondents' data, and participants' right to withdraw, among others. Participants were provided with cell phone and office telephone numbers, email address of one of the professors was also included. Further questions were directed to these contacts. The principals, teachers and the SGBs' chairpersons were asked to sign the consent letters. This was done, and the letters were returned together with the questionnaires.

Research validity and reliability

This study used content validity – how the study is designed from data collection, data analysis, findings and conclusion are all valid and the research questions have been answered. Face validation was also used. Teachers' assessment of their schools as PLCs is not only a current issue in educational research but also an alternative to school improvement strategies. These valid questionnaires helped to answer two major research questions. All the measurement mechanisms in this study are reliable (margin of error, research methodology, data collection, analysis, findings, and conclusion).

Data analysis and presentation

The data were analysed using SPSS (Statistical Package for the Social Sciences). Factor analysis and reliability, reliability, descriptive statistics, t-tests, and ANOVA were performed. Cronbach's alpha was greater than 0.80 in all the core components (excellent). Kaiser's Measure of Sampling Adequacy (MSA) was used to determine Cronbach's alpha. As shown below, this measurement demonstrated variable correlation. As explained by J.R. Hair *et al.* (1998), the range of the index was from 0 to 1 (when it is 1, it means that each variable is perfectly predicted by the other):

- ≥ 0.80: meritorious
- ≥ 0.70: middling
- ≥ 0.60: mediocre
- ≥ 0.50: miserable
- < 0.50: unacceptable.

Cronbach's alpha for each component was as follows: Shared supportive leadership – 0.93; collective creativity – 0.92; shared values and vision – 0.90; shared personal practice – 0.90; supportive conditions – relationships – 0.86; supportive conditions – structures – 0.85; and 0.89 for additional statements supporting PLCs.

RESULTS AND DISCUSSION

J.C.-K. Lee *et al.* (2011) noted that teachers' psychological attachment to the teaching profession has also been

improved in PLCs. O. Avidov-Ungar and R. Konkes Ben Zion (2019) demonstrated that principals who took part in the study had improved their leadership skills. According to them, participating in PLC activities at the school improves teachers' pedagogical leadership skills and learners' performance. F. Huijboom *et al.* (2019) noted that lasting change can be achieved in schools through the establishment of PLCs. While L. Ni *et al.* (2023) define PLCs as schools where teachers are engaged in reflective practice, problem-solving, and expanding educators' views, V. Vescio *et al.* (2008) argue that PLCs help remove the negative behaviour that some teachers and learners bring to schools and positively impact the school teaching processes. K. Thornton and S. Cherrington (2019) concluded that even though PLCs bring a lot of positive change in schools, they believe that more still has to be done on the establishment of PLCs in elementary schools.

Many researchers, such as J. Zhang *et al.* (2023) and others in the field of education leadership, like P. Hallinger (2011) and S. Huber (2010), agree that the principal is at the centre of any change within the school. In other words, the principal determines whether or not there will be change. Every principal has to accept and create a collegial relationship between all the stakeholders in the school – a key determinant of change within an institution (Nkengbeza 2017). This collegiality with other stakeholders and other factors gives teachers the ability to respond to the needs of learners. The principal has to create teams in schools and provide development opportunities through ongoing professional development. Such an environment makes it possible for both learners and teachers to learn in an ongoing collective manner, supported by trust and respect (Hunter, 2013).

As suggested by T. Brighouse and D. Woods (2008), the principal should lead and manage the school at all levels. No school will develop into a mature PLC if the learning environment is not conducive for learners and teachers. Teaching and staff development should be a priority. F. Huijboom *et al.* (2019) explain that PLCs believe in community: they appreciate dialogue in collaboration and a culture of inquiry. The principal has to create conditions for this to take place in the school. Principals and heads of departments are potentially important role players who can improve the dedication of teachers towards professional growth and PLCs (Heystek, 2014). D. Nkengbeza (2017) provides an overview of several attributes principals should possess to improve PLCs in schools in Figure 1. These visionary leaders (principals) operate as mentors, and mediators and succeed by building trust and respect in the whole school. They believe in shared leadership and management, collective enquiry and provide supportive conditions for all staff. They maintain open communication channels, retain excellent teachers and appreciate dialogue and collaboration, driven by shared goals. The leadership provides a conducive environment for effective teaching and learning (Nkengbeza, 2017).

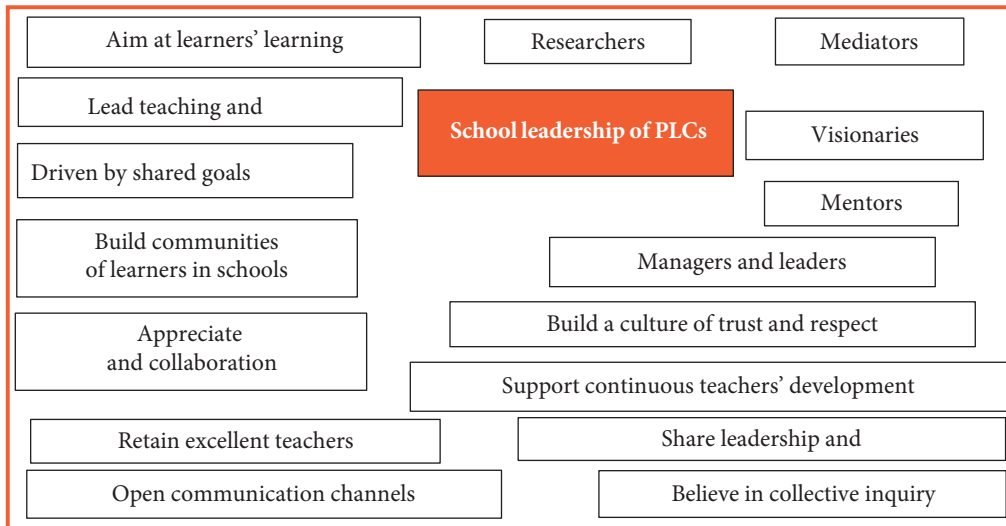


Figure 1. Attributes of school leadership of PLCs

Source: D. Nkengbeza (2017)

Collective creativity is at the core of PLC. It helps increase the school's continuous learning capabilities and brings the stakeholders together to continuously question their actions and come up with better means or tools to solve school problems and improve teaching and learning for both staff and learners (Zhang *et al.*, 2023). Through collective learning, the stakeholders, especially the principal and teachers, learn new ideas and better methods to solve problems and improve teaching methods for the benefit of the learners (Hord, 1997a). J. Hunter (2013) believes the principal has to guide and develop collective intelligence in every PLC. According to J.L. Snow-Gereno (2005), PLCs negate teachers' isolation from the community, thus, a "shift to collaboration and questioning in communities". However, according to A.-M. Dooner *et al.* (2008), teachers should be aware of

the challenges faced in the process of collaboration. They state that individual actions ought to lead to shared goals for effective collaboration to succeed. In their opinion, to develop into a learning community, there is a need for mutual engagement that will "generate honest interactions, [ask] challenging questions and [receive] constructive feedback".

Every organisation is shaped by its values and visions. The school's values provide the binding norms of behaviour for all the stakeholders, including learners (Zhang *et al.*, 2023). Any school's vision is an important part of shaping the school as it helps to direct the school policies. A vision provides a sense of direction for all the stakeholders in every educational institution. J. Hunter (2013) believes that, without the direction provided by the vision, most PLC implementations will eventually fail (Fig. 2).

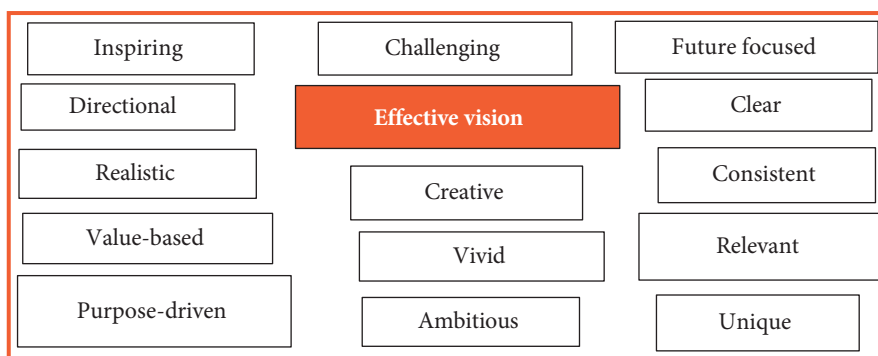


Figure 2. Characteristics of an effective vision

Source: D. Nkengbeza (2017)

Figure 2 above provides the characteristics of an effective vision. R. Constandse (2012) and G. Ambler (2013) state that an effective vision is directional, realistic, inspiring, and also challenging and creative. They believe that an effective vision should be clear, consistent and, of course,

unique, relevant, and future-focused. This type of vision is ambitious, values-based, and purpose-driven.

V. Vescio *et al.* (2008) believe that collective enquiry by teachers makes it possible to create a new vision of "what, when, and how teachers should learn". They argue that by

integrating teachers' development into a community of practice, learners' needs will be met. V. Vescio *et al.* (2008) and A. Harris *et al.* (2017) agree that shared values and norms/visions that focus on learners' learning will create an environment for continuous enquiry, which will subsequently improve learners' achievement.

Supportive conditions, as explained by S.M. Hord (1997b), are determined by how and when the staff in a unit usually come together to solve problems and review its school improvement strategies, goals, and challenges. Supportive conditions are either structural or relational (Nkengbeza 2017). Structural conditions include time to meet and talk, school size, the proximity of staff, good communication among the stakeholders, and teachers' development or empowerment, among others (Zhang *et al.*, 2023). On the other hand, the collegial relationships between the staff and between all the stakeholders include the possibility for the staff to improve teaching and learning in the school together, supported by trust and respect among all the stakeholders, especially among teach-

ers, learners, and between teachers and learners. These relationships create a conducive environment for continuous enquiry to occur and for the community to be transformed into a community of learners (Harris *et al.*, 2017).

Shared personal practice is another core component of PLCs. This component is determined by how peers share their practice and receive feedback. Teachers visit each other's classrooms and learn from each other (Zhang *et al.*, 2023). The feedback from colleagues is genuinely given and received. According to D. Nkengbeza (2017), shared personal practice should be a non-evaluative, peer-helping peer, and guided by respect, genuine communication and understanding. Since shared personal practice fosters group learning, brainstorming will be quite helpful in a learning organisation.

Table 1 presents the analysis of responses to the statements on the core components of PLCs. The analysis is on seven components of PLCs as used in the questionnaires. A four-point Likert scale was used: 1 = Strongly Agree (SA), 2 = Agree (A), 3 = Disagree (D), and 4 = Strongly Disagree (SD).

Table 1. Principals and Teachers' frequency and percentage

Principals / Teachers	Frequency	Percentage	Cumulative Frequency	Cumulative percentage
Principals	64	5.08	64	5.08
Teachers	1196	94.92	1260	100

Source: compiled by the authors

Table 1 above shows that the majority of the respondents were teachers (94.92%) and the principals made up only 5.08%. Sixty-four (64) principals and 1196 teachers

(total number of participants = 1260) completed the questionnaires. Table 2 demonstrates teachers' and principals' perceptions of their schools as PLCs.

Table 2. Analysis of teachers' and principals' combined responses

Statement Scale	SA	A	D	SD
1. Shared supportive leadership	28%	57%	12%	3%
2. Collective creativity	27%	58%	13%	2%
3. Shared values and vision	27%	63%	9%	1%
4. Shared personal practice	27%	62%	10%	1%
5. Supportive conditions – relationships	28%	58%	12%	2%
6. Supportive conditions – structures	21%	55%	18%	6%
7. Additional statements	23%	65%	10%	2%

Source: compiled by the authors

The total number of respondents in Table 2 who "strongly agreed" with the statements on the core components of PLCs ranges from 21% to 28%. The lowest number (21%) is in the supportive conditions (structures), and the highest (28%) is in shared supportive leadership and supportive conditions (relationships). An equal number of respondents "strongly agreed" with the statements concerning collective creativity, shared values, and vision, and shared personal practice. Fewer (55%) respondents "agreed" with the statements on the core components (supportive conditions – structures). The highest percentage (65%)

agreed with the additional statements. It is recommended that another study be conducted to investigate how supportive conditions (structures) in schools can be improved.

While the number of respondents who "disagreed" with the statements on the core components of PLCs was the lowest in shared values and vision (9%), the highest number (18%) was in the component of supportive conditions (structures). The number of respondents who "strongly disagreed" was the lowest on the scale and ranged from 1% to 6%. This is a significant indication of PLCs' performance in the schools.

The above findings correspond with the views of V. Vescio *et al.* (2008). They presented how learners' performance was just about average before PLCs were introduced in the school. When PLCs were introduced in the school, learners' performance improved rapidly, with more than 80% of learners meeting grade-level standards. In another case by V. Vescio *et al.* (2008), learners' performance in standardised test ratings went from 50% to 90% of students who passed each subject after when PLC was introduced in their school. The findings are also similar

to those of Y.J.A. Khasawneh *et al.* (2023). They emphasized that productive school leadership that does not just support but also nurtures and values collaboration is very crucial in building a professional learning community in a school. D. Nkengbeza and J. Heystek (2017) conducted a survey, in which respondents who agreed and those who strongly agreed was more than 80%. Comparing the average values for principals and teachers in Table 3, principals rated their schools as PLCs more than the teachers in all the core components.

Table 3. A comparison of principals' and teachers' responses

PLCs components	Mean		MST	Variance schools	Parameters	Effect size
	principal	teachers				
Shared supportive leadership	1.705	1.908	.198	.038	.001	0.42
Collective creativity	1.801	1.909	.181	.032	.053	0.23
Shared values and vision	1.770	1.862	.186	.008	.102	0.20
Shared personal practice	1.795	1.862	.199	.038	.258	0.14
Supportive conditions – relationships	1.823	1.888	1.208	.043	.283	0.13
Supportive conditions – structures	2.041	2.106	.228	.046	.302	0.12
Additional statements	1.845	1.919	.226	0.045	.238	0.14

Source: compiled by the authors

The effect size in the shared supportive leadership component is statistically significant (0.42 – medium effect). For collective creativity and shared values and vision, the effect sizes were also statistically significant, but with small effects (0.23 and 0.20 respectively). This is an indication that teachers are more critical of the functioning of PLCs in schools, and this is a component that promotes debate and helps build continuous enquiry in schools. In a similar study by S.C. Thompson *et al.* (2004), principals, similar to “U2”, rated teachers higher in collective learning. As noted, team meetings were attended, and PLC objectives were discussed alongside teachers' expectations. The principal meets with learners and lets them know what to do. Principals brainstorm how certain concepts can be taught differently during meetings with teachers, and they use professional development sessions to bring people together.

Few respondents commented in each section; however, these comments provided some insight into the quantitative data to better understand the potential issues. The discussion focuses on the South African context since the data had to be interpreted in the context of the respondents. As shown in Table 2, 55% of the respondents “agreed” with the statements on all the core components, which was a good sign as it indicated that these schools were heading in the right direction. Moreover, respondents who “strongly agreed” and those who “agreed” with the statements on the core components of PLCs made up more than 80% of each component. PLCs have been linked to improved learner performance in schools. To some extent, it explains why the North-West province has been successful in the matric exams. According to the 2014 matric results, the North-West province was the second in the country (84.6%) and the district selected for this study scored more than 83%

(Matshediso, 2015).

The positive attitude reflected by the “strongly agree” and even the matriculation results need some contextual perspectives. The Annual National Assessment (ANA) results for Grades 1 to 9 demonstrate a different situation for the district in which the research was conducted. The score of schools in the North-West Province in all the tests for Grades 1 to 9 is lower than the average of all nine provinces (Department of Basic Education, 2014). It is therefore important to reflect the statistical data against the qualitative comments in this project as well as related research in South Africa.

Table 2 above shows that, while 21% to 28% of the respondents “strongly agreed” with the statements on all the core components of PLCs, only 1% to 6% of the respondents “strongly disagreed”. Table 2 indicates that teachers are less positive about the supportive leadership in schools. The qualitative comments concur with these sentiments – for example, that there must be more support from the governing body, and that there is not sufficient collaboration from the governing body. Five teachers reported that the principal made all the decisions and communicated to the rest of the staff during staff meetings without seeking the opinions of the teachers, stating that “democracy is still not fully practised” and that “key people decide on everything”. According to these teachers, some heads of departments (HoDs) did not meet regularly, and some did not do their jobs well as they also taught. A similar sentiment is also espoused by S.R. Naicker, and R. Mestry (2013) while J. Heystek (2014) indicated that principals do not always get the support of teachers. According to J. Heystek (2014), principals find it difficult to decide and also lack collaboration in changing underperforming schools.

It seemed as if the collective approach did not work well, because business owners and some parents did not attend parents' meetings, and some parents did not support their children. Most parents in township schools did not visit the school or listen to learners' problems. SGBs did not motivate parents and much work had been left in the hands of teachers and principals. Only teachers, and not all the stakeholders, were working together. Parents were not committed enough to teaching the children basic values – parents expected the teachers to do it. Some teachers still worked individually with little collaboration. The findings support the views of other researchers, such as B.D. Bantwini (2012), stating that teacher commitment and professional conduct are a problem in many schools, specifically in rural and township schools. L. Ni *et al.* (2023) suggested that where there is isolation of teachers, Professional Development should be provided to encourage teacher collaboration and the development of their networks.

Even though most comments were positive, there was a perception that some learners were not living up to the school values, like respect for teachers. One teacher expressed that, “there is disrespect of educators by learners in some schools”, which indicates that all role players still do not have one common vision. The problems with collaboration expressed in the previous section are an indication that all role players are not fully committed to the visions of their schools.

The supportive conditions concerning the structures that focus on infrastructure and management structures were the one component that received the most negative responses (Table 1). This is understandable in the South African context, where many schools, specifically in rural areas (as in the North-West province), do not have sufficient facilities such as electricity and water. Basic equipment, for example, computers and books, are not readily available in many schools, hence the following comments were expected (Statistics South Africa, 2014). Respondents in some schools said that more computers and photocopiers were needed to enhance teaching and learning. There

were no laboratories, libraries, whiteboards, or interactive boards in the classrooms and in some schools, the number of classrooms was limited. In some schools, technology was not readily available, while improvements to school facilities were needed in other schools.

Other means of communication should be developed to save time going to the principal's office. Parents were not supportive due to long distances to schools and illiteracy. R. Ahmeda and Y. Sayed (2009) indicate that these structural problems can be linked to leadership problems when decisions are made behind closed doors and communicated to others during staff meetings, which evoke teachers' frustration. The respondents were further of the opinion that complaints from teachers were not taken seriously or investigated. Some teachers could not use the Internet due to a lack of technological knowledge. Some parents did not even collect their children's progress report cards. While two schools complained about the non-existence of any good school building, many agreed that there should be professional development more than once a year.

While some teachers noted shared personal practice, although with limited or no feedback, others complained that too much work for teachers had left them with no time to share their practices.

Other problems listed by teachers and principals included a need to improve content teaching and the problem that teachers in rural areas transferred every year. As a result, learners have no teachers for up to three months at the beginning of the year. Two teachers also said that classrooms were overcrowded and that it “kills teachers' moral(e)”. Four teachers said they had not been given the required support but were only pressurised. The improved relationship with the area managers was appreciated.

Supportive conditions (the structures component) had the lowest number of those who “strongly agreed” (21%) and “agreed” (55%) and, on the other hand, the highest number of respondents who “disagreed” (18%) and “strongly disagreed” (6%) (Table 4, 5).

Table 4. Statement B59: There is enough time during the official school hours for teachers to work together

B59	Frequency	Cumulative Percent	Cumulative Frequency	Percent
1	216	17.53	216	17.53
2	605	49.11	821	66.64
3	331	26.87	1152	93.51
4	80	6.49	1232	100

Note: Frequency Missing = 28

Source: compiled by the authors

Table 5. Statement B61: Teachers in their departments have the opportunity to make recommendations to the SGB about the selection of new teachers

B61	Frequency	Cumulative Percent	Cumulative Frequency	Percentage
1	140	11.61	140	11.61
2	537	44.53	677	56.14
3	385	31.92	1062	88.06
4	144	11.64	1206	100

Note: Frequency Missing = 54

Source: compiled by the authors

As can be seen in Tables 4 and 5, statements B59 and B61 above, participants' positive responses were relatively lower than in other components. On the other hand, the negative responses were high (31.9% disagreed with statement B59). Although the opportunity to make recommendations to the SGB is not a physical structural problem, as finance for professional development, it was indicated that there are problems with interaction and people. If teachers cannot develop and do not have the opportunity or ability to influence the structures, it will certainly continue to cause problems for the teachers in their learning communities. Understandably, there is not sufficient technology available for teachers, since many of the schools do not have sufficient electricity or infrastructure for electronic equipment (for example, no safe place to store electronic equipment), and most of the time, these schools have no extra funding to purchase more or better technological equipment.

Although the data could be somewhat deprecated, no study of this nature has been conducted in the study region in South Africa yet. Equally important is the fact that the findings of the study are still very relevant to other research conducted in other parts of the world. M. Antinluoma *et al.* (2018) reached similar study conclusions. According to their study, most participating principals agreed that they use PLCs to influence both teacher-leadership and PLC members. Principals facilitated and provided the necessary PLC working conditions in their schools. In another study by M. Antinluoma *et al.* (2021) on the Practices of Professional Learning Communities, they used the same components, such as shared values and vision, shared supportive leadership, enabling structures and collaborative practices. These were the same structures used to evaluate principals' and teachers' practices of PLCs in their schools.

The findings of this study that teachers and principals highly rate their schools as PLCs, are also similar to those of J. Zhang *et al.* (2023). They concluded that shared and supportive leadership, collective learning and application and supportive conditions-structures significantly and positively affected the teachers' collective learning especially when it came to students' discipline. Another area worth mentioning is the high rating of collective learning and application component. A. Schmidtke (2023) determined that all participants noted that when they learn together, their learning increases as they share with both experience and young colleagues. They explained that Shared professional development experiences provided them with opportunities to talk about their learning with one another to promote higher levels of understanding and increased perspective. Participants in a study by A. Schmidtke (2023) reported an increase in collaboration that was meaningful and reinforced their feeling of trust in each other.

CONCLUSIONS

The study reemphasised that the core components for schools to establish PLCs are shared supportive leadership,

collective creativity, shared values and vision, supportive conditions, and shared personal practice. It is the principal's role to monitor, guide, and facilitate this evolutionary process. The principal must support teams by continuously providing opportunities for growth by providing ongoing professional development related to the area of need. While the principals, SGB, HoDs, teachers, parents and other stakeholders continue to work on the problems that schools are facing in the case district in the Northwest Province of South Africa, it is time the Ministry of Education and the Department of Education re-examine its long-term strategy for school improvement in the district using the lenses of PLCs. In addition, to address problems like supportive conditions, other problems like learner drop-out, trust-building, accountability, continuous inquiry, genuine relationships, and collaboration among all the stakeholders should also be improved. Principals in this district should continue to develop the following capacities: personal mastery; mental models; shared vision; collaborative/shared learning; and systems thinking which is the cornerstone of change. Teachers' and principals' assessment of their schools is one major way by which can be re-examined the school's performance. Notably, principals rated their schools' performance as PLCs in all the core components higher than the teachers. Secondly, the findings revealed the level of the majority of these schools as PLCs and the disparity between female and male teachers in this district. This study has not only presented the findings of teachers' and principals' assessment of their schools but has also presented areas of schools' underperformance, as revealed especially by the supportive conditions (the structures component) and the comments of respondents. It is worthwhile to repeat this study in other provinces to see the similarities and differences and to come up with various ways the teachers can be supported to improve their performance.

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CONFLICT OF INTEREST

We declare that there is no conflict of interest in publishing this article.

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Школи як професійні навчальні спільноти: оцінка вчителів та директорів округу Північно-Західної провінції Південної Африки

Анотація. Оскільки дослідники продовжують шукати стратегії, що приведуть до реальних системних змін у школах, актуально розглянути інструменти, якими користуються професійні навчальні спільноти для реформування навчальних закладів. Мета цього дослідження полягала в тому, щоб вивчити, як вчителі та директори в окрузі доктора Кеннета Каунда в Північно-Західній провінції Південної Африки сприймають свої школи як професійні навчальні спільноти. Застосовано кількісний підхід, і для цього дослідження відібрано 87 шкіл. Анкетовано 1260 вчителів та директорів цього району. Анкета базувалася на концептуальній основі професійних навчальних спільнот. Для аналізу даних використовувався програмний пакет Statistical Package for the Social Sciences. Оцінка шкіл як професійних навчальних спільнот залишається потужним способом перегляду навчальних закладів для визначення результатів їхньої діяльності. Основний висновок полягав у тому, що респонденти, які повністю погоджувалися з усіма основними компонентами, коливалися від 21% (умови підтримки – структури) до 28 % (спільне лідерство та умови підтримки – стосунки). Респонденти, які погодилися з усіма основними компонентами, оцінили всі компоненти вище 50 % в діапазоні від 55 % (допоміжні умови – структури) до 65 % (додаткові твердження). Тоді як респонденти, які не погоджувалися, становили від 9 % до 18 %, респонденти, які повністю погоджувалися, становили лише від 1 % до 6 %. Директори оцінили свої школи як професійну навчальну спільноту вище, ніж вчителі. У цій статті встановлено й інші проблеми, з якими стикаються навчальні заклади цього району, що доповнюють ті, які вже висвітлювали попередні дослідники. Обґрунтовано позицію, що варто заохочувати школи використовувати рівень діяльності професійних навчальних спільнот як показник самооцінки. Ця стаття призначена насамперед для вчителів, директорів і всіх, хто займається реконструкцією шкіл, включно з Міністерством освіти

Ключові слова: колективна творчість; лідерство спільної підтримки; спільні цінності та бачення; вдосконалення школи

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Integration of the 4C and cordos-mediation concept as a national model for the development of a modern graduate

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Abstract. The reform of the education system in Ukraine involves the search for new approaches to the formation and development of a university student as a European-level competitive specialist. Therefore, the study aims to analyse and substantiate the model of development of a modern graduate, which consists of the 4C concept, containing four key skills of the future (creativity, critical thinking, cooperation, communication) and such a national phenomenon as cordos-mediation – the spiritual dominant of Ukrainian culture. Following the set goal, a range of theoretical methods was used, namely analysis, synthesis, comparison and generalisation - to determine the content of the main concepts; abstract-to-specific analysis - to explore and comprehend the concept of cordos-mediation; the abstraction and induction were used to study each element of the model separately; structural and logical method was used to determine the relationship between the components of the model; generalisation of personal and colleague pedagogical experience was introduced to determine the practical implementation of the model. The concepts of "skill", "creativity", "critical thinking", "aberrant thinking", "cooperation", "communication skill", "cordos-mediation", and "emotional intelligence" were analysed and summarised using the latest scientific research of Ukrainian and international scholars. All components of the model are interconnected and meet the requirements of the time, are future-oriented and contribute to achieving a high level of productivity when combined and complemented comprehensively. The development of the above skills is possible in any discipline and in a variety of ways, which are proposed at each stage of the study. The aberration-thinking prevention properties of these elements, ensuring no negative consequences, were addressed to ensure the readiness of future professionals to work in the context of globalisation, digitalisation, and future challenges. Each of the components of the model is a multifaceted concept, but unlike creativity, critical thinking, cooperation, and communication, which are the subject of many modern studies, the cordos-mediation phenomenon is still insufficiently studied, therefore determining the research relevance. To implement the concept of the model of development of a modern graduate, it is recommended to develop integrated 4C skills in combination with cordos-mediation, where the latter is a key linking element, without which it is impossible to form an Innovator, Patriot, Personality capable of preserving and restoring spiritual values, high moral, and universal principles. The practical value is determined by the possibility of using study results in the pedagogical process by teachers of educational institutions, in particular, in building an individual trajectory of development of students

Keywords: creativity; critical thinking; aberrant thinking; cooperation; communication skill; cordos-mediation; emotional intelligence

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INTRODUCTION

Globalisation, the Fourth Industrial Revolution (Industry 4.0), digitalisation, the COVID-19 pandemic – an incomplete list of the significant phenomena that have affected all spheres of human life, and especially education, one of the key tasks of which is to create conditions for the formation and development of a unique personality. After all, the twenty-first century requires people who have a set of certain skills necessary to meet modern challenges, including keeping up with constantly evolving technologies, being competitive in the world labour market and successfully functioning in a global society (Erdoğan, 2019). Recent studies show that employers expect not only professionally competent university graduates but also specialists with a set of key skills of the 21st century (soft skills), the most relevant of which are the so-called 4C skills, i.e. the four key competencies of the future: creativity, critical thinking, collaboration, and communication. According to the Concept of the New Ukrainian School, a graduate of a modern school is a Personality, Innovator and Patriot (Ministry of Education and Science of Ukraine, 2016). The higher education sector continues to pursue a certain vector of development of students, and the formation of the above-mentioned competencies of the future helps to cope with this task to some extent. However, a complete and holistic portrait of a Ukrainian graduate requires not only the acquisition of the four mentioned socio-psychological competencies, but also the formation and development of cordiality, which contains a certain national code and allows one to become not only a highly qualified specialist, but also to preserve humanity, mercy, compassion, spirituality, sensitivity, etc. in the conditions of war.

This issue of developing the skills of the future 4C is mostly covered in the scientific works of foreign scientists. For example, B. Thornhill-Miller *et al.* (2023), studying the 4C system as a managed, targeted model for modernising education, consider the process of independent assessment of 21st-century skills, the so-called “labelling”, offering it as a solution to both establish a socially credible assessment of 4C and promote their cultural validation. V. Erdoğan (2019) proves the effectiveness of integrating 4C skills with language skills (reading, writing, listening, speaking), suggesting appropriate methods for professional English classes. Results of the quasi-experimental study by I. Supena *et al.* (2021) show a positive impact of the 4C model on students’ learning outcomes in the Philosophy of Science course, especially in the cognitive, psychomotor, and affective domains. At the same time, the issue of cordocentrism in the philosophy, history and culture of Ukraine was studied by P. Hai-Nyzhnyk and L. Chupriy (2022), who concluded that this unique phenomenon is a cross-cutting motif in the history of the Ukrainian people. L. Trusei (2022), studying the nationally specific philosophical phenomenon of Ukrainian cordocentrism, considers it a manifestation of spirituality in Ukrainian philosophical thought and a tool for overcoming the spiritual crisis. The study by V. Konovalchuk (2017), who started a scientific

discussion on the integration of the phenomenon of cordos-mediation into the education system, is noteworthy. However, there are no studies that would combine the development of 4C skills with the introduction of the national phenomenon of cordos-mediation into a single educational model. Therefore, the study aims to analyse and define the essence of the national model of development of a Ukrainian graduate, which consists of four key skills of the future 4C (critical thinking, creativity, cooperation, communication) and the fifth component – cordos-mediation as a spiritual dominant of Ukrainian culture.

MATERIALS AND METHODS

The study was based on modern scientific works of Ukrainian and international scholars in the fields of education, methodology, philosophy, history, cultural studies, etc. Scientific resources on the topic were retrieved from the following databases: Web of Science, Scopus, Google Scholar, ResearchGate and others. The key criteria for the literature search were the content, reasonableness, relevance, and practicality of the research. The definition of a methodological case for the practical implementation of the proposed model was based on both our own experience and several modern methodological literatures, mostly by foreign scholars and practitioners. For example, the following books “Blended learning in English language teaching: Course design and implementation” (Tomlinson & Whittaker, 2013), “100 TESOL activities: Practical ESL/EFL activities for the communicative classroom” (Dixon, 2016), “Innovative teaching and learning process during COVID 19” (Daniel *et al.*, 2020), “Fostering creativity and critical thinking in university teaching and learning” (Saroyan, 2022), etc. offer new ideas, practical experience, innovative technologies and methods, including new and modernised classical models, the synthesis of which provides high-quality results in the educational process.

A range of theoretical methods was used to achieve the set goal: systematic and analytical comparative analysis and synthesis of psychological, pedagogical, philosophical, scientific and methodological literature, data from Internet resources, etc.; methods of analysis, synthesis, comparison and generalisation contributed to the definition of the content of the main concepts of the research model; the abstract to concrete method was used to study the origin of the concept of borderline media, its place in the work of Ukrainian philosophers and cultural representatives and to determine its modern interpretation; abstraction method was used to separate each element of the model from the others for a detailed study; induction method was used to learn about the model of graduate development through the study of each of its components separately; system analysis, synthesis, comparison and structural-logical methods were used to combine the five elements and determine their interconnection and interdependence; the method of generalising own teaching experience and the experience of Ukrainian and international colleagues was used to identify forms,

technologies, methods and techniques for implementing the research. Thus, the combination of the above methods made it possible to comprehensively study the model of development of a modern graduate, which includes the 4C concept and the phenomenon of cordos-mediation, and to identify ways of its practical implementation.

RESULTS AND DISCUSSION

Thus, the combination of the aforementioned methods was used to comprehensively study the model of development of a modern graduate, which includes the 4C concept and the phenomenon of cordos-mediation, and to identify ways of its practical implementation. The concept of “skill” in the broadest sense means the ability to perform certain tasks at a predetermined level of performance, which is developed through practice, experience, and learning (Lamri *et al.*, 2022). In the context of the 4C concept, in international literature, this concept can be found both alongside terms “skills” and “competencies”, therefore, they are used synonymously in this study, even though in the Ukrainian terminology, “competence” has a broader meaning than “skills”. In contrast to professional hard skills, which are associated with a specific professional field, flexible and “supra-professional” skills, interactive and non-standard, were called soft skills by P. Whitmore and J. Frye in 1972 (Mykhailyshyn & Mandro, 2021). Practical tools for assessing these skills remain underdeveloped, as they are latent, complex, intersectional, difficult to identify, test, and rationally acquire, and often subjective in nature (Datsenko, 2020). They are also called “life skills”, or “generic or cross-cutting competencies”. The U.S. Department of Education launched the Partnership for 21st Century Learning (P21) project, which identified critical and creative thinking skills, as well as communication and collaboration skills, as competencies needed in the future (Ohio Department of Education, 2015). Subsequently, they became known as the 4C competencies. At the same time, the National Education Association (2015) noted that “80% of leaders believe that ... reading, writing, and maths skills are not sufficient if workers are not able to think critically, solve problems, collaborate, or communicate effectively”. Therefore, the concept of 4Cs, which includes four key skills of the future: creativity, critical thinking, collaboration, and communication, is gaining popularity in modern global education. B. Thornhill-Miller *et al.* (2023), exploring the 4Cs in education, define them as “meta-competencies” that allow people to remain competent and develop their potential in the professional world. The researchers emphasise that the 4C concept provides a relatively simple, convincing framework that has been recognised by leading organisations as a pedagogically and politically acceptable model that is gaining additional empirical validity, but requires comprehensive intervention and mobilisation of various resources, including significant changes in pedagogical methods and even more significant changes in institutional structures. Researchers argue that it is precisely because of the complexity and interconnectedness of

all four competencies that it is important and appropriate that the 4Cs be taught, assessed, and promoted together. It is worth learning more about each of them.

Aspects of creativity in global and Ukrainian literature.

Foreign literature offers both a more traditional interpretation of the concept of creativity, such as the ability to create new, original products that meet the tasks and have value in their context (Lubart & Thornhill-Miller, 2019), and some unique and unusual interpretations of this concept, namely “intelligence that has fun” (Scialabba, 1984); or “figuring out how to use what you already know to go beyond what you currently think”, the latter in some way resonating with the essence of hidden potential that is realised under favourable conditions (Thornhill-Miller *et al.*, 2023). At the same time, Ukrainian scholars interpret creativity as the ability to create and the ability to implement it (Sysoieva, 2014); as the ability to comprehend innovations, transform them into a particular pedagogical situation, and the willingness to create innovations in professional activities (Kolisnyk-Humeniuk, 2019); as the ability of a person to go beyond a given situation, to create unique values; as a mandatory characteristic of a representative of the teaching profession, etc (Pavlenko, 2016). At the same time, the Ukrainian Encyclopedia of Education states that creativity is the creative spirit, the creative potential of an individual, and creative abilities, which are manifested not only in original products of activity, but also in thinking, feelings, and communication with other people (Kremen, 2008b). In other words, creativity is, on the one hand, the ability of a person to abandon standard well-trodden paths and stereotypical ways of thinking, and on the other hand, it is the search for a new course, non-standard ways, and creative approaches to solving professional problems, and the generation of a new intellectual or creative product.

Contrary to many traditional beliefs, creativity can and should be taught and trained in a variety of ways, both through direct and active implementation of innovative methods and through more indirect means. An example is the creation of a special educational environment free from ridicule and mockery (a zone of trial and error, with an adequate attitude towards them); providing the necessary “creative” knowledge, in particular, related to understanding how the creative process takes place; developing internal reserves (creative and innovative potential) that determine the creative process and support it; rational time management (it is well known that the brain needs time to rest to generate new ideas); dialogue and reflexivity of interaction in the pedagogical process; introduction of special methods and techniques for the development of creative (divergent) thinking, for example: Design Thinking, Project-Based Learning, including Artbook, Lepbook, Scrapbooking methods, as well as Association, Non-standard Use, Inventive Problem Solution Theory (IPST) and many others, which are used depending on the objectives of the class to indirectly develop the creativity of students. Creativity is closely related to critical evaluation, which

adds an evaluative and reflective context to the process, so the next step is to consider critical thinking.

Critical thinking and creativity synergy in education.

Foreign researchers identify the development of critical thinking skills as one of the highest educational priorities and social needs in modern society. Developed critical thinking, which allows a person to isolate the necessary information from a huge amount of data and give it an adequate assessment, often plays a significant role in solving routine and personal issues and in achieving academic success (Thornhill-Miller *et al.*, 2023). The ideal person with developed critical thinking is described as a person who is curious, open-minded, flexible, fair, well-informed, able to interpret and analyse information, assess its impact, draw conclusions, provide explanations, and exercise self-regulation (Facione, 1990). Therefore, when studying the development of critical thinking, foreign researchers interpret this competence as a person's ability to use a range of general cognitive skills that belong to high levels of thinking, such as analysing, evaluating and constructing new ideas (Kivunja, 2015); as "the ability to assess the epistemic quality of available information and, as a result of this assessment, to calibrate one's confidence to act on such information" (Pasquinelli *et al.*, 2021). The main properties of critical thinking are openness to contradictions and counterarguments (Stancato, 2000); reasonableness, controllability, purposefulness, reflexivity, independence, controllability, and contradiction as an impetus (Terno, 2023). Critical thinking, which is fully conscious, includes "synthetic and analytical, theoretical and practical, reproductive and productive thinking", as well as simultaneous thinking (simultaneously holding several logical chains in mind). The idea of critical thinking originates from J. Dewey's concept of reflective thinking, and the founder of this pedagogical innovation, M. Lipman, gave an expanded meaning to critical thinking, who considered it as learning to think, i.e. learning wisdom, and suggested reorganising the educational process from the standard paradigm of providing ready-made knowledge to the reflective paradigm of critical practices, the main difference of which is the transformation of a group of students into a community of researchers who, together with the teacher, reflect on the world, recognising knowledge about it as ambiguous and uncertain (Terno, 2023). At the same time, the development of critical thinking, according to K. Thomas and B. Lok (2015), focuses on the interaction between personal attitudes, evaluation and reasoning skills, and knowledge and experience.

The theory of the development of critical thinking in Ukraine has become particularly popular. The tragic situation that occurred due to the Russian aggression that began in 2014 and escalated into a full-scale invasion in February 2022 forced us to consider critical thinking not only as the antithesis of dogmatic (patterned) thinking, which is characterised by uncritically, conservatism, and blind faith in authority, but also as a healthy alternative to aberrant thinking, which is interpreted as "consciousness

that has lost touch with reality and reflects the latter incorrectly, in an inverted, distorted form" (Kurylo & Karaman, 2023). Aberrant thinking has become the main basis of information and psychological warfare, which is based on half-truths and lies, spreading rumours and false versions, fictional events, and their deceptive interpretations, which generally causes modification of the psyche, negative transformation of the system of values, views, positions, and motives of the individual, which directly affects human behaviour (Kurylo & Karaman, 2023). Propaganda, which necessarily has a seeming logic, can be defeated by a person with developed critical thinking, so the concept of developing critical thinking becomes an antidote to aberrant thinking. However, as it gained popularity, it began to suffer from populism, which led to heated discussions in the scientific community about the correct definition of the key concept. In particular, the Ukrainian scholar S. Terno (2023) emphasises that critical thinking does not contribute to the awareness of one's position, as some scholars argue, but to choose the best possible position by restructuring one's way of thinking. Critical thinking is "the kind of thinking that concentrates knowledge, intellectual abilities, intrinsic motivation, values, perseverance and self-control", the scientist says. The thesis of S. Terno (2023), that critical thinking involves the comprehensive development of the student's personality, the disclosure of potential as a historical subject who needs and is capable of self-change and self-improvement, is valid. Furthermore, the organisation of critical thinking development involves a subject-subject learning format, reflective and meaning-making activities, and the creation of an educational environment in which the teacher acts not as a translator of knowledge but as a facilitator and assistant, with the subject matter itself becoming an intermediary, a means of communication. Therefore, the key feature of the methodology for developing critical thinking is to involve students in solving problematic tasks through the introduction of problem-based learning, case method, blended learning, and interactive forms of learning, including scientific dialogue, reflection on cognitive activity, research work in the classroom and at home, etc. Therefore, it is possible to support the development of critical thinking in higher education institutions in any discipline and a variety of ways, including at the institutional level by considering the development of critical thinking in educational programmes, creating important aspects of the educational environment, ensuring the continuous professional development of higher education teachers to master and improve methods and techniques responsible for student development, etc. Finally, it should be noted that it is difficult to separate critical thinking from creative thinking, which is not a priority, because the development of both has a better result if it occurs in synthesis, mutually reinforcing each other. In addition, critical thinking is a property of a community, not just an individual (Chuba, 2013), which is why there is a need to analyse the third 4C skill, cooperation, in more detail.

Development of cooperation skills in the educational process. The ability to cooperate is a competence associated with collaborative problem solving, which is now recognised as an educational priority, covering emotional, social, and cognitive skills in demand in the modern world. Foreign scholars consider cooperation as mutual participation in coordinated efforts to achieve a common goal, which involves the exchange of certain resources and ideas related to the joint activities of participants, based on mutual respect, trust, responsibility, and accountability within the framework of situational rules and norms (Détienne *et al.*, 2012). At the same time, some scholars somewhat separate the concepts of collaboration and cooperation, emphasising that collaboration is a philosophy of interaction, while cooperation is a structure of interaction (Panitz, 1996). In this study, both terms are used interchangeably, as is the case with D. Nunan (1992), who, studying cooperative learning, identifies three areas in which it exists, namely: social tasks and the classroom environment; technological tasks, such as mutual mentoring and goal setting; and evaluation tasks – monitoring the team’s progress. In addition, foreign researchers describe teamwork in three aspects: knowledge required to collectively achieve a common goal; behaviour, including communication, coordination, and interaction skills; and attitudes towards teamwork, team orientation, cohesion, team spirit, etc. (Thornhill-Miller *et al.*, 2023).

The success of educational collaboration is also confirmed by Ukrainian scientists, who define the concept of “cooperation” as a process of “mutual influence of subjects, and, above all, specially organised educational and cognitive activities with a pronounced communicative and social orientation” (Sydorenko, 2014). One of the conditions for cooperation, according to V. Sydorenko, is the existence of a certain problem and its solution by students united in pairs, threes, and groups; their joint decision-making, discussion, discussion of options, reflection on the results of joint work, “transition from monological learning to multi-positional personality-oriented interaction, cooperation”. The principle of cooperation is implemented through the active involvement of all subjects of the educational process in searching educational and cognitive activities based on the formation of internal motivation; searching for a common solution to educational, scientific, innovative, creative, and other tasks; participation in joint projects; organisation of dialogue communication, which involves creative productive activity of all subjects of the educational process (Kozak, 2011). Furthermore, the use of interactive teaching methods, the principle of “subject-subject” interaction, current methodological approaches to the development of students’ innovative potential, updating the content of academic disciplines, and development of teaching and learning tools enables higher education students not only to acquire the knowledge and skills necessary for tolerant interaction but also directs them to continuous self-development and self-improvement.

Support for the development of cooperation skills takes many forms, including through the social impact of the ed-

ucational organisation; the nature of work embedded in the curriculum and work programmes; the content of the curriculum, the emphasis on cooperation and the development of specific and generic skills; and the involvement of opportunities for extracurricular cooperative activities. It is worth emphasising the contextual support that has emerged from the expansion of online digital media and the new blended realities of the workplace and the learning environment. The availability of a large number of online educational platforms, services, applications, and tools has proven to be extremely useful and effective for fruitful collaboration both in the online and offline education format. Recent studies show that students who receive interactive assignments perform significantly better because they are working towards a common goal, and the ability to exchange ideas in a less anxious environment encourages them to interact and collaborate successfully (Bekteshi, 2017). Properly constructed collaboration, which involves the exchange of knowledge, experience, and useful information, leads to the creation of a developmental educational environment that provides for the systematic and continuous development of its participants. An example of such interactive interaction with the use of digital educational tools is the interactive technique “Aquarium”, adapted for the online learning format and designed on the Miro board (Fig. 1).

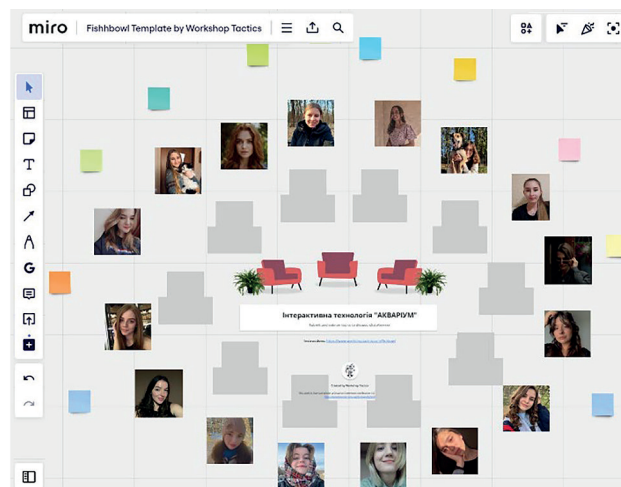


Figure 1. “Aquarium” technique on the Miro board
Source: screenshot of the application window during training

Forming two groups, the first part of the students “sits down” in a circle (on the Miro board, the prepared photos move on the “aquarium” chairs) and starts discussing the chosen problem situation, while the part of the students from the outer circle, not having the right to voice their position and interrupt the discussion of the “aquarium”, write down their ideas on stickers located next to their photos. The teacher acts as a facilitator and consultant. During the reflection, the thoughts expressed by the first group and the ideas written on Post-it notes by the second group are

analysed and summarised. Such techniques prove the effectiveness of most interactive methods in distance education. Alternatively, Mindmapping technique is a unique, popular, and productive method of visual, hierarchical, and creative-associative thinking that helps to structure, systematise, and visualise information and, thanks to a large number of educational IT tools, is accessible and especially effective in digital format. Practice shows that students

collaborate effectively and with pleasure on online whiteboards such as Miro, Padlet, Jamboard, and others (Fig. 2). In addition, the visualisation of individual or joint projects on such platforms, on the one hand, provides an opportunity to share their own experiences and creative ideas, and on the other hand, to receive motivational incentives that inspire them to generate their ideas and create their creative product.

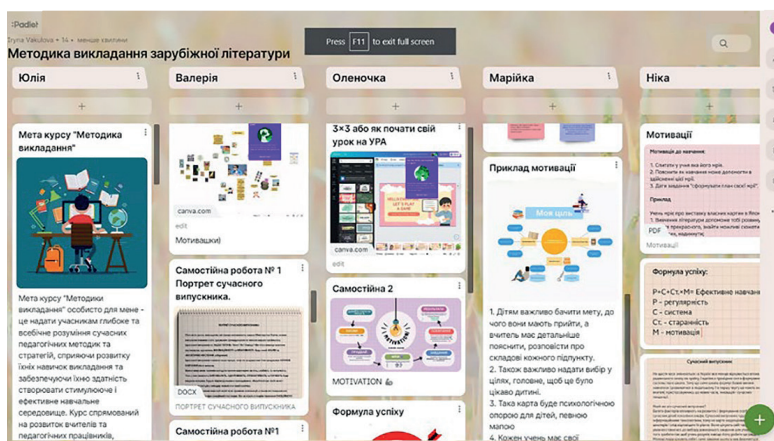


Figure 2. Padlet board, visualisation of independent activities

Source: screenshot of the application window during training

Thus, successful collaboration of students in the educational process, regardless of the learning format, involves the simultaneous development of all 4C skills: creativity, critical thinking, and communication. The latter is worth a closer look.

The key role and development of communication competence. Scientists define communication as the effective and unhindered exchange of information that leads to the achievement of a desired result or goal (Thornhill-Miller *et al.*, 2023). Communication is defined as a skill that includes the ability to express ideas, thoughts, knowledge, or new information in both written and oral forms; essentially, it is the ability to listen, write, and speak (Supena *et al.*, 2021). The main aspects of communication are linguistic skills (the ability to express oneself orally or in writing), pragmatic skills (the ability to apply the communication system in practice) and social skills (the ability to establish communication links, the ability to “read” others and the knowledge of the rules of behaviour in society) (Thornhill-Miller *et al.*, 2023). At the same time, while linguistic competence is acquired throughout the entire education process, the pragmatic and social aspects of communication skills are provided only indirectly in the course of education, as there are no subjects in the curriculum that would directly from these competencies either in foreign or Ukrainian practice. Moreover, such skills are latent and incomparable, which leads to difficulties with their assessment. Therefore, a special responsibility falls on the shoulders of the teaching staff, which is forced to look for information and communication technologies that can ensure the formation of all

aspects of communication. As noted by B. Thornhill-Miller *et al.* (2023), communication is linked to all 4C skills. Thus, critical thinking is linked to communication, as the latter becomes effective when it is based on a fair and critical assessment of reality. Communicating one’s idea to others through the creation of high-quality communication, when “creative work takes place in a team context”, is an example of the connection between communication and creativity. Finally, the close relationship between cooperation and communication is manifested in a certain dependence on the success of the former on the quality of communication and the way knowledge is shared, because there is no cooperation without communication.

Communicative competence is also considered one of the main goals of education by Ukrainian scientists, who define “communication” as a process of communication through verbal or non-verbal means to exchange information, such as ideas, beliefs, facts, emotions, etc (Ponomarova, 2020). At the same time, in the process of transmitting and receiving information, subjects accumulate communicative experience that affects the self-actualisation of the individual, that is, the higher the level of communicative culture, the better the self-actualisation and self-realisation will be (Andriychuk, 2022). However, the principles of forming communicative competence may include clarity and accessibility of explanations, encouraging active communication, introducing effective and appropriate innovative technologies, providing opportunities to apply their skills in extracurricular activities, ensuring timely reflection, etc. The development of communication competence will contribute to the competitiveness of future specialists

in the labour market and further successful professional and personal growth throughout their lives. The generalisation of scientific research on this topic suggests that interactive approaches in small groups are more effective for the development of communication competence, allowing to practice of communication skills in an open and safe environment for feedback, namely: participation in various projects, including PBL (Problem/Project – Based Learning), role-playing games, simulations, etc. The blended learning format facilitates successful communication as it allows students to read the learning material in advance and communicate productively with their classmates during the class, teaching others and improving their knowledge and skills. Among the innovative methods that are effective in the blended learning format are Flipped Classroom, Flex Model, Station/Laboratory Rotation, etc. In addition, traditional methods, updated with new expedient ideas and interactive elements, can significantly improve the quality of the pedagogical process and positively influence the successful development of the above skills.

As an example, effective for developing all four of the above 4C skills are the methods of the author of many books and a supporter of creative thinking Edward de Bono, who proposed several technologies, among which the most popular is Six Thinking Hats (n.d.), which involves considering a problem from different points of view. Another E. de Bono method for developing different types of thinking is Six Value Medals (Edward de Bono's Six..., n.d.), a technology that enables certain value scanning, i.e. specifying and systematising values. Six Action Shoes technology helps to identify situations, allowing us to take control and respond most effectively. In essence, this technology is a practical framework for making decisions about the next steps to take in the current situation. Such technologies contribute to the development of self-analysis and self-knowledge of higher education students, creating certain algorithms for solving everyday issues, and providing them with tools to effectively overcome obstacles that arise on the way to life and professional goals. At the same time, improving communication competence, increasing the level of tolerance and correct behaviour during discussions, impartiality of judgements and reasoned positions, and the ability to generate new ideas – all this together indicates the development of critical and divergent thinking of students. Furthermore, the following interactive methods ensure the effectiveness of 4C skills development: Jidsaws, Bar Camp, Synergy, and others. The high quality of these technologies is ensured by the Scrum methodology (as an ideal approach to teaching time management), which can be easily implemented in educational practice together with the digital tool Trello. It should be noted that all of the above methods are available for both classroom and distance learning.

To summarise the review and analysis of studies on the 4C concept, it is worth noting that all four skills are closely interconnected, interdependent and interrelated. The development of each of them can bring future professionals closer to professional and personal success. At

the same time, the theory of the “4C” concept fits perfectly with the principle of borderline media (conventionally “5C”), which, when combined with the above skills, will not only enhance the effect of each but also add the necessary value orientations that are extremely relevant in today's realities. The concept of cordos-mediation is complex. One of the cordos-mediation aspects is the development of the soul mind – “emotional intelligence”, a phenomenon that is part of the “soft skills” group (Konovalchuk, 2017) and refers to the ability of a person to identify their needs, control their emotions, recognise the feelings and desires of others, and be able to find an approach to people, regardless of their age, status, and capabilities. Developed emotional competence allows a person to interact effectively with others and be in harmony with themselves. After the publication of the bestselling book of the same name by D. Goleman (1995), the topic of emotional intelligence research has gained particular interest. Scientists offer three approaches to understanding the phenomenon of emotional intelligence (EI), namely, the approach of J.D. Mayer and P. Salovey (1997), according to which scientists interpret this concept as the ability to perceive, understand, manage and use emotions to facilitate thinking; D. Goleman's approach, which interprets “emotional intelligence” as a set of different competences that contribute to successful managerial activity; and R. Bar-On (2010), the author of the acronym EQ, who, developing this theory, describes emotional and social intelligence as a set of interrelated emotional and social skills that determine how effectively people understand and express themselves, interact with others, understanding them, and cope with everyday demands, challenges and pressures. The connection between emotional intelligence and the previously mentioned competencies is obvious, as effective communication or collaboration is impossible without emotional intelligence, and the latter is enhanced by the ability to think critically and creatively.

Emotional intelligence in professional training can be developed through various means, including the introduction of interactive teaching methods, which facilitates effective communication in which a person learns to control his or her own emotions and understand the feelings of others. However, in this context, a suggestive methodology that engages the emotional sphere of students, involving different senses, inspiring a certain mood, creating an appropriate atmosphere, and focusing attention on the necessary aspects of the topic is also effective and has a positive impact on the quality of learning and student development. Cordos-mediation is not limited by the emotional intellect theory. Following V. Konovalchuk (2017), this phenomenon includes the development of “feelings, heart, spiritual intuition, integrated with the functions of the cerebral cortex centres that give rise to feelings, emotions, intuition”. Moreover, cordomediation (cordis – Latin for heart), mediation as “heart-oriented” is based on emotionality, sincerity, sincerity, sensitivity, and mercy. Reflection on heart-centredness is typical of Ukrainian culture and philosophy.

A valuable study on this topic was conducted by P. Hai-Nyzhnyk and L. Chupriy (2022), who argue that the unique phenomenon of cordocentrism is a distinctive theme throughout the history of the philosophical and religious thought of the Ukrainian people, which is in some way related to the peculiarities of the national character. Scholars have traced its entire path, starting with the thinkers of Kyiv Rus (Hilarion, Danylo Zatochnyk, etc.), and have determined that the Ukrainian symbolic and humanistic “philosophy of the heart” runs through the poetry of P. Kulish, becomes “the truth of the ‘living’ heart and a sequence of emotions” in the poems of Taras Shevchenko, and, finally, is most fully revealed in the works of Ukrainian philosophers H. Skovoroda and P. Yurkevych. One of the foundations of H. Skovoroda’s philosophical thought is the doctrine of human integrity, which will eventually “be embodied in the concept of “philosophy of the heart”, acquire the term “cordocentrism” and be developed by his philosophical descendants in the “Ukrainian cordocentrism” concept”. The process of cognition, according to the great Ukrainian philosopher and thinker, is reduced to the acquisition of a new heart, because the rebirth of a person is the result of the rebirth of the heart through the evolution of the person’s spirituality, which begins with the touch of the Spirit of God. The heart is the true essence of a person, the philosopher and poet say, and is the centre of his or her life: “Everyone is what his heart is. The basis of everything in a person is the heart of a person”. The perfect person for H. Skovoroda (1973) is a cordocentric person. “Our thoughts spring from the cordocentric depths, setting in motion our external, bodily, physical being” (Chyzhevsky, 2004). The heart, more than any other part of the human body, can pave the way to the perception of the fullness of the human personality; since the heart precedes cognition, it is the conviction that moves a person to action, not cognition. However, the cordocentric self is a value that cannot be accurately measured: no matter how perfectly a person knows himself, he will not know the depths of his heart, only God can do this, – believes H. Skovoroda, who throughout his work referred to the “heart” as an indivisible source that can inspire true cognition and creativity (Hai-Nyzhnyk & Chupriy, 2022).

At the same time, the founder of the “philosophy of the heart” is considered to be the nineteenth-century Ukrainian philosopher and educator Pamfil Yurkevych, who defined the heart as “the focus of a person’s moral life, the starting point of all that is good and evil in a person’s thoughts, words, and actions”, the centre of a person’s uniqueness, the foundation of spiritual life, which serves as the basis of a person’s conscience, the centre of moral life, in which love for God and people is rooted (Konovalchuk, 2017). Therefore, the heart is a kind of “barometer” of human spirituality. Thus, the theory of the “philosophy of the heart” forms a certain positive spiritual core that is necessary in any field of human activity. Especially when it comes to the education, upbringing, and development of the younger generation. In fact, “cordos-mediation” can be called the implementation of the “philosophy of the heart” in the Ukrainian

education system. President of the National Academy of Pedagogical Sciences of Ukraine V. Kremen (2008a) defines cordocentrism as the spiritual dominant of Ukrainian culture, emphasising that the philosophy of cordocentrism, which is focused on identifying the inner, deep foundations of human existence, constitutes the essential basis of national consciousness, based on which the national idea is formed. The cordos-mediation principle is of particular importance in educational interaction, as it helps regulate the relationship between all participants in the educational process, which is built based on humanism, compassion, empathy, mutual respect, love, and cordiality.

Among the effective methods that enable the development of cordos-mediation is Storytelling, since a timely and appropriate story not only inspires and motivates but also builds moral and spiritual life guidelines for the individual. Another example is the reflective SWOT analysis, one of the most common analytical methods that involves a comprehensive assessment of the S – Strengths and W – Weaknesses of the parties, as well as O – Opportunities and T – Threats. The “inventory” of thoughts (self-reflection) is a key tool for self-improvement, self-development and self-knowledge, a method that, with appropriately formulated questions, has a direct positive impact on the individual and an indirect one on the team. The method teaches modelling and evaluating one’s behaviour, the ability to identify one’s mistakes, and correct shortcomings, which helps form a system of moral and spiritual values. Therefore, by normalising the microclimate in the team and creating an appropriate atmosphere, cordos-mediation acts as bullying prevention in the educational environment. Cordos-mediation becomes important in cognitive activity, as only information that does not leave a person indifferent, i.e. passes through their heart, involving emotions and feelings, is absorbed qualitatively. Lastly, cordos-mediation, which leads to the search for universal and divine values, contributes to the formation of a person’s spirituality. Thus, cordos-mediation is a value-based spiritual and moral principle of regulating human relationships, which involves the spiritual and creative development of the individual and self-improvement and self-realisation throughout life.

CONCLUSIONS

The study and definition of the essence of the Ukrainian graduate development model, consisting of the 4C concept and the national cordos-mediation phenomenon was used to draw the following conclusions: all five elements of the model are interconnected, relevant to modern challenges and lead to a high level of productivity, provided that they are integrated and complementary based on an integrated approach. Furthermore, their development prevents aberrant thinking with the corresponding negative consequences and trains future professionals for globalisation, digitalisation, and possible future changes. The successful development of the model’s components is ensured by both innovative technologies, methods, and techniques, as well as modernised and adapted classical methods, in

particular, the proposed methods have an integrated effect, which makes it possible to simultaneously develop all components of the studied model, each of which is a complex concept. The cordos-mediation phenomenon remains the least studied in the educational sphere, therefore, it is promising to find ways to identify, measure and evaluate it. To implement the 4C and cordos-mediation, it is recommended to integrate this model into the content of education at all levels, in particular, to specify in educational regulations the requirements for the formation of 4C and cordos-mediation competencies; to transform a class in any discipline into an environment in which all subjects of the educational process change their roles: the teacher acts as a facilitator, tutor, inspirer, change agent, and the student is a seeker, critical thinker, creator, partner, etc. Lastly, the ideal model for the development of a modern graduate of a national higher education institution is the holistic and continuous development of integrated 4C and cordos-mediation skills, where the latter is the obligatory linking element, without which it is impossible to form an Innovator, Patriot, Personality capable of preserving and restoring key universal principles, spiritual values, and high moral convictions.

Thus, each of the components of the model is a complex concept, but unlike creativity, critical thinking, cooperation, and communication, which are the subject of many modern studies, the cordos-mediation phenomenon is still insufficiently studied in the educational space, so this issue seems to be the most promising for further research. Further research should address the practicality and effectiveness of the 4C and cordos-mediation models. The scientific novelty, theoretical and practical value are determined by the identification of new approaches to the development of a modern graduate of Ukrainian higher education institutions, the substantiation of an integrated model that provides for the simultaneous development of demanded socio-psychological skills as European valuable properties and border-centricity as a national spiritual feature of the Ukrainian nation.

None.

None.

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CONFLICT OF INTEREST

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Інтеграція концепції 4К та кордомедійності як національна модель розвитку сучасного випускника

Анотація. Реформа системи освіти в Україні передбачає пошуки нових підходів до формування та розвитку здобувача закладу вищої освіти як компетентного та конкурентоспроможного фахівця європейського рівня. Тому мета дослідження – визначити сутність моделі розвитку сучасного випускника, яка складається з концепції 4К, що містить чотири ключові навички майбутнього (креативність, критичне мислення, кооперацію, комунікацію) та феномену кордомедійності – духовної домінанти української культури. Використано комплекс теоретичних методів, а саме: аналіз, синтез, порівняння та узагальнення – для визначення змісту основних понять; сходження від абстрактного до конкретного – для осмислення поняття кордомедійності; абстрагування та індукція – для вивчення кожного елементу моделі окремо; структурно-логічний – для виявлення взаємозв'язку між складовими моделі; узагальнення власного педагогічного досвіду та досвіду колег – для визначення практичної реалізації моделі. Досліджено та охарактеризовано поняття «креативність», «критичне мислення», «абераційне мислення», «кооперація», «комунікативна навичка», «кордомедійність», «емоційний інтелект». З'ясовано, що всі компоненти моделі взаємопов'язані та відповідають вимогам часу, орієнтовані на майбутнє і сприяють досягненню високого рівня продуктивності. Зазначено, що розвиток цих навичок можливий через впровадження як інноваційних методів, так і оновлених класичних. Акцентовано на властивостях елементів моделі запобігати появі абераційного мислення з його негативними наслідками, а також забезпечувати готовність майбутніх фахівців до роботи в умовах глобалізації, діджиталізації та нових викликів. Для реалізації концепції моделі розвитку сучасного випускника рекомендовано комплексний та безперервний розвиток інтегрованих навичок 4К у поєднанні із кордомедійністю, де остання є ключовим сполучним елементом, без якого неможливо сформувати Інноватора, Патріота, Особистість, здатну зберігати та відновлювати духовні цінності, високоморальні загальнолюдські принципи. Практична цінність полягає в можливості використати результати дослідження в педагогічному процесі, зокрема для побудови індивідуальної траєкторії розвитку здобувачів освіти

Ключові слова: креативність; критичне мислення; абераційне мислення; кооперація; комунікативна навичка; кордоцентричність; емоційний інтелект

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Imaginative thinking formation in senior preschool children with speech disorders

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Abstract. Imaginative thinking is the main type of thinking in children of senior preschool age. The state of its formation largely determines the success of children in acquiring knowledge, forming skills and abilities following the Basic Component of Preschool Education, and in the future, the requirements of school curricula. The study aims to outline the results of the research on the state of formation of figurative thinking in older preschool children with speech disorders in comparison with children with typical speech development. The following methods of scientific research were used in the study: analysis and synthesis of scientific and methodological literature on the research problem, experiment, testing, comparison, and quantitative and qualitative analysis of the experimental data. According to the results of the diagnostics carried out according to the author's methodology, which is based on a modification of the study of figurative memory, it was found that children with speech disorders have an insufficient level of figurative thinking, especially its topological, projective, ordered, and compositional substructures. These results indicate that children have difficulty creating mental images of objects or phenomena, operating with previously created and stored images, as well as analysing, synthesising, abstracting, mediating, comparing, and generalising perceived information. These difficulties are at the heart of the problems with preparation for studying at the New Ukrainian School. The practical value of the work is to inform specialists of special and inclusive preschool education institutions about the specific features of the state of formation of

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imaginative thinking in older preschool children with speech disorders. The results of the study can be used for the development and implementation of methods for the formation of imaginative thinking in senior preschool children with speech disorders

Keywords: mental imagery; imagery memory; image processing; speech impairment; cognitive functions; communication

INTRODUCTION

Senior preschool age is an important stage in the development of several cognitive mental processes, including thinking and speech, which ensure children's successful transition to school. During this period, they continue to actively explore the world around them, acquire knowledge about it, other people, and themselves, and improve their speech skills. The development of imaginative thinking is a key element of both pedagogical and speech therapy support for children with speech disorders (SD), as it contributes to their full social, language and cognitive development. Children with normal development can already solve various mental tasks (every day or educational) not only by performing practical actions with objects but also by acting mentally, i.e. based on the formed images of these objects, and ideas about them; they can successfully memorise various information, formulate and express their thoughts. The study of the state of formation of figurative thinking in older preschool children with general underdevelopment of speech allows us to expand the understanding of its influence on the acquisition of knowledge, the formation of the necessary skills, in particular on the development of speech, of this category of children and to choose the most effective ways to form it. Knowledge about the state of imaginative thinking helps professionals create a favourable learning environment that considers and supports the needs of children with speech impairments. This may include the use of visual aids, interactive methods and other strategies aimed at the child's development. Speech is a semantic and analytical activity of the central nervous system that is connected with other mental functions. From the point of view of the psycholinguistic approach to the study of speech activity, mental processes function as prerequisites and elements of speech and underlie its acquisition and development in interaction with it. In this context, the scientific achievements of E. Danilavichiutė *et al.* (2022) on the close relationship and mutual influence of such general functional mechanisms of speech activity as attention, memory, thinking and its processes, etc. that ensure speech acquisition, and specific speech mechanisms that ensure its perception and generation are relevant. S. Dolzhenko and J. Ribtsun (2020) concluded that the study of speech activity from the standpoint of the psycholinguistic approach helps to understand all the deep mechanisms of speech formation in children, in particular in the context of dysontogenesis. I. Brushnevskaya and I. Sydoruk (2022) note that the connection between speech disorders and other aspects of mental development determines specific features of thinking.

Speech and thinking synthesis create the ability to create images and operate with them arbitrarily through language. V. Klak (2019), N. Vaganova (2020), M. Savchyn and L. Vasylenko (2021) identified the age-related characteristics of preschool children in the context of thinking development. Thus, the main type of thinking in children aged 4 to 6 (7) years is figurative thinking, that is, the ability to reproduce the world around them in the form of images of objects and phenomena, and the culmination of its development is the older preschool age, 5-6 (7) years when children with typical development begin to use mental images freely. On the one hand, insufficient development of cognitive processes, including imaginative thinking, is reflected in speech activity; on the other hand, speech disorders lead to insufficient development of other cognitive processes, including imaginative thinking. One of the most common speech disorders in older preschool children is speech disorders. This is a complex speech disorder in which a child with typical hearing and intellectual development has all or some components of speech (pronunciation, vocabulary, grammar, coherent speech) impaired. J. Ribtsun (2022) determined that the general underdevelopment of speech is also manifested in the insufficient or complete lack of formation of those functions and operations, in particular, thinking, which ensures language acquisition. The analysed scientific sources indicate the interconnection of speech disorders and insufficient formation of thinking and its operations in children; however, insufficient attention is paid to the peculiarities of the formation of figurative thinking in general and its substructures, in particular, in children with speech disorders. Therefore, the study aims to determine the peculiarities of the state of formation of figurative thinking in senior preschool children with speech disorders in comparison with children with typical speech development. Following the aim, the following tasks are defined: 1) to analyse the peculiarities of the formation of figurative thinking in senior preschool children in ontogeny and dysontogeny in the scientific field of research; 2) to study the state of formation of figurative thinking in senior preschool children with speech disorders in comparison with children with typical development; 3) to determine the peculiarities of the state of formation of figurative thinking in senior preschool children with speech disorders.

MATERIALS AND METHODS

The theoretical and methodological basis of the study was formed by the theory of cognitive development of the

child by J. Bruner (1964); research by O. Novikova (2007) on the structure of imaginative thinking; psycholinguistic approach to the analysis of the child's speech development and its formation in the process of ontogenesis and dysonogenesis. Analysis and generalisation methods were used to study the key aspects of figurative thinking, patterns of its formation in children and the state of its formation in senior preschool children with typical development and speech disorders. The methods of experimentation and testing were used to study the state and level of formation of figurative thinking in senior preschool children. The experiment involved 20 children of senior preschool age, who are pupils of preschool educational institutions No. 505 (compensatory type) and No. 53 in Kyiv: 10 children with speech disorders and 10 children with typical speech development. The average age of the children is 5.5 years. Before the study was conducted, the parents of the test participants were informed and gave their consent to its implementation. The study was organised based on agreements on internships of students of Borys Grinchenko Kyiv Metropolitan University with preschool education institutions that were identified as the practice base. Permission to conduct the study was granted by the administrations of preschool educational institutions No. 505, No. 53, and Borys Grinchenko Kyiv Metropolitan University.

The study was conducted with consideration of the psychological characteristics of children of senior preschool age with typical development and speech disorders. All principles of morality were observed, the rights of each participant were not violated, honour and dignity were not humiliated, discrimination was not allowed, and no harm was done to the health of the participants. The testing was conducted by the recommendations on the ethical aspect of pedagogical research developed by reputable organisations, including the American Educational Research Association (2011) and the British Educational Research Association (2018). The results are published anonymously. Diagnostics of the state of formation of figurative thinking in these children were carried out employing testing. Since the mnemonic component plays an important role in the formation of images, the diagnosis of figurative thinking was carried out through the study of figurative memory. Thus, the basis of the author's methodology was formed by three modified diagnostic methods for the study of figurative memory. Thus, the "Short-term memory capacity" method by O. Kairis (2013) was used to test such a parameter as the ability to create images. The Test for Assessment of Voluntary Figurative Memory by S. Maksymenko *et al.* (2004a) made it possible to study the ability to operate with images. The Associative Memory Test by V. Kniaziev *et al.* (2019) was used to study the ability to create and operate images based on associations. During the tests, handouts such as tables and cards were used. To investigate the ability of the children under study to create and use vivid images in their imagination, all stimulus material was selected in black and white. The survey was conducted individually with each child. The comparison method was used to compare the

state of formation of figurative thinking in senior preschool children with speech disorders and typical speech development, as well as to determine the specifics of its formation in children with speech impairments. The method of quantitative and qualitative analysis of the obtained experimental data was used to interpret the results of the empirical study and to gain a deeper understanding of the state of formation of figurative thinking in children with SD. The generalisation of the obtained data was used to formulate the conclusions of the study.

RESULTS

Despite the growing interest in thinking as an important process of personality development, little research has been devoted to how children think and how they begin to think. E. Jones Arango *et al.* (2018) sought to identify the key concepts underlying the conceptual boundaries of individual differences in children's (5-12 years old) thinking. They analysed the literature describing differences in learning and thinking that are associated with children's academic achievement to determine what type of thinking is important for a particular child. The researchers state that there is virtually no research that focuses on children's thinking preferences that are consistent across contexts and over time. In addition, they have not found any research on the impact of differences in thinking outside of the educational sphere, such as in the home. The researchers emphasise that further research is needed to identify more stable characteristics that reflect and capture children's specific ways of thinking. Ukrainian modern psychological and psycholinguistic research shows that imaginative thinking is a type of thinking in the ontogenetic development of a person, in which images of specific phenomena of reality or objects are operated with, without performing real practical actions with them (Serhieienkova *et al.*, 2012). It begins to form in early preschool age, reaches its peak in older preschool age, and "is of great importance for future life, as it is an integral part of any creative activity" (Savchyn & Vasylenko, 2021). Thus, imaginative thinking is a specific and basic way of mental activity of children of senior preschool age, characterised by the ability to create and operate with mental images or ideas about objects and phenomena to solve various every day and educational tasks, perceive and reproduce information, and express their thoughts. According to L. Lysenko (2020), preschool children think about what they remember and the impressions they receive through their senses or in the process of thinking remain in their brains as images and ideas about objects and phenomena they have perceived before. According to S. Maksymenko *et al.* (2004b), this experience can be recalled and used in activities when needed. That is, it is the mnemonic component that is responsible for processing visual information and forming images. As noted by A. Chemerpilska (2015), the development of visual perception, as well as short-term and long-term memory, mainly determines the level of imaginative thinking. On the other hand, the peculiarities of figurative thinking affect the amount of short-term and long-term memory.

Through imaginative thinking, children's master concepts, facts, relationships and other units of knowledge. E. Lodatko (2013) notes that the speed and quality of learning this knowledge depends on the interaction of information sources of the first and second signal systems. The first signalling system is fed by images that arise during learning and represent specific impressions and objects. The second, in turn, is responsible for the perception of reality through generalised and abstract concepts that are formed through speech, thinking and mental images. These concepts contain semantic (meaningful) information that expands the child's understanding of the world around him or her. These findings are confirmed by the research of I. Brushnevskaya and I. Sydoruk (2022), state that speech (the first signalling system) can lead to disorders of mental processes: Thinking, memory, attention, perception, and representation (the second signalling system). According to Y. Ribtsun (2022), speech disorders are manifested not only in the unformed or complete absence of all components of speech activity at the level of expressive and/or expressive expression. It also includes the lack of functions and operations necessary for the correct acquisition of language (in particular, thinking functions and operations, perception, attention, memory and control of various modalities). L. Trofymenko (2014) adds that due to phonetic-phonemic and lexical-grammatical impairments in speech, children with SD may have limited thinking, difficulties with speech generalisations and specific difficulties in mastering reading and writing skills. Cognitive impairment is often the cause of insufficiently formed imaginative thinking in older preschool children, which in turn can lead to an insufficient level of understanding of verbal instructions and difficulties in retaining them in memory, fragmented task performance, disruption of the algorithm of predictability of actions, inability to independently acquire new knowledge based on their own sensory experience, etc. In this regard, children in this category may have difficulty learning the necessary knowledge and developing skills and abilities following the Basic Component of preschool education in general. The diagnostics according to the author's methodology made it possible to empirically identify the state of formation of figurative thinking in senior preschool children with SD compared to children with typical development and to determine the level of its formation in both categories of children. The generalised results of the survey by the parameter "ability to create images" in children with speech disorders and typical development (TD) are presented in the diagram (Fig. 1). The short-term figurative memory scope is determined by the peculiarities of figurative thinking, namely the ability or inability to create new vivid images in the mind. Compared to children with typical development, who recalled a variety of shapes during the diagnosis, children with speech disorders recognised mostly familiar geometric shapes – squares and triangles. One child with a SD did not show any shapes at all but only looked at them in a confused manner on the table. This indicates that children SD have significant difficulties in

creating a new image in their imagination: they cannot analyse what the newly perceived figure consists of; identify similar elements to other familiar figures; compare the figure with other objects similar in shape; not mentally draw certain details to the figure to bring its appearance closer to an already familiar object whose image is stored in their memory. All of this indicates that their projective and compositional substructures of figurative thinking are not well developed. And since children cannot perform mental actions with shapes, it is difficult for them to remember them and then recall them, even after a short time. The generalised results of the examination of the parameter "ability to handle images" in children of both categories are demonstrated in the diagram in Figure 2.

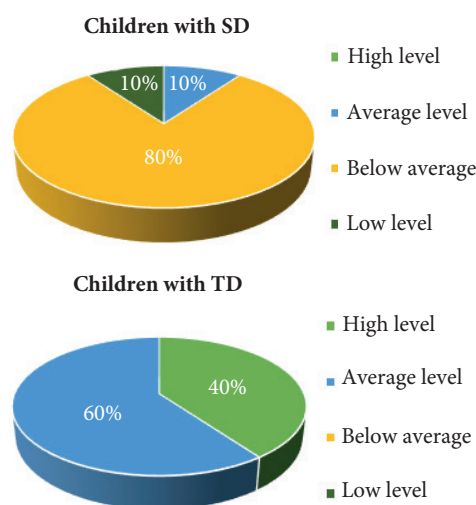


Figure 1. Results of the survey by the parameter "ability to imagine"

Source: compiled by the authors

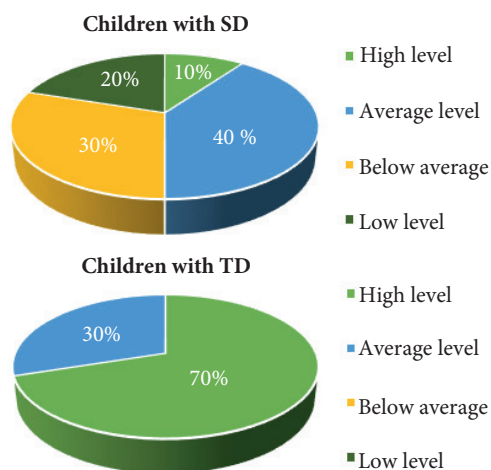


Figure 2. The results of the survey by the parameter "ability to handle images"

Source: compiled by the authors

The peculiarities of the formation of figurative thinking, namely the ability or inability of children to operate with previously created and recorded images of objects in

memory, led to the selectivity of figurative memory. In contrast to children with typical development, who mostly recalled identical images, a little less often images similar in general silhouette, and very rarely images that differed in some detail, children with SD most often pointed to identical images or images that differed in some detail (the latter, according to the methodology, were not counted as correct answers). This means that they are dominated by visual action thinking, which is based on the direct, obvious perception of objects, and the orderly substructure of figurative thinking is not sufficiently formed. That is, it is difficult for children with SD to analyse the appearance of familiar objects, notice their differences and similarities, identify similar features, compare them by shape, and silhouette, fill abstract objects with specific meanings, and transfer their previous experience or knowledge to them. In general, this task was the easiest for both children with SD and children with typical development to complete compared to the other two. This indicates that it is much easier for them to mentally operate with familiar images than to create new ones. The generalised results of the examination of the parameter “ability to create and operate images based on associations” in children with SD and typical development are illustrated in the diagram in Figure 3.

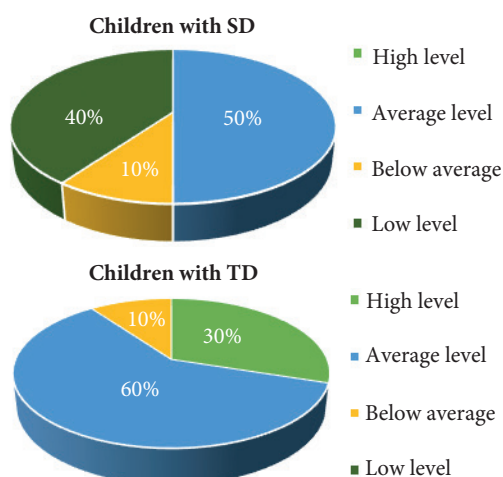


Figure 3. Results of the survey on the parameter “ability to create and operate images based on associations”

Source: compiled by the authors

The level of associative memory formation is determined by the peculiarities of figurative thinking, namely the ability or inability of children to create new images and operate with previously created images based on associations. Compared to children with typical development, during the examination according to a certain parameter, children with SD had significant difficulties in selecting cards for the words to be memorised, even after a training attempt. They chose the cards rather slowly, often needing help in the form of guiding questions from the experimenter, for example: “What do you think of when you hear the word “lunch”?”, “What do you think of when you hear the word “night”?”, etc. Furthermore, children were rarely able to

explain the connection between the word and the selected card on their own, without prompting, i.e. why they chose this particular image. Most often, children made commonly understood associations, such as lunch – table, bird – nest, bird – feather, clothes – shirt, garden – tree, etc. Furthermore, the associations included visual associations that had similarities, such as shape (bird – plane, chair – armchair); and causal associations (night – moon, garden – apple, dinner – table, etc.). In addition, children selected cards based on individual associations related to their own experience and not always clear to others, for example: lunch – car (the child recalled how during a recent family trip they had lunch with their parents and sister in the car), clothes – sofa (the boy explained that his mother puts the things he needs to wear on the sofa). However, there were also some individual associations that children could not explain even with the help of leading questions, such as night – person, bird – person, road – lamp, clothes – tree. Such answers may indicate that these were unrestricted associations that usually arise spontaneously and are not always realised by the child. Four children with SD were unable to recall any words correctly, as they only named the objects depicted on the cards. Other children sometimes correctly recalled the necessary words, sometimes they named the objects depicted in the pictures. This indicates that they have impaired goal-oriented thinking, insufficiently formed associative memory and the ability to perform such mental operations as mediation, as well as topological, projective, ordered, and compositional substructures of figurative thinking. That is, it is difficult for children with SD to mentally “grow” a new image and operate on previously created images through mental transformations and establishing similarities in appearance, and properties between objects or phenomena, as well as through comparison, evaluation, and combination. Based on the results of the survey of the three studied parameters, the level of figurative thinking formation in senior preschool children with GSI of III-IV level and typical development was determined. The generalised data are presented in the diagram in Figure 4.

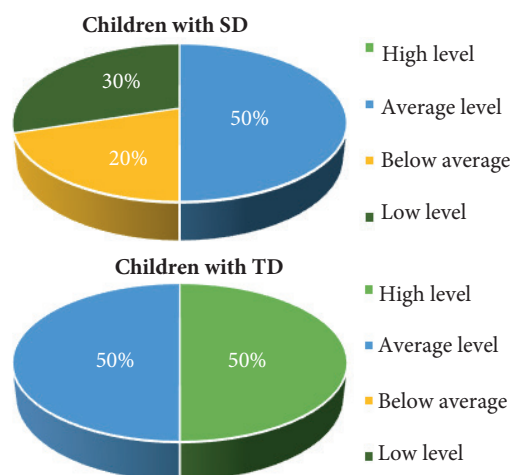


Figure 4. General distribution of levels of imaginative thinking

Source: compiled by the authors

Comparative characteristics of children of both categories showed that only children with typical development have a high level of imaginative thinking. Thus, a lack of figurative thinking, especially its topological, projective, ordered, and compositional substructures, can be seen in children with speech disorders. In particular, this was manifested in the fact that when performing diagnostic tasks, they did not always understand verbal instructions correctly and often could not explain their choices. They found it difficult to navigate among various graphic images and correlate them with previously created and stored images; create new images, mentally establish similarities between various objects and phenomena, highlight certain properties in them, classify them according to various features (for example, size, shape, etc.); mentally operate with visual images. In contrast, children with typical development found it much easier to complete the proposed tasks: They made fewer mistakes, made choices faster, could justify them, and generally had few difficulties with creating and manipulating images.

DISCUSSION

According to the study, children with speech disorders have problems with the formation of figurative thinking, in particular its topological, projective, ordered, and compositional substructures. They have difficulty understanding verbal instructions, navigating graphic images, and creating new images. The above opens up opportunities to explore the relationship between these difficulties and the development of children's cognitive skills. In the context of considering the psychological aspects of children's imaginative thinking, it is advisable to join the research of O. Novikova (2007), who considers imaginative thinking as a set of mental processes: creating an image, operating with it and orientation in space. In addition, the researcher divides imaginative thinking into five substructures: topological, projective, ordered, metric, and compositional, and creates a basis for a more comprehensive understanding of the diversity of these aspects in the context of child development. The study also emphasises the importance of developing each of these substructures in children to ensure that children's mental potential is fully developed.

It is important to note that in foreign literature, the types of thinking have different names and interpretations. Concerning imaginative thinking, the literature has an analogue of "mental imagery" – the ability to create images of information in the imagination (Algozzine & Duville, 2004), and this opens up additional perspectives in the study of the issue at hand. In particular, foreign research by I.E. Boerma *et al.* (2016) examines in detail the role of mental representation in the process of reading images and understanding stories. The study highlights the importance of this aspect for the development of readers' cognitive skills, which confirms the interconnection and mutual influence of the first and second signalling systems discussed in the Results section of this article. An important study of the relationship between screen media use in preschool children and the development of their mental representa-

tions was conducted by S.P. Suggate and P. Martzog (2022). It does not directly consider children's speech as the main object of study. However, in the context of a broader understanding of cognitive development, it can be assumed that the development of mental representations can affect speech. For example, if screen media limits children's ability to create their mental images, this may have implications for their ability to form mental models in their speech. Overall, the relationship between screen media use and children's speech can be complex and it is important to examine it in the context of cognitive development. The above research has helped to deepen our understanding of the relationship between technology use and cognitive development. A. Prasanna *et al.* (2022) highlight the impact of presentation modalities on preschool children's memory ability. They examine different types of modalities and their impact on children's performance, pointing out the benefits of audio-visual support compared to audio and visual support. These conclusions are worthy of agreement, as in the context of our study, it can be assumed that the quality of imaginative thinking in children with speech impairments may be related to their ability to work with different modalities of information. Therefore, it may be necessary to consider the quality of information presentation for preschool children with speech impairments to optimise correctional and developmental work on the formation of their imaginative thinking. At the same time, it is necessary to consider the research of R. Hick *et al.* (2005), which indicates the use of only certain types of visual support for children with specific language impairments. The researchers emphasise that children in this category will have difficulties with tasks that require a high level of processing or several mental manipulations.

Determining the state of imaginative thinking and the existing mechanisms that interfere with its formation helps a specialist develop the right strategy for working with a child. After all, formed imaginative thinking ensures the child's ability to express their thoughts and feelings through images, which facilitates the process of communication; promotes cognitive development, namely the ability to compare, associate, classify, and distinguish; also, the ability to imagine specific images improves memory, as it makes it easier to learn and remember information. This is especially important for children with SD, as imaginative thinking can provide them with an alternative way of expressing themselves and their needs through drawings, gestures, body movements, etc. In addition, it allows children to express their ideas, fantasies, feelings, and dreams in a creative way, which contributes to their self-expression and self-realisation. Comparing the concept used in the Ukrainian space of "imaginative thinking" and the international "mental imagery" or the ability to create images, it is worth noting that they have much in common and complement each other. In terms of their interpretation, the common and important thing for their formulation is the formation of the cognitive sphere. This means that in the process of forming images, cognitive mental processes will also develop. In general, the study integrates the findings of

Ukrainian and foreign research to enrich the understanding of the problems and prospects in the development of imaginative thinking in older preschool children, including those with speech impairments. The results of this study indicate the need to introduce innovative methods into the educational process for children with generalised speech impairment. Teachers and speech therapists can focus on the development of the substructures of imaginative thinking, which demonstrate significant difficulties in this category of children. The introduction of interactive methods and technologies can help to activate imaginative thinking and improve cognitive skills. For the effective development of imaginative thinking in children with speech disorders, it is recommended to develop and implement individualised strategies for correctional and developmental work. This may include the use of game techniques, creative tasks, and interactive methods.

CONCLUSIONS

The analysis and synthesis of scientific and methodological literature on the study of the problem of the formation of imaginative thinking in older preschool children made it possible to define the concept of “imaginative thinking” and conclude that children with a sufficient level of imaginative thinking can mentally plan their actions, understand and use schematic images, solve mathematical examples, correctly arrange and express their thoughts in lexical and grammatical terms, skilfully retell texts and compose coherent stories based on a picture, etc. It has also been established that generalised underdevelopment of speech is not only a complex speech disorder, but also a disorder of cognitive functions, including imaginative thinking, and operations that support speech activity. This leads to difficulties in planning their actions, comparing objects and phenomena, understanding, and using diagrams and tables necessary for learning, memorising, and reproducing information of varying complexity and large volumes, generalising knowledge, etc. These difficulties cause problems with school readiness.

The following parameters of figurative thinking have been identified: the ability to create images, the ability to operate with images, and the ability to create and operate with images based on associations. An empirical study of the state of formation of figurative thinking in children with SD compared to children with typical speech development was carried out using the author’s methodology based on the modification of methods for studying figurative memory. According to the results of the diagnostics, it was found

that the level of figurative thinking in children with SD is significantly lower than in children without speech disorders and has its specific features. This is due to the insufficient development of topological, projective, ordered, and compositional substructures of figurative thinking. These results indicate that children have difficulty creating mental images of objects or phenomena, operating with them and previously created and stored images in their memory, as well as analysing, synthesising, abstracting, mediating, comparing, and generalising perceived information, which in turn leads to difficulties with cognitive and learning activities. Determining the state of formation of figurative thinking and the existing difficulties in its formation can be an important basis for specialists to develop the correct strategy for correctional and developmental influence on children of this category.

The study does not exhaust all aspects of the problem and does not claim to be a complete study. At the same time, it is of practical importance, as the results of the study can be considered in the implementation of correctional and developmental work with older preschool children with speech disorders in special and inclusive preschool education institutions, as well as in the training, certification and professional development of psychological and pedagogical staff of these institutions. The scientific novelty of the study is determined by an interdisciplinary approach to the study of the problem, systematisation of theoretical material on the state of formation of figurative thinking in senior preschool children in ontogenesis and dysontogenesis, determination of the state of formation of figurative thinking through the study of figurative memory. A promising direction for further research is the development, implementation, and testing of the effectiveness of the methodology for the formation of figurative thinking in senior preschool children with general underdevelopment of speech using eidetic techniques.

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CONFLICT OF INTEREST

None.

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Стан сформованості образного мислення в дітей старшого дошкільного віку із загальним недорозвитком мовлення

Анотація. Образне мислення є основним видом мислення у дітей старшого дошкільного віку. Від стану його сформованості значною мірою залежить успішність дітей у засвоєнні знань, формуванні умінь та навичок відповідно до Базового компонента дошкільної освіти, а в майбутньому й до вимог шкільних освітніх програм. Мета цієї роботи – окреслити результати дослідження стану сформованості образного мислення в дітей старшого дошкільного віку із загальним недорозвитком мовлення III-IV рівня, якщо порівнювати з дітьми з типовим мовленнєвим розвитком. У роботі використано такі методи наукового дослідження: аналіз та узагальнення науково-методичної літератури з проблеми дослідження, експеримент, тестування, порівняння, кількісно-якісний аналіз отриманих експериментальних даних. За результатами проведеної діагностики за авторською методикою, що ґрунтується на модифікації дослідження образної пам'яті, констатовано недостатній рівень сформованості образного мислення, особливо його топологічної, проєктивної, упорядкованої та композиційної підструктур, у дітей із загальним недорозвитком мовлення III-IV рівня. Такі результати вказують на наявність у дітей труднощів зі створенням мисленнєвих образів предметів чи явищ, з оперуванням раніше створеними та збереженими в пам'яті образами, а також під час аналізу, синтезу, абстрагування, опосередкування, порівняння та узагальнення сприйнятої інформації. Окреслені труднощі лежать в основі проблем з підготовкою до навчання в Новій українській школі. Практична цінність роботи полягає в інформуванні спеціалістів спеціальних та інклюзивних закладів дошкільної освіти щодо специфічних особливостей стану сформованості образного мислення в дітей старшого дошкільного віку із загальним недорозвитком мовлення III-IV рівня. Результати дослідження можна використати для розробки та впровадження методики з формування образного мислення в дітей старшого дошкільного віку із загальним недорозвитком мовлення

Ключові слова: мисленнєвий образ; образна пам'ять; оперування образами; порушення мовлення; когнітивні функції; комунікація

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Postgraduate education methodology for foreign language teachers' assessment competence development in higher military educational institutions

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Abstract. Ukraine's tendency to achieve compatibility with the standards of NATO member states, in particular as a result of Russian aggression against Ukraine, raises the issue of developing the diagnostic competence of foreign language teachers in higher military educational institutions. After all, the ability of foreign language teachers in higher military educational institutions to effectively assess the levels of foreign language communicative competence of military personnel allows them to respond promptly to problematic issues in their language training and change training strategies following the needs of the Armed Forces. Therefore, the study aims to reveal the essence of the methodology of adaptive development of foreign language teachers' diagnostic competence in the system of postgraduate education. To achieve this goal, several theoretical (analysis, synthesis, systematisation of scientific psychological, pedagogical, methodological literature) and empirical (observation, comparison, description) methods were used. Adaptive learning technologies are proposed, which allow studying the educational material with the help of adaptive algorithms for each student, according to knowledge, skills, and personal learning needs, i.e., through the adaptive presentation of the educational material of the author's remote special course. The stages of implementation of the author's methodology for adaptive development of diagnostic competence of foreign language teachers in higher military educational institutions are highlighted. The specifics of the methodology of adaptive development of diagnostic competence of foreign language teachers are revealed, considering their diagnostic activities in the system of military education. The authors' developed methodology for the adaptive development of diagnostic competence of foreign language teachers in higher military educational institutions contributes to the actualisation, systematisation and deepening of their theoretical diagnostic knowledge, and improvement of practical diagnostic skills and abilities that form the basis for the development of their diagnostic competence. The practical significance of the study lies in the possibility of applying its results to improve the qualifications of foreign language teachers at higher military educational institutions

Keywords: professional development; methodology of adaptive development; professional competence; contextual approach; professional training; pedagogical diagnostics; research and teaching staff

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INTRODUCTION

Given the full-scale Russian invasion of Ukraine and new trends towards interoperability between Ukraine and NATO member states, the military education system needs specialists who are able and willing to improve and develop in their military and professional fields. An important area of development of military specialists is their language training, the quality of which significantly depends on the ability and willingness of foreign language teachers (FLT) of higher military educational institutions (HMEIs) to effectively carry out diagnostic activities, which is one of the functions of their professional competence. Accordingly, the importance of developing the diagnostic competence of higher military education institutions' foreign language teachers in the system of postgraduate education is becoming more relevant. The issues of diagnostic competence formation and development of various specialists were highlighted in Ukrainian and global studies, for instance, O. Dubrovskaya (2023) studied the formation of diagnostic competence of future specialists in physical culture and sports. The researcher notes the insufficient level of formation of skills, and abilities of future specialists in physical education and sports, which requires the introduction of additional pedagogical conditions to solve this problem; I. Plokhuta (2023) addressed the problem of forming the diagnostic competence of future Doctor of Philosophy. The author developed a pedagogical model for the development of diagnostic competence, which contains goal-methodical, substantive, subject-subject, methodological-procedural, and evaluation-resultant blocks, and also schematically reflects the purpose, tasks, pedagogical conditions, content, methods, components of diagnostic competence, criteria and indicators for diagnosing its development; O. Lahodynskyi *et al.* (2023) in their research solved the problem of developing the diagnostic competence of research and teaching staff of higher education institutions. O. Lahodynskyi and Zinchenko (2023) studied the problem of developing the diagnostic competence of future teachers of higher education institutions. They emphasise the relevance of substantiating the value and motivational aspect of the diagnostic activity, applying modern methods and technologies of pedagogical diagnosis, as well as ensuring the reflexive and corrective function of diagnosis. A. Kendyukhova (2019) believes that assessment competence is the main component of a teacher's readiness to solve professional problems, as a modern teacher needs to be able and ready to assess students' achievements, taking into account their individual capabilities, learning needs using modern approaches to assessment, showing creativity in choosing methods and creating conditions for the full development of the individual; O. Shunevych (2020) notes that the effectiveness of the development of assessment competence depends largely on cognitive, emotional S. Herppich *et al.* (2018), in the process of studying the development of teachers' evaluation competence, developed a model of teachers' competence development aimed at stimulating future integrative research on describing, explaining,

predicting and supporting teachers' activities in different evaluation situations; R. Horbatiuk *et al.* (2023), studying the development of diagnostic competence of higher education students, define it as an integral feature of the personality of all participants in the educational process for the practical implementation of diagnostic functions: forecasting, monitoring, control, evaluation of programme learning outcomes; O. Chernikova *et al.* (2020) devoted their research to the problem of developing the diagnostic competence of doctors and teachers; V. Yahupov *et al.* (2020) addressed the problem of developing the diagnostic HMEI FLT competence. The analysis of scientific and pedagogical sources on the state of the problem under study concludes that scientists devote the lion's share of research to the formation and development of diagnostic and evaluation competencies of specialists. However, the problem of developing the diagnostic competence of higher education teachers of foreign languages in the system of postgraduate education remains insufficiently theoretically and methodologically researched, in particular, concerning the aspect of developing methods for developing this competence based on the specifics of the diagnostic activity of higher education teachers of foreign languages. The study aims to theoretically substantiate the methodology of adaptive development of diagnostic competence of teachers of foreign languages in higher military educational institutions and its stages in the system of postgraduate education.

MATERIALS AND METHODS

Theoretical methods analysis, synthesis, classification, and systematisation of scientific and pedagogical literature were used to identify an insufficient reflection of the problem of developing the diagnostic competence of higher education foreign language teachers in pedagogical research. The content and methods of in-service training of university teachers of foreign languages in the system of postgraduate education are mainly focused on the aspects related to the methods of teaching foreign languages, while the problematic issues related to the implementation of the diagnostic function of foreign language teachers, in particular, university teachers of foreign languages, are studied fragmentarily and unsystematically, which significantly affects the effectiveness of their diagnostic activities. Empirical methods of questionnaires and testing: "Value Orientations" methodology by M. Rokic (Krykun, 2018); "Motivation of Professional Activity" methodology (K. Zamfir adapted by A. Rean) (Kokun *et al.*, 2021); Questionnaire "Diagnostics of Reflection" by A. Karpov (Krykun, 2018); Test "Critical Thinking" by L. Starkey (adapted by E. Lutsenko) (Lutsenko, 2018); Communicative tolerance test by V. Boyko (Aristarkhova, 2021); "Assessment of Communication and Organisational Skills" methodology (Aristarkhova, 2021); E. Bazhin's test questionnaire based on J. Rotter's locus of control scale (Rotter, 1966); author's methods, questionnaires. They were used to determine the level of formation and development of the diagnostic competence

of the teachers of foreign languages at higher education institutions. The questionnaire and testing were conducted on the Moodle platform – the central repository of resources of the remote learning system of the Armed Forces of Ukraine – anonymously.

Therefore, in 2019-2022, a pedagogical experiment (sequential pedagogical experiment method) was conducted to test the effectiveness of pedagogical modelling of the development of diagnostic competence of university foreign language teachers, which includes the author's method of adaptive development. The sample for the pedagogical experiment included 49 HMEI FLT's who took advanced training courses in foreign language teaching methods at the National Defence University of Ukraine. Two control groups were formed (the first in 2019, the second in 2020), which studied according to the standard programme, and two experimental groups (the first in 2021, the second in 2022), which improved their skills according to the developed pedagogical model of development of diagnostic competence of university teachers of foreign languages, the methodological part of which was the author's methodology of adaptive development. The author's methodology of adaptive development consists of three parts: remote learning, represented by the author's special course for the development of diagnostic competence of HMEI FLT's, face-to-face learning according to the existing professional development programme, and training on mastering statistical methods of test task analysis. The integral indicator of the development of diagnostic competence of university foreign language teachers (I_p) depends on five components (value-motivational, knowledge, praxeological, individual-psychological and subjective) and is calculated according to the formula:

$$I_p = \frac{K_{vm} + K_c + K_a + K_s + K_{ipq}}{5},$$

where K_{vm} – assessment competence development coefficient by value and motivational component; K_c – diagnostic competence development coefficient by cognitive component; K_a – diagnostic competence development coefficient by activity component; K_s – diagnostic competence development coefficient by subjective component; K_{ipq} – diagnostic competence development coefficient by the component of individual psychological qualities. The coefficient of development of the components of diagnostic competence of HMEI foreign language teachers was calculated using the formula for determining the average value of the sum:

$$K_c = \frac{nb*1 + ni*2 + np*3}{N},$$

where K_c – diagnostic competence components development coefficient of HMEI foreign language teachers' diagnostic competence; nb , ni , np – numbers of HMEI foreign language teachers with advanced level (basic, intermediate, proficiency); N – total number of HMEI foreign language teachers. The pedagogical experiment was conducted

following the relevant ethical aspects of pedagogical research; therefore, no rights were violated; honour and dignity were not humiliated; morality was preserved; discrimination did not occur; anonymity was preserved, no harm was done, and psychological characteristics, including age, were considered. The study was conducted on the recommendations developed by reputable organisations, including the American Educational Research Association (2011), the British Educational Research Association (2018), and the recommendations developed by G. Lavrentieva and M. Shyshkina (2007). To verify the statistical significance of the results obtained, the methods of mathematical statistics were used: Wilcoxon T -test and Mann-Whitney U -test. The calculations were performed using IBM SPSS 20.0 software. To ensure the same conditions in the two control and two experimental groups, an equalisation procedure was applied at the baseline stage of the experiment. The Kruskal-Wallis non-parametric H -test was used for this purpose, which is designed to assess differences between three or more independent samples. The author's methodology for the adaptive development of the diagnostic competence of language teachers was based on the experience of the Bureau for International Language Coordination under the auspices of NATO (NATO BILC) in the use of digital tools in the development of a remote specialised course. In addition, multimedia teaching tools were actively used: e-tutorials; electronic articles; graphic materials: illustrations, diagrams; audio and video materials: video lectures, interactive testing, network communication tools: virtual classes, forums, and chats. The experience of practical classes, which are implemented through small group work based on subject-subject cooperation during professional development, was also studied and used. During such cooperation, the teacher acts as a facilitator and creates favourable conditions for interaction and a psychological climate. During the practical part of the training, the experience of NATO experts in language training and language testing was applied to the methodology of statistical analysis of test tasks.

RESULTS

To develop the diagnostic competence of HMEI FLT's in the postgraduate system, the author's methodology of adaptive development of diagnostic competence of higher education teachers of foreign languages was developed, the main tasks of which were:

- to develop the internal motivation of HMEI FLT's by deepening their interest in diagnostic activities and to form their awareness of the importance of this activity, which will contribute to their professional self-improvement;
- to form a system of professional and practical diagnostic knowledge and to improve diagnostic skills and abilities to apply methods, techniques, diagnostic methods and tools;
- to increase the readiness of military university teachers of foreign languages to apply the acquired professional

knowledge and skills in diagnostic activities in the language training of military personnel.

It is worth noting that the proposed author's methodology for the adaptive development of diagnostic competence of HMEI FLT's is based on the leading ideas of competence, subjective activity, and systemic, andragogical, contextual, and adaptive approaches. Among the special scientific principles underlying the development of the author's methodology is the principle of adaptability, which is based on the individual pace of learning the educational material, the creation of an individual method of transferring the material, considering the experience, cognitive, psychophysiological characteristics, and level of training of the students; the principle of autonomous learning, which implies that the HMEI FLT is engaged in systematic, purposeful independent activities to maintain and further improve their diagnostic knowledge, skills and abilities; the principle of interactivity is ensured by the subject-subject interaction of all participants in the learning process, which allows for the creation of conditions for mutual learning and cognition through joint learning activities: dialogue, information exchange, partnership, joint problem solving, situation modelling, self-assessment and evaluation of colleagues. The interactivity principle is also ensured by the alternation of learning activities: games, discussions, small group work, mini lectures, etc. The principle of interactivity intensifies the activity of higher education teachers of foreign languages, as they feel themselves to be full-fledged students of the educational process through the awareness of personal and collective activity based on experience, awareness of values, motivation, and the desire to immediately implement the acquired knowledge, skills, and abilities. The adaptive development methodology for the diagnostic competence of HMEI FLT's included three implementation stages: The first (value-motivational), the second (basic) and the third (creative). Value-motivational – development of values and motivation for the diagnostic activity of HMEI FLT's, which involves comprehension, strengthening of values, professional interests that stimulate their activity, self-realisation, self-expression, and harmonious development in the field of pedagogical diagnosis. At the first stage of methodology implementation, the development of the value-motivational component of diagnostic competence of HMEI FLT's is focused on, in particular on:

- identification and detailed analysis of the values and motives of higher education teachers of foreign languages in diagnostic activities to form an image of an ideal teacher-diagnostician;
- motivation of HMEI FLT's to realise the importance of diagnostic activities in the context of their professional activity;
- development of a sustainable and constant interest in the development and mastery of modern diagnostic tools and diagnostic measures.

Adaptive learning technologies were used to create the remote special course, whereby the learning material is studied using adaptive algorithms for each student,

considering their knowledge, skills, and personal learning needs, i.e. through the adaptive presentation of the author's remote special course. Author's remote special course aims to develop the cognitive and reflective components of the diagnostic competence of HMEI FLT's, as it involves mastering the educational material covering the general theoretical foundations of diagnostics and theoretical foundations of language test development and diagnostic activities, diagnosing the levels of development of military personnel's foreign language communicative competence in HMEI's by NATO STANAG 6001 (Official website of the Bureau..., 2023); focused on topics related to the development and conduct of standardised language tests, in particular language testing by NATO STANAG 6001. In the course of the remote author's special course, HMEI FLT's studied the theory and basic provisions of language skills testing in such aspects as listening, reading, speaking, and writing. In addition, the special course covers the study of methods, techniques, methods, diagnostic tools; development of tests by NATO STANAG 6001 (planning, development, moderation, piloting, testing and diagnosis; methods of diagnosing the level of foreign language communicative competence of military personnel during classroom training). The author's special course provided for the development of alternative diagnostic methods by the HMEI FLT's, namely portfolios, self-assessments, projects, etc. The author's remote special course was developed in compliance with the principles of designing integrative courses proposed by O. Popadych (2022) in her research: the principles of goal setting, professionalism, content formation, functioning, and forecasting.

During the value-motivational stage of the implementation of the author's methodology, multimedia teaching tools were actively used to effectively master the theoretical material on pedagogical diagnostics. To this end, HMEI FLT's studied the educational material from video lectures and performed interactive exercises with the created multimedia tools, namely "course presentation", "interactive video", "presentation series", "dialogue cards", "flash animations", "drag and drop", "branching scenario", etc. The opinion of O. Pinchuk (2007) confirms that the use of multimedia teaching aids in the process of developing the diagnostic competence of HMEI FLT's contributes to the development of all components of the studied competence by creating a productive communication space, creating a source of additional cognitive material, managing the learning activities of course students, stimulating a positive emotional background, which, in turn, contributes to meeting the needs of course students. At the main stage, the content of the training is focused on the development of the activity component of the diagnostic competence of HMEI FLT's through the practical application of the acquired knowledge and skills in the implementation of the diagnostic function.

Key goals of this stage were:

- to develop professional theoretical and practical diagnostic knowledge, skills, abilities, accumulation of professional experience in diagnostic activities, in particular,

diagnosing the levels of foreign language communicative competence (FLC) of military personnel, skills and abilities of the HMEI FLT's to apply methods, methodological techniques, diagnostic methods, diagnostic tools;

- to develop the ability and readiness for diagnostic activities, in particular: the ability and skills to diagnose the levels of military personnel's FLC; skills and abilities to apply methods, methodological techniques, and diagnostic methods; methodological skills and abilities to apply diagnostic tools (to choose the necessary diagnostic tool depending on the purpose of diagnostic activities), to develop diagnostic tools, to provide diagnostic support (analysis, proving diagnostic data with further creation of individual learning plans).

The development of the diagnostic competence of the teachers of foreign languages of higher education institutions also depends on the combination of remote learning and full-time education. After mastering the material of the first stage of the adaptive development methodology from the author's remote special course "DiComDev", HMEI FLT's studied in full-time form within the "Advanced Training Course on the Organisation and Methodology of Teaching Foreign Languages".

The main methods used at this stage of the author's methodology of adaptive development of diagnostic competence were oral presentation of the material (lecture, explanation), discussion of the material (conversation, brainstorming, case study), practical (practical classes), control and self-control (survey, testing, test). The main stage of the adaptive development methodology for the diagnostic competence of HMEI FLT's was to establish trusting subject-subject relationships between all participants in the educational process and create a favourable learning environment for the development of diagnostic competence of HMEI FLT's. HMEI FLT's received objective assessment and feedback. Feedback is an important component for the ongoing support of HMEI FLT's and for assessing progress, studying problems that arise during training choosing ways to solve them, and managing the process of developing diagnostic competence. The creation of a positive moral and psychological climate for learning, which encourages HMEI FLT's to develop and take initiative, and share experiences, was carried out by considering the needs and wishes of the course participants and contributed to the development of confidence and creativity of the trainees.

The effectiveness of the educational process depends most of all on the establishment of high-quality communication, interaction, and joint activity of the subjects of learning. That is why, according to the culture and nature of the interaction between the teacher and students in the proposed methodology for the adaptive development of diagnostic competence, the subject-subject interaction is defined, as involving active interaction, communication, and cooperation of all its subjects, which in the methodology of adaptive teaching is implemented through interactive teaching methods. Moreover, the face-to-face training of the HMEI FLT's was based on their cooperation with the

teacher-facilitator, as he monitors progress, evaluates, and provides constant feedback. Right in the classroom and in the course of providing feedback and consultations, the teacher-facilitator evaluates the completion of tasks and the strategy of achieving the desired result for the students – HMEI FLT's. Such interactive cooperation during training is an important component of the development of diagnostic competence of HMEI FLT's and contributes to their motivation and active involvement in learning activities, as well as brings satisfaction from the results achieved. During the full-time study, the predominant type of training was practical training, which ensures the implementation of the didactic principle of linking theory with practice, deepening, systematisation, consolidation and specification of knowledge gained in lectures and the process of independent work; formation of practical skills and abilities necessary for professional activity; development of skills to observe and explain certain scientific, educational and scientific phenomena under study; formation and development of practical, professional thinking; development of independence in learning activities, etc. (Yahupov *et al.*, 2020).

The final stage aimed to deepen the theoretical and practical knowledge, skills, and abilities of HMEI FLT's. It implies that HMEI FLT's can design, independently choose, and apply the necessary diagnostic tools, organise and conduct diagnostic activities, provide effective feedback, evaluate their achievements and correct them if necessary. The final stage of implementation of the author's methodology for adaptive development of diagnostic competence of HMEI FLT's aimed to:

- promote the development of professional subjectivity, reflexivity, critical thinking, objectivity, tolerance, and organisational skills of university teachers of foreign languages;
- summarise and systematise the acquired knowledge, skills and abilities for the development of diagnostic competence of higher education teachers of foreign languages;
- mastering statistical methods for analysing test tasks to create valid, reliable diagnostic tools for measuring students' learning achievements.

An important component of this stage of the author's adaptive development methodology is the use of project-based learning technology, which enables the training of HMEI FLT's based on their independence, motivation, life, and practical experience. In addition, project activities, due to their developmental nature, perspective orientation, and practical orientation, contribute to the enrichment of the educational process and require the informed, systematically planned, and conscious involvement of HMEI FLT's in joint activities (Radkevych *et al.*, 2020). At this stage of implementation of the methodology of adaptive development of diagnostic competence of HMEI FLT's, the training "Fundamentals of statistical analysis of test tasks" is provided. The training aims at mastering the practical skills of processing test results and ways of presenting the results depending on the purpose of diagnostics. The importance of this training is also determined by the need for HMEI

FLTs to be ready to provide feedback to the stakeholders of the educational process on the progress and achievement of educational goals by servicemen. A detailed analysis of the diagnostic results makes it possible to determine the goals and needs of the students, update the curriculum, and revise the methods and content of teaching. The training programme consists of two parts: Theoretical and practical. The theoretical part of the training aims to master the following issues: verification of test answers; calculation

and conversion of results into a grading scale; approaches to converting assessment results; and interpretation of test results (interpretation methods). To test the effectiveness of the pedagogical modelling of the development of diagnostic competence of HMEI FLTs, which includes the author's methodology of adaptive development, a sequential pedagogical experiment was conducted, the integral results of which are shown for CG 1 and CG 2 Table 1, and for EG 1 and EG 2 in Table 2.

Table 1. The integral result of the development of diagnostic competence of CG1 and CG2 at the formative and formative stages of the experiment

No.	diagnostic competence components	CG1 (12 persons)		CG2 (13 persons)	
		before	after	before	after
1	Kvm (%)	63.6	66.5	62.2	65.6
2	Kc (%)	70.0	71.6	69.9	71.9
3	Ka (%)	69.7	71.6	69.2	71.5
4	Kipq (%)	72.5	74.4	69.3	71.7
5	Ks (%)	61.8	65.8	62.3	66.3
	KΣ	67.5	69.9	66.5	69.4

Note: $p \leq 0.05$

Source: developed by the author

Table 2. The integral result of the development of diagnostic competence of EG1 at the formative and formative stages of the experiment

No.	diagnostic competence components	EG1 (12 persons)		EG2 (12 persons)	
		before	after	before	after
1	Kvm (%)	67.1	80.3	66.1	80.0
2	Kc (%)	71.6	84.5	70.7	85.0
3	Ka (%)	69.6	82.3	72.2	84.4
4	Kipq (%)	70.1	80.0	68.9	80.5
5	Ks (%)	62.8	76.7	62.3	77.7
	KΣ	68.2	80.7	68.0	81.5

Note: $p \leq 0.05$

Source: developed by the author

The analysis of the results of the ascertaining stage of the pedagogical experiment made it possible to distribute

teachers according to the established levels of diagnostic competence (Table 3).

Table 3. Levels of forming the diagnostic competence of HMEI FLTs at the qualifying stage of the pedagogical experiment

Level	EG 1 (12 persons)		EG 2 (13 persons)		EG 1 (12 persons)		EG 2 (persons)	
	persons	%	persons	%	persons	%	persons	%
Basic	7	58.33	8	61.53	6	50	7	58.33
Intermediate	4	33.33	4	30.76	5	41.46	4	33.33
Proficient	1	8.33	1	7.69	1	8.33	1	8.33

Source: developed by the author

The analysis of the results of the formative stage of the pedagogical experiment was conducted to distribute HMEI

FLTs by the established levels of diagnostic competence (Table 4).

Table 4. Levels of diagnostic competence development of HMEI FLT's at the formative stage of pedagogical experiment

Level	EG 1 (12 persons)		EG 2 (13 persons)		EG 1 (12 persons)		EG 2 (persons)	
	persons	%	persons	%	persons	%	persons	%
Basic	6	50	6	46.15	1	8.33	1	8.33
Intermediate	4	33.33	5	38.46	5	41.46	4	33.33
Proficiency	2	16.66	1	7.69	6	50	7	58.33

Source: developed by the author

The statistical significance of the obtained experimental results was confirmed by employing statistical calculations using Wilcoxon's *T*-test and Mann-Whitney's *U*-test, which proved the effectiveness of the implementation of the improved pedagogical model, which includes the author's methodology of adaptive development and, accordingly, the increase in the level of development of diagnostic competence of HMEI FLT's of EG1 and EG2.

DISCUSSION

An analysis of the results of research and publications on the problem of developing the diagnostic competence of specialists shows that it has become the subject of research by many Ukrainian and foreign scholars who create various methods. At the same time, it should be noted that there is a lack of scientific research devoted to the problem of developing the diagnostic competence of foreign language teachers, in particular, of HMEI FLT's, and the development of appropriate effective methods for developing this competence in the system of postgraduate education. V.V. Yahupov and I.S. Plokhuta (2023) developed the diagnostic competence of future Doctor of Philosophy in the process of educational and scientific training by improving the contextual methodology for developing their competence by supplementing and improving the existing methods of developing the professional competence of future specialists to the specifics of developing diagnostic competence in the process of educational and scientific training. The methodology is based on a special remote learning course and four topics dedicated to the peculiarities of the diagnostic activity of future Doctor of Philosophy. It is worth supporting the scientist's opinion on the importance of taking into account the context when developing the methodology, but it should be noted that such a methodology does not reflect the specifics of the diagnostic function of HMEI FLT's, which consists, in particular, in the ability and willingness to choose and develop valid diagnostic tools for determining the level of formation and development of military personnel's foreign language communicative competence, specifications for various diagnostic tools. In addition, the peculiarity of the diagnostic activity of the teachers of foreign languages is the ability to moderate, test and statistically verify the effectiveness of diagnostic tools.

The opinion of O. Zastelo (2018), who developed the technology of integral assessment of the development of military personnel's FLC. It is worth agreeing with the scientist's opinion that the technology of integral assessment

of the level of development of servicemen's FLC allows for a more accurate assessment of the integral level of formation and development of servicemen's FLC. The researcher defines the aforementioned technology as a methodological basis for the development of diagnostic competence of HMEI FLT's and is convinced that mastering the special OPINION software will increase the level of development of diagnostic competence of HMEI FLT's. However, it is worth noting that the diagnostic function of foreign language teachers is not limited to assessing the integral level of military personnel's FLC development, but includes such diagnostic measures as ongoing assessment of the level of foreign language proficiency during classroom lessons (input, current, self-control, module (milestone), semester, final), ability and willingness to determine the ability to master languages, provide effective feedback in compliance with ethical standards, build individual learning trajectories for mastering foreign languages for each serviceman and the training group as a whole.

The development of the diagnostic competence of HMEI FLT's according to the author's methodology of adaptive development in advanced training courses is carried out through the technology of blended learning, which consists of an effective combination of the full-time component of training (under the guidance of a teacher) and the remote component (mastering a remote course before starting traditional training, i.e. theoretical preliminary training). The technology of blended learning in the development of the author's methods was used by V. Krykun (2018), who developed the author's methodology of blended learning for the development of foreign language professional competence of future masters of military management; A. Tkachenko and T. Romanenko (2021), who outlined the peculiarities of organising the education of students of higher education institutions using blended learning technology and provided general methodological approaches to designing a training course using this technology; O. Spirin *et al.* (2019) investigated the use of blended learning as an effective methodology for promoting student collaboration in the process of solving practical problems and as a means of developing their key professional skills. K. Osadcha and V. Osadchyi (2021) analysed the foreign experience of implementing blended learning in higher education institutions and identified the best practices of blended learning in higher education: the phased application of blended learning modes (reading, seeing, listening, observing, acting, teaching); applying the

basic elements for a blended learning course – redesigning the course, defining goals and expectations, appropriate combination of classroom and online learning; V. Bondar *et al.* (2018), who investigated the current practices of using blended learning in Ukrainian higher education. It was also found that NATO BILC actively uses blended learning technology in its professional development courses for language testing specialists. It is reasonable to agree with V. Krykun (2018) that the use of blended learning technology in the educational process of HMEI saves time, money, and equipment and at the same time improves the quality of training, developing independence, creativity, updating knowledge and acquiring additional knowledge.

The methodological basis for the creation of the author's remote special course was the technology of adaptive learning, which is the subject of research by both Ukrainian and international experts. Their methods involve the study of educational material that is presented through the use of adaptive algorithms. When creating the remote specialised course, adaptive learning technologies were used, thanks to which the study of educational material is carried out using adaptive algorithms for each student, considering their knowledge, skills and personal learning needs, i.e. adaptive presentation of the educational material of the author's remote specialised course. The learning content was divided into small chunks, and constant feedback and step-by-step assessment were provided. (Cavanagh *et al.*, 2020; Mirata *et al.*, 2020). O. Yeromenko (2021) developed an adaptive toolkit to provide scientific and methodological support for the functioning and development of an adaptive system of professional training of masters in educational institution management using adaptive learning technologies that allow learning in three modes: with a teacher, individually and independently under the guidance of a teacher. The adaptive system proposed by the author is based on a certain algorithm, which in turn functions through the use of adaptive tools (adaptive content, adaptive survey and assessment, adaptive learning scenarios). A. Nosenko (2018) in her study identifies the advantages of adaptive learning technologies, the main ones being: 1) the ability to adapt to the needs and progress of each student during learning and automatically adjust the learning material online; 2) to provide feedback and independently monitor progress in learning; 3) to assess, predict, adjust, and monitor progress based on real-time data. The adaptive learning technology was used to develop the diagnostic competence of the teachers of HMEI FLT, considering the experience of Ukrainian and foreign scholars. This technology can be used to address the individual characteristics of students in the organisation of learning activities in the postgraduate education system and thus build an individual learning trajectory, considering the individual pace of work, the depth of learning and educational needs (Lyashenko, 2019). Improving the level of development of diagnostic competence of foreign language teachers at HMEIs requires a systematic and practically oriented approach based on the widespread use of modern innovative technologies and international

experience. The introduction of various technologies, forms, and methods of teaching, as well as the use or adaptation of the world experience gained by leading countries that have achieved significant success in developing the diagnostic competence of foreign language teachers, is important and relevant in the context of their implementation in the educational process of the higher military school of our country.

CONCLUSIONS

Therefore, the development of diagnostic competence of HMEI FLT is a relevant and important task in the system of postgraduate education, the solution of which involves the implementation of systematic, comprehensive, consistent measures that can be implemented through the use of appropriate methods and an effective combination of remote and face-to-face education and training. The author's methodology of adaptive development of diagnostic competence of HMEI FLT in the system of postgraduate education is developed and substantiated, which is a combination of competence, andragogical, systemic, contextual, subjective and activity methodological approaches, organisational forms and content of training, in particular, full-time education and training, types of training sessions, teaching aids, and the author's remote course, which are contextually and systematically implemented at the value-motivational (author's remote special course for the development of diagnostic competence of HMEI FLT), basic (advanced training course on methods of teaching foreign languages) and final (training "Fundamentals of statistical analysis of test tasks") stages. Improving the level of development of diagnostic competence of HMEI FLT requires a systematic and practically oriented approach based on the widespread use of modern innovative technologies and international experience. The introduction of various technologies, forms and methods of teaching, as well as the use or adaptation of the world experience gained by leading countries that have achieved significant success in the development of diagnostic competence of foreign language teachers, is important and relevant in the context of their implementation in the educational process of the higher military school of our country, in particular in the system of postgraduate education to ensure the continuous development of HMEI FLT. The methodology of adaptive development of diagnostic competence of teachers of foreign languages in higher education contributes to the development of values and motivation for diagnostic activities; development of professional knowledge of the theory and practice of pedagogical diagnosis, diagnostic skills based on the professional application of methods, methodological techniques, diagnostic methods, diagnostic tools; development of professionally important qualities, reflexivity and professional subjectivity. The analysis of the results of the pedagogical experiment showed a positive shift in all components of the diagnostic competence of HMEI FLT of EG1 and EG2, who were trained following the pedagogical model of development of the diagnostic competence of HMEI FLT by the author's method of

adaptive development. Further research prospects include building models and developing methods for the development of other competencies of HMEI FLTs, including methodological, teaching and research, and others, considering the specifics of their professional activities. None.

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CONFLICT OF INTEREST

None.

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Методика розвитку діагностичної компетентності викладачів іноземних мов вищих військових навчальних закладів у системі післядипломної освіти

Анотація. Тенденція України щодо досягнення сумісності зі стандартами країн-членів НАТО, зокрема внаслідок російської агресії проти України, актуалізує проблему розвитку діагностичної компетентності викладачів іноземних мов вищих військових навчальних закладів. Адже здатність викладачів іноземних мов вищих військових навчальних закладів ефективно діагностувати рівні розвиненості іншомовної комунікативної компетентності військовослужбовців дає змогу вчасно реагувати на проблемні питання у їхній мовній підготовці та змінювати стратегії навчання відповідно до потреб Збройних сил. Саме тому мета цієї роботи – розкрити суть методики адаптивного розвитку діагностичної компетентності викладачів іноземних мов у системі післядипломної освіти. Задля досягнення мети використано низку теоретичних (аналіз, синтез, систематизація наукової психолого-педагогічної, методичної літератури) та емпіричних (спостереження, порівняння, опис) методів. Запропоновано використовувати технології адаптивного навчання, завдяки яким вивчення навчального матеріалу відбувається за допомогою адаптивних алгоритмів для кожного студента з урахуванням їхніх знань, навичок та особистих навчальних потреб, тобто завдяки адаптивному представленню навчального матеріалу авторського дистанційного спецкурсу. Висвітлено етапи впровадження авторської методики адаптивного розвитку діагностичної компетентності викладачів іноземних мов вищих військових навчальних закладів. Розкрито специфіку методики адаптивного розвитку діагностичної компетентності викладачів іноземних мов з урахуванням їхньої діагностичної діяльності в системі військової освіти. Обґрунтовано, що розроблена авторська методика адаптивного розвитку діагностичної компетентності викладачів іноземних мов вищих військових навчальних закладів сприяє актуалізації, систематизації та поглибленню їхніх теоретичних діагностичних знань, вдосконаленню практичних діагностичних вмінь та навичок, що складають основу для розвитку їхньої діагностичної компетентності. Практичне значення дослідження полягає в можливості застосувати його результати для підвищення кваліфікації викладачів іноземних мов вищих військових навчальних закладів

Ключові слова: підвищення кваліфікації; методика адаптивного розвитку; професійна компетентність; контекстний підхід; професійна підготовка; педагогічна діагностика; науково-педагогічні працівники

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Modern challenges and prospects for the development of remote education: A systematic review of the literature

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Abstract. The events of recent years in the world and Ukraine (quarantine restrictions due to the pandemic and Russian military aggression) directly affect the format of educational services and create the need to introduce online education, which will guarantee all subjects of the educational process the acquisition of knowledge, preservation of life, as well as psychological and physical health. The research aims to conduct a literature review of the peculiarities of online education at the present stage in Ukraine and analyse its main advantages and disadvantages. As a result of a systematic analysis of the literature, the interpretation of the "online education" concept by various Ukrainian researchers and the peculiarities of online learning under martial law were analysed, and a detailed analysis of the main pros and cons of online education in Ukraine was carried out. The context of the new challenges (the coronavirus pandemic and Russia's full-scale invasion of Ukraine) makes distance learning strategically important for ensuring the provision of educational services and preserving the physical and psychological health of all participants in the educational process. The study confirms the active development of online education in Ukraine, with important improvements in infrastructure, teaching materials and teacher training. The importance of online education in both normal and crises is substantiated, and its advantages and disadvantages are identified. The need to learn how to use these technologies while preserving the value of personal communication in education is emphasised. The studies of foreign scholars are analysed and a comparative analysis of education in crises abroad and Ukraine is carried out. It has been found that online education is a promising and necessary form of education, it is developing very actively and can respond quickly and successfully to the needs of society. The practical significance of the study lies in its contribution to the further development of the field of educational technologies and education reform in Ukraine

Keywords: educational process; latest educational technologies; students; offline learning; traditional learning; online education

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INTRODUCTION

The new realities of social life actualise the expediency and rapid development of the online education market (Hasan & Khan, 2020). The massive spread of the coronavirus, quarantine, self-isolation, and Russia's large-scale invasion of Ukraine are the challenges that prompted the reorientation of the education system in the world and Ukraine in particular. The modern education system is designed

to fulfil its mission by creating a special online learning environment, thus preparing competent and competitive professionals who will perform their work efficiently, make complex decisions effectively and quickly, and improve themselves throughout their lives (Davis *et al.*, 2019). Online education is a unique opportunity and a way to continue the educational process in emergencies and crises, It has



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many features that make it possible to find an individual approach to each student, taking into account the peculiarities of the learning environment and the specifics of the perception of educational material (Petrenko, 2020). There are discussions about the quality of online education, its positive and negative aspects, the positive attitude of teachers and students to it, the ability to easily adapt to this learning format, etc. That is why the problem of the features, advantages and disadvantages of online education is relevant.

The analysis of the scientific literature on the above-mentioned issues determined many publications that address the problematic issues of online education, the peculiarities of its development and formation, the justification of its strengths and weaknesses, etc. For example, N. Zhyhaylo and O. Kharko (2021) focus on the advantages and disadvantages of the distance education system for higher education institutions, as well as analyse the general features of online education in a pandemic. The researchers conclude that students have a positive perception of online learning and, accordingly, a positive perception of the new education system. According to L. Shtykhno (2016), distance education is associated with non-traditional sources of information and promotes effective independent work opens up new opportunities for creativity, helps to strengthen various professional skills, and allows teachers to apply fundamentally new forms and methods of teaching, conceptually modelling phenomena, and processes. S. Khalatur *et al.* (2020) analysed the practice of using distance learning tools by higher education institutions in Ukraine and concluded that distance education can be effective and achieve the appropriate level of training after its software and technical components have achieved their goals and timely feedback from the teacher to the student. O. Horbatiuk and S. Polishchuk (2022) analyse the peculiarities of the functioning of higher education institutions during the war and the key advantages and disadvantages of offline and distance education. The researchers are convinced that of all educational levels, it is higher education institutions that have the greatest scope for variability in learning models due to the conscious age of students and their focus on results. In addition, the authors believe that online learning has demonstrated an unprecedented alternative to the traditional form of education during the crisis of the pandemic and in the early stages of the war when education was not ready for full-fledged classroom learning and could not guarantee the safety of the administration of the educational institution, teachers, and students. In contrast, in their study, A. Silenko and N. Kruk (2022) analyse how distance learning differs from part-time education and how it has affected students and teachers. The authors conclude that online education cannot fully and qualitatively replace full-time education but is only an additional tool that expands the possibilities of traditional education.

L. Tkachenko and O. Khmelnytska (2021) analysed the peculiarities of introducing online learning into the educational process of higher education institutions,

the concepts of “distance learning”, “distance education”, “blended learning”, as well as the pros and cons of distance learning for students. The researchers conclude that modern digital technologies are becoming a significant prerequisite for the success of both the educational process in general and distance learning in particular. I. Mala (2022) concluded that distance education through web technologies ensures an effective learning process and research and is a factor in the development of a skilled, intellectual, and highly professional society. E. Yashchenko and I. Levandovska (2021) emphasised that online education enables successful learning due to the comprehensive comprehensive teaching and learning support, allows the introduction of innovative educational technologies, and provides an individual learning process. O. Rudnytska *et al.* (2022) explored the main aspects of online learning in wartime and proved that the transition to distance learning requires the availability of appropriate technical, didactic, and teaching and learning support. In addition, the researchers highlighted the advantages and disadvantages of online learning for both teachers and students. O. Krychivska *et al.* (2022) analysed the peculiarities of distance education in crises and emergencies, argued that several important criteria should be considered when choosing resources for online learning and explored the main pros and cons of distance learning in higher education institutions.

Although many studies have been conducted on the advantages and disadvantages of distance education, there are still several issues that need to be explored. Therefore, the research relevance is determined by unpredictable social events, such as the COVID-19 pandemic and the war, significantly affecting the education system in Ukraine and, thus, requiring a deeper and more detailed assessment of the effectiveness of online education in times of crisis. The constant development of information technology and the changing needs of students make this topic relevant to understanding how to optimise the educational process and ensure access to it. The study is also relevant for identifying the advantages and disadvantages of online education for both students and teachers and improving teaching methods to meet current challenges.

The research aims to conduct a systematic review of the relevant literature and analyse the features of online education, its advantages, and disadvantages in educational institutions of Ukraine at various levels, taking into account current problems and challenges.

The scientometric databases Scopus, Google Scholar, and the electronic catalogue of the Vernadsky Library were reviewed using the keywords “online education” and “new educational technologies” to compile relevant research bases. Out of 70 papers in Scopus and several hundred in other databases, the most relevant to the topic were selected by the titles of the articles: those that deal specifically with the advantages and disadvantages of online education and the prospects for its development, and the comparison of forms of traditional education and online education. Priority was allocated to 40 relevant publications, mainly for 2019-2023.

In the process of studying the thematic literature, effective general scientific methods were used, including analysis, synthesis, comparative method, induction, deduction, as well as systematisation and generalisation. The method of synthesis was used to combine the components of the complex concept of “online education”, and obtain new knowledge and information; the comparative method was used to compare the main features of traditional learning and online learning, as well as to contrast the results obtained with the results of other scholars working on the study of current issues of online education in Ukraine and the world, its main advantages and disadvantages, and to explain its importance for the modern educational process; the inductive method was used to determine the conceptual and The methods of systematisation and generalisation were used to systematise the research results and present them.

ADVANTAGES AND DISADVANTAGES OF ONLINE EDUCATION FOR PARTICIPANTS IN THE EDUCATIONAL PROCESS

At the present stage of society’s development, due to numerous changes, crises and emergencies that are constantly occurring, online education is becoming relevant (Huong & Giau, 2019). A range of terms are used in the scientific literature to refer to the concept of online education, for example: “online education”, “distance education”, “distance learning”, “distance education”, “e-collaboration”, etc. For this study, the term “online education” is used. Online education is a well-thought-out, consistent, and pre-planned process that involves the development of relevant disciplines and methods, as well as educational programmes.

In Ukraine, online education is a relevant learning format, and it is actively developing and improving. This is evidenced by numerous research and monitoring studies conducted at the state level. For example, the State Education Quality Service studied the organisation of distance learning in general secondary education institutions. According to a study conducted by the State Education Quality Service in October 2021, a high level of digital literacy among teachers is observed in all regions of Ukraine, and schools mainly use a combination of synchronous and asynchronous modes in distance learning (Ministry of Education and Science of Ukraine, 2021). The study also found that almost every second educational institution (44% of the total number of distance learning institutions) posts all the necessary information on the organisation of the educational process in distance learning on their websites. The State Education Quality Service has found that when conducting online lessons, most teachers actively use tools to increase students’ cognitive activity: interactive exercises, presentations, and demonstrations, including videos and animations (Ministry of Education and Science of Ukraine, 2021).

Online education has several important features. For this format of education to be effective and bring the desired results, it is necessary to ensure an adequate level of teacher training and to set up students to study in a

distance education environment (Al-Rawashdeh *et al.*, 2021). Scientific and technological progress requires constant updating of knowledge, which contributes to the timely revision of curricula and teaching methods, improvement of the educational process, and enhancement of the competence of teachers of an educational institution (Beznosiuk & Ostapchuk, 2020). Equally important for the organisation of an effective distance learning process in any educational institution is its proper material, technical, scientific, and methodological support (Sadeghi, 2019). In addition, it is necessary to focus on the teachers’ training for classes, as it should be thorough and thoughtful (Kviatkovska, 2022). For example, Z. Kovalchuk (2012) emphasised that for the successful implementation of distance learning, a range of requirements must be met, which recognise the expediency of analysing distance learning technologies and synthesising the most optimal ones to adapt to modern conditions. This includes, first and foremost, a systematic understanding of the essence of distance education and its didactic features, the use of the most effective foreign pedagogical technologies adapted to domestic conditions, and the development and testing of own distance learning technologies. In particular, when selecting resources, tools and platforms for online learning, several criteria should be considered, including:

- versatility – the ability to use a single platform for all types of activities;
- effectiveness – online tools and resources should be useful in achieving the expected learning outcomes;
- accessibility – especially for those applicants who need special education;
- user-friendly interface for students of different levels;
- security – the platform for collecting personal data of teachers and students should be minimised, and different devices and operating systems should be used (Todd, 2020).

T. Sydorenko *et al.* (2021) also note that it is necessary to continue creating resources and services for distance education that can ensure uninterrupted and high-quality communication between participants in the educational process to achieve the objectives of educational activities. This will create a single information and educational space that accumulates the necessary resources and databases required by modern teaching practices.

Under martial law, online education is characterised by several other important features. In particular, preparation for classes should include elements of support, interesting forms of motivation for students, and a willingness to quickly stabilise their state of mind and communicate sincerely. Students from the area of direct hostilities may sometimes be in a difficult life situation, show rudeness or aggression, and therefore need to be provided with quality psychological support. Online education in wartime is characterised by such features as teaching tolerance, humanity, mutual assistance, and love of life for peace; it also promotes calmness to some extent and prepares for humanity exams. The knowledge and skills acquired through distance learning can help students become mature and

independent, strong, and adaptable to difficult conditions, as real life encourages them to constantly learn and use knowledge in practical activities.

Between 6 and 13 May 2022, the State Education Quality Service conducted an anonymous online survey of students and academic staff of higher education institutions of all types and forms of ownership on trends in the organisation of distance learning in higher education institutions in the 2021-2022 academic year under martial law. Approximately 27 thousand respondents from 54 higher education institutions took part in the survey. The survey revealed

that the most pressing challenge for the education system under martial law is the quality of the educational process. First and foremost, it is to ensure that consumers of educational services receive the necessary information without hindrance, to establish interactive interaction between all participants in the educational process, to provide students with the opportunity to work independently with educational materials, etc. (Analytical report on trends..., 2023).

The advantages and disadvantages of online education for teachers and students at vocational pre-university and higher education institutions are presented in Table 1.

Table 1. Advantages and disadvantages of online education for teachers and students of vocational pre-university education and higher education institutions

Advantages of online education for teachers	Disadvantages of online education for teachers
<ul style="list-style-type: none"> ● a significant reduction in commuting time and, consequently, an increase in free time; ● the possibility of video recording classes, creating presentations and storing online classes with students in video format for those students who were unable to attend seminars or lectures; ● the ability to stimulate the voluntary work of students and adjust curricula following the current conditions of distance learning; ● having more opportunities than ever to use new teaching methods and tools to make their subjects more engaging and informative; ● the opportunity to invite other lecturers, well-known specialists and representatives of various professions who have significant experience, can share it and motivate students; ● access to many new opportunities through innovative technological resources, which greatly simplifies work and increases the availability of information; ● the ability to immediately stop synchronous interaction with students in the event of an air raid or other danger. 	<ul style="list-style-type: none"> ● effective work requires a thorough knowledge of the use of various platforms and resources for online learning for students; ● low activity of students during online classes, which is difficult to control, as not all students can join the class on time, turn on the camera, etc; ● the necessity for constant self-improvement, mastering modern techniques for effective online classes; ● poor psychological state of students, and often even physical inability of students to continue their studies, which hinders the conduct of classes and disrupts teachers' plans; ● teachers need to carefully prepare for each lesson, think through its course and select a large number of materials; ● the presence of technical malfunctions that sometimes prevent classes from being held.
Advantages of online education for students	Disadvantages of online education for students
<ul style="list-style-type: none"> ● the ability to choose a convenient place to study; ● the availability of great opportunities to combine work and study, and thus simultaneously improve their financial situation and gain practical knowledge and skills; ● ease of contact with teachers via email, chat, messenger, remote platforms or social media; ● greater opportunities for shy and insecure learners to learn and interact with others more easily; ● students with disabilities can study from home, communicate with their peers and receive education. 	<ul style="list-style-type: none"> ● limited live communication with classmates and teachers; ● lack of personal contact between students and teachers; ● frequent deterioration of mental health and loss of motivation to study; ● difficulties in adapting to the new rules and conditions of study; ● lack of opportunity to experience student life to the fullest; ● technical difficulties and lack of necessary gadgets that prevent students from accessing online classes; ● lack of knowledge and skills in independent work and effective time management; ● lack of motivation to learn due to a lack of understanding of the importance of online education; ● inability to focus on learning due to numerous external distractions.

Source: compiled by the author based on scientific material analysis (Prybylova, 2013; Yaroshenko, 2019; Baryshnikova & Avlasenko-Kanarovych, 2020; Ivanov & Ghosh, 2021)

Thus, the study shows that at the present stage, Ukraine is actively developing online education and improving it. Internet platforms for the provision of online educational services that meet all the requirements have already been formed, various educational materials, programmes and courses have been developed, specially trained teachers are

used to this format of education, and students are getting used to learning with the help of the latest technologies, etc. It is proved that online education is a technology of the future that can be used in all education systems, during crises and emergencies, and also to carry out a wide range of tasks of education, upbringing, training and personal

development. It is determined that online education in Ukraine has its peculiarities, advantages and disadvantages that need to be considered. Innovative technologies will not replace live communication between students and teachers, but each problem gives rise to new opportunities: for teachers – to learn how to use digital technologies in the educational process, and for students – to learn how to acquire knowledge independently.

COMPARATIVE ANALYSIS OF TRADITIONAL AND ONLINE LEARNING IN THE WORKS OF SCHOLARS

The scientific literature contains many publications on traditional and online education, especially during the period of the pandemic and coronavirus restrictions that affected almost all countries of the world (Yuhanna *et al.*, 2020). It is worth noting that while there is a lot of information about the impact of the pandemic on education systems around the world, very little has been written about the impact of other crises on education. At the present stage, Ukrainian scientists pay considerable attention to various problems of online education and find effective solutions for its development and improvement of the educational process (Horbatiuk & Polishchuk, 2022). For example, researchers V. Zhykharieva *et al.* (2020) identified and analysed the main methods of distance education, and its types, and noted that distance learning does not stand still and is constantly evolving, so the main task for the scientific community is to search for and scientifically substantiate new methods, techniques, and types of learning and to justify their features, the feasibility of using them in certain conditions.

However, various perspectives, challenges and problems of online education are widely considered by foreign scholars, including Chinese, American, European and others. For example, K.D. Rajab (2018) compared the effectiveness of online learning with traditional forms by analysing the experience of such learning at Najran University, which suspended traditional offline classes due to the war between the Arab Coalition, Saudi Arabia and Yemeni rebel groups. K.D. Rajab (2018) identified the potential benefits of distance learning in crisis zones and concluded that there is no statistical or practical difference between distance and traditional learning, and therefore online technologies can be used to teach in war-torn regions. It is difficult to agree with the statement of K.D. Rajab (2018) regarding the fact that there is no difference between distance and traditional learning, as this study, and several others, show that there is a difference. It may not be noticeable at first glance, but it is there.

The problems of online and traditional learning in terms of preferences and behaviour of students were studied by V. Gherheş *et al.* (2021). These researchers found that during the COVID-19 pandemic, online learning has become an important alternative for reforming the entire traditional education system, and both teachers and students have had to change their behaviour, teaching or learning style, assessment methods, etc. According to

scientists, online learning has brought several benefits, but also caused some tension and frustration among participants in the educational process, showing that it is worth modelling the behaviour of all parties involved to streamline the educational process, especially in higher education institutions, and to ensure the sustainability of education. Concerning the positive aspects of distance learning, these scholars concluded that students noted that the main advantage of online learning was time savings, followed by comfort, which allows them to study and stay at home, and accessibility provided by the online environment. As for the negative aspects, the main disadvantage of online learning compared to traditional learning, as shown by the study by V. Gherheş *et al.* (2021), is the lack of interaction, in particular the lack of communication with peers, various technical problems that arise during connection, as well as the lack of practice and the ability to apply the acquired knowledge in practice.

Korean scientists T.E. Shim and S.Y. Lee (2020) analysed the experience of South Korean college students in emergency distance learning due to the spread of coronavirus and noted that the advantages of online education are a comfortable learning environment, established interaction and efficient use of time, and the researchers identified the following disadvantages: reduced concentration of students on learning and network instability. It is difficult to disagree with the mentioned advantages and disadvantages of online education, as they are among the main ones that exist in the Ukrainian system.

D.T.H. Dung (2020) suggested that online education is teaching in a learning environment where the teacher and students are separated by time, space, or both, and the course content is delivered via the Internet, multimedia resources, video conferencing, etc. Among the advantages of online learning, D.T.H. Dung (2020) also highlights the flexibility, cost-effectiveness, and convenient access to learning materials, while the disadvantages include long hours of online classes, which causes fatigue, boredom, and loss of concentration, as well as heating of electrical gadgets after prolonged online learning. The statement about gadgets heating up is interesting, but this study did not find it to be significant or to have a significant impact on online learning in Ukraine.

S. Greenhow *et al.* (2022) in their study described some of the challenges faced by higher education, as well as the technological resources and methodologies used to transform higher education into digital education. The authors noted that there is an urgent need to change the way schools teach gave examples of distance learning opportunities, and stressed that teachers' efforts, technological skills, self-confidence, skills, and experience need to increase. The results of this study showed that online education is promising and that the learning process can be enjoyable for both students and teachers.

Romanian researchers C. Coman *et al.* (2020) analysed how Romanian universities adapted the educational process to online learning during the pandemic. The results

of their study showed that the main disadvantages of online learning are technical problems, lack of technical skills of teachers, outdated teaching style that is not sufficiently adapted to the online environment, as well as lack of familiar interaction with teachers and poor communication with them. The shortcomings identified by Romanian researchers are important, they have a direct impact on the educational process and should be considered when organising and delivering distance learning.

Polish researchers, in particular M. Bączek *et al.* (2021), note that the success of online education depends on many factors, including accessibility, use of appropriate methods, tools and instruments, course content and assessment criteria. Among the advantages of online education, they highlight increased convenience, time flexibility, access to educational resources regardless of location and time, as well as reduced costs and air pollution, such as reduced carbon dioxide emissions due to reduced traffic, while the main challenges include problems with Internet access, poor quality of Internet connection and insufficient digital skills of teachers and some students. According to these scholars, some of the advantages of online learning can also be disadvantages, for example, the flexibility of time can harm those students who have difficulties with self-discipline. This opinion is quite reasonable, as some Ukrainian students also have problems with self-discipline, and therefore what will be an advantage for some will be a disadvantage for others.

P. Fidalgo *et al.* (2020) conducted a study on the features of online learning in Portugal, the United Arab Emirates and Ukraine. The researchers found that the advantages of such learning are the flexibility of time and space and time savings, as there is no need to travel to an educational institution; among the disadvantages, the researchers noted a sense of isolation, the struggle to maintain motivation, the lack of face-to-face interaction, difficulties in receiving immediate feedback, as well as the need for constant and reliable access to technology, and sometimes some difficulties with accreditation. Thus, despite the differences in the education system in the countries studied, and different values and approaches to learning, the advantages and disadvantages of distance education are common to all countries and have been noted in the present study.

B. Swanson and A. Valdois (2022) surveyed 27 students from China who shared their observations on how education in China has changed. The results of the survey showed that, for the most part, before the coronavirus pandemic, students had a negative attitude towards online education, as most universities had significant technical and implementation barriers to online learning. However, due to the pandemic, educational institutions were forced to invest in digital educational infrastructure, and thanks to the experience, most students changed their minds.

F. Ferri *et al.* (2020), analysing the opportunities and challenges of distance education, note that there are some technological, pedagogical, and social problems. Technological problems are mainly related to the unreliabil-

ity of the Internet connection and the lack of necessary electronic gadgets for many students; pedagogical problems – to the lack of digital skills of teachers and students, structured content compared to the abundance of online resources, as well as insufficient interactivity and motivation of students, and the lack of active participation of teachers in the learning process; social challenges are mainly related to the lack of human interaction between teachers and students. The problems identified by scientists are indeed important and need to be addressed, as their impact on the organisation and delivery of online learning is significant.

J. Baxter *et al.* (2022) conducted a study that examined the planning of the educational process during and after the coronavirus epidemic. The authors concluded that most schools have made progress in terms of distance education, but some schools have not succeeded due to a lack of experience and a belief that education should be delivered in schools. These schools usually lack equipment and funding for development.

Thus, online education is the subject of research by many scholars, as this format of education is becoming increasingly relevant and accessible today. Distance learning has numerous advantages, but it is not without its drawbacks, which need to be addressed and worked on.

CONCLUSIONS

The study emphasises that online education in Ukraine has developed significantly and has become an important component of the educational process in various educational institutions. It has been found that this form of education allows students to study in any convenient place and use their time effectively. Students have access to a large number of different learning resources and materials. In the current challenging environment, online education is developing dynamically, a solid foundation has been prepared, various learning materials, courses and programmes have been developed, teachers and students have been trained for the new learning format, etc.

Online education in Ukraine has several unique features, as well as advantages and disadvantages within the educational process in institutions of different levels. The study identified the advantages and disadvantages of online education for teachers and students of general secondary education institutions and teachers and students at vocational pre-university and higher education institutions. The significant advantages of online education for all participants include the ability to conduct classes and study at any convenient location, saving time on the way to work or study and, accordingly, increasing the amount of time for rest, access to a large amount of information, learning resources and new opportunities, etc. The biggest disadvantages of online education include the lack of live communication between participants in the educational process, various technical difficulties, lack of thorough knowledge for effective online learning and teaching, etc. This study does not cover all aspects of the issue, as the development

of online education is ongoing, new technologies are being actively introduced and new resources are being developed that require study and analysis. The conclusions point to the need for further development and improvement of online education in Ukraine, as well as the consideration of these results in the planning and implementation of educational programmes. For future research, it may be important to analyse the psychological aspects of online learning

in crises and further study its effectiveness and impact on the quality of education.

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CONFLICT OF INTEREST

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Сучасні виклики та перспективи розвитку дистанційної освіти: систематичний огляд літератури

Анотація. Події останніх років у світі та в Україні (карантинні обмеження у зв'язку з пандемією та військова агресія з боку Росії) безпосередньо впливають на формат надання освітніх послуг та створюють необхідність впроваджувати онлайн-освіту, яка гарантуватиме всім суб'єктам освітнього процесу здобуття знань, збереження життя, а також психологічне й фізичне здоров'я. Мета статті – провести літературний огляд щодо особливостей онлайн-освіти на сучасному етапі в Україні, проаналізувати її головні переваги та недоліки. У результаті систематичного аналізу літератури в роботі висвітлено, як тлумачать поняття «онлайн-освіта» різні українські дослідники, проаналізовано особливості онлайн-навчання в умовах воєнного стану, здійснено детальний аналіз головних плюсів та мінусів онлайн-освіти в Україні. Зазначено, що в контексті нових викликів (пандемія коронавірусу та повномасштабне вторгнення Росії в Україну) дистанційне навчання стає стратегічно важливим для забезпечення надання освітніх послуг та збереження фізичного і психологічного здоров'я всіх учасників освітнього процесу. Дослідження підтверджує активний розвиток онлайн-освіти в Україні, з важливими покращеннями в інфраструктурі, навчальних матеріалах та підготовці педагогів. Обґрунтовано важливість онлайн-освіти як у звичайних, так і в кризових ситуаціях та визначено його переваги та недоліки. Наголошено на необхідності навчитися використовувати ці технології, зберігаючи цінність особистого спілкування в навчанні. Проаналізовано статті зарубіжних науковців та проведено порівняльний аналіз освіти під час кризових ситуацій закордоном і в Україні. Виснувано, що онлайн-освіта – перспективна й потрібна форма навчання, вона дуже активно розвивається та може швидко та вдало реагувати на потреби суспільства. Практичне значення дослідження полягає в його внеску в подальший розвиток сфери освітніх технологій та реформи освіти в Україні

Ключові слова: освітній процес; новітні освітні технології; здобувачі освіти; офлайн-навчання; традиційне навчання; онлайн-освіта

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