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Development of communication skills through the introduction of interactive teaching methods in English lessons

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Abstract. The relevance of the study is due to the need for new educational programmes that will diversify the educational process and increase the effectiveness of language knowledge in live communication. The purpose of the study is to examine the main aspects of using interactive teaching methods in English lessons, considering the development of students' communication skills. The following methods were used in the study: analytical, synthetic, comparative and comparative, which allowed delving into the theoretical aspects of using interactive teaching methods; observation and generalisation of experience, which became the main ones for this study, since their use considered the main positive phenomena in the field of interactive learning in recent years; the analysis was also used to assess the development of communication skills in the process of learning a language. The analysis of the main methods (project creation, interactive, and role-playing games, discussions) and forms of work that can be used in English lessons to develop communication skills is conducted. An assessment of its effectiveness in the application of communication skills has been added to the characteristics of each of the methods. Conclusions on the effectiveness of interactive methods are drawn, considering the age and level of knowledge of students. The basics of implementing interactive learning in an English lesson, in particular, communication between participants in the educational process (student – teacher – student), are considered. The expediency of using various online applications in mastering a foreign language in the classroom and outside of school hours is justified. The results of the study are compared with the results of other studies on this subject related to communication processes in English lessons and interactive learning. The study can be used to further investigate the impact of interactive methods on different student classrooms, for example, during experiments (conducting surveys and questionnaires), considering key educational issues related to the development and implementation of new curricula

Keywords: form of work; role-playing; discussion; project creation; communication; online training applications

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INTRODUCTION

The introduction of interactive methods in foreign language lessons is an important component of the communication process because, through the game nature of the interaction between students and the teacher, close ties are built, which implies an increase in interest and activity on

the part of students. Through interactive teaching methods, a communicative environment is formed in which it is comfortable to learn new tokens, discuss everyday problems, enter into discussions, formulate and express one's own thoughts.



The examination of the main stages of formation and development of communication skills is an important element in the educational process since it is through communication that it is possible to fully immerse oneself in the speech environment and master language patterns at different levels – from phonetic and lexical to syntactic and stylistic. That is why this study is relevant today. The interactive learning format involves engaging interesting and useful forms of work that can be used to model communication situations and solve problems that arise between speakers on the way to understanding. In English lessons, interactive working methods should be actively used to overcome communication barriers and minimise communication failures when using the language in the future (Longnecker, 2022).

The relevance of the examination of methods and forms of work in learning a foreign language is primarily due to the need to choose interactive exercises and game materials for learning that will be most effective for developing the ability to communicate. Since the process of developing communication skills should take place gradually, considering age-specific features and the level of knowledge, it is important to understand which tasks are best used for a particular category of students.

V. Lehan *et al.* (2021) emphasise that globalisation has contributed to the diversity of communication in the educational process during teaching a foreign language. The paper examines interactive methods used in distance learning. A study by Y.V. Zhupan (2021) is aimed at using interactive technologies in learning English, in particular, various methods and forms of work are considered. The author shows how to form a curriculum based on the psychological characteristics of students.

In the paper by T. Grigoreva *et al.* (2021), main focus is on case-learning methods, projects and business educational games, and modern educational technologies for improving speech skills in learning foreign languages, including using multimedia tools, are also considered. Researchers Y.D. Novia *et al.* (2022) emphasise that learning through interactive technologies has a positive impact on the current generation, which is in contact with technological devices from an early age.

H.C. Soon and A.A. Aziz (2022) address the challenge of increasing creativity in lesson planning and increasing learning flexibility. The authors highlight that the transition from attending lessons to an online format is also characterised by a transition from conventional teaching methods to more interactive ones. A study by F. Tuma (2021) is aimed at discussing and evaluating the use of educational technologies through the introduction of interactive learning methods. The author states that the use of technology facilitates communication and promotes interactivity.

The purpose of this paper was to examine and generalise the pedagogical experience of introducing interactive technologies in English lessons and their impact on the development of communication skills of schoolchildren of different ages, the formation of links between interactive and communicative factors in the educational process.

MATERIALS AND METHODS

The theoretical basis of this study was research related to the examination of the impact of the introduction of interactive technologies in foreign language lessons, in particular, the consideration of various game methods and forms of work that involve communicative interaction in learning. The studies of modern teachers are aimed at effective communication processes in the classroom to further use the language resource of students in everyday life and profession. They are related to the examination of pedagogical experience in different countries of the world with a focus on the main advantages and disadvantages.

Methods of analysis and synthesis were used to examine key aspects of the communication process in the classroom, the specific features of communication between students and teachers, and ensuring interaction in the classroom. Attention was focused on the study of interactive technologies necessary to create all the conditions for mastering English. The main theoretical characteristics of various teaching methods and forms of work that can be used in English lessons were also considered.

Comparative methods in this study were used to compare the effectiveness of various interactive methods and forms of work in the educational process, in particular, such methods as discussions, interactive and role-playing games, and project creation were considered. These methods were also compared in terms of age-specific features and level of knowledge, that is, it was indicated which tasks and exercises would be relevant for junior, middle, and high school students.

Methods of observation and generalisation are used to examine pedagogical experience from the standpoint of using various interactive technologies in English lessons. It was indicated what communication skills were formed when applying a particular method, how their development was ensured from primary to middle and high school age students. Examples of forms of work, tasks, and exercises that can be used to improve communication skills were also considered, and the role of relations between students and teachers in the process of communicative interaction was noted.

Analysis related to the assessment of various methods and forms of work in English lessons was also used, in particular, when modelling problematic communication situations, conducting discussions in various formats, creating projects and implementing interactive and role-playing games. Each method was considered from the standpoint of how it can be useful for improving communication skills, improving communication in a team or group, establishing communicative trust between students and teachers, etc. In addition, the role and effectiveness of each method and form of work were evaluated in terms of overcoming communicative and social barriers between communication participants.

RESULTS

Forms of interactive approach to teaching English

The purpose of the interactive approach to learning is to create educational conditions in which active interaction of

students will be ensured and conditions will be created for the formation of a holistic personality capable of learning and understanding new information. The main objectives of interactive learning are to increase interest in subjects and intellectual activity and create conditions for competition between students in the process of collective problem-solving and overcoming contradictions.

The principles of interactive learning have a communicative basis, in particular, the establishment of friendly connections between all participants in the educational process, the observance of a friendly style of behaviour during communication and ensuring interaction between students and teachers. Communicative competence is a prerequisite for the development of intellectual abilities and

professional activities, and communication skills are considered as individual psychological properties that help the student to realise personal development, socially adapt, and receive information independently. They provide effective interaction between communicants when performing joint activities. Communication skills include various skills: responding to criticism of various types, provoking behaviour, making requests, refusing, showing empathy and support, and interacting with acquaintances and strangers (Samofalova, 2022).

Various interactive methods are used in school practice, including discussion, interactive games, case technologies, role-playing games, project methods, etc. Depending on the age of students, different forms of work are used (Table 1).

Table 1. Forms of work in English lessons

Junior classes	Middle classes	High school
Words-associations games	Modelling of a communicative situation "In a medical institution", "In a library", "In a cinema", etc.	Conducting online interviews with native English speakers
Description of items shown on the cards	Various forms of discussion: "round table", "brainstorming", "symposium", "conference", etc.	Creation of projects and discussion of cinema and contemporary musical art
Acting out small scenes with fairy-tale characters	Discussion of a specific problem in the talk show format	Modelling of the communication situation "Job Interview"
Conducting quests	Continuation of a short story (for example, a literary work)	Competitions in groups with the implementation of a specific communication task

Source: created by the authors based on their own research

Implementation of the discussion method during English lessons

Discussion is a method of debate aimed at resolving controversial issues in the process of comparing different views, which develops reflective thinking and encourages students to be active. Among the types of discussions used in English lessons, the following can be distinguished: "forum", "round table", "symposium", "brainstorming", "conference", "debate". The preparatory stage is to discuss a particular problem in groups or pairs, create dialogues, or learn new vocabulary. Each panelist is given the floor, after which each speech is analysed. In the course of such discussions, speaking skills are improved.

Round table is a collective game for solving a common problem in the classroom, a forum – a platform for communication and expressing different positions on a given subject, a symposium – modelling a meeting, a scientific conference with the aim of investigating a certain scientific issue (requires preparation for discussion, in particular, during the search activity in groups), "brainstorming" – a method of finding creative ideas and solutions, which provides for a joint solution of a certain scientific problem, a conference – meeting to discuss a certain problem, a debate – dialogue in which students defend different positions on a particular problem.

The discussion method is also used in English lessons in such forms of work as "summing up results" – this is an analysis of the activities of teachers and students, their

achievements and planning further work based on this. "Circle of ideas" is a method that allows solving acute and controversial issues in groups (the same task is offered for all students).

"Aquarium" is a form of work in which students are distributed to 4-5 people who get acquainted with the tasks, and then each of the groups presents its own solution to the problem. Students take turns evaluating how others have completed their tasks. A "talk show" allows the teacher to control communication processes, and a "microphone" is used to give a word to each participant in the discussion (Moyko, 2020).

The method of discussion with different work options is usually used in English lessons in grades 7-11, but discussion can be practised from grade 5 to gradually develop communication skills. In particular, in the course of discussions, the following skills are formed: convincing another person during a conversation, arguing their opinion, negotiating on a given subject, and speaking clearly about a particular issue.

Interactive game as a form of work in English lessons

Interactive play is one of the most productive pedagogical methods that create the necessary conditions for showing the communication skills of the maximum number of participants (Sukerni & Purnami, 2019). In the format of an interactive game, various competitions in small groups to increase the activity of students can be held.

The word association game in English lessons involves a teacher or one of the students writing keywords, while others add their own associations to the line. For students in grades 1-4, it is better to take specific objects or phenomena: for example, "cloud" (keyword) – "rain", "wind", "sky" (associative series), "flower" (keyword) – "ground", "beauty", "green", "red" (associative series). For students in grades 5-9, the vocabulary can be used to refer to abstract names: "wealth" – "money", "house", "car", "sincerity" – "truth", "tears", "heart".

The following game can be used to develop the skill of constructing questions: one of the students thinks of a certain famous person, and the other participants try to guess it by asking questions. The development of communication skills consists in working out simple interrogative and affirmative sentences that are most often used in the communication process. For example, if one of the students thinks of Taras Shevchenko, the dialogue between the students may look like this: "Is it a woman or a man? – This is a man. – Is this a Ukrainian or a foreign figure? – Yes, he is Ukrainian. – Is this a singer? – No, it's not a singer. – Maybe it's a writer? – Yes, this is a writer. – A modern writer? – No. – Is this Taras Shevchenko? – Yes, that is the correct answer."

Such a game can be offered: the teacher guesses a certain type of activity, and students try to guess which profession was guessed. This game helps motivate students and eliminates communication barriers, in particular, it will be effective for junior and middle school pupils when learning vocabulary on the subject of "professions".

A subject description is a game that involves describing a word or stable construction using language tools without naming the root of the word and without using nonverbal communication. This item can be shown on the card. This form of work is relevant when learning English for students of junior (1-4) and middle (5-7) grades to develop coherent speech and develop skills of quick response to questions.

Chain story is an interactive form of work aimed at developing logic and imagination, involves the continuation of the story. The development of vocabulary and grammatical patterns is the main advantage of this method. In addition, children develop speaking skills and creative abilities (Samofalova, 2022).

During the interactive game, students learn new vocabulary, grammatical and syntactic constructions of the English language, learn creativity, work on creative tasks, which allows them to form a certain interest in the communicative act, go beyond the comfortable speech zone. Students perceive the lesson as a game, so learning about the world and the basics of communication takes place directly and unobtrusively.

Role-playing as an interactive method of developing communication in schoolchildren

Role-playing games contribute to the development of communication, in particular, they develop dialogical speech skills in the process of interpersonal communication (Godovanets & Legan, 2019). In addition, during role-playing games, practical skills of cooperation and partnership are

formed. Students learn to apply the learned lexical material directly when communicating.

For high school students in an English lesson, the situation "Interview during employment" can be simulated. Previously, a certain group of students is given the task to write their resume, while others prepare questions for those who want to get a job. The teacher can prepare certain templates that students will focus on. For example, questions may include: What salary do you claim? What are your main advantages over other candidates? What hobbies do you have? Do you easily find a common language with people? What are your positive and negative qualities? Why do you want to work with us? How do you rate your own professional level?

Interviews are a form of role-playing that helps develop communication competence (Samofalova, 2022). The situation of communication is played out within the framework of a dialogue or polylogue, which is based on a certain plot. In the course of this, students learn to quickly respond to questions and statements, choose the appropriate style, and build communication strategies. Certain roles can be played to simulate situations: librarian, medical worker, lifeguard, or police officer. Such reproduction of reality allows preparing children for various communicative situations and expands the vocabulary of professional vocabulary.

For middle and high school pupils in English lessons, the method of online interviews with foreigners who are native English speakers can be used. Interesting people who speak good English can be also invited to the lessons. This format of practical classes allows immersing oneself as much as possible in the language environment, overcome communication barriers and difficulties in the communication process. In the course of such conversations, students learn to perceive and understand English in real time, read cultural codes and form certain speech patterns, in particular, grammatical and syntactic ones (Moyko, 2020).

The method of role-playing games is closely related to the method of case technology, which involves simulating certain communication situations to develop communication skills in real conditions. When using this method in foreign language lessons, it is necessary to formulate a problem, analyse a certain situation, suggest solutions to it, and choose the most correct option according to the audience's opinions. After receiving the task, it is necessary to clearly explain to students what is meant. The case study method allows building communication strategies in accordance with various communication situations.

In the process of role-playing games, the following communication skills are formed: the ability to quickly answer questions, solve problems, and respond to conflict situations, conduct a dialogue and feel confident when communicating with different people, regardless of age, gender, or social status. Role-playing provides an opportunity to tune in to a certain communicative situation, model one's own speech behaviour, and assess how the interlocutor perceives certain verbal and nonverbal reactions. In the course

of active communication, students achieve their communication goals, gain practice in programming and communication management.

Applying the project method to develop students' communication skills

The project method is used to identify and solve a specific research problem, that is, the learning process becomes pragmatic. An individual and creative atmosphere is created for conducting search and cognitive activities. Research work in an English lesson consists of several stages: first, a subject is selected, then a plan is drawn up, information is collected and drawn up in accordance with the project goal. The presentation is aimed at developing the ability to speak publicly and prove one's own opinion through arguments (Samofalova, 2022).

The project method is usually used to develop communication skills in students of middle (7-9) and high school (10-11) grades. It is necessary to teach children to speak publicly gradually, in particular, the teacher should start with group work and later can move on to teaching kids to create projects by themselves. Subjects for them should be chosen based on the interests of students, their cognitive and creative abilities. For example, the students can view certain tourist sites and develop routes, assess the influence of various historical figures, and create online materials on first aid. Interesting categories are "sports", "cooking", "architecture", "art", "psychology", "music", "cinema", "school of my dreams", etc.

Holding a court session in an English lesson, for example, in relation to a certain literary character, is used to find constructive answers. Communication skills are formed through the improvement of lexical stock and grammatical knowledge, argumentation of one's own opinion, and rapid response. In the course of projects and interactive games, a cluster is often used – this is a form of graphic organisation of information when certain semantic units are examined

based on connections between them in the course of individual, group, and collective work. A cluster develops systematic thinking, comparisons, and analogies.

The method of project work in the English lesson is focused on developing coherent speech, expressing one's own thoughts, and overcoming the fear of public speaking. In particular, this approach to learning English allows getting rid of communication barriers, promotes comfortable communication with classmates and creative self-development. As a rule, a group of people is involved in creating projects, which, after working on the subject, should come to general conclusions. Thus, the whole process and result is focused on communication and mastering professional vocabulary on a particular subject.

Implementation of interactive learning using applications

When learning English, various applications are used, in particular, "Quizlet", "Kahoot", "iSpring", "Plickers", etc. On the Quizlet resource, it is convenient to create sets of cards with unfamiliar words and their definitions for learning vocabulary. It is convenient to combine them into modules, folders, or courses. The app can be used as a personal dictionary for self-testing purposes, i.e. adding words that the students need to remember. Each student can track their own learning progress. Learning vocabulary is definitely an important step for successful communication.

The educational and gaming platform "Kahoot" allows implementing a gamified approach to learning, that is, to develop interactive educational games that allow learning the necessary information faster and easier. through games, students practice rapid response skills in the "question – answer" format (Fig. 1). "Cambridge English" games hosted on this platform help students learn English not only during the lesson, but also at home and on vacation. Younger students can complete tasks to repeat the Pre-A1 level, and for secondary school students, levels A1 and A2 can be used.

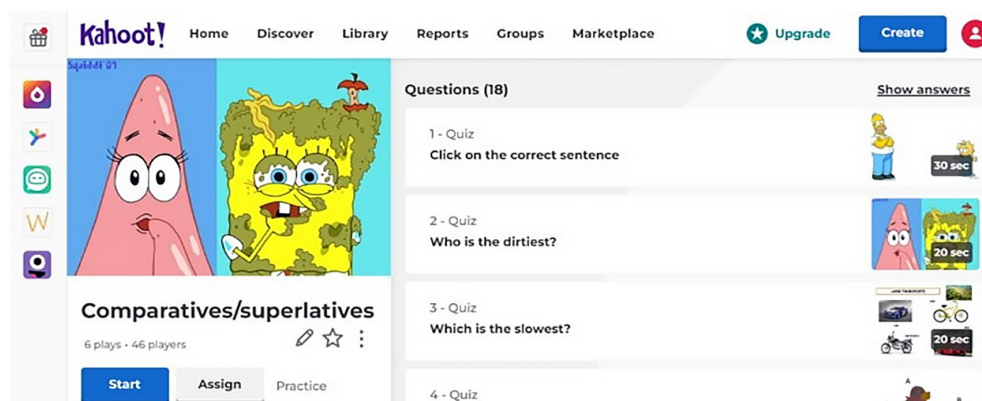


Figure 1. Using the Kahoot app in an English lesson

Source: A.D. Mykytiuk (2023)

The iSpring app can be used to create interactive lessons and training videos. Equipping the dialogue simulation function helps in the development of communication

skills, in particular, to perceive English by ear. The ease of use and no problems with content playback are notable. The web platform "Iscollective" contains a large number of

tasks (including in the form of games) for reading, listening, practising lexical and grammatical skills, and various materials on learning English from around the world.

"Plickers" is used for testing, in particular, tasks are displayed on the screen, and students' answers are scanned using interactive cards with a QR code. Students' answers are immediately read, which allows them to quickly evaluate the test results after writing. This app can be used when listening. The Zoom platform is used for conducting online lessons. In this format, it is convenient to hold conferences, discuss certain problems, and model communication situations.

Thus, the examination of interactive methods of work showed that they are aimed at developing various communication skills: the project method helps to implement cooperation in groups, role-playing games allow reproducing communicative situations, practice quick response in the "question – answer" format, discussions are used to form and express one's own opinion, and interactive games allow forming communication patterns in direct communication.

DISCUSSION

In the course of the study of interactive methods and forms of work in the English lesson, it was determined that they help to ensure direct communication and language learning is conducted in an unobtrusive format. S.F. Omar *et al.* (2020) indicate that the three key factors that affect students' communication skills are: self-confidence, motivation, and the learning environment, and interactive activities in the classroom encourage overcoming communication problems. In addition, the use of game forms of work contributes to the activation of informal communication, in which communication barriers are overcome.

Interactive teaching methods activate students' activities and direct them to communication and discussion, in particular, not only among students but also between students and the teacher. The mode of teaching English in China, as noted by T. Pu *et al.* (2021), has certain shortcomings, in particular, the interaction between teachers and students is not presented at a sufficient level. The authors note that interactive teaching methods should be used to mobilise attention in the classroom. In this study, the main forms of work related to role-playing, interactive games, creating projects, and conducting discussions were considered.

S.Z. Ntshangase (2022) emphasises that interactive technologies aim to make knowledge producers not only for students, but also for teachers. When using various interactive forms of work in English lessons, it seems that the teacher and students are at the same level of communication, formal communication seems to become informal, which reduces the risks of communication failures.

During English lessons, it is necessary to combine conventional teaching methods with interactive ones, because this way the most effective result can be achieved. A.C. Jabir (2021) focuses on comparing the productivity of the educational process and the achievements of students in the process of using interactive and conventional teaching methods when learning English as a foreign language. In

the study, it was noted that interactive methods of work are primarily aimed at the formation and development of communication skills, while conventional methods form basic speech skills: lexical, grammatical, syntactic.

Since modern students are better able to remember information in an interactive form, it is important to use all possible tools to achieve goals. H.A. Saed *et al.* (2021) show that using YouTube in the classroom can improve the smoothness and coherence of students' speech. The use of interactive exercises in modern applications allows developing communicative competence since they implement modern educational strategies, in particular, aimed at the simultaneous formation of writing, speaking, reading, and listening skills.

Research M.K. Al-Alawneh *et al.* (2019) showed that communication skills directly affect social and presentation skills. In the course of interactive learning, it is the social interaction between participants in the communication process, in particular, students in pairs, groups, and the classroom, that plays an important role. Skills of expressing one's own thoughts, solving communicative tasks and options for action in various communicative situations are developed.

Pedagogical experience is based on various methods and forms of work, and on the level of their effectiveness in communicative terms. T.H. Bui (2022) systematises the current experience of integrating interactive technologies and popularising digital education among English teachers. According to the results of this study, interactive technologies are closely related to digital technologies, in particular, the use of applications for Learning English can be useful for developing communication skills.

The study of interactive technologies has shown that communication skills can be formed in English lessons using various methods: discussion, role-playing and interactive games, project work. R.A. Prayudi *et al.* (2021) note that interactive technologies promote language skills, develop creativity, and provide exciting alternatives for learning a foreign language. The communicative orientation of the considered methods is focused on gaining confidence and overcoming barriers in communication.

Changing different methods and forms of work during the English lesson is necessary, because, in addition to mastering subjects and practising written tasks, the ability to communicate is important. E.E. Mbuti (2022) in an experimental study concludes that an interactive approach to learning has a positive effect on students' activity when communicating with each other. Focusing on a specific task, especially in group or collective work, increases students' motivation to learn.

Watching videos and listening to audio form the skills to better perceive English by ear. A study by N.R. Putri *et al.* (2022) focuses on investigating the impact of the "Flipgrid" video app on younger pupils. The results of the study showed that digital and information technologies have a positive impact on the development of interactive tasks aimed at increasing the level of communicative competence.

The main goal of interactive learning is to make the process of learning new knowledge as easy and direct as possible. Interpersonal communication is an important criterion for successful employment, however, S.A. Pope (2015) emphasises that teachers still lack the necessary skills for interactive learning. Despite the fact that some teachers still have a negative attitude to interactive forms of work and continue to use conventional methods, there are certain positive changes.

Elements of professional communication are necessary for students to communicate effectively in various situations, in particular, when going to the doctor, cinema, or store. A study by K. Sonnenschein and J. Ferguson (2020) focuses on the development of communication skills for further professional communication, the transition from the formation of lexical competence to work. Professional vocabulary in English lessons can be learned in the process of using project methods of work and dialogic modelling of situations.

Actions of a modern teacher, according to A. Thumvichit (2021), aimed at creating an interactive learning environment, learning platforms for communication, promoting autonomous learning, and forming approaches to formative assessment. The results of the study confirmed the opinion that game methods of work improve communication between participants in the educational process, contribute to a more friendly atmosphere in the team.

K.G. Chau (2021) proved the positive impact of interactive learning on improving conversational skills in English lessons. The results of investigating interactive methods and their impact on the formation of communication skills showed that the main achievement in game forms of work is the reproduction of problematic communication situations, which allows developing patterns of behaviour and using them in the future.

The interactive game method is often used in tasks offered by various applications. Among the most common services for learning the language, L. Sanda and B. Klimova (2021) consider "Duolingo", "EWA", "Mondly", and "Lingo". In particular, they have a minimalistic design, clear instructions, and easy navigation. In this study, the role of applications used in the classroom and at home to enrich the lexical stock and the formation of communicative competence in various interactive forms is emphasised. Using web resources in English lessons allows creating a game environment in which each student is comfortable and interested to work in.

Thus, the use of various interactive technologies in English lessons not only contributes to the formation of communication skills, but also affects the microclimate in the classroom and the maximum immersion of students in the language environment, in which they have the

opportunity to take part in communication in its various manifestations and learn lexical, grammatical, syntactic, and other patterns.

CONCLUSIONS

This paper considers the main methods and forms of interactive learning that are used in learning English at school for the formation, development, and improvement of communication skills. The study was based on the analysis of pedagogical experience, considering the effectiveness of tasks and exercises that can be used. It was indicated which methods are more appropriate to apply in accordance with the age and level of knowledge of schoolchildren.

The examination of interactive learning methods in the process of learning English has shown that the use of role-playing and interactive games, project technologies, and discussions is necessary to reduce the level of communication failures and reduce the impact of communication barriers directly on the communication process. Each of these methods has its own advantages in terms of communication, so in English lessons, several should be combined simultaneously.

For younger students, game forms of work are more effective (word association game, subject description), for secondary school pupils, the widest range of forms of work can be used (dialogic modelling, interviews, brainstorming). Discussions in various formats and project work can be used to develop communication skills among high school students (conference, symposium, round table).

Improvement of communication skills occurs in the context of complete immersion in the language environment when modelling certain communication situations, discussing problematic issues, audio or video materials, and conducting various games. The educational process within interactive learning takes place as naturally as possible through communication among students and between students and the teacher, who is often a moderator during communicative interaction.

Priority tasks in the future scientific perspective can be the following: development of new educational programmes with active inclusion of interactive methods, formation of the practice of learning foreign languages through the use of various technologies (for example, applications), investigation and comparison of pedagogical experience in different countries of the world.

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CONFLICT OF INTEREST

None.

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Розвиток комунікативних навичок шляхом впровадження інтерактивних методів навчання на уроках англійської мови

Анотація. Актуальність дослідження зумовлено потребою в нових навчальних програмах, які урізноманітнять освітній процес та підвищать ефективність мовних знань у живому спілкуванні. Мета роботи – вивчити основні аспекти використання інтерактивних методів навчання на уроках англійської мови з огляду на розвиток комунікативних навичок учнів. У дослідженні застосовувалися такі методи: аналітичний, синтетичний, порівняльний та зіставний, які дали змогу заглибитися в теоретичні аспекти використання інтерактивних методів навчання; спостереження та узагальнення досвіду, що стали основними для цього дослідження, оскільки з їх використанням розглянуто основні позитивні явища в сфері інтерактивного навчання за останні роки; аналіз застосовано також, щоб оцінити розвиток комунікативних навичок в процесі вивчення мови. Здійснено аналіз основних методів (створення проєктів, інтерактивні та рольові ігри, дискусії) та форм роботи, які можуть використовуватися на уроках англійської мови задля розвитку комунікативних навичок. До характеристики кожного з методів додано оцінку його ефективності в аспекті застосування комунікативних навичок. Здійснено висновки щодо результативності інтерактивних методів відбувалися з огляду на вік та рівень знань учнів. Розглянуто основи впровадження інтерактивного навчання на уроці з англійської мови, зокрема комунікацію між учасниками освітнього процесу (учень – учитель – учень). Обґрунтовано доцільність використання різноманітних онлайн-застосунків в опануванні іноземною мовою на уроках та в позаурочний час. Результати дослідження зіставлено з результатами інших досліджень цієї теми, пов'язаних з комунікативними процесами на уроках англійської мови та інтерактивним навчанням. Статтю можна використати для подальшого дослідження впливу інтерактивних методів на різні учнівські аудиторії, наприклад під час експериментів (проведення опитувань та анкетувань), розгляду ключових освітніх питань, пов'язаних з розробкою та впровадженням нових навчальних програм

Ключові слова: форма роботи; рольова гра; дискусія; створення проєктів; спілкування; навчальні онлайн-застосунки

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Features of teaching grammar in foreign language classes in non-linguistic institutions of higher education

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Abstract. Knowledge of the grammar of a foreign language at the proper level is a necessary component of language proficiency in general, and therefore teachers are faced with an urgent question of how to facilitate and accelerate the process of its assimilation. The purpose of the study is to theoretically substantiate the importance of mastering grammar for applicants of non – linguistic institutions of higher education and analyse the application of the proposed exercises. The methodology of the study consists in the application of theoretical (analysis of methodological literature on the problem of study, comparative analysis of grammatical phenomena of English and Ukrainian languages, analysis of educational publications on English for students of non-linguistic areas of training) and empirical research methods (observation of the level of grammatical competence of students; questionnaires and testing of students; an experiment that consisted in organising and conducting experimental training to test the effectiveness of the developed set of exercises that contribute to faster and more complete assimilation of the grammatical component of a foreign language). Techniques and means of teaching and



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activating grammatical structures in the study of a foreign language are examined. English language textbooks for non-linguistic institutions of higher education are analysed. The analysis of the use of exercises and internet resources aimed at mastering and fixing the necessary grammatical rules is conducted. The results of testing the teaching of English grammar on a communicative basis in a non-linguistic institution of higher education using professional-oriented educational texts as the basis for exercises are presented. The position that this approach contributes to maintaining students' motivation, activity, and independence is justified. Research training conducted based on the state biotechnological university confirmed the effectiveness of the proposed set of exercises in working with grammar based on professional texts. This technology can be used by teachers-philologists in teaching grammar of any foreign language, provided that they adapt accordingly, depending on the typical language difficulties and needs of students

Keywords: higher education; learning process; grammatical competence; communicative approach; grammatical structures; speech exercises; grammatical skills

INTRODUCTION

In the modern era of globalisation and achievements of scientific and technological progress, the role of foreign languages has substantially increased, the knowledge of which not only provides the possibility of cross-cultural communication but is also the basis of a person's professional competence, regardless of the scope of their activity.

Modern educational standards require the training of highly qualified personnel who can use a foreign language both in situations of social and everyday communication and in the process of business communication. Such criteria, which should be followed by institutions of higher education, quite often cause difficulties for students of non-linguistic specialities. The greatest difficulties in the process of teaching a foreign language to this category of applicants for education are caused by teaching grammar. The excessively long and complex explanations of grammatical structures by teachers, and the presentation of grammatical material in textbooks do not arouse interest and positive motivation among students of a non-linguistic profile (Fedyshyn, 2021). Therefore, teachers are faced with the question of how to help applicants to learn a large amount of knowledge necessary for practical language proficiency, in a shorter period of time and with the least effort.

Understanding the definition of grammar is essential in teaching it. Grammar is one of the three elements of a language, next to pronunciation and vocabulary (Yang, 2023). Linguists offer different definitions of grammar. Thus, according to I. Antonyan and N. Popovich (2019), grammar is one of the most important aspects of speech, due to which oral and written communication skills are formed. Scientific discussions always focus on the place of grammar, its role and importance in the process of teaching foreign languages.

From the standpoint of descriptive purpose, grammar can be divided into pedagogical, reference, and linguistic. The pedagogical one is created for the purpose of teaching; the reference one provides standards for language teachers or language learners. Linguistic grammar is formed in accordance with the linguists' understanding of grammatical concepts (Wang, 2021). The interpretation of grammar by English teachers has a substantial impact on its teaching.

Many methodologists have addressed the subject of the specific features of teaching a foreign language. Researcher

O. Beskorsa (2018) analysed current trends in the development of English language teaching methods abroad and in Ukraine and suggested using the method of communication tasks, in which the teacher acts as a person who ensures successful group communication during the educational process. Thus, learning is implemented through communication. The use of this technique is also justified in the paper by A. Paletska-Iukalo (2019), noting that proficiency in a foreign language at a sufficient level is achieved through conscious and meaningful use of acquired knowledge and skills. The author believes that the formation of lexical competence can occur using the method of communicative tasks based on authentic works of art.

Researchers A. Boichuk *et al.* (2020) in their study consider the problem of forming a foreign-language grammatical competence of applicants for higher education in non-linguistic specialities. According to the authors, grammatical competence is the ultimate goal of mastering grammatical means of communication, which is an integral part of foreign language competence. Methodists O. Reznova and V. Reznova (2022) identified the essence of the concept of "grammatical competence", investigated effective technologies and means of its formation in students when mastering a foreign language in a professional area in non-linguistic institutions of higher education.

Ukrainian methodologists H. Dyvnych and N. Haidai (2019) considered the process of mastering practical grammar through the use of the method of communication tasks. In their opinion, this method contains a creative component as a necessary component, gives statements a communicative orientation, which in turn interests students and increases their motivation to learn and use the language in the proposed situations. The contextual approach to grammar teaching is supported by researcher M.A. Qureshi (2020), the author offers a technology based on correcting errors in the text. Search, analysis, and correction of errors in the context allow learning the function of the grammatical form, which, according to the study, further positively affects the written speech of students.

As noted above, grammar plays an important role in teaching English, and it is a crucial factor in the academic studies. If students master the necessary knowledge of

grammar, they will be able to analyse complex structures in texts and communicate effectively, which determines the relevance of the study in connection with the strengthening of the role of foreign languages in all aspects of human life. Therefore, the purpose of this study is to theoretically substantiate the importance of grammar assimilation by students of non-linguistic educational institutions; to examine methods and means of teaching and activating grammatical structures when learning a foreign language; analyse the use of exercises and internet resources aimed at mastering and fixing the necessary grammatical rules by students.

MATERIALS AND METHODS

The theoretical and methodological basis of the study is the fundamental works of Ukrainian and foreign researchers in the field of theory and methodology of teaching foreign languages, the theory of teaching grammar of a foreign language, the theory of exercises, and papers devoted to the formation and support of students' motivation to learn a foreign language.

The following research methods were used to solve practical problems:

- theoretical (examination and analysis of methodological literature on the research problem, comparative analysis of grammatical phenomena of English and Ukrainian languages, analysis of updated state educational standards of higher education and educational publications in English for students of non-linguistic areas of training);
- empirical (observations during classes to improve grammatical skills, record and analyse grammatical errors; questionnaires to check the motivation and testing of students to assess grammatical competencies; experiment – conducting experimental training to check the effectiveness of the proposed set of exercises).

The research training was conducted considering international research/survey requirements, which implies compliance with ethical principles established by national and international legislation and recommendations. One of the most important international recommendations is the Code of Ethics of Psychologists of the International Association of Applied Psychology, IAAP (2008), which provides general principles of ethical behaviour for psychological research and other psychological activities. This code includes such principles as consent to involvement, data confidentiality, non-interference in privacy, etc. In addition, the Law of Ukraine "On Personal Data Protection" (2010) operates in Ukraine, which sets the requirements for the collection, processing, and storage of personal data in the course of the study. The Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine: Convention on Human Rights and Biomedicine (1997), which sets out the principles of ethical behaviour in research related to biology and medicine. Thus, during the study, students' rights were not violated; honour and dignity were not humiliated; morals were respected; discrimination did not occur; anonymity was preserved,

health was not harmed, psychological characteristics, in particular, age, etc. were considered).

Research training was conducted based on the State Biotechnological University of Kharkiv. It was attended by first-year students of the Faculty of Veterinary Medicine with a total of 82 people during the 2021-2022 academic year. Four groups were formed: two experimental groups (EG1/2) and two control groups (CG1/2). For the accuracy of the experiment and an objective assessment of the results, it was decided to form two experimental and two control groups.

Before starting research training, first-year students were asked to complete a questionnaire to identify interest and motivation in learning a foreign language. At the end of the course, students also took part in a questionnaire, the questions of which were slightly changed and allowed them to assess their motivation to continue learning a foreign language. According to the curriculum, in the first year students of the Faculty of Veterinary Medicine study the discipline "Foreign language in professional activity".

As an entrance test, first-year students performed a grammar test consisting of 50 questions that determine the level of formation of grammatical skills at the initial stage of training. A test containing similar grammatical phenomena was offered to students at the end of the course.

Teaching English grammar on a communicative basis in a non-linguistic institution of higher education was conducted using professional-oriented educational texts as the basis for exercises. This helps maintaining students' motivation, activity, and independence. In the course of training, a set of exercises was compiled to improve grammatical skills and develop skills based on professional texts within the limits provided for in the programme: "From the history of veterinary medicine", "Famous scientists in veterinary medicine", "Veterinary organisations", "Veterinary specialties", "Medical supplies for veterinarians", etc. A special feature of the exercises included in this complex is their communicative orientation, situativeness, and the presence of a speech task, considering the interests and experience of educational applicants.

Before investigating a new subject and working with the grammatical part, the "inverted class" technology was used. A course was used on the LMS Moodle platform to control the assimilation of the material, which is available on the basis of the State Biotechnological University.

During the lesson, conditions were created for the practical application of the examined material in various types of speech activities. Teaching grammar on a communicative basis consisted in the fact that the organisation of the process was conducted not from theory to practice, but from understanding the function through the practical application of the examined phenomena in the conditions of foreign-language communication.

RESULTS AND DISCUSSION

Mastering a foreign language is a process that consists of a large number of components. The main thing for the teacher, according to the authors of this study, is to choose the

most optimal teaching method for yourself, master it and actively apply it in the classroom.

Most teachers admit that it is quite difficult to conduct classes based on only one method, so in practice, several methods are used in different combinations. With the emergence of a large number of new effective methods and approaches to teaching a foreign language, the demand of society is determined, which implies an individual approach to the student, depending on the needs, opportunities, and time spent on mastering the language (Shtokhman, 2020). As for lesson planning, many teachers choose the conventional methodology, the key concepts of which are explanation, practice, verification. Using this method, the teacher can clearly organise a large number of educational activities, during which all lexical and grammatical aspects of the educational textbook or programme are covered. However, K. Bilsborough (n.d.), a British teacher-practitioner, emphasises that while this method perfectly meets the needs of the teacher, it is not the best choice to meet the student's expectations. The lexical content of classes does not quite meet the needs of educational applicants and is almost completely dictated by the content of the programme or textbook. Quite often, teachers adjust the material to the needs of the group and the educational process. On the one hand, the programme, textbook, and expectations of students, and on the other – a variety of methodologies and approaches with their advantages and disadvantages. That is why teachers choose a methodology that is primarily focused on the needs of the student. Today, the most commonly used methods are Task-based Learning (TBL) and Project-Based Learning (PBL). These methods were created to implement the concept of learning through game activities in a professional orientation, which allows using elements of problem-solving, discussion, and construction, which contributes to the development of integrative thinking, the ability to think independently and creatively, with subsequent forecasting of options for solving the problem (Mezhuyeva & Yeltsova, 2017).

In foreign publications, the research on the application of the method of communication tasks for teaching grammar in foreign language classes can be found. Thus, the American linguist D. Larsen-Freeman (2015) identifies the possibility of using “focused tasks” as a component of the method of communication tasks that encourage students to apply certain grammatical structures to achieve their goals. The author gives an example of modeling a situation when a student receives a card, which he must use to send a friend to the specified place. In this case, prepositions of place and area will be useful. The researcher also emphasises that developing exercises with a task to work out the necessary certain grammatical structures are not easy but performing such tasks substantially speeds up the process of mastering grammar. The methodologist believes that grammar has a dynamic character. In her opinion, this is not a branch of knowledge, but a skill or process in which students learn to use grammar thoughtfully in various communication situations. Thus, D. Larsen-Freeman calls

this process “grammaring”, the ability to use grammatical structures meaningfully, accurately, and correctly to express one's needs. As the author emphasises, form, meaning, and application are the three dimensions of language that are components of the “grammar” process.

R. Bolitho (2011) suggests using the holistic approach to grammar training. According to the researcher, understanding how grammatical constructions function in context contributes to the formation of a holistic view of the language. According to proponents of this approach, conscious work on mastering a foreign language not only contributes to the mental development and development of research skills of students, but also develops speech intuition, leading to the action of emotional mechanisms.

Proponents of the lexical approach consider grammar that is quite logically related to vocabulary, calling it lexicalised grammar. The founder of this approach, M. Lewis (1993), is convinced that it is necessary to work with grammatical phenomena in context. Under such conditions, language and speech are considered as a single whole, and not as separate cases of lexical and grammatical phenomena. This approach allows analysing speech phenomena both inductively and deductively and the context is a source of additional language practice.

Notably, the Grammar-Translation Method (Zhou & Niu, 2015) plays an equally important role in the training of specialists in non-linguistic universities. Future veterinary specialists need to have the skill of perceiving information on professional subjects. General biological texts are dominated by special vocabulary (terminology) and certain grammatical constructions (complex subject, complex complement, passive voice, impersonal sentences, etc.). Even with excellent conversational skills, it is difficult to understand the written language of a scientific area. Therefore, teaching a foreign language should contain a detailed and thorough study of the grammatical system. Students of biological specialties are willing to engage in grammar, the specific features of their thinking allow them to perceive information well in the form of tables and diagrams. Often, applicants for education build their own system of learning, memorising, and using language rules. This analytical approach also applies to the examination of vocabulary: students build analogies, analyse the composition of a word, and are willing to work with the dictionary. However, spontaneous speech, both written and oral, is more difficult for them. Usually, students try to build statements from ready-made blocks of tokens and grammatical constructions. Their accuracy in using words and rules is noticeably higher, but this selection substantially increases the time required to complete the task.

Based on the conducted observation and own practical activities, it is concluded that over time, very little attention is paid to grammatical competence in foreign language classes, since it causes the greatest difficulties for applicants for education. Based on the experience of teaching English in a non-linguistic institution of higher education, it can be noted that it is quite difficult for students to apply

grammatical structures in situations close to real ones. That is why they use only simple grammatical forms. The main disadvantage of many modern methods of teaching foreign languages to students of non-linguistic universities is the focus on a large number of hours devoted to reading and translating texts in a professional area, investigating professional terminology, and insufficient – to practice the correct use of grammatical forms in specific communication situations. In other words, it is advisable to introduce technologies into the process of teaching grammar of a foreign language that contribute to the development of communicative abilities of applicants for education at non-linguistic universities.

The theoretical block of investigating grammatical rules should not exceed the amount of training time allocated for practical language development of the acquired knowledge. Each grammar lesson should contain tasks for speaking, listening, reading, and writing. The teacher can change these methods depending on the targets of the lesson, the specific features of the content of the educational material, and the level of previous experience of the students themselves. Therewith, it is important to regularly alternate these methods so that the student can practice the skills of competent sentence construction both in writing and in the process of communication.

Learning grammar and proper speech design, recognising grammatical forms in speech and writing occurs through the formation of grammatical skills. This is one of the most important components of speech skills of speaking, listening, reading, and writing, and therefore, the main goal of teaching grammar. The development of grammatical skills can contribute to mastering the language at a high level, which will give students in the future the opportunity to make competent presentations, feel comfortable during business negotiations, and communicate freely on the phone, that is, be competitive in the labour market.

There is no ideal course that can be used in all possible situations, but there are quite a large number of textbooks in which a professional teacher will find the materials they need, and in case of emergency, they can develop their own findings. By compiling a grammar manual for the students of non-linguistic higher education institutions or introducing grammar to the main course, authors should try to help students navigate the basic concepts of the language, systematise knowledge, and teach them to see the main idea associated with a large number of words, tables, models, and diagrams. The manual or grammar block should be aimed at developing and updating the skills of applying basic grammatical models of the English language in accordance with the requirements of the foreign language training programme for students of non-linguistic specialities. More effective assimilation of the course material and its application in practice is facilitated by the structure of the grammatical block, namely:

- the principle of consistent learning, in which grammatical material is provided according to the “from simple to complex” principle;

- coverage of subjects that remain outside the school curriculum, but their knowledge is necessary in language practice since people can correctly build their own utterances using a limited set of grammatical constructions. However, this does not guarantee that other people will not use more complex structures in their speech, which can be a serious obstacle to understanding the essence of the statement;

- providing exercises for the development of oral speech skills (exercises in combination with grammatical phenomena for expressing thoughts in oral speech).

It is on this principle that linguist teachers of the State Biotechnological University built the grammatical block of the course “Foreign Language (English) in professional activity”, which fully corresponds to the curriculum of the discipline.

When studying grammar, an extremely important aspect is the correct application of grammatical forms in the communication process. Communication situations, role-playing games, discussions, presentations, and projects ensure that grammar skills are consolidated. For the formation of grammatical competence, such types of exercises as speech and conditional speech are used. Speech exercises are performed mainly at the initial stage of training in the higher education institution. They are characterised by the absence of signs of communication, namely situativeness, the presence of a speech task, for which they are criticised by supporters of the communicative method. Tasks are formal in nature and do not affect the student's personality or interests in any way. For example: insert the desired verb form, select the article/preposition, connect parts of sentences. Such exercises are appropriate in non-linguistic higher education institutions, but their volume should not exceed 20% of all grammar exercises, and they should be performed independently. Notably, many well-known foreign grammar textbooks are built on this principle and can be recommended as homework (Swan & Walter, 2003; Murphy, 2012). Various online resources for working with grammar are also notable: British Council: Learn English. (n.d.), English Grammar (n.d.), aimed at mechanical training of grammatical phenomena. They can be used in working with students of a non-linguistic university additionally and independently, especially if there are gaps in knowledge. The disadvantage of these resources is the lack of communication skills in exercises and the inability to be controlled by the teacher.

Conditional speech exercises are effective for the formation of grammatical skills, through which speech is conducted in a learning environment. They bring speech closer to the natural situations of native speakers. Conditional speech exercises contain some elements of speech communication, namely, they imitate speech communication in educational settings. Examples include the following tasks: build statements about yourself, your experience and achievements using Present Perfect/Past Simple; describe the competencies of a specialist in your field using modal verbs; compose and write down a story about an outstanding researcher in your professional field using the passive state.

Speech exercises (also called active speech exercises) repeat the process of communication in different types of speech. Speech exercises fully correspond to the process of natural communication and are used in various types of speech activity: speaking, listening, reading, writing. This type of exercise is the most creative and difficult for students, it completes the entire system of exercises and is aimed at developing speech skills. Examples of speech exercises in non-speech higher education institutions can be as follows: write/tell/provide safety rules in the workplace, about your experience, academic achievements, and plans for further training and self-development. The main meaning of these exercises is that they are performed in the learning process through communication situations. The level of grammatical skills is determined by monitoring their formation. Aspects of control are the following skills: word formation; connection of lexical units in a sentence; recognition of grammatical units; correlation of grammatical units and meaning; possession of grammatical rules; formation and construction of phrases; understanding, perception, awareness of grammatical content, sentence structure, and word forms (Vovk, 2007; Sklyarenko, 2011).

Notably, conditional speech and speech exercises require the use of the same grammatical phenomena (modal verbs, Present Perfect/Past Simple, Passive Voice), provided that the task is more complex. Such situational exercises reproduce real communication situations, encourage solving a speech problem, and express one's own thoughts within the framework of the mastered material.

Based on observation and practical activities, it is concluded that it is useful and productive to apply the grammar teaching model within the framework of a communicative approach. Thus, one of the most effective methods of teaching English grammar to students of non-linguistic universities is the game stimulation of certain situations of speech communication (for example, simulating a dialogue with colleagues, at a meeting, when discussing some medical problem, etc.). The area of this game can be set by the teacher using questions with grammatical features that need to be worked out: Tell us what did you do in the veterinary clinic yesterday. What are you going to do after the examination of the patient animal? (Working out the "Past Simple" and "Future Simple" topics). The situations with questions and answers like: "What tools should you use for basic consultations?; What tools must be used for surgical operations?; Should you use a razor for pre-operational surgery?"

Can be simulated to practice modal verbs and consolidate vocabulary on the subject "Medical supplies for vets". Considering the area of specialisation of a particular group of students, the subjects that correspond to their academic profile can be used for discussion. For example, when learning the degrees of adjective comparison, veterinary students can be offered tasks: Compare cats of long-haired and short-haired breeds; Compare the skeletal system of an elephant and a bird, etc.

A useful experience for students of non-linguistic higher education institutions will be not only dialogical communication but also building a detailed monologue statement on a subject that corresponds to the area of specialisation. For example, for veterinary students, the following subjects can be offered for discussion: the Future of the Veterinary Profession; The Veterinary Profession in Ukraine; British, American, and Ukrainian Veterinary Schools.

This approach to teaching a foreign language is called professionally oriented, and its main task is to form students' professional competencies. The main advantage of this approach to teaching a foreign language is that students immediately apply their knowledge of grammatical forms of speech in specific communication situations. Students of non-linguistic educational institutions do not need to delve into the linguistic subtleties and historical features of certain grammatical forms, for them the main task is to gain language experience that will help them correctly compose sentences in the communication process. In other words, the key factor of effective teaching of grammar of a foreign language to students of non-linguistic institutions of higher education is the acquisition of grammatical skills, namely: the ability of the speaker to choose a model that is adequate for the language task and formalise it in accordance with the norms of a foreign language.

Grammatical errors that occur in students when conducting a dialogue in a foreign language should be corrected and explained immediately after they are made. An absolute benefit for students in this situation is a more relaxed format for investigating the grammatical features of a foreign language, and for the teacher, the main advantage of this method of teaching is that they can clearly see which aspects of grammar cause students the greatest difficulties, and accordingly pay attention to working out exactly the problematic moments.

The analysis of textbooks and manuals on the English language for non-linguistic universities allowed concluding the following. Grammatical material in most textbooks has little to do with lexical material and texts, exercises do not always relate to subjects and problems, situations, and speech tasks of educational communication, and are more of a speech type of exercise. Grammar exercises are aimed at working out the form of a grammatical phenomenon and do not reach the level of their use in speech, do not stimulate students to real communication. This suggests that the functional approach is not reflected when working on the grammatical side of a foreign language.

It is proposed to use a professional-oriented educational text as a basis for exercises to solve the problem of improving grammatical skills and developing skills. The advantage of using professional-oriented texts is that they are interesting and informative for future specialists in a particular field, which positively affects the motivation of students. Such texts are communicative, and based on the speech task, they encourage students to express their own attitude, opinion, and position. They are functional because they reflect the function of a grammatical phenomenon in a

particular situation. Based on professional-oriented training texts, it is possible to build a set of exercises that will meet the requirements of communication of the concept of “professional-oriented training text”, meaning that at the initial stage, it will be adapted in complexity to the audience, and in the future, it is possible to use authentic texts.

The task of translating texts from their native language into a foreign language is a fairly effective method of teaching the grammar of a foreign language to students of non-linguistic universities. It is a mistake to assume that such exercises should be used when working only with students of language specialities because competent and high-quality translation skills are important in any field of professional activity. The translation process helps students better understand the specific features of grammatical forms of a foreign language in comparison with Ukrainian. Moreover, it is advisable to analyse such tasks during academic hours and through a collective discussion of the details of using the necessary grammatical forms.

As the practice of teaching a foreign language shows, many students make mistakes during translation when trying to use the same grammatical tools in a foreign language as in Ukrainian. For example, the phrase “Тут нема про що говорити” is translated by many students, starting with the

word “Here”. Repeated attempts to translate from Ukrainian to English will help students understand the details of grammatical forms of a foreign language and immediately build correct phrases like “There is nothing to talk about”.

The results of the research training confirmed that the developed system of teaching English grammar in non-linguistic higher education institutions, containing the technology of the “inverted class” in LMS Moodle, a set of exercises based on professional texts, is an effective way to improve the level of grammar and English in general. It is worth emphasising that the attitude of students to learning English and grammar has also changed, which is quite understandable. Applicants for education do not learn individual rules and do not perform separate grammar exercises. All tasks are related to the subject and problem of the lesson, its lexical content, where grammatical skills are simultaneously improved. Initially, grammar for most students meant memorising a large number of rules and exceptions, performing monotonous exercises, which in fact turned out to be a mistake.

The results of the incoming and final questionnaires are shown in Table 1.

The results of the research training are presented in Table 2.

Table 1. Results of incoming and final questionnaires

Group, number of people	Entrance survey to identify interest and motivation in learning a foreign language, %	Final survey to identify interest and motivation in learning a foreign language, %	Indicators of increasing the level of motivation, %
EG 1 (21)	15	60	45
EG 2 (21)	20	55	35
CG 1 (20)	20	40	20
CG 2 (20)	15	35	20

Table 2. Results of research training

Group, number of people	Input testing of the level of grammar skill formation, %	Final testing of the level of grammar skill formation, %	Indicators of increasing the level of proficiency in the grammatical side of speech %
EG 1 (21)	38	72	34
EG 2 (21)	41	70	29
CG 1 (20)	40	55	15
CG 2 (20)	37	54	17

Analysis of the results of experimental training allows stating that the level of proficiency in the grammatical side of a foreign language in students of experimental groups (EG 1/2) is noticeably higher than in students of control groups (CG 1/2). It can be assumed that the improvement of 34% and 29% in EG 1 and EG 2 is not a substantial increase, but the survey of students at the end of the course in experimental groups showed an increase in interest in learning English, and, accordingly, motivation by 45% and 35%, which is the key to successful language acquisition in the future.

An analysis of the literature has shown that various studies on teaching grammar to students of non-linguistic educational institutions are being conducted in the

world, but no similar or tangential experiments have been conducted. However, the paper by U. Kirn and I.A. Baig (2021), who conducted their study in a similar way, is notable. The purpose of their study was to identify the effectiveness of the communicative approach to language teaching and the method of grammatical translation on the success of students in English grammar in the context of teaching English professionally. Students were also divided into experimental and control groups. The experimental group was taught using the communicative method of teaching a foreign language, while the control group was taught using the grammatical translation method. The results of the study showed that students who studied using the communicative method showed better results.

The indicators obtained as a result of this study indicate the effectiveness of the system of work to improve grammatical skills. In the future, it is planned to adapt/develop a set of exercises depending on the level of foreign language proficiency of applicants and individualise the learning process.

CONCLUSIONS

The theoretical and practical solution to the problem was established and presented in the following main conclusions. Teaching grammar of a foreign language in non-linguistic higher education institutions involves improving grammatical skills with the possibility of correcting and developing skills, the stage of formation of which was completed in the school curriculum. When learning grammar, the assimilation of form and function should occur simultaneously. The most effective exercises when working with grammatical material in non-linguistic higher education institutions are conditional speech and speech exercises that encourage the expression of one's own standpoint, motivate professional communication. Speech exercises take place in the educational process, but their scope is limited.

Analysis of English language textbooks for non-linguistic universities has shown that grammar teaching is practically unrelated to the lexical side of the language. The

use of professional-oriented educational texts to improve grammar skills and develop language skills allows achieving effective results in teaching both grammar and vocabulary and has a positive effect on students' motivation.

Research training conducted based on the State Biotechnological University confirmed the effectiveness of the proposed set of exercises when working with grammar based on professional texts. This technology can be used in teaching grammar of any foreign language, provided that it is adapted accordingly, depending on the typical language difficulties and needs of students.

The main models of teaching grammar and the types of activities that are most often used by teachers in foreign language classes were analysed, which provides a research base for further study of teaching English grammar.

The authors of this study see further prospects for the research in the development of a textbook with cognitive texts of professional orientation to improve grammatical skills and develop language skills, a set of exercises for students of various fields of training.

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CONFLICT OF INTEREST

None.

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Особливості викладання граматики на заняттях з іноземної мови в немовних закладах вищої освіти

Анотація. Знання граматики іноземної мови на належному рівні – необхідна складова частина володіння мовою загалом, а тому перед викладачами постає актуальне питання, у який спосіб полегшити та прискорити процес її засвоєння. Мета статті – теоретично обґрунтувати важливість засвоєння граматики для здобувачів немовних закладів вищої освіти, а також проаналізувати застосування запропонованих вправ. Методологія роботи полягає в застосуванні теоретичних (аналіз методичної літератури з проблеми дослідження, порівняльний аналіз граматичних явищ англійської й української мов, аналіз навчальних видань з англійської мови для студентів немовних напрямів підготовки) та емпіричних науково-дослідних методів (спостереження за рівнем граматичної компетентності студентів; анкетування й тестування студентів; експеримент, який полягав в організації та проведенні дослідно-експериментального навчання з метою перевірки ефективності розробленого комплексу вправ, які сприяють більш швидкому та цілісному засвоєнню граматичного складника іноземної мови). Досліджено прийоми та засоби навчання і активізації граматичних структур під час вивчення іноземної мови. Проаналізовано навчальні посібники з англійської мови для немовних закладів вищої освіти. Проведено аналіз застосування вправ та інтернет-ресурсів, спрямованих на засвоєння та закріплення необхідних граматичних правил. Представлено результати апробації навчання граматиці англійської мови на комунікативній основі в немовному закладі вищої освіти з використанням навчальних текстів професійної спрямованості як основи для вправ. Обґрунтовано позицію, що такий підхід сприяє підтримці мотивації, активності й самостійності студентів. Дослідне навчання, проведене на базі Державного біотехнологічного університету, підтвердило ефективність запропонованого комплексу вправ у роботі з граматиною на основі текстів професійної спрямованості. Цю технологію можуть використати викладачі-філологи в навчанні граматики будь-якої іноземної мови за умови відповідної адаптації залежно від типових мовних труднощів і потреб студентів

Ключові слова: вища освіта; процес навчання; граматична компетентність; комунікативний підхід; граматичні структури; мовленнєві вправи; граматичні навички

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Research-innovation aspect of modern medical (dental) education in a mixed learning environment

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Abstract. The National concept for the development of higher education in Ukraine during the war is aimed at involving digital education in the educational process and promoting the development of virtual educational mobility. The relevance of the study is due to the unstable state of modern medical education in Ukraine, the need to use digital technologies and involve a mixed form of education in the generally accepted concept of conducting the educational process. The purpose of the study is to identify how teachers and students of the dental speciality of higher medical institutions of Ukraine implement the concept of mixed learning as of the beginning of 2023. The paper uses the following methods of research: descriptive, historical-typological, and terminological principles analysis, through which it was possible to implement the research-innovative aspect of modern dental education during the war on the territory of Ukraine. The study examines the historical features of the formation of a mixed form of education in the Ukrainian educational field. Key aspects of using the blended learning model in modern higher medical education in Ukraine are highlighted. The main online platforms used in mixed learning environment and relevant software for mixed learning are considered. A thorough analysis of the state of the modern educational process in Ukrainian universities, where future dental specialists receive education, was conducted, and the prospects for using a mixed form of education for dental students in medical educational institutions were examined. The results of the study can be used by researchers and teachers for further research on the subject raised, in particular, to identify and eliminate the shortcomings of various forms of training

Keywords: doctor's competencies; educational process; self-motivation; educational field; digital technologies

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INTRODUCTION

The educational system of Ukraine at the beginning of 2023 is functioning despite the continuation of martial law in the country, which began on February 24, 2022 (Order of the Cabinet of Ministers of Ukraine No. 181-r..., 2022). Given the difficult conditions of the educational process, it is necessary to examine the mixed form of education that is relevant to modern Ukraine. The involvement of information and communication technologies in the educational process determines the problems of investigating the form of education of a new generation, combining conventional and interactive components.

In the modern world, blended learning has become widespread – an educational approach that combines conventional full-time classroom learning with technological online learning and is one of the main trends in the development of higher education (Antonivska & Sarnovska, 2021). The examination of the mixed form of education was conducted by Ukrainian researchers S.M. Kyselov *et al.* (2020), stating that full-time learning in combination with remote mode, which determines the use of modern interactive technologies has become an indispensable link in ensuring the success of the pedagogical process for



future medical specialists. Investigating the state of modern higher education in a mixed form of education for teachers of higher medical institutions will provide a thorough understanding of the relevance of this form of the educational process at the time of the war in Ukraine and in the future. In this regard, it is necessary to examine the state of mixed education in higher medical institutions in Ukraine at the beginning of 2023.

According to K.P. Osadcha *et al.* (2022), in Ukraine, the form of blended learning began to be actively used during the COVID-19 pandemic in 2020. During the COVID-19 pandemic, higher education institutions in Ukraine faced new challenges – a rapid transition from full-time inpatient training to distance learning, and rapid adaptation to new learning conditions. According to the results of the survey of students and teachers, the following problems were identified: insufficient technical security of universities and students, the appearance of psychological difficulties due to restrictions in live communication and a substantial increase in the volume of homework and educational material allocated for self-study (Berezna & Prokopenko, 2020).

Based on the responses of teachers and students, it was determined that the quality of distance education is not inferior to full-time education, and also contributes to the development of self-organisation and access to education, regardless of place of residence or social status. Teachers have a slightly updated role in the learning process, where they act as mentors-consultants, coordinate the learning process, improve the teaching of the discipline, increasing creativity and skills in accordance with new needs and learning conditions. The survey showed that the humanitarian, natural, technical, and mathematical faculties of Ukrainian universities quickly adapted to the situation. However, specialities that require considerable space, special conditions, and professional equipment (physical culture, choreography, musical art) have faced great difficulties (Berezna & Prokopenko, 2020).

A study by Y. Krylova-Grek and M.P. Shyshkina (2021) was aimed at investigating distance learning issues from the perspective of students during the COVID-19 pandemic in 2019-2020. The results indicate the need to coordinate the training load and ensure a balance of tasks. In addition, the psychological consequences of digitalisation of learning have to be considered, in particular, the lack of personal communication and socialisation. The study also determined that students need additional advice from teachers. It is important to create a unified learning environment in which the learning process is coordinated. Some problems can be solved through proper coordination and organisation of distance learning, developing modern advanced training courses considering new educational requirements, and including these courses in teacher training programmes. According to student reviews, blended learning is the most effective method and can serve as an alternative to the conventional system (Podoliak, 2022). Blended learning allows students to provide more theoretical material and focus on developing practical skills.

It is necessary to examine in more detail the new introductions to the mixed form of education since that time on the territory of Ukraine and investigate the issue of readiness and relevance for teachers of higher medical institutions of Ukraine to use the blended form of education in the conditions of war on the territory of the state. S. Hrastinski (2019) argues that the term “blended learning” refers to an education system that combines the conventional form with the experience of online learning. It is necessary to thoroughly investigate the use of a mixed form of education in Ukrainian institutions of higher medical education.

According to the researcher S.A. Herman (2021), considerable attention of representatives of modern higher medical education in Ukraine is paid to the introduction of electronic medical courses as part of a mixed training format since this is one of the indicators of improving the quality of educational processes. However, it is worth investigating in more detail the issue of a mixed form of higher education in Ukraine in the medical, and in particular, dental, speciality, since with the beginning of the war, a substantial part of educational institutions switched to a mixed form of the educational process.

L. Nazarenko (2020) claims that the application in practice of scientific and methodological foundations of a mixed form of education provides the student community with a qualitatively new level of educational process, which contributes to the deep assimilation of knowledge. According to the researcher, the expediency of integrating components of a mixed form of the educational process into the practice of educational institutions is confirmed by the fact that such a concept teaches participants in the educational programme about self-control and self-motivation. In this regard, it is necessary to thoroughly examine the impact of a mixed form of education on the success of mastering knowledge, skills, and abilities among dental students.

The investigation of the research-innovation aspect of modern medical education of future dentists in the context of mixed education in Ukraine is the basis for continuing research on this issue by researchers in the educational field of Ukraine. The purpose of this study is to determine the current state and effectiveness of using the blended learning model by higher medical educational institutions, focusing on the field of dentistry.

MATERIALS AND METHODS

The paper uses the following methods of investigating the research-innovation aspect of modern medical, in particular, dental, education in the conditions of mixed learning on the territory of Ukraine: descriptive method, historical-typological method, terminological principle of research, and methods of analysis, synthesis, abstraction, and generalisation. Using the method of description, the basic characteristics of mixed training of students of medical faculties of higher educational institutions, in particular, dental speciality, and the main provisions of the methodological foundations for the introduction of the above-mentioned form of training, which should be used by teachers

of educational medical institutions, were examined. Using the historical and typological method, the study investigated the conceptual system of mixed education during the COVID-19 pandemic and since the beginning of a full-scale war on the territory of Ukraine. The historical aspects of innovative medical education, namely dental education in Ukraine, were also examined using the historical-typological method. The terminological principle of the study contributed to the examination of the terminological base of the research-innovation aspect of modern medical education in higher educational institutions, and the establishment of a causal relationship between the terminological basis of research, on which this paper is based.

Using the method of analysis, scientific literature was examined to collect and thoroughly examine the theoretical base of Ukrainian and American researchers who were engaged in the investigation of the combination of online learning and conventional form of education in a mixed form. Synthesis, analysis and abstraction were the main methods for developing ways to develop mixed learning in Ukraine, and for identifying key aspects of using the mixed form of the educational process in the context of the war in Ukraine. The generalisation method is used to form the conclusions of the conducted research on the modern medical education of future dental specialists based on the material obtained in the process of scientific search.

A substantial part of the work on investigating the current state of modern dental education in a mixed form of training was the development of the database of scientific material devoted to the research subject. The study examined a substantial number of features of the software used in blended learning and presented and analysed online resources and platforms intended for educational processes that combine conventional and online learning.

RESULTS

Early forms of blended learning always contained a large number of disadvantages and educational limitations for students' education and their professional development. Notably, the vast majority of such training in the 20th century took place in the form of radio and television broadcasts due to the availability of equipment materials and the lack of additional material costs on the part of the student community. However, the lack of quick communication contact between the teacher and the receiver of educational services was the cause of inconvenience. However, in the 21st century, due to the rapid development of digital technologies and computer technology, the creation and use of multimedia formats for conducting educational activities have become available. As a result – convenient audio and video broadcasts, teleconferences, online training, involvement of the podcast segment and virtual reality (VR), augmented reality (AR), and mixed reality (MR) (Pregowska *et al.*, 2021). It was the COVID-19 pandemic that contributed to the introduction of modern forms of education for schoolchildren and students of higher educational institutions and was a substantial impetus for the use of online

learning first on the territory of Ukraine, and then a mixed form (blended learning) of educational services.

Mentioning the technologies of virtual, augmented and mixed reality, it is worth noting the great potential of these technologies for training future dentists. The use of virtual reality software is a new area in the development of specific training tools for medical education. Virtual reality can be used for scenarios of complex modelling and standardisation of the general field (an example of the latter is the use of virtual reality in exams of dental students). However, a substantial disadvantage of developing software of this type is the serious financial cost and the lack of direct evidence of a real improvement in the mixed-type educational process using VR (Fertleman *et al.*, 2018).

The effectiveness of using augmented reality software in medical education is still being evaluated. Augmented reality applications in the key of medical education, in particular, dental education, allow students of medical institutions to examine the content, context, and situational nuances during training of this nature. It is believed that the method of using augmented reality technologies in medical education is reliable and effective, and it is also able to reproduce authentic simulations and increases the level of memorisation of educational material and the productivity of the educational process in general (Barsom *et al.*, 2016).

The form of training that will include mixed reality is quite complex, but real. The essence of the use of mixed reality in medical education is the use of modern technologies and their combination with the concepts of mixed education, to display the corresponding programmes in applications on students' devices (computers, phones, other gadgets) (Nicola & Stoicu-Tivadar, 2018). Such a strategy of using digital progress to train dental workers is an effective and realistic way to improve the mixed form of education. The technology of blended learning involves the internationalisation of the educational transition from the conventional form to integrated, that is, mixed learning, namely, the inclusion of organisational educational mechanisms through which the creation and maintenance of a virtual academic environment take place (Zahoruiko & Krasulia, 2021). Mixed educational training of university students has a number of advantages, the main ones of which are given below (Fig. 1).

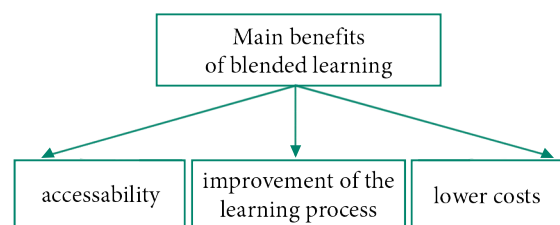


Figure 1. Benefits of blended learning

Source: J. Stein and C.R. Graham (2020)

Mixed technologies of modern training in institutions of higher medical education require free access to the internet, skills in working with digital technologies, and a high

level of self-organisation among both students and teachers. In accordance with the conditions of mixed learning, general

methods of improving the educational process can be used in educational institutions, which are given below (Table 1).

Table 1. The main methods of teaching educational material in a mixed form of education in institutions of higher medical, in particular, dental, education

No.	Training methods	Explanation of the method
1	Information-receptive	The teacher provides students with an understanding of the material presented in the learning process.
2	Reproductive	The teacher helps in mastering the presented material for the possibility of further reproduction and application by students, using hints or independently.
3	Problematic	The teacher suggests the problem and independently solves it in front of students, identifying the process and course of their thoughts.
4	Heuristic	Applicants for education, under the guidance of teachers, independently perform the solution of tasks, analysing, comparing, and drawing conclusions. As a result, students form conscious knowledge of a given subject.
5	Research	The teacher and students solve the problem that they jointly proposed. Students independently acquire knowledge and skills in the process of completing tasks.

Source: B.M. Melnyk *et al.* (2022)

Through the described methods, teachers of higher medical educational institutions will contribute to the assimilation of didactic material by dental students, who will eventually be able to apply the acquired knowledge in practice. Notably, the use of online platforms in the context of mixed training of medical professionals allows considering the needs of students themselves. One of the advantages of learning on platforms of this format is the ability to host a large number of students simultaneously, quick access to the educational process, the ability to attach educational materials and the necessary links to information resources for students (Kumar *et al.*, 2021). An example of an online platform for training dental students is the interactive educational resource Nearpod. When teachers use the Nearpod platform, the success of students of higher medical education increases substantially, considering the conditions of mixed education, since the Zoom lecture platform was used as part of synchronous learning, and Nearpod as a variant of asynchronous sessions (Messina *et al.*, 2022).

In Ukraine, a similar online platform is used – MS Teams (Vizir *et al.*, 2021), which allows teachers to receive quick feedback from the student community during the educational process, and also helps to adjust the learning process itself for students. The MS Teams online platform in a mixed form of training for students of higher medical institutions allows teachers to use MS Forms tests, MS Teams text tasks, and OneNote task formats, which simplify the educational process for teachers and students of medical universities in Ukraine. Using the MS Forms tests, the teacher sees the progress of the students' work, who writes a detailed answer to the question asked. Using the MS Teams task format, the task is sent to students as a Word text file with additional materials included.

Notably, in this case, the task can be opened simultaneously by students and teachers. In turn, the OneNote service allows the teacher to create tasks for the student audience within a short time frame in text, drawing format, or .pdf file. Another online training platform for medical university students is LIKAR_NMU, which was primarily used for international students, and during the war began to be used for internally displaced students (Slipchuk, 2022).

Blended learning can include online social networking platforms, such as WhatsApp, because the use of this platform, according to students, facilitates group discussions and provides flexibility in study time, encourages the involvement of dental education students in training sessions (Bagewadi, 2021). Ukrainian dental students mainly use group chats on Viber or Telegram, or communicate via e-mail (Belikov *et al.*, 2022). The substantial popularity of using educational films and videos from the YouTube platform in the pedagogical process is notable since such content substantially stimulates the educational motivation of the student community (Dascalu *et al.*, 2021). A substantial part of such a scientific resource is the teacher of an educational institution, who recommends a specialised product since links and video materials that are distributed on online training platforms in a mixed learning environment must be checked by teachers before the distribution process. Investigating the issues of medical education of dentists in the conditions of mixed education in Ukraine, the main positive and negative aspects of using a mixed form of education in medical higher educational institutions of Ukraine, where future dental specialists receive education, were formed. These aspects are formed considering the current martial law on the territory of the country at the beginning of 2023 (Table 2).

Table 2. Aspects of the positive and negative impact of mixed forms of education on the educational process of higher education institutions in Ukraine of medical, in particular, dental speciality

No.	Aspects of the impact of mixed learning on the educational process	Nature of the impact	
		Negative impact on learning	Positive impact on learning
1	Flexibility	Uncontrolled communicative flow of participants in the educational process, as the strict time limits of academic communication are erased.	Training takes place in synchronous (video conference, audio communication, chat, messages, social media) and asynchronous (video and audio materials, blog, Wikipedia, discussion forums, e-portfolio, social media, email) modes.
2	Individualisation	Students linger on difficult-to-understand material, not keeping up with the pace of the educational programme, because they do not have the opportunity to ask clarifying questions to teachers at the moment.	It is possible to select a convenient pace of learning and time limits for investigating subjects.
3	Interactivity	There is no live contact between students and teachers.	The ability to attract viewing of multimedia, podcasts, and forums.
4	Evaluation system	Lack of control over the direct performance of tasks by the teacher.	Automatic verification of task completion results ensures transparency of the assessment.
5	The level of independence and self-control among students	Lack of external control reduces the level of self-discipline.	The students get the opportunity to increase their level of self-motivation and self-control.
6	Interaction between teacher and student	There is a high probability of feeling isolated from teachers and classmates.	The student gets the opportunity to communicate directly with classmates and teachers in instant messengers and forums.
7	Technical difficulties	Insufficient level of computer technology proficiency among teachers complicates the work or them.	Students and teachers automatically master the technical skills and means of modern education.
8	Health	The load on vision increases, posture worsens due to prolonged working in front of the computer.	The probability of acute respiratory viral infections and similar respiratory diseases is reduced.
9	Security	In homes (private sector or high-rise buildings) where participants in the educational process live, there may not be a specially equipped shelter and the travel time to it may be quite long.	During online lectures, students and teachers have the opportunity to use the two-wall rule or go down to the shelter in case of an air alarm. In case of face-to-face meetings, it is possible to use the shelter that is available on the territory of the university.

Source: compiled by the author

Considering all the above-mentioned aspects of the impact of blended learning, it is worth noting the innovations that have been implemented to train future dentists with its help. An example of such an implementation is the MMS (MyMOOCspace) mobile learning application, which works according to gamification concepts and supports the motivational aspect of the student community in a mixed learning environment. The use of the MMS application in the studies of other researchers showed a positive effect of attracting video resources (Ramirez-Donoso *et al.*, 2021). 3D modelling deserves special attention while teaching using mixed form of education. Dental students who managed to use the 3D modelling system in a mixed learning environment eventually received the highest score for performing dental examinations on exams (Carreon *et al.*, 2020).

In addition to applications and 3D modelling, the studies on gamification as a promising industry in the context of mixed training of medical university students are gaining momentum. In the initial courses, the use of gamification is associated with the development of students' professional writing skills, but a small number of positive reviews in the student community is notable (El Tantavi *et al.*, 2016).

In turn, the use of specific games that were used to develop diagnostic skills in young professionals and helped both students and teachers to observe the success of acquiring skills and abilities in their speciality, received a large number of positive reviews. For example, the special educational game "RealTeeth" allows medical university students investigating dentistry to simulate interviews with patients and perform diagnostics. At the end of the game, a young specialist may be offered a task according to the results of the game (Sanchez *et al.*, 2019). The use of gamification in a mixed learning environment combines a large number of leading concepts for improving the educational process for students of medical institutions, in particular, future dental specialists.

Notably, the state of functioning of modern education in the conditions of forced mixed learning is an important issue in the scientific circles of teachers and researchers in Ukraine. Employees of higher educational medical institutions of Ukraine and researchers are convinced of the advantages of a number of aspects of combining online training and the conventional form of teaching educational material to dental students. Despite the martial law that has

been going on in the territory of the Ukrainian state for the past year, educational processes continue to function and provide high-quality education for medical university students. Ukrainian youth, in accordance with the established time frame and conditions of war, receive up-to-date knowledge, skills, and abilities necessary for successful future medical practice.

DISCUSSION

Mixed education has become a common phenomenon in higher education institutions in many countries during the 21st century, so a substantial number of researchers have examined this issue. Studies devoted to the field of modern medical, in particular, dental, education in the context of mixed learning, examine the concepts, the main advantages and disadvantages of this form of education, and the historical prerequisites for the introduction of a mixed form of education in the educational process.

According to L. Caraivan (2011), the concept of mixed learning in the world appeared in the early 1990s as an alternative to online learning, as students were not motivated enough to learn independently, while actively introducing a mixed form of education began only in the early 2000s. However, the demand for mixed education began with the COVID-19 pandemic and increased on the territory of Ukraine with the beginning of a full-scale war.

According to R. Haridy *et al.* (2020), in fact, the COVID-19 pandemic has seriously complicated the educational process for dental education applicants. Due to the spread of coronavirus infection, a mixed form of training began to be actively used for students who were trained as dentists, which included a mixture of online training, virtual modelling, and visits to tactile laboratories, along with conventional clinical training, which involved real patients in the process. Based on the results of the study in 2023, organising training using mixed-form methods really creates a substantial number of educational opportunities for dental students.

In turn, researchers M. Saritepeci and H. Cakir (2015) argue that the blended learning system in higher education institutions is extremely effective compared to classical learning in university classrooms or online learning. Comparing the data with the results obtained at the beginning of 2023, the effectiveness of the mixed form of the educational process in Ukraine is quite high and is due to a number of factors that are crucial for the training of Ukrainian students and teachers.

A study on the mixed form of the educational process by researchers M. Tayebnik and M. Puteh (2013) notes a large percentage of the advantages of this education system in comparison with the exclusively conventional or distance form. However, comparing the results of the 2013 study with the results obtained in this study at the beginning of 2023, the effectiveness of this form of the educational process has increased.

Using IT industry knowledge and technology to train future dentists, according to T.Y. Chang *et al.* (2020), is an important area of the educational process for both teachers

and medical students. Researchers believe that online lectures are becoming an integral part of future dental education. Based on the results of the 2023 study, it is worth agreeing with this, since in mixed training, which is practised on the territory of Ukraine by higher medical educational institutions, online training is included in the educational process of dental students.

A. Godlewska *et al.* (2019) believe that active learning through communicative foundations with classmates contributes to the high-quality assimilation of educational material, even in cases where students did not attend the lecture part of training. Given the study of the beginning of 2023, among other things, the mixed form produces the probability of students experiencing a sense of isolation from teachers and other participants in the educational process.

A mixed approach to learning is common, however, according to K. Smith and J. Hill (2019), the key to the model of combining online learning and conventional form is technological progress and the use of digital technologies that are constantly evolving. Considering the results of the analysis of pedagogical views in Ukraine, the involvement of technologies in the educational process is an important component of successful and relevant training of dental students.

In turn, F. Derbel (2017) argues that conventional learning, supplemented by online learning, is an innovative concept of education around the world. Virtual educational mobility is provided for students by the opportunity to use online materials and work at the student's own pace, without isolation from the teacher's presence. Notably, considering the results obtained in the study of 2023, the problem of the pace of learning and the feeling of isolation of the student from teachers is an important and relevant issue that requires special attention from researchers and educational workers.

K. Nijakowski *et al.* (2021) also note that the effectiveness of a mixed form of education in dentistry proves students' satisfaction with this form of education. According to the results of the study by the authors, students of the dental speciality emphasise the advantages of mixed training in improving educational efficiency and using the individual pace of educational processes, but a substantial disadvantage in the mixed form of training was recognised as the restriction of social contacts. Comparing with the results of the 2023 study presented in this paper, Notably, Ukrainian students have a decrease in this indicator, but the decrease in social contacts also negatively affects the productivity and quality of training of future dentists.

A.S. Qutieshat *et al.* (2020) draw attention to the results of their own study, which indicates an increase in the academic performance of students who studied in a mixed form of education. Notably, the mixed form of education, as shown by the study in Ukrainian medical educational institutions, also shows an increase in the academic performance of educational participants. Blended learning is one of the most effective types of educational process in many countries of the world. Results of the study by N.R. Alsulhi *et al.* (2021), which was conducted

based on Ajman University, showed that the success of dental students can vary depending on the gender of the applicant in favour of women.

Similar results were shown by the study conducted by R. Ullah *et al.* (2021), which confirms the propensity of women to perform better in a mixed learning environment. However, regarding this criterion of academic performance of students studying in a mixed form in Ukrainian institutions of higher education, it is impossible to comment on this aspect, due to the lack of a sufficient number of studies on the direct relationship of such a trajectory of academic performance with gender in dental students.

According to S. Jeganathan and P.S. Fleming (2020), mixed learning at the level with the conventional form of the educational process has effective methodological foundations and shows high results in students' knowledge acquisition, and both approaches, that is, both mixed and conventional learning, receive positive feedback from participants in the educational process. Considering the results of the study at the beginning of 2023, teachers of higher medical education institutions prefer a mixed form of education, referring to the unstable situation in Ukraine.

Training of modern medical dental specialists in Ukraine, as in many countries of the world, is mainly based on the concepts of improving the quality of education and therefore focuses on the use of a mixed form of education in higher medical institutions of education. As the results obtained by other researchers and of this study show, in Ukraine, the educational process in the conditions of mixed learning ensures high efficiency and effectiveness, the overall success of dental students, which, in turn, ensures satisfaction with the educational process of teachers in this area.

CONCLUSIONS

As a result of the study, the specific features of education and the formation of mixed education in the world and in higher education institutions of Ukraine were examined. The paper highlighted the basic aspects of applying the concepts of mixed learning in the realities of war on the territory of Ukraine. Early forms of blended learning had drawbacks and educational limitations but with the development of computer technology, multimedia learning formats such as audio and video broadcasting, teleconferencing, online learning, and virtual, augmented, and mixed reality technologies became available. The COVID-19 pandemic has contributed to the widespread introduction of these modern forms of education in Ukraine.

In the study, the main online educational platforms used in educational medical institutions of Ukraine, India, and the United States of America were examined, as a result of which it was possible to determine the effectiveness and relevance of using a symbiotic complex of conventional and online training for students of medical universities of

Ukraine using online educational platforms and software. Analytical work was also conducted on the state of the educational process in higher educational institutions of the country during the war and the possible prospects for the use of mixed education by educational institutions in the future were investigated.

Blended learning in Ukraine helps medical university students get a high-quality education, considering innovations such as mobile applications, 3D modelling, and gamification. Platforms and social networks such as MS Teams, LIKAR_NMU, WhatsApp, Viber, Telegram, and YouTube contribute to the efficiency and flexibility of the learning process. The use of the MMS mobile application and 3D modelling system improves the educational results of dental students. Gamification is gaining momentum in medical education, in particular, in the development of professional writing and diagnostic skills.

As a result of investigating the current state of use of mixed learning concepts in higher medical educational institutions, a high level of commitment of the university teaching staff to this method of conducting the educational process was identified, and the effectiveness of using mixed learning based on increasing the level of education among students in the dental industry. The mixed learning model has also shown a substantial level of efficiency in protecting the physical health of teachers and students since the mobility of participants in the educational process of a mixed form of education is much higher than the conventional one.

The main positive aspects of using the blended form of education include the speed of access to the educational process, convenience for students and teachers, and the ability to adjust the educational process based on feedback from the student community. On the other hand, there are some negative aspects, such as the need for teachers to check educational materials before distributing them, and possible difficulties in organising students' independent work. Due to the current martial law on the territory of Ukraine at the beginning of 2023, mixed education is of particular importance, as it allows to ensure the continuation of the educational process for internally displaced and foreign students.

The completed study on the state of medical education, in particular, the dental industry, in the conditions of using mixed education in higher educational institutions of Ukraine is the basis for further examination of this issue. Researchers should pay attention to the examination of the use of virtual, mixed, and augmented reality in the context of mixed learning of medical students.

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CONFLICT OF INTEREST

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Дослідницько-інноваційний аспект сучасної медичної (стоматологічної) освіти в умовах змішаного навчання

Анотація. Національна концепція розвитку вищої освіти в Україні під час війни спрямована на залучення цифрової освіти в навчальний процес, а також на сприяння розвитку віртуальної освітньої мобільності. Актуальність дослідження зумовлено нестабільним станом сучасної медичної освіти в Україні, необхідністю використання цифрових технологій та залучення змішаної форми навчання до загальноприйнятої концепції ведення освітнього процесу. Мета дослідження – з'ясувати, як педагоги та студенти стоматологічного напрямку вищих медичних закладів України реалізують концепцію змішаного навчання станом на початок 2023 року. У роботі використано такі методи наукового дослідження: описовий, історико-типологічний, термінологічний принцип дослідження та аналіз, за допомогою яких вдалося розкрити дослідницько-інноваційний аспект сучасної стоматологічної освіти під час війни на території України. У роботі вивчено історичні особливості становлення змішаної форми навчання в українській освітній сфері. Висвітлено ключові аспекти використання моделі змішаного навчання в сучасній вищій медичній освіті України. Розглянуто основні онлайн-платформи, які використовуються в умовах змішаного навчання, а також актуальне для змішаного навчання програмне забезпечення. Здійснено ґрунтовний аналіз стану сучасного освітнього процесу в українських університетах, де здобувають освіту майбутні спеціалісти стоматологічної справи, а також вивчено перспективи використання змішаної форми навчання для студентів стоматологічного профілю в медичних закладах освіти. Результати та підсумки роботи можуть використати науковці та педагогічні працівники для подальшого дослідження порушеної тематики, зокрема для виявлення та усунення недоліків різних форм навчання

Ключові слова: компетенції лікаря; навчальний процес; самомотивація; освітня сфера; цифрові технології

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Abstract. The relevance of the study lies in the fact that, unlike most European countries that returned to full-time education after the end of the coronavirus pandemic, Ukraine, due to active military operations on its territory, continued an online educational process for a long time and again faces the choice of a rational way of learning. That is why there is a need to evaluate all the weaknesses and strengths of the remote educational format. The purpose of the study is to analyse the advantages and disadvantages of implementing online education in Ukrainian universities during martial law. To achieve this purpose, a survey of 56 teachers of psychological disciplines with professional experience from 4 to 28 years was conducted; the answers received were analysed. The results showed that the advantages of online learning for students and teachers are common: mobility, high quality of digital content, partial automation of knowledge control, a variety of psychological and pedagogical tools, and stimulation of the development of digital and technological competence. The main problems of online learning for students are communication disorders: a lack of personality-oriented communication between peers, and a deepening of the social distance between students and teachers. In the field of psychological education, this disadvantage is closely related to the difficulty of mastering practical professional skills, which consist in organising trusting, close interaction between people. For teachers, this form of work offers wide opportunities for professional self-fulfilment, but at the same time is accompanied by overload, rapid emotional burnout, deterioration of health and quality of life. The paper substantiates the need to restore full-time education, considering the positive experience of online learning. The results of the study can become the basis for the development of practical measures aimed at preventing professional maladaptation of university teachers; combating the difficulties of socialisation and professionalisation of young people who received higher education during quarantine and martial law

Keywords: distance education; teachers; students; higher education institutions; digital educational environment; relationships in the educational space

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INTRODUCTION

The educational process of most Ukrainian higher education institutions is implemented online. This is a necessary measure, which was taken in 2020 due to the COVID-19 pandemic as temporary, but is now extended due to full-scale military operations and the occupation of the territories of Ukraine. Digital tools allow participants in the educational process to keep in touch and exchange information while in safe places. This is especially important for teachers and applicants who live in regions where intense fighting is taking place, and for forced migrants who have gone abroad but continue to study at Ukrainian universities, maintaining cultural and social ties with their homeland. Nevertheless, online learning has a number of limitations and disadvantages that require empirical research and theoretical and methodological understanding.

From the very beginning of the transition to a new learning format, academic discussions continue about the advantages and disadvantages of online learning. However, the number of theoretical and analytical studies in this area still greatly exceeds the number of empirical studies. A few surveys conducted at Ukrainian universities demonstrate a contradictory attitude of teachers and students to online learning (Sahaidak *et al.*, 2021; Nestulya & Shara, 2023). From the very beginning, distance learning was perceived by teachers with some hostility – as a negative phenomenon that requires additional effort, changes in the usual order of life and work; instead, students perceived it as more comfortable (Lytvynchuk, 2021). During the three years of implementing online technologies, there has been a certain change in attitude: the initial enthusiasm and expectations are gradually replaced by fatigue, frustration, and anxiety. There is evidence that in the conditions of distance learning, the psychoemotional state of students considerably worsens. Researchers note the problems of organising students' independent work due to the lack of developed algorithms for remote work and appropriate methodological skills of teachers; moreover, student motivation is low (Shpak, 2021; Novik & Meleshko, 2021). In addition, public dissatisfaction with the organisation of the educational process and its results is growing. Consumers of educational services, and often teachers themselves, talk about modelling the educational process and the "lost generation" (Strashko, 2022). At the same time, the digitalisation of society and its role in the formation of the cognitive sphere and social competencies of the new generation are actively discussed. In the modern knowledge society, people have almost unlimited access to the cognitive resources of humanity, so universities are gradually losing the monopoly of the knowledge supply (Bocheliuk, 2020). However, there is not enough accumulated data for a comprehensive and objective understanding of the psychological aspects of the widespread virtualisation of the educational environment.

The coronavirus pandemic has been overcome, and after two years of online education, most European schools and universities have returned to conventional education. Yet in Ukraine, due to active military operations, online

training continues and becomes large-scale, new challenges appear before education, and therefore a comprehensive examination of the features of remote learning is still relevant.

The purpose of the study is to analyse the advantages and disadvantages of online education in Ukrainian universities during martial law.

LITERATURE REVIEW

It is necessary to clearly distinguish between distance education and online education, which are often used as synonyms. Distance education as a special form of organising the educational process (along with full-time and part-time) has been known since the 1950s. This is a type of training in which the interaction between participants and initiators of the educational process takes place at a distance from each other, indirectly and mainly asynchronously – through conveying educational material via mail or internet communication (Hnatiuk, 2021). Today, several generations of distance education technologies have changed – from print publications, educational radio, and television to modern computer technologies and internet conferences.

For quite a long time, distance education was not an alternative to full-time education, meeting the educational needs of a relatively small number of adults, but at the beginning of the 21st century, due to the development of internet communication technologies, it turned into a powerful trend. Popular platforms appeared and quickly developed: Coursera, Prometheus, Udemy, Stanford Online, and many others, offering training courses from the best teachers of leading universities in the world. Such courses usually include: a) a set of short video lectures accompanied by presentations and additional educational materials (texts, PDFs, links to scientific sources, etc.); b) tools for assessing knowledge (usually automated) and feedback from students. The content of such courses is as formalised, universal, and verified as possible; they often become a kind of business card for universities. Distance learning, due to its flexibility, short duration, and other advantages, is the most convenient for adults who want to gain professional knowledge. Yet it is important to understand that creating a high-quality online course is a long and rather expensive process, including the work of not only teachers, but also auxiliary support staff, designers, and programmers.

The methodology of distance learning has been thoroughly developed by Ukrainian researchers (Bykov, 2005; Smulson, 2012; Hnatiuk, 2021). Its recognised advantages include: an individual work schedule (the ability to study at any time and in any place, independently decide how much time to devote to studying the material); the ability to combine education with the main activity, engage in several courses at the same time, study the latest innovations that are not covered by mass professional education; departure from paper media, availability and diverse presentation of educational materials (texts, tests, presentations, video materials, etc.), the ability to easily share them; reduced stress

during passing the intermediate and final certification, time and money saving for students (Gautam, 2020; Warren *et al.*, 2020). A wide range of online learning options and resources allow personalising the learning process in many ways to create a learning environment that meets the needs and characteristics of each student.

Nevertheless, distance learning has a number of limitations and disadvantages: it requires sufficient motivation, organisation, and self-control of students; it does not contribute to the development of communicative competencies and teamwork skills; it has limited opportunities to control the level of acquired knowledge. Technical problems or lack of a stable internet connection can suddenly interrupt the learning process. Moreover, in mastering many practical skills and disciplines, distance learning cannot replace real-life practice and the special equipment of university laboratories.

Distance learning involves a new role and functions of the teacher: general coordination of the cognitive process, adjustment of the course content, advising on the preparation of an individual student curriculum, management of educational projects and mutual support groups, task checking, and so on. Teacher-student interaction is usually ensured asynchronously at a convenient time for such work (Bykov, 2005). Teachers are expected to clearly structure the material, update it in a timely manner, create a trajectory for tracking students' success, ensure and maintain a high level of engagement and motivation (problem-based, practice-oriented approach, short lectures, visibility and accessibility). Distance learning also requires other skills from students, primarily self-organisation.

Online education, which is currently implemented in Ukrainian schools and universities, is not distance education. It does not have the main advantage of the latter – a flexible free schedule, when the student is engaged at a convenient time. The usual face-to-face classes were transferred to available (free) online resources that allow exchanging data and maintaining communication between participants. In some institutions, education has become hybrid, mixed: some forms of work are performed online, some – offline.

Thus, the term online learning should be understood as a forced form that imitates the content and methodological techniques of full-time learning, while using the available capabilities of internet resources. The methodology of such training develops spontaneously and haphazardly. It is still seen as a temporary measure. For three years, certain standards for online learning have not been developed, as well as the corresponding digital infrastructure. Therefore, each institution implements it as best it can. Zoom and Google Meet video conferences are usually used for lectures and seminars, group chats of popular messengers (Viber, Telegram) are used for distributing educational materials, Google Forms or private emails of teachers are used for knowledge control, and so on. This causes the problem of disparity and lack of adaptation of online resources, which requires the installation of many applications and digital competence.

The forced transfer of mass education to the online space has led to the loss of one of its main and major functions – the creation of a developing and stimulating educational environment (Perepelytsia, 2022). The absolute advantage of full-time training is that all participants in the process communicate and interact closely: a trusting relationship between the teacher and students is built, teamwork is established, healthy competition occurs, and so on. The study of subject disciplines is accompanied by pleasant human communication, jokes, and exchange of impressions and experiences – everything that creates pleasure from learning and forms the desire to attend classes.

Long-term studies of virtual communication show that such interaction of participants differs considerably in its psychological characteristics from face-to-face communication (Tavrovetska, 2020). Mediated by computer communication tools, it has the configuration and limitations of the latter. However, technology is evolving rapidly: it has gone from sending text messages to more or less completely creating the illusion of presence through video communication. Even the most advanced digital technologies are not able to provide subtle aspects of interaction in the study group: nonverbal communication, emotional expressiveness, motivational infection, empathy, etc. The leading role and main activity in such communication usually belongs to the teacher, and students take the position of passive contemplators, consumers. The lack of balanced communication, which includes not only the transmission of information but also emotional and energy exchange, leads to rapid professional burnout of teachers, who mostly give without receiving anything in return (Veldbrekht *et al.*, 2021).

On the other hand, students do not have the most important tools of socialisation in adolescence – the study group and the educational environment of the university. Nevertheless, existing studies do not confirm the lack of communication and loneliness in students studying online; this can be explained by adaptation to life in new conditions and transformation of ways of interaction (Rybak & Vasylykivska, 2022). This should affect personal development and professional identification; the long-term effects of such limited socialisation remain to be elucidated.

MATERIALS AND METHODS

In January-February 2023, a survey of 56 experts – teachers of psychological disciplines of higher educational institutions – was conducted. Among them are 29 candidates of sciences, 12 doctors of sciences, and 15 research fellows who combine teaching activities with education and scientific work. The professional experience of respondents ranges from 4 to 28 years, with an average of 14.3 ± 7.2 years. The respondents represent different regions of Ukraine, except for the eastern regions. During the research, 12.5% of respondents were international migrants, and 26.8% were internal migrants. The survey was voluntary and free of charge, participants were previously informed about the scientific purpose, methods of processing and storing the results, and they were guaranteed the confidentiality of

individual data. The entire process of organising the study was based on the recommendations of the European Commission (2021) on the ethics of conducting the survey and the preservation of confidential information.

Among the experts surveyed, 20 people (35.7%) started teaching their academic subjects remotely by 2019 (the earliest start was recorded in 2018), that is, before the spread of the pandemic and the mass transition of education to the online space. The vast majority of respondents (64.3 %) switched to teaching online in 2020-2021 due to the COVID-19 pandemic and the social restrictions caused by it.

At the time of the survey, 76.8% of respondents taught exclusively in an online format. 14.3% indicated that they teach mainly full-time, and another 8.9% represent a mixed form of education, in which 2/3 of the workload is implemented online. All experts who worked offline represent universities in the western regions of Ukraine (Lviv, Kamianets-Podilskyi, Ivano-Frankivsk).

Respondents filled out a Google form that contained a block of professional characteristics and five open-ended questions about the various advantages and disadvantages of online education, its impact on students' personalities. Participation in the study did not violate the rights and ethical standards developed for psychological research, was

voluntary, and all participants were informed about the purpose of the study:

1. What advantages and positive effects of online learning (as it is implemented in your institution) do you see for students?

2. What disadvantages and negative effects of online learning (as it is implemented in your institution) do you see for students?

3. What advantages and positive effects of online learning (as it is implemented in your institution) do you see for teachers?

4. What disadvantages and negative effects of online learning (as it is implemented in your institution) do you see for teachers?

5. In your opinion, how do graduates who studied mainly online differ from graduates of previous generations?

The responses received were processed by content analysis with the allocation of content categories and the calculation of the corresponding frequencies.

RESULTS

At the beginning of the study, the benefits of online learning for students and teachers were considered. The interviewed experts noted the positive aspects of online learning. The selected response categories are shown in Table 1.

Table 1. Content analysis of the benefits of online learning for different participants in the educational process

Students	n	%	Teachers	n	%
Mobility:					
flexible schedule and pace of work	22	39.29	flexible, free schedule, ability to plan one's time	12	21.43
time saving (on the road, speed of getting information)	13	23.21	time saving: test processing, road to work	11	19.64
ability to study anywhere	21	37.50	ability to join from anywhere in the world	8	14.29
ability to combine studies with other activities (household chores, work, etc.)	5	8.93	opportunity to attend events held in different places (classes, service meetings, national and international conferences)	7	12.50
Digital content quality:					
ease of receiving, distributing, and sharing information	19	33.93	ease of updating content and distributing training materials	6	10.71
high-quality training materials: visual content (presentations), video materials	14	25.00	extensive technical capabilities: using visibility, an online platform as a way to structure information	16	28.57
convenient and transparent reporting: electronic journals, automatic knowledge control, reduced written workload	13	23.21	reduced the paper load: electronic journals, the ability to test the student's knowledge by creating Google Forms	5	8.93
Educational environment:					
opportunity to continue studies in a safe environment	10	17.86	independence from the availability of presentation tools in the audience, easy access to internet resources during lectures	4	7.14
comfort of attending classes	16	28.57	Facilitated access to education for different categories of students	6	10.71
accessibility (via smartphone)	9	16.07			
Variety of psychological and pedagogical technologies and methods:					
expansion of classes beyond standard textbooks, application of various forms of work, numerous online resources, and digital technologies	15	26.79	a variety of forms of work and options for submitting material (cases, exercises, working in microgroups, etc.)	10	17.86

Table 1. Continued

Students	n	%	Teachers	n	%
Variety of psychological and pedagogical technologies and methods:					
interactivity, use of various online platforms (chats, surveys) to attract participants at different levels	6	10.71	interactivity, dynamic communication and interaction	6	10.71
reducing the intensity of classes	3	5.36	individual approach	2	3.57
Stimulation of the development of competencies and personal virtues:					
mastering modern technologies, innovation, and compliance with the requirements of the time	9	16.07	acquisition of new competencies, mastering modern information technologies and applications	18	32.14
formation of self-confidence; development of self-discipline, self-control, self-organisation	5	8.93	expansion of opportunities for professional self-fulfilment	7	12.50

The benefits of online learning for students and teachers are largely shared. This applies to increased academic and professional mobility, improved quality and variety of educational materials, and automated knowledge control.

In general, experts see more benefits of online learning for students than for teachers. Moreover, this form of work has greater opportunities for self-development and self-fulfilment for teachers than for students. The list of negative effects of online learning for students is

presented in Table 2. The main problem of online learning is the limitation of communication: the lack of live personality-oriented communication between peers and the deepening of social distance between students and teachers. In the field of psychological education, this disadvantage is combined with another – the difficulty of mastering practical professional skills, which consist precisely in organising trusting, close, therapeutic interaction between people.

Table 2. Content analysis of the disadvantages of online learning for students

Category and content of expert responses	n	%
Social isolation:		
lack of live communication between students in the group	28	50.00
social distance, barriers to communication between students and teachers	34	60.71
difficulties in establishing personal connections, a sense of isolation	12	21.43
lack of emotional, nonverbal, informal contact	10	17.86
inability to hold mass events: cultural, sports, etc.	6	10.71
Theorised educational material:		
difficulty in performing practical tasks and acquired practical skills	19	33.93
inability to implement activities related to live communication, such as trainings	5	8.93
inability to fully complete an industrial internship	5	8.93
Difficulties in controlling and reducing the quality of knowledge:		
constant distraction from classes, difficulty concentrating	15	26.79
superficial training, formal approach to completing tasks, opportunities for outright cheating	14	25.00
students turn off the camera and do other things that are not related to learning	13	23.21
difficulties of self-study of a large amount of material, without the support of a teacher	10	17.86
deterioration of the quality of material assimilation	7	12.50
lack of engagement, low student activity	7	12.50
Organisation of studying process:		
a large number of hours in front of the computer	13	23.21
technical problems: lack of internet or weak connection, power outage	11	19.64
insufficient equipment availability (lack of a tablet, laptop, computer, or having to share it with other family members)	9	16.07
lack of a favorable environment for learning at home	4	7.14
lack of recorded video lectures	3	5.36
Difficulties of personal development, unwillingness to learn independently:		
lack of self-discipline and self-organisation	16	28.57
loss of interest, difficulty of motivating to learn	15	26.79
inability of students to learn independently	5	8.93
difficulties of time management	3	5.36

In addition, the interviewed experts note a decrease in the quality of students' knowledge due to the features of the presentation of the material and its control tools. Behind this is a considerable limitation of the levers of psychological and pedagogical influence on students, non-formal ways to activate and motivate learning activities in the context of online education.

The conducted study places slightly different accents on the problems of online learning than those described earlier in the literature. The obtained data show that techni-

cal and organisational problems are significantly inferior to psychological ones (loss of social connections) and pedagogical ones (decrease in the quality of knowledge, inability to master practical skills). It is worth noting that some of these disadvantages may depend on local conditions and requirements of training in a particular institution. However, in general, these categories reflect the main challenges that students may face during online learning.

Table 3 demonstrated the challenges that teachers face in the online educational process.

Table 3. Content analysis of shortcomings of online training for teachers

Category and content of expert responses	n	%
Mental stress and fatigue:		
heavy workload	16	28.57
increased amount of time spent checking tasks sent by students	7	12.50
increased number of reporting documents	6	10.71
stress due to power outages or lack of communication	6	10.71
unbalanced professional and family life, lack of time for the family and raising their own children, etc.	16	28.57
emotional and professional burnout, demotivation	9	16.07
loss of health, deterioration of vision due to constant work in front of the monitor	6	10.71
lack of resources (time and energy)	3	5.36
Communication and interaction disorders:		
impossibility of full-fledged live communication; limited interaction only by verbal influences, impossibility of physical actions	14	25.00
lack of full return on students, low activity in the classroom	6	10.71
lack of communication with students outside the educational process	5	8.93
difficulty in discussing psychological topics and problems with students online when compared to face-to-face communication	3	5.36
reduced trust and respect for teachers	2	3.57
Difficulties in controlling knowledge and assessing it:		
inability to fully control the effectiveness of the acquired knowledge	17	30.36
inhibition in the development of practical skills, inability to perform practical exercises at the proper level	10	17.86
complicated monitoring of the completion of tasks and prevention cheating	5	8.93
Organisation of studying process:		
technical problems, dependence of the lesson on the quality of communication and system load	17	30.36
inconvenience or lack of skills in using online platforms	5	8.93
lack of ability to create high-quality recorded video lectures	4	7.14

More than half of the experts noted that online learning has led to an increase in the workload: this applies to the preparation of educational materials, the time required to monitor and verify students' tasks, and various forms of reporting. Contrary to the answers to the previous question of the questionnaire, experts indicate that the amount of time to check the tasks sent by students has significantly increased because their number has grown due to remote work technology. In the detailed responses, teachers note that the work actually continues 24/7; they are required to constantly be in touch with the administration and students. Regular technical failures greatly increase stress, because it is the teacher who is responsible for organising the lesson.

The imbalance of professional activities and other areas of life and the lack of opportunities for full-fledged

emotional recovery in the process of live communication with students lead to rapid professional burnout of teachers. Health problems due to stress, burnout, and constant work in front of the computer, especially rapid deterioration of vision are of particular concern.

More than a third of experts noted problems with communication, mastering practical skills, and controlling students' knowledge. These difficulties are shared by all participants in the educational process.

Some categories of answers were both among the advantages and disadvantages: distraction to extraneous matters, automation of knowledge control, increased workload, the need for self-organisation of students, and so on. This confirms the controversial nature of the topic and the need for further studies on the long-term psychological effects of online learning.

Predicting the features of psychological and professional development of graduates who studied exclusively online, compared with previous generations of students, many experts noted a lack of practical skills (30.4 %) and possible difficulties in interpersonal communication (17.9 %), which is almost equivalent to psychologists. Nevertheless, almost half of the surveyed experts (44.6 %) make optimistic forecasts – they assert that young people develop and change in accordance with social transformations. Teachers note the stress tolerance, independence, technological awareness, and digital competence of modern students, their ability to work with large amounts of information: analytical abilities, critical thinking, etc.

DISCUSSION

The empirical results confirm and clarify data from other researchers who have studied the impact of online education.

As early as 2020-2021, various authors drew attention to the devastating effects of online learning on students' mental development and physical health (Zemlianska *et al.*, 2020; Nazarenko & Polishchuk, 2021). After the initial enthusiasm generated by non-standard and seemingly easy learning in a comfortable environment, researchers in different countries have faced numerous challenges among both students and teachers. There was a drop in interest in learning (and life in general), apathy, lethargy, decreased concentration, and high levels of boredom and frustration. As a result, most students turn off the camera during classes and go about their own business – the same was noted by the experts involved. Academic lag, increased social distancing, and shifting the educational environment to the family circle can lead to increased stress and anxiety. Experts also write about zoom fatigue due to a sharp increase in screen time, which is manifested in nervous exhaustion and information overload. It is noted that classes in Zoom are more exhausting for teachers and students than direct communication in the classroom (Michelle, 2021). It is also worth considering the information overload of Ukrainians during martial law – due to the constant monitoring of news, causes of air alarms, and other emotionally significant information; this phenomenon is especially common among young people (Maksymova & Krasilova, 2023).

A well-known problem with online learning is the need to focus on the monitor image for a long time, and increased screen time as opposed to physical activity and other types of useful activities (Chu & Li, 2022). To maintain students' attention and engagement, it is important that online classes are clearly structured, interesting, interactive, and stimulate participants' activity. 4-6 hours spent daily in front of a screen can lead to visual disturbances, headaches, sleep disorders, spinal deformities, eating disorders, excess weight, and other problems (Stockwell *et al.*, 2021). This applies not only to students but also to teachers.

Most studies on the learning experience during the pandemic highlight the limitations of teacher-student interaction, which is a major barrier to implementing quality online education (Dumford & Miller, 2018; Bastos *et*

al., 2022; Rybak & Vasylykivska, 2022). Being in the company of peers, students not only study together, but also make friends, socialise, develop the ability to cooperate, argue, compete, and acquire valuable professional and personal qualities. Yet in a digital environment, physical interaction between participants is not possible. There are no group discussions, and there is virtually no personal communication. All this can cause feelings of isolation, which in turn negatively affects motivation and academic performance.

Communication limitations lead to participants not experiencing sufficient feedback from the educational environment. Although constant monitoring by teachers seems unpleasant, it is actually an effective method of improving student performance. In addition, loosening controls makes it much easier for students to leave online courses (Bay Atlantic University, 2022).

A large-scale survey of high school students, parents, teachers, and school leaders conducted by the state service for the quality of education of Ukraine in early 2022 (that is, after two years of online training in the context of the pandemic) showed a significant decrease in the quality of knowledge in the main subjects, primarily mathematics and language. The most prominent negative impact on learning outcomes is the inability of students to learn independently (State Service of Education Quality, 2022). The findings showed that these negative trends in the conditions of war are deepening and spreading to the sphere of higher education.

There is evidence that the negative effects of online learning are particularly noticeable for less academically trained students. Digitalisation of education improves the performance of students with high abilities, but at the same time reduces the performance of students with low abilities (Cellini, 2021). It is obvious that the effectiveness of online training varies in relation to different specialities and types of professional competencies. A large-scale survey of students from different countries showed that it sufficiently meets the need to acquire knowledge, but is ineffective for obtaining clinical or technical skills (Abbasi *et al.*, 2020).

The massive transition to online learning necessitates rethinking the professional responsibilities of teachers and the educational opportunities of higher education institutions. In theory, online education is an accessible and valuable tool for educators that allows them to showcase their creative abilities and professional competencies, create original intellectual products, implement their own vision of the subject matter, find inspiration within themselves, and inspire others. Yet in reality, for most teachers, the introduction of online learning is accompanied by an increase in workload and inadequate stimulation of activities.

Over time, students and teachers have developed the opinion that the negative impact of online learning outweighs the positive, so it should only be used with extreme caution when full-time learning is unavailable or impractical (Northenor, 2020). Other experts, on the contrary, argue that the negative effects of online learning, such as

feelings of isolation or increased screen time, are fully balanced by the positive aspects of this experience – accessibility and effectiveness of education (Bay Atlantic University, 2022). The accelerated introduction of online learning is seen as a positive effect of a global problem. Although it is difficult for many people to adapt to the new learning format, the rapid pace of technology development and social crises leave no other way than to do everything to adapt as quickly as possible.

CONCLUSIONS

The widespread introduction of computer and digital technologies in the educational process has become the new standard of higher education. Full or partial transfer of learning to the virtual space requires a revision of the ideology, strategy, and tools of higher education. Similar to most methods of education, online education has its pros and cons, which were detailed in this paper.

An expert survey of psychology teachers showed that the advantages of online training for all participants in the educational process are: mobility, high quality of educational material created using digital technologies, the ability to automate knowledge control, a variety of psychological and pedagogical tools for influencing the audience, stimulation of the development of digital competence of specialists. Nevertheless, specific problems of online learning can be noted. On the part of students, there are violations of social communication: deepening of social distancing, and a lack of personality-oriented communication. On the part of teachers, additional opportunities for professional self-fulfilment are offered, yet fatigue and overload, emotional burnout, and deterioration of the overall quality of life are noted. Therefore, transferring classes to a virtual space cannot replace the full-fledged academic environment of the university.

Regarding the restrictions in the study, it is worth noting that under martial law, it is impossible to discuss the unification of educational technologies and the complete transition of higher education to the virtual space. Teachers have different degrees of online workload, which greatly affects their ideas about the educational process.

The transition to a digital learning environment has implications for all participants who need to adapt to the new learning format. The prolonged socio-psychological effects of online learning are extremely interesting in both practical and theoretical aspects. In addition to a decrease in knowledge and competencies, one can expect difficulties in the professional identification of students, an increase in alienation, and social distancing. Nevertheless, in adapting to a new reality, new forms of thinking, norms of communication, and ways of socialisation will be developed.

Understanding the positive and negative aspects of online learning will help universities develop strategies for more effective implementation of vocational education. Online training is useful during martial law. However, conventional education in a university classroom or laboratory remains the preferred path that encourages students' social and intellectual development. The restoration of full-time education in the post-war period should consider the acquired experience and achievements and use them for the benefit of all participants in the educational process. For that reason, the research perspective is to examine the positive outcomes of online learning and implement them in conventional learning as a way to modernise and improve it.

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CONFLICT OF INTEREST

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Психологічні аспекти реалізації онлайн-навчання в українських університетах

Анотація. Актуальність дослідження зумовлено тим, що, на відміну від більшості європейських країн, які після завершення пандемії коронавірусу повернулися до очного навчання, Україна, через активні бойові дії на її території, тривалий час продовжувала навчальний процес в онлайн-форматі й знову стоїть перед вибором раціонального способу навчання. Саме тому існує потреба зважити всі слабкі та сильні сторони віддаленого освітнього формату. Мета роботи – здійснити аналіз переваг та недоліків реалізації онлайн-освіти в українських університетах під час воєнного стану. Задля досягнення мети проведено опитування 56 викладачів психологічних дисциплін з професійним стажем від 4 до 28 років; здійснено аналіз отриманих відповідей. Результати показали, що переваги навчання онлайн для студентів та викладачів спільні: мобільність, висока якість цифрового контенту, часткова автоматизація контролю знань, різноманіття психолого-педагогічних інструментів, стимуляція розвитку цифрової та технологічної компетентності. Головні проблеми онлайн-навчання для студентів полягають у порушеннях комунікації: дефіциті особистісно-орієнтованого спілкування між однолітками й поглибленні соціальної дистанції між студентами та викладачами. У сфері психологічної освіти цей недолік тісно пов'язаний з труднощами засвоєння практичних фахових навичок, які полягають в організації довірчої, близької взаємодії між людьми. Для викладачів така форма роботи розкриває широкі можливості професійної самореалізації, але водночас супроводжується перенавантаженням, швидким емоційним вигоранням, погіршенням здоров'я та якості життя. У статті обґрунтовано необхідність відновити очну освіту, урахувуючи позитивний досвід онлайн-навчання. Результати проведеного дослідження можуть стати основою для розробки практичних заходів, спрямованих на запобігання професійної дезадаптації викладачів університетів; а також на профілактику труднощів соціалізації та професіоналізації молоді, що отримала вищу освіту в період карантину та воєнного стану.

Ключові слова: дистанційна освіта; викладачі; студенти; заклад вищої освіти, цифрове освітнє середовище, взаємовідносини в освітньому просторі

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Wartime panic attacks in children with special educational needs

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Abstract. The study is relevant because it covers the main ways to help during panic attacks in the most vulnerable category of the population of Ukraine, children with special educational needs, in conditions of war and experiencing traumatic events. The purpose of the study is to identify the main methods of psychological assistance during panic attacks in children with special educational needs. The main practice-oriented research methods were observation, conversations, interviews, questionnaires in the process of meetings with children, and the collection of medical history. Based on the results of applying practical research methods, effective, unified step-by-step psychological support for this category of persons was developed. The study describes the main methods of psychological assistance, as the main chosen technique of cognitive behavioural therapy, which should be accompanied by additional communication with parents and teachers to disseminate information, practical skills, and actions in situations of panic attacks in children with special educational needs. The study has an evidence base, is a praxeological writing, and is still being conducted based on educational institutions and rehabilitation centres for children with special educational needs, in particular, those with visual, hearing, intelligence, and speech disorders. The main signs of behaviour and emotional states of children experiencing panic attacks are characterised. It is stated that a panic attack in children with special educational needs occurs from excessive emotional load, exhaustion, traumatic event, stress, and negative dynamics of habitual life. The final result of the study is outlined, namely: the development of a unified protocol of psychological assistance and support for children with special educational needs experiencing panic attacks, their parents, and relatives. At this stage of the study, the results obtained allowed forming effective advice to parents, people who happened to be nearby, and teachers during the onset of a panic attack in a child

Keywords: child; special psychology; psychology of fear; emotional disorders; anxiety; behavioural disorders; war

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INTRODUCTION

The beginning of the war in Ukraine increased scientific interest in the affective field of personality and the subject of stress, post-traumatic disorders, restress, panic attacks, fears, and depression not only in the adult generation but also in children. One of the most relevant and newest problems for special psychology is the behavioural, regulatory, and emotional field of children with special educational needs in war conditions. Currently, the results of research

on the condition of children of various nosological groups are actively published, and children's reactions to traumatic events of the armed conflict on the territory of Ukraine are discussed in scientific circles. Among the main issues brought up for discussion are the diagnosis of the child's personality, current state, and methods of psychological assistance (Butsyk, 2020; Matcha, 2021). A number of researchers, such as O. Alekseeva (2020) and N. Barkovets



(2018) emphasise the adaptability of the psyche of children, including those with special educational problems. D. Doroshenko (2019), L. Yuryeva (2018) cover the essence of stress and its impact on the child's further behaviour, features of the formation of self-regulatory mechanisms. P. Klark (2019) emphasises that panic is a complex emotion that occurs regardless of the reality of the threat, and is controlled only by the subconscious and fear. Other researchers emphasise the search for strengths of the psyche that could compensate for its weaker sides and generally personality disorders after armed conflict in children with various features of atypical development. These are the studies of tiflopedagogues (Bondarenko, 2022; Vorona, 2023), specialists working with children with intellectual disabilities (L. Gilshin, 2022; F. Vitkovsky, 2023), children with autism spectrum (Goldsmith & Kelley, 2018; M. Kornienko, 2022; O. Romanenko, 2022), or hearing disorders (Vovchenko *et al.*, 2022; Simkivska, 2022).

Works that appeared in scientific circles during the war in the framework of special pedagogy and psychology turn their attention to children in high school and adolescence who survived a traumatic event. This can be explained by the phenomenon of a panic attack, which consists in the complexity of examining this psychological category. Testing or surveys can only be conducted after the event occurs, and during a panic attack, it is difficult even for a specialist to remain an outsider without helping the child or parents. High school and adolescence allows talking to the child, explaining what happened to them, while younger age is a more vulnerable age period and a child of this age can not give clear explanations about feelings at the time of panic, how the panic attack occurred, what became the trigger, how exactly calm occurs, etc. Therefore, there are plenty of studies that mainly concern adults with atypical development (S. Litovchenko, 2022; G. Sokolova, 2022; O. Mozoliuk, 2023). Scientific discourse also includes research on the relationship between psychological stress and self-efficacy in mothers and fathers of autistic children (Mubarak, 2022) and personal stress response in the gender aspect (Thoit & Molit, 2019).

A natural consequence of changes in the social situation of the country is the activation of the scientific process, the interest of researchers, new studies, strengthening the study of the importance of behavioural and regulatory potential of the individual, which determines their social position, life prospects under stress, etc.

Therefore, the war actualises one of the most important problems of science and practice today – the study of panic attacks in various categories of the population. Panic attacks are peculiar emotional states when it is difficult for a personality of an adult to control themselves, and the children with special educational needs require additional professional help. Such assistance can be provided both within and outside the educational institution. Since such an event as the war and the negative states associated with it are new to the Ukrainian population in modern life. The subject is relevant not only scientifically, but first

of all praxeologically. Theoretical researchers now need to understand the causes, consequences, and the formation of possible forecasts for the development of emotional, behavioural, regulatory fields, and practice – areas from colleagues-researchers, how now effectively and carefully for the mental state of the individual, to help families raising children with special educational needs, how to help in conditions of stress, panic without auxiliary means, in the so-called field conditions.

The main purpose of the study was to identify the main ways of psychological assistance to children with special educational needs who suffer from panic attacks in war conditions. In accordance with the goal, the following tasks are outlined: first, the determination of the main factors, their duration, which are triggers of anxiety, in particular, in wartime conditions (as a result, they cause a panic attack) in children with special educational needs; second, the statement of the mental state of the formation of four fields (emotional, behavioural, cognitive, and regulatory-volitional); third, the development of a basic psychotherapeutic programme for accompanying children with panic attacks with special educational needs.

LITERATURE REVIEW

Panic attacks are the appearance of unexpected, intense fear or discomfort that peaks within a few minutes. The term panic attack as a scientific category was originally used with the term agoraphobia and was first introduced into the literature in 1971 to describe patients who were afraid and did not risk appearing in any places unaccompanied by friends, relatives (Jobson *et al.*, 1995). The similarity between agoraphobia and panic attacks was first noticed by Z. Freud (1998) back in 1885. The key task of the psyche, as noted by Z. Freud, in conditions of crisis, emergency situations, and moments of emotional loss is to protect a person, the inner “Ego”.

Panic attacks are like an “emotional wave”. They are sudden attacks of strong fear, the symptoms of which are undulating changes in the emotional-volitional field of the child/adult. Accompanying symptoms are also a fast heartbeat, a feeling of suffocation, lack of air, dizziness, nausea, numbness of the hands or feet, sweating all over the body, obsessive thoughts that control over what is happening and the person's body disappears, the appearance of various fears in children, frequent loss of consciousness, in particular, in children with special educational needs. The first symptoms that a child experiences are often not noticeable to others. The child can later explain the condition experienced as numbness, being covered in ice, cold all over the body, “self-observation”, etc. (Butsyk, 2020).

In general, the term “panic” is of Greek origin and originates from the name of the ancient Greek god Pan. According to myths, Pan spontaneously appeared causing a very strong feeling of horror, and his witnesses ran away in blind fear (Yuryeva, 2018).

J.M. Gorman *et al.* (1989) called panic attacks “position phobias” and noted that they are characterised by

anxiety responses in four personality systems: emotional, cognitive, physiological, and behavioural. Researchers noted that “the reaction is a subconscious process that regularly occurs in the life of each of us. The anxiety and problem response becomes when the normal response is hyperbolised in the absence of a real threat.” For example, a child with special educational needs has had panic attacks in the past. Now, during the war, parents/children suffer from the fear that panic attacks will recur. For example, to minimise the possibility of their occurrence, parents teach their child to control their breathing rate to avoid hyperventilation, move slowly to prevent dizziness; avoid stressful situations. As a result of a number of such prohibitions, the child’s life becomes limited. According to the researchers, restriction situations are also a trigger for panic attacks.

P. Klark (2019) noted that panic attacks are fixed by the states and emotions that a child experiences most often, what they think and what they do. The researcher suggested that six processes support distorted beliefs about the (irrational) danger of certain/specific situations.

S. Salkovskis (2022) argued that a panic attack is a prototype of defensive behaviour, a type of mental activity that is conducted to prevent “bad” defensive behaviour is not dysfunctional: “looking both ways before crossing the road is a very functional defensive behaviour for a child.” However, if the child is on the edge of the sidewalk and is not able to risk and cross the road (according to the rules, when the green light is turned on), then this is an exaggerated and problematic defensive behaviour, and these types of behaviour are also panic attacks, according to the researcher.

L. Zapletal *et al.* (2022), G. Şahin (2022), I. Marković *et al.* (2022) investigated spontaneous images, noting that some of them can increase the sense of threat and trigger a panic attack. O. Rounner and M. Oustawanni (2021), T. Arnzt & T. Wells (2017) described emotional thinking and emotional intelligence as a threat (“If I feel that way, then it is that way”). Researchers have demonstrated through studies that adolescents with anxiety rate situations as more dangerous than the control group – even when they receive information that guarantees their safety.

St. Korek (2017), regarding similar studies, noted that there are memory distortions that are responsible for maintaining problem anxiety: selective recall of threats and situations that cause fears and panic. Interpreting the signs of an anxiety response as a threatening event – conclusions that a child or adult makes when experiencing anxiety symptoms can make the problem worse.

For example, if a child with a perfectly normal initial response to a threat goes to panic conclusions: “I will die/be injured because it is our house that will be bombed,” this increases fear, causes anxious expectation, and leads to avoidance strategies that are likely to prolong fears, as a result – the development of panic attacks.

Another process that causes a panic attack is associated with a prolonged and hyperbolised sense of anxiety. These experiences are disturbing reflections with elements of generating dangerous scenarios for the future as noted

by J. Bavolar (2017). Although for a short period of time, in wartime, such experiences are useful because they draw attention to potential danger. However, a long period of experience becomes unproductive and actively distorts the activity of the psyche. For example, a child was transported to a safe place where there are no sirens, but they subconsciously hear this sound and wake up in the middle of the night, can jump up in the middle of school and look for a bomb shelter (this condition can be aggravated by sharp, loud sounds that remind them of an explosion, the sound of airplanes, etc.).

As a rule, psychotherapy work with panic attacks in children with special educational problems, as O. Alekseeva (2020) notes, similar to a linear process that results in a solution. For example, the trigger is a perceived threat, followed by an anxiety response, then successfully overcoming this response and reducing the child’s anxiety/panic.

However, in the context of panic attacks in children, there is also a complex cyclical process in which cognitive and behavioural responses lead to maintenance or increased anxiety as a result of increased panic. For example, control work (even of a remote nature, when the child solves problems in comfortable conditions) is perceived by an anxious student as a threat to life/health/safety, etc. Anxiety does not allow the student to concentrate, they can not study, have a poor result/grade – this confirms the belief that the tests are “monsters”, and excessive anxiety persists. The anxiety trigger is fixed and becomes permanent. Constant anxiety under appropriate conditions form panic attacks.

It should be noted right away: in such cases, it is necessary to explain to a child with special educational needs in an accessible, simple way that such conditions do not cause death, they do not last long (maximum 5 minutes), and it is possible to learn how to manage them. If the child (high school age, teenage, or adolescent) is physically or emotionally exhausted, the duration of psychotherapy and psychological support will be longer, but if not, the most successful outcome, according to the practical research, was six months of therapy.

Thus, a panic attack reflects a normal response to stress or threat, which is exaggerated due to increased physical responses, distorted thinking. As a result, problem cycles are formed, which can be destroyed by using techniques for working with problem sensations, cognitions, and behaviour while the child is working with a specialist.

MATERIALS AND METHODS

Methods of observation, interviews, surveys, questionnaires, and medical history collection were used to solve these tasks and ensure the reliability of the provisions and conclusions.

The study covered 60 people, among them were those of primary school (12), high school (17), teenage (22), and adolescent (9) age from special general education boarding schools in Kyiv, Zhytomyr, Lviv, Pidkamin. Among the specified number of children, 22 were displaced persons from other regions of Ukraine. According to the gender

criterion, the included 26 girls and 34 boys. The study was conducted based on the municipal institution of the Lviv Regional Council "Pidkamin Special School of I-III stages with advanced professional training" (children with hearing disorders, mental development, speech disorders); "Zhytomyr Special School No. 2" of the Zhytomyr Regional Council (children with hearing disorders, mental development, autistic spectrum); Special boarding school of I-III stages No. 9 of the city of Kyiv (hearing disorders, speech disorders); Special General Education School No. 335 of the city of Kyiv (visual impairment, speech disorders); Terbovlian Educational-Rehabilitation Centre (hearing disorders, speech disorders, mental development); pre-school education institutions of compensatory type No. 582 of Kiev (mental development, behavioural disorders).

The basis for observation was a pronounced, persistent (for more than 6 months) fear or anxiety about one or more social situations in which they may be participants or objects. The situation and fear had to be repetitive and triggered a panic attack. Children may have internal fears (fear of sudden death, fear of pain) and external fears (fear of humiliation, shame, rejection). In addition, the following signs had to be present: the presence of the same situations that always cause panic fear, increased anxiety; children had an active desire to avoid such fears, situations; fear or anxiety was disproportionate to the actual threat (considering socio-cultural norms); fear, anxiety and/or avoidance caused substantial discomfort or substantially worsened social activity/situation. In addition, in the anamnesis, the probable cause of fear and anxiety could not be another mental disorder (such as agoraphobia, dysmorphophobia, etc.), except for the diagnosis of "panic attack".

The examination and construction of therapy was not similar to classical psychological assistance or support. The goal was to establish specific meanings of anxiety and fear in the process of meeting with the child; determine avoidance behaviour and basic defence mechanisms. Thus, the data gathered during the examination of children helped to jointly build a diagnostic formulation, which became the area of psychological therapy, family support and contained mixed (complex) types/methods of psychotherapeutic interventions. Psychological assistance and support were based on cognitive behavioural therapy.

The cognitive behavioural model of psychological therapy for panic attacks was formed from a model of the origin and understanding of the disorder. Considering the individuality of the child's personality of atypical development and the uniqueness of each case (the presence of concomitant features, diagnoses, the time period of the problem, etc.). Notably, cognitive behavioural therapy has always been characterised by an individualised style of activity of a psychologist, whose work was formed based on a thorough examination and the construction of an individual therapeutic plan (Vovchenko *et al.*, 2022). Cognitive behavioural therapy had a number of substantial advantages over pharmacotherapy. The main thing is that its effect is more pronounced, and the effectiveness in preventing relapses is

high. Notably, the study used cognitive behavioural therapy with elements of art therapy and body therapy; individual consultations with parents.

The main models of cognitive behavioural therapy for panic attacks in children with special educational needs were considered in three stages of therapy.

1. In the stage of the first phase, the psychologist conducted a survey; psychoeducation was built, socialisation was formulated into a model of cognitive behavioural therapy, symptoms were normalised, motivation and a therapeutic alliance (psychologist-child, psychologist-parents, psychologist-teacher) were formed.

2. During the stage of the second phase of psychological therapy, psychoeducation, cognitive techniques (testing the values provided) were used, additional medical examination (if necessary), interoceptive and step-by-step situational reviews of situations that cause anxiety, fears, etc.

3. In the third stage, psychological support and an examination by a psychologist aimed at preventing the recurrence of such states (relapses) were conducted.

The process of examination and formulation of recommendations resulted in the selection of possible options for psychological assistance and acceptance of consent for therapy from parents and guardians. The psychologist presented the structure of psychotherapeutic meetings to the family since some individual cases of therapy were quite long, invited to an active position, cooperation in the course of therapy, or vice versa asked to interfere as little as possible in the process.

All procedures conducted in studies involving people, in particular, minors, met ethical standards, did not violate the honour and dignity of respondents, took into account the age characteristics of the respondents and took place while maintaining the anonymity of the results obtained. The study followed the recommendations of the European Commission on ethical issues and personal data protection (European Commission, 2021). The study participants did not object to the use of information without their first and last names.

RESULTS

For further work, the psychologist had to determine the symptoms of a panic attack and work with this particular condition, according to the protocol approved by the department and representatives of the directorate of educational institutions. The protocol is not included in the paper. The study is ongoing, and a successful psychological therapy protocol will be published after the experiment is completed.

It is important to indicate that the symptoms of a panic attack that the specialist worked with are: sudden onset, without warning (a panic attack can occur in a minibus, Metro, in a car, in a shopping centre, while walking, meeting with peers, in class, etc.); the child is very scared (they later describe the condition as fear of death, a feeling of unreality of what is happening to them, depersonalisation, fear of going crazy, a feeling of cold, numbness, loss of consciousness, etc.); the most characteristic feature is the

description – “I am about to lose consciousness”; a feeling of rapid heartbeat and suffocation; heaviness of the whole body, especially in the legs, tightness in the chest; rapid breathing, feeling that it is very hot and there is not enough oxygen around; cold in the arms and legs, throbbing in the head; trembling of the body, wet armpits; headache; dizziness, darkening of the sight.

Common to all cases (actions according to the protocol) was that in the process of psychological assistance, the specialist psychoeducationally supported all children, explained that anxiety and fears are basic emotions and that it is normal to feel them, removed the so-called stigma regarding the positions “I am not like everyone else”, “I am sick”, “I am crazy”; implemented the hope that the effectiveness of psychological therapy (meetings, conversations) is very high. Among the children involved in therapy, 42 people noted similar expressions (in different formulations). It is important to emphasise that mainly the children with preserved intelligence are subject to such an analysis. However, there was a percentage of children who had intellectual disabilities and used similar expressions. This is mainly observed in adolescents and teenagers (13%).

Some children with panic attacks were quite cautious, distrustful of psychologists and the method of therapy, it was difficult for them to perceive the importance of daily psychological meetings, systematic nature. Fear, rejection, and exercise avoidance were often identified as ways of defensive behaviour. Therefore, in the first sessions, the psychologist often returned to psychoeducational work, using motivational, cognitive restructuring, and behavioural techniques aimed at convincing about the impossibility of change. Notably, only 12 children out of 60 openly communicated and talked about traumatic events, emotions.

All these components (examination, building a communication structure, psychoeducation, establishing cooperation, setting goals, agreeing on a therapy plan, and motivation) formed the first stage of psychological assistance for the treatment of panic attacks in children with special educational needs.

In the second stage of work, psychologists faced the most characteristic signs of behaviour, states of children with panic attacks. Among these signs were the following.

Synchronisation. An anxiety system that is characteristic even of primates. It is collective, so in a situation of danger, a person seeks to warn others, stands up for their friends, relatives, classmates, acquaintances, etc. Therewith, they experience despondency, guilt – emotions that also synchronise, “infecting” others. In such a situation, it is important to remember that there is no need to blame oneself for inaction and give up. Not everyone is born strong, masculine, and can handle any threat. In turn, everyone who works on their problems has a chance to change. Mostly synchronisation was inherent in girls who were in group classes – the effect of “infection” during and after group psychotherapy. One despondency provoked another, creating a chain reaction. Among the girls who received psychotherapy (n = 37), 28 experienced an “infection” effect at the

beginning of group classes. Only after a month and a half, most of them were separated from emotional experiences and could express their experiences, emotional state, needs, and traumatic memories.

Expectations. Frustration and despair arose in children when reality did not meet expectations. For example, thoughts that fear will disappear quickly, their well-being will change in a week, etc. Therefore, the less support and expectations are formed, the less disappointments children will have, and the better psychological therapy will take place. This pattern applies to any therapy and psychological assistance to the children. Therefore, in order for parents and children (especially teenagers and adolescents) not to feel despair, it was necessary to explain the fact that the process of psychological assistance can be a long process, and all that you need to count on during this period is the preservation of mental health, life in war conditions, and the life of relatives. Therefore, there is no need to spend mental, emotional energy on standby modes. 78% of children believed that after a few meetings, their sleep would improve and they would still sleep soundly, and have positive dreams; 64% – that they would not be afraid of loud sounds that are not associated with alarms, explosions, etc.

Curvature of well-being. It is worth noting that not only during the month the child may have waves of fluctuations in emotions, and mood, but also during the day (mood, well-being, emotions, behaviour changes). In conditions of prolonged tension, worries, living in a new place, losing your usual place of residence, and staying without sleep and nutrition, the phases of failure, hopelessness, “everything is lost” can be prolonged. These phases can also be promoted by adults who reinforce negative experiences. Whatever the conditions, during psychological therapy and psychological support, one of the main tips for parents was to find time to restore their own personality, which will positively impact the child's therapy.

The main advice of psychologists involved in this study during meetings with parents to support a child during panic attacks of various origins was:

1. Learn to breathe deeply, at least 6 cycles of inhale-exhale (very slow and at the same pace).
2. Describe what you are seeing or hearing now, what you feel, smell, touch something and focus on these sensations, etc. (if the child is sick – go with them to a room where there are fewer people, noise, smells, and there is a flow of fresh air).
3. If there is self-control and self-regulation, the child and adult can try to remember a particular saying, which, for example, they always remembered, used in everyday life, with friends, etc., or repeat some short rhyme that the child likes, even a simple count helps. The main goal of all these actions is to engage thinking.
4. If there is someone of the relatives or friends who know about the child's panic attacks, the child should learn to say: “hug me”, because stroking the shoulders, arms, and back and talking in a calm voice acts lulling to relax, relieves the active phase of a panic attack, calms the child down.

5. Remind the child that the condition they are experiencing is unpleasant, but it does not pose a threat to their health and passes quickly enough.

Basic tips were also formed to help support a child/teenager/adolescent who has had a panic attack. These tips were discussed and distributed among the teachers of the schools where the study was conducted, namely:

- talk to the child calmly, constantly repeat sentences like: "I'm with you", "this is just a panic attack, it will pass soon", "now everything will pass, breathe deeper", etc. (considering the age of the child);
- if the child knows about their condition, has experienced it – you can ask: "How can I help?", "Do you need something?", "Should I serve something (water, medicine)?" If not, it is usually useful to sit down (put such a child next to you), give water, provide a flow of fresh air without foreign odours; inhale the air deeply and slowly together (the commonality of actions is also soothing, the child gets the impression that they are not alone);
- if a relative or a close person helps a child, they can be taken by the hands, hugged (especially behind their back, shoulders);
- if it becomes noticeable that the child is calming down, you can start a conversation on a neutral subject, in a calm, not fast voice, tell about yourself, travel, delicious food (distract).

During the exercises and conversations with teachers, it was noted that a child with panic attacks should not be doused, sprayed with water, it is also forbidden to shake, clap their face, offer unfamiliar medications and not be confused with seizures of epilepsy. The basics of medical experience, conversations, and Q&A meetings were an important step in helping children, parents, and educators who work with and teach children with various special needs on a daily basis.

A panic attack is not a problem that depends on the mental abilities of the child's personality. Practical psychologists have often and repeatedly emphasised this in conversations and consultations with parents/teachers.

According to the results of a study of children with special educational needs, it was noted that a panic attack occurs from excessive emotional load, exhaustion, stressful situations, etc. One of the first steps that need to be taken to optimise psychological therapy is to normalise sleep, its balance, duration, and compliance with biological rhythms. Through wristbands-watches, which are not only a fitness tool, monitor the fast and slow phases of sleep. It is not a reliable source of information that provides 99% sleep data, but it is accessible to families and provides basic knowledge about the child, the effects of stress and fluctuations in sleep phases. Parents were also advised to organise sleep for a child with panic attacks, even if the conditions did not contribute to this at all, for example, in a bomb shelter, a one-room flat or facility where the family was moved, where there is a quiet cosy corner where you can warn others not to disturb the child. Notably, in children with panic attacks, rapid phases of sleep predominate, as a result – the lack of

rest in the body and the restoration of its functions. Because a person rests and recovers in conditions where there are more slow phases of sleep, or at least they are equal to fast ones. Among adolescents, 4 (n = 23) had a sleep pattern dominated by slow sleep phases. No such indicators were recorded in girls. In 6 girls (n = 37), the fast and slow sleep phases were approximately the same.

Another feature that attention was focused on during psychological therapy was the child's breathing. Rhythmic and temporal breathing saturates the body with oxygen and calms the child. During breathing, the exhalation should be longer than the inhalation. A lot of attention was also focused on this during the training of parents and meetings with teachers. Trembling during breathing during stress is also a normal indicator, it does not need to be stopped, since this reaction is a natural regulation.

One example that was recorded during the study. A mother and daughter experience uncontrolled shaking of the entire body during the sound of an alarm (air raid). This is a normal reaction of the body since everyone has features of the organisation of the nervous system, different temperaments, levels of neuroticism, etc. Trembling is a reaction to shock and is the body's natural regulation to get out of a state of numbness. Shaking is not harmful, it usually occurs in waves. In the long run, it is more useful than numbness, so, during the study, psychologists did not try to stop it. In this way, the body was "awakened" and "released from excessive tension". Mother and daughter hugged, breathed deeply together, and used the "grounding" technique (restoring body sensation). After normalisation of the condition, therapy was performed. The family, in collaboration with psychologists, believed that this was not a normal reaction, an unnatural manifestation of the body, which they had never experienced before.

Summarising the results, it is important to emphasise that the body of modern children first encountered a situation of war, so any reaction of the body is normal since it was not ready or prepared for this. The psyche of every child and adult knows better what to do to use protective reactions, help to cope with stress, and panic, because the body of every living being is programmed for survival.

DISCUSSION

The study was initiated in May 2022 in these educational institutions (continues today), as it is associated with such traumatic events in Ukraine as the war. Among the participants, there are professional specialists in the field of special psychology. The study is enriched with new directions and techniques, depending on the age of the child, sometimes it is important to consult not with parents, but with people who are raising the child at a given time, that is, the person who is most often with the child during stress and has a close psychological connection.

The special educational needs of the child and their age are also important, which also corrects the study of the team of specialists. This is due to the fact that working with an autistic child is radically different from psychological

assistance to a child with visual impairments or intellectual development. In this aspect, the achievements of special educators and psychologists working with children with visual impairments, such as O. Bondarenko (2022) and D. Vorona (2023) are important for the study. Researchers note that children need special psychological support, which will be based on Roger's methods and approach. That is, the environment in which the child grows up not only perceives it as it is but also helps to transform in accordance with reality and survive this transformation painlessly. Cardinal are the studies of researchers working with such a feature of development as autism. Since the practitioners here are unanimous – the way out of stress or a traumatic event is in body therapy (F. Vitkovskyi, 2023). Exclusively physical exercise, contact with the child allows them to survive panic, psychological trauma, and the brutality of war (L. Gilshin, 2022).

As for similar studies of specialists from other countries, it is quite difficult to compare, adapt, agree, or deny the experience. This is due to the peculiarity of the mentality, archetypes of each nation, the period in which the war in Ukraine took place, and the dynamics of society. Because even each family has its own unique national code, archetype, stereotypes, and parenting styles. The achievements of foreign practitioners and practical findings can be borrowed from the studies on stress and the fight against this condition, techniques for helping children experiencing depressive states. But an important feature is that the work of researchers is not due to such a factor as war, which deepens the traumatic process of the child's psyche, the period of stress, depression, and changes the essence of post-traumatic syndrome.

Thus, practising psychologists now act individually, using classical techniques with the addition of art therapy, using metaphorical maps, fairy-tale therapy, film therapy with a mandatory positive ending to the story that the child creates. Experts hope to cooperate with researchers, which will allow them to develop effective psychological assistance and an effective protocol for providing assistance in various situations complicated by the negative dynamics of the war in Ukraine at the level of evidence base.

CONCLUSIONS

The main purpose of the study in the course of practical activities was changed in priority. Since at the first stages of the study, when it was possible to appeal exclusively to theoretical and scientific data, the first task was to determine the factors and triggers of a panic attack. However, among the children who had a history of panic attacks, the suspicion of a panic attack while communicating with parents and teachers, war was recorded as the main cause, that is, the sounds of sirens, moving through destroyed homes, the memory of the wounded, the screams of relatives during bombing, etc. Therefore, determining the factors was not the main task. Among the leading goals were the development of psychological assistance and normalisation of the

psychoemotional state of a child with special educational needs. Children with these needs were of different categories (hearing and visual impairments; intellectual and speech disorders), so the approach and main area had to be unified. Cognitive behavioural therapy was chosen as the leading psychological therapy for children with special educational needs who have panic attacks.

Cognitive behavioural therapy (CBT) included several stages and additional involvement of parents/educators. Children, communicating with a psychologist, underwent a long course of therapy, learning to recognise the approach of a state of panic and control their condition. This type of therapy consisted of behavioural and cognitive techniques, each of which complemented each other. The main task for psychologists was: first, the formation of new forms of behaviour in a child with special educational needs that allow them to control thoughts and actions; secondly, replacing old behaviour with new reactions.

At the beginning of psychological therapy, psychologists often encountered such phenomena as synchronisation (the effect of infection), distortion and overestimation of emotions and expectations, and in children. Parents and teachers successfully completed the process of learning and mastering basic knowledge and skills during a panic attack. The basis for minimising panic attacks was identified as sleep, breathing, physical exercises, and concentration on the child's thinking and body (later on pleasant memories, rhymes, songs, counting, etc.).

Further areas of research are, firstly, the completion of the psychological protocol of actions during panic attacks in children with special educational needs in war conditions; secondly, research and psychological assistance to children with atypical development who have post-traumatic stress disorders and a state of re-stress during war.

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CONFLICT OF INTEREST

Conflict of interest is absent. The idea was developed and put into practical implementation by the author. The study continues.

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Панічні атаки за умов воєнного часу в дітей з особливими освітніми потребами

Анотація. Стаття актуальна тим, що розкриває основні шляхи допомоги під час панічних атак найбільш вразливій категорії населення України, дітям з особливими освітніми потребами, за умов війни та переживання травмівних подій. Мета публікації – розкрити основні методи психологічної допомоги під час панічних атак у дітей з особливими освітніми потребами. Основними практико орієнтованими методами дослідження обрано спостереження, бесіди, інтерв'ю, анкетування у процесі зустрічей з дітьми, збір медичного анамнезу. За результатами застосування практичних методів дослідження розроблено дієвий, уніфікований покроковий психологічний супровід для означеної категорії осіб. У статті окреслено основні методи психологічної допомоги, як основну обрано техніку когнітивно-поведінкової терапії, яка має супроводжуватись додатковим спілкуванням з батьками та освітянами з метою поширення інформації, практичних навичок, дій у ситуаціях панічної атаки у дітей з особливими освітніми потребами. Дослідження має доказову базу, є праксеологічним доробком, відбувається і на сьогодні на базі освітніх закладів та реабілітаційних центрів для дітей з особливими освітніми потребами, зокрема з порушеннями зору, слуху, інтелекту та мовлення. Охарактеризовано основні ознаки поведінки, емоційні стани дітей, що переживають панічні атаки. Констатовано, що панічна атака в дітей з особливими освітніми потребами відбувається від надмірного емоційного навантаження, виснаження, травмівної події, стресу, негативної динаміки звичного життя. Окреслено кінцевий результат дослідження, а саме: розроблення уніфікованого протоколу психологічної допомоги та супроводу дітям з особливими освітніми потребами, що переживають панічні атаки, їх батькам, рідним. На цьому етапі дослідження отримані результати дали змогу сформулювати дієві поради батькам, особам, що опинилися поруч, педагогам у період настання панічної атаки в дитини

Ключові слова: дитина; спеціальна психологія; психологія страху; емоційні порушення; тривога; поведінкові порушення; війна

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Psychological characteristics of entrepreneurs working in stress-related conditions

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Abstract. The relevance of the study is due to the growth of stress-related conditions of entrepreneurs' activity in Ukraine in 2020-2023. The purpose of the study is to highlight the results of an examination of emotional intelligence, psychosocial stress, and character accentuations of entrepreneurs working in stress-related conditions. Among the key research methods is the psychosocial stress scale of L. Reeder, emotional intelligence test questionnaire of N. Hall, definition of character accentuations of Leonhard – H. Schmieschek. The professional activities of 90 entrepreneurs in the conditions of COVID-19 and 90 entrepreneurs in the conditions of war in the period 2021-2023 were examined. In both groups, the established high level of emotional intelligence was characterised by the ability to be aware of emotions and feelings, the average – by the potential for development, and the low required development. A strong correlation was identified between "emotional awareness" and "recognition of other people's emotions", which characterised restraint in the manifestation of emotions. Entrepreneurs working in war conditions were identified to have a reduced ability to manage emotions and low self-motivation. It was identified that psychosocial stress was manifested by psychosomatic complaints and impulsive decisions, aggressiveness, intolerance to the opinions of others, and anger. A high level of stress was accompanied by a deterioration in concentration, memory, and performance. It is proved that the tendency to accentuation due to provocative emotional factors increased to accentuation, and pedantry, hyperthymicity, emotionality create the basis for conflicts. It was determined that the pathogenetic path of conflict development was evasion as a specific social behaviour in stress-associated conditions of activity, and ignoring the problem was the basic behaviour in conflict with the desire to avoid acute situations and decisions – "tactics of presence without signs of active intervention". Two types of accentuations associated with the negative impact on the emotional intelligence of businessmen were identified: getting stuck or dysthymia in the first group, which worked during COVID-19, and the dominance of anxious and emotional traits in the second group, members of which had to work in war conditions. It is noted that in both groups, entrepreneurial activity was characterised as "rather dysfunctional and unsatisfactory". The practical importance of the

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study lies in the ability to consider the identified psychological characteristics in providing assistance to entrepreneurs working in stress-related conditions

Keywords: emotions; emotional intelligence; accentuation; entrepreneurial activity; stress

INTRODUCTION

Military aggression caused suffering and led to the death of Ukrainian civilians. The economy is collapsing, and labour market participants are experiencing not only economic but also moral and psychological suffering. All segments of the population were subject to trauma, who in the next decades will have to struggle to overcome the psychological consequences of war. A person's success in the socio-economic field depends on the ability to understand emotional fluctuations, the ability to manage the emotional state, and skillfully use the full emotional spectrum to solve problems and conflicts. Therefore, in responding to the challenges of our time, the concept of emotional intelligence is becoming increasingly relevant in foreign and Ukrainian research, especially in relation to doing business in conditions of increased stress. The assessment and development of emotional intelligence not only contribute to the self-realisation of the individual but is also a component of successful entrepreneurship. The phenomenon of emotional intelligence has been actively examined in recent decades, which is associated with the introduction of the concepts of "emotional intelligence" (Mayer & Salovey, 1993), "emotional-social intelligence" (Bar-On, 2006), "emotional career intelligence" (Goleman, 2021).

In Ukraine, the problem of emotional intelligence is considered in the context of life success (Rakityanska, 2018; Kovalenko, 2020; Prib *et al.*, 2022), the effectiveness of man-to-man professions (Dubyaga, 2018; Kanavets, 2020; Beheza *et al.*, 2022), influence on the adaptive potential of the individual (Romanova & Lisetska, 2020; Raievska & Soliakova, 2022), psychoemotional burnout of the individual in war conditions (Prib *et al.*, 2023), personal resource systems and self-efficacy (Kasianova, 2018), cultural intelligence (Zasekina, 2016), a factor preventing depressive disorders (Zhylin *et al.*, 2022).

The study of the influence of emotional intelligence on entrepreneurial activity is based on the study of genesis and practical achievements in the theory of entrepreneurship. Many researchers examine the features of the formation of the business environment, conditions for support, and factors for promoting the development of entrepreneurship. Thus, D. Goleman (2021) considers emotional intelligence a part of social intelligence and treats it as personal intelligence that involves knowing about oneself and others.

The personal approach in the examination of entrepreneurship allows identifying a special set of characteristics, and character traits of an entrepreneur and explaining and understanding the phenomenon of entrepreneurial activity. They distinguish between social and conventional enterprise and determine that the psychological characteristics of social entrepreneurs have common features, namely: the

highest level of empathy, willingness to take risks, creativity, the need for autonomy and independence, optimism, trust in others, willingness to cooperate and develop social ties, believing in positive social changes, the ability to cope with obstacles on the way to fulfilling their social mission. These ideas can be supplemented by empirical studies of the individual and personal characteristics of the Ukrainian entrepreneurs (Romanova & Lisetskaya, 2020). The process of entrepreneurship is far from limited to solving purely managerial tasks. An entrepreneur as a manager must overcome powerful resistance forces that require intellectual and emotional effort. The latter are aimed at understanding one's own psychological characteristics, establishing business relationships, and obtaining resources for organising a business (Prib & Gromova, 2019).

Therefore, it can be noted that the palette of research on the problem of emotional intelligence covers a rich range of areas. However, the aspect of the influence of psychological characteristics on the emotional intelligence of entrepreneurs working in stress-associated conditions is insufficiently examined, and the diversity of views of researchers determines further scientific research in this area.

The purpose of the study is to identify the relationship between psychosocial stress, character accentuations, and the level of emotional intelligence in entrepreneurs working in stress-related business conditions.

LITERATURE REVIEW

One of the first publications on emotional intelligence is the paper by D. Mayer and P. Salovey (1993), where the authors interpreted emotional intelligence as a construct consisting of three abilities: identification and expression of emotions; regulation of emotions; the use of emotional information in analysis and in professional activities. Subsequently, researchers defined emotional intelligence as the ability to process emotional information (the ability to determine the meaning of emotions) (Mayer & Salovey, 1997), and the model of emotional intelligence noted the hierarchical components that are characteristic of a person in the ability to recognise their own emotions and those of other people (Mayer *et al.*, 2004). In turn, R. Bar-On (2000) states that emotional intelligence is a set of cognitive capabilities, competencies, and skills that demonstrate a person's ability to overcome the difficulties of the social environment. D. Goleman (2021) describes emotional intelligence as an opportunity to immerse oneself in emotions to understand and feel them, for rational analysis, decision-making, and effective actions.

L. Zasekina (2016), arguing that a person cannot have a large number of different intellects, proposed a model

of emotional intelligence, in which she justified the structures and specific features of the national mental space of carriers of different cultures, prototypes of categories and ethnic stereotypes that “ensure effective activity in a multicultural environment, are at the socio-cultural level of intelligence, which is represented by universal categories of human cognition.”

Psychological markers of emotional intelligence are one's own feelings, which acquire special importance in the emotional field. Feelings are the experience of a person regarding their own attitude to themselves, what they do, learn, and feel for other people. In conventional views, the criteria for the formation of the emotional field are cognitive, emotional-value, behavioural, and social. Indicators of the cognitive criterion include a person's awareness of the content and components of the emotional field, the features of its manifestations. In turn, the emotional value criterion includes the level of emotional maturity, and the indicators of the behavioural criterion include understanding the emotions of others (Dmytriuk, 2010).

In the study of emotional intelligence D. Goleman (2021) states that emotional intelligence provides the ability to process information related to emotions and use emotions to facilitate various cognitive activities, such as thinking and problem-solving and using changes in the mood to cope with a particular task. Emotional intelligence provides an opportunity to be attentive to the smallest changes within and around the person, manage emotional manifestations, both one's own and inherent in other people; it allows using emotions, even negative ones, for one's own purposes and to achieve the set goal.

Psychological features that affect the emotional intelligence of a person include individual psychological characteristics, namely character accentuations. In particular, this applies to entrepreneurs who work in stress-related conditions. Admittedly, the character of entrepreneurs as individuals directly affects their behaviour in various situations, acquires certain personal characteristics during life and determines actions in a certain way.

A. Lychko (2009) identified the degrees of expression of accentuations, such as: a) explicit accentuation – an extreme version of the norm, where accentuated character traits are expressed throughout life, and compensation does not occur even in the absence of mental traumas; b) hidden accentuation – a common version of the norm, where accentuated character traits are manifested mainly in mental traumas, but do not lead to chronic maladaptation.

It is known that with accentuations, a person may show increased vulnerability to certain stressful factors and simultaneous resistance to others. A weak link in a person's character is most often identified only in those difficult situations that necessarily require the active functioning of this particular link. All other difficulties that do not concern the vulnerable points of the individual's character, they can endure without tension and breakdowns, without creating any troubles for either the environment or the person themselves. Although accentuations do not belong to

pathology, under extremely unfavourable circumstances they can still lead to changes in the behaviour of the individual, to psychopathology, but reducing it to pathology is not advisable (Begeza, 2021).

The problems of character accentuations and behavioural features in psychology have been examined quite properly. Researchers have widely investigated the accentuation of the personality and choice of profession, socio-psychological support for the professional activity of an individual in a team. However, insufficient research has been conducted on the analysis of accentuations of the character of entrepreneurs and their impact on the emotional intelligence of entrepreneurs working in stressful conditions.

MATERIALS AND METHODS

Subject to informed consent, 180 entrepreneurs were comprehensively surveyed based on the private enterprise “Inform-Consulting”, Kyiv. The study was conducted in compliance with the principles of ethics of the American Psychological Association (2017); the “Code of ethics” and the “Regulations on academic integrity” of the Academy of Labour, Social Relations, and Tourism (2016; 2018). The study analyses: the age parameters of respondents, socio-demographic characteristics (education, living conditions, credit obligations), health status for bad habits, and subjective assessment of relationships in the team and with partners. A comparative analysis of the results of the study was conducted between a group of entrepreneurs whose stress-associated conditions of activity defined professional activity in the conditions of COVID-19 – the study group 1 (SG1) (N = 90), the study period 2021, and a group of entrepreneurs whose stress-associated conditions of activity defined professional activity in the conditions of war – the study group (SG2) (N = 90), the study period 2022–2023. This stage was performed using the “Psychosocial stress scale by L. Reeder” (Raygorodskiy, 2001), a test questionnaire of emotional intelligence by N. Hall (Yatsiuk, 2019), “Methods for determining the accentuation of the character of K. Leonhard – G. Shmishek” (Leonhard, 1976; Raygorodskiy, 2001). Analysis, processing, and calculation of percentage characteristics and correlation coefficients were performed using SPSS 10.0.5 for Windows (Landau & Everitt, 2004).

In general, the surveyed entrepreneurs in the sample are represented evenly across all age ranges. In addition, entrepreneurs were statistically evenly distributed by age when comparing men and women in all age ranges in both study groups (± 5 years).

According to certain socio-demographic indicators, entrepreneurs were distributed as follows: among SG1, 35.6% of men and 37.8% of women had secondary education, among SG2, respectively, men – 40.0%, women – 37.8%. 33.3% of men and 31.1% of women had secondary special education in SG1, 26.7% of men and 28.9% of women, respectively, in SG2. 31.1% of men and 31.1% of women had higher and incomplete higher education in SG1, 33.3% of men and 33.3% of women, respectively, in SG2 ($p \leq 0.05$).

According to the design, within the framework of intra-group and inter-group analysis, a study of the presence and depth of psychosocial stress in entrepreneurs was conducted. This stage is aimed at identifying factors that provoke – “provoking factors” the occurrence of psychosocial problems in entrepreneurs working in conditions of increased stress-related conditions. These factors were also considered as “stimulating factors”, that is, those that became an incentive to overcome the emotional, cognitive, and behavioural consequences of exposure to stress-associated conditions. Considering that in the study entrepreneurs had two types of stress-associated conditions: the first – professional activity in the conditions of COVID-19 and the second – professional activity in the conditions of war, the whole complex of psychosocial assessment was based on the search for destructive and protective variants of relationships in each of the types.

RESULTS AND DISCUSSION

According to certain economic indicators, entrepreneurs are represented unevenly, namely: 38.9% of men and 42.2% of women had satisfactory living conditions (their own housing) among SG1, 11.1% of men and 7.8% of women had unsatisfactory living conditions. Among SG2, 27.8% of men and 38.9% of women had satisfactory living conditions, while 22.2% of men and 11.1% of women had unsatisfactory living conditions ($p \leq 0.05$). According to the indicator “availability of credit obligations” among men SG1, 35.5% had credit obligations, 14.4% did not. Among SG1 women, 33.3% had credit obligations, while 16.7% did not. Among SG2, respectively, among men, 43.3% had credit obligations, 6.7% did not. Among SG2 women, 38.9% had credit obligations, 11.1% did not. Summarising, it can be noted that in general, in both groups, men and women had equal credit obligations ($p \leq 0.05$).

In general, SG1 and SG2 are evenly represented in terms of health and the presence of bad habits. Thus, 40.0% of men and 37.8% of women defined their “state of health” as satisfactory, and 10.0% and 12.2% defined it as unsatisfactory, respectively. Among SG2, 33.3% of men and 31.1%

of women identified it as satisfactory. As unsatisfactory, respectively, 16.7% of men and 18.9% of women ($p \leq 0.05$). The presence of “bad habits” in SG1 was confirmed by 27.8% of men and 16.7% of women, 22.2% of men and 33.3% of women denied it. Among SG2, 35.6% of men and 23.3% of women, respectively, confirmed the presence of bad habits, 14.4% of men and 26.7% of women denied it ($p \leq 0.05$).

It was identified that completely “absent” and “bad” relations in the interaction of entrepreneurs and the team are not identified. The relations of entrepreneurs in the team in both groups were evenly distributed in the categories of “normal”, “good”, and “harmonious”. Relationships with partners were identified to be more complex. Thus, in both groups, the level of relations was identified as “bad”, in SG1 in 6.6%, in SG2 – 15.6% ($p \leq 0.05$). “Harmonious” relationships with partners were also identified substantially less (SG1 – 26.7%, SG2 – 17.8%) compared to relationships in the team (SG1 – 46.7%, SG2 – 51.1%). This distribution indicates the relative preservation of emotional relationships in the SG1 and SG2 collectives in comparison with partnerships, where their violation/destruction prevails in the SG2 group. This distribution indicates various psychological subjective mechanisms of disruptions of the emotional functioning of the team and emotional relationships with partners, which led to an objective study using a standardised test.

Combinations of emotional, cognitive, and behavioural relationships as consequences of exposure to stress-related conditions are complex and change over time. Based on the results of the examination according to the design within the framework of intra-group and inter-group analysis, entrepreneurs were qualified for variants of emotional, cognitive, and behavioural consequences of exposure to stress-associated conditions:

A. Entrepreneurs with continuous activity – emotional, cognitive, and behavioural responses are impaired, but not destroyed.

B. Entrepreneurs with impaired activity – deformed emotional, cognitive, and behavioural responses.

The results of distributing the assessment of entrepreneurs by the level of psychosocial stress are shown in Fig. 1.

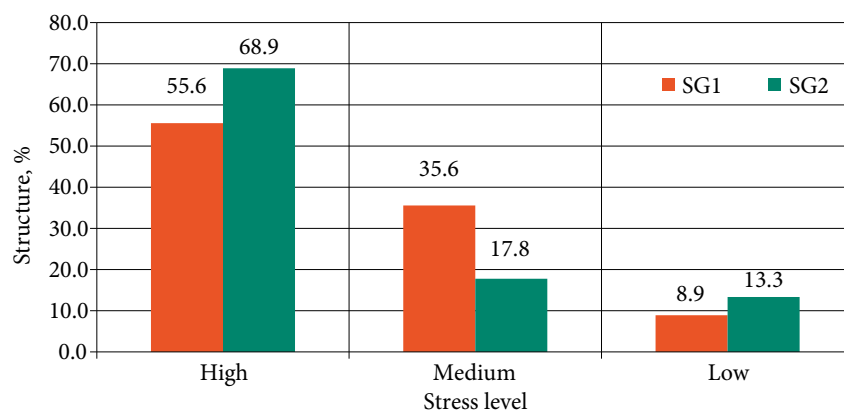


Figure 1. Distribution of the assessment of entrepreneurs by the level of psychosocial stress

Notes: $p < 0.05$

From the data in Figure 1 it can be seen that among entrepreneurs of both groups, in general, similar indicators of psychosocial stress were identified both in terms of its level and percentage. This distribution of psychosocial stress levels among entrepreneurs is not unexpected and highlights the generality of emotional problems that arise.

Entrepreneurs have identified the following emotional, cognitive, and behavioural consequences of stress-associated conditions (usually typical for people in a stressful situation), indicating a high level of stress: psychosomatic complaints, general anxiety and dissatisfaction with life due to changes in the social (more often material) status associated with a decrease in the "volume of business", internal fuss, making impulsive, hasty, thoughtless decisions. In the team and with business partners, entrepreneurs noted their own irritability, aggressiveness, intolerance to the opinions of others, and attacks of unjustified anger. Similar results were obtained by experts of the World Health Organisation, & International Labour Organisation (2022), the study of which highlights workload, high pace of work, substantial lack of time, and poor communication among psychosocial risks. The authors note that psychosocial risk factors can be identified in all industries and professions, but there are typical professions associated with stress and a higher likelihood of mental health problems. For example, if the job involves a lot of emotional stress or potentially traumatic events occur more often. Such activities include the "gig economy" – a free market system, typical features of which are temporary positions and hiring independent employees by organisations to perform short-term tasks. Agreeing with this opinion, it is worth noting that entrepreneurs with a high level of stress subjectively established

a deterioration in concentration and memory, a decrease in performance, uncontrolled emotions, and a loss of desire to work and achieve results.

Emotional intelligence was considered the ability to understand relationships, represent emotions, manage the emotional field, and, as a component, it is an important condition for the professional activity of entrepreneurs. The analysis is based on the study of D. Goleman (2021), who notes that "success in life depends not so much on logical intelligence as on the ability to manage emotions". Emotional intelligence provides control over one's own emotions, and the ability to use intuition, sociability, resilience, and calmness in stressful situations. According to the study by J.D. Mayer *et al.* (2004), emotional intelligence is defined by the main four components of the ability: to perceive and feel emotions; to direct emotions to the help of the mind; understand how a particular emotion is expressed; and the ability to convey emotions. Therefore, it can be noted that emotional intelligence is the ability of an entrepreneur to recognise and understand their own and other people's emotions and feelings, use and control them in their decisions and actions. Emotional intelligence creates three areas: the most accurate recognition of your one's own and other people's emotions, managing emotions, and strategic use of emotions in forming motivation and solving problems. It can be argued that emotional intelligence is the ability to understand and interpret the relationships of a person represented in emotions, the ability to manage the emotional field when making decisions. Results of the assessment of the level of emotional intelligence in entrepreneurs by the method of "Diagnostics of emotional intelligence" by N. Hall are presented in Table 1.

Table 1. Results of the assessment of the level of emotional intelligence in entrepreneurs using the method of "Diagnostics of emotional intelligence"

Scales	N	Level of emotional intelligence in SG1, %, n=90					
		High	Medium		Low		
		%	N	%	N	%	
Emotional awareness	17	18.9	39	43.3	34	37.8	
Controlling emotions	14	15.6	42	46.7	34	37.8	
Self-motivation	18	20.0	40	44.4	32	35.6	
Empathy	16	17.8	41	45.6	33	36.7	
Understanding the emotions of others	13	14.4	35	38.9	42	46.7	
Scales		Level of emotional intelligence in SG2, %, n=90					
Emotional awareness	27	30.0	45	50.0	18	20.0	
Controlling emotions	24	26.7	47	52.2	19	21.1	
Self-motivation	24	26.7	46	51.1	20	22.2	
Empathy	25	27.8	48	53.3	17	18.9	
Understanding the emotions of others	25	27.8	47	52.2	18	20.0	

Notes: χ^2 – 25.7; reliability of discrepancies between group indicators $p < 0.05$

The distribution of the examined entrepreneurs by the integral indicator of emotional intelligence is shown in Fig. 2. It is determined that depending on the type of stress-associated conditions of activity, entrepreneurs apply various mechanisms of psychological protection against the influence of traumatic factors in their professional activities.

Summarising, it can be noted that emotional intelligence is the main component in achieving successful self-fulfilment. It activates and increases the mental competence and reflexivity of entrepreneurs. Among the examined SG1 and SG2, it was determined that when an entrepreneur is aware of their own emotions and is guided by

them in a constructive way, this increases their intellectual capabilities, erudition, contributes to the establishment of

productive interaction in the team and with partners, and the development of personality in general.

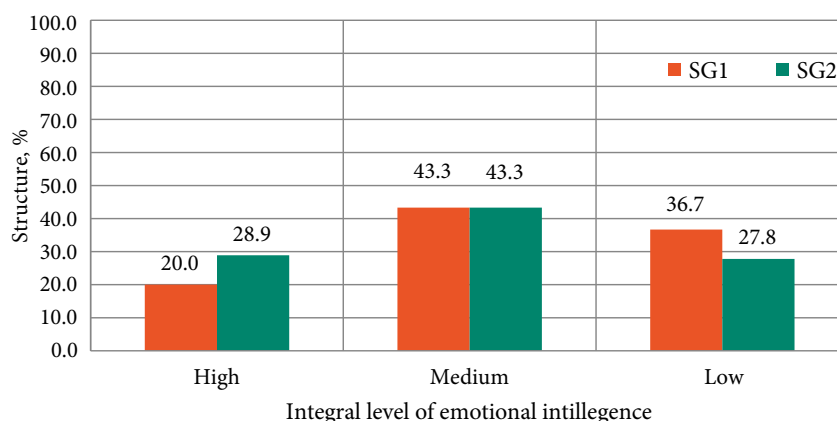


Figure 2. Distribution of the examined entrepreneurs by the integral indicator of emotional intelligence

Notes: $p < 0.05$

It was established that a substantial correlation between the indicators of emotional intelligence in the examined entrepreneurs SG1 was as follows: between the scale of “emotional awareness” and “recognition of other people’s emotions”, which, in the opinion of the authors of this study, means that the quality and accuracy of recognition of other people’s emotions depends on the level of emotional awareness of entrepreneurs ($p < 0.05$). The “managing their own emotions” and “self-motivation” scales also had a substantial correlation, indicating that entrepreneurs were unable to manage their own emotions, and also had a low level on the self-motivation scale ($p < 0.05$). In SG2 entrepreneurs, the relationship between the scales of “emotional awareness” and “recognition of other people’s emotions” was identified, which indicates that “emotionally uninformed” entrepreneurs were not able to recognise other people’s emotions ($p < 0.05$). The relationship between the “emotional awareness” and “empathy” scales was also identified, which indicated that “emotionally uninformed” entrepreneurs are not capable of empathy and high self-motivation ($p < 0.05$). The results obtained coincide with the results of research by the International Labour Organisation (2020), which indicates that the pandemic has destroyed labour markets, increased instability and caused a large-scale reorganisation of enterprises, created new psychosocial risks for employees in the form of emotional exhaustion, reduced motivation, emotional “insensitivity”. In turn, the impact of negative states as a result of the war is confirmed by an examination of the psychological state of Ukrainians by the sociological company Gradus Research (2022), which indicates that more than 70% of Ukrainians experience stress or severe nervousness, but only 2% seek psychological help. Among the negative conditions, the authors note anxiety and tension (50%), bad mood (45%), poor sleep (41%), and irritation and anger (38%). In general, noting that the results of these studies are confirmed by the results, it of this study the examined entrepreneurs SG1 had a high level of restraint in the manifestation of their

own emotions, but entrepreneurs SG2 were able to much better identify the emotions of the environment, recognise and maintain an emotional state, show and demonstrate their feelings ($p < 0.05$).

The study of character accentuations in entrepreneurs identified the presence of personality traits that can lead to impaired activity under the influence of stress-associated conditions and affect the reduction of emotional intelligence to an medium or low level. Character accentuations, as an extreme variant of mental health, create the ground for both neurotic and psychopathic changes, which basically disrupt spiritual and moral self-regulation. The results obtained allowed determining the psychological originality of the main substructures of temperament and character of the examined persons. Individual psychological characteristics of entrepreneurs working in stress-related conditions were evaluated by determining the types of personality accentuation and the possible level of neurotic disorders.

Individual psychological characteristics were established using the method of determining the accentuations of personality of K. Leonhard – G. Shmishek (Leonhard, 1976; Raygorodskiy, 2001). Based on the results of the study, discrepancies were established in the occurrence of identified psychological personality traits in entrepreneurs, which is reflected in the profile of personal accentuations (traits) in entrepreneurs by structure in Figure 3.

The data in Fig. 3 demonstrates that in general, the distribution of the examined entrepreneurs according to the identified accentuated features is quite uniform between the groups. According to the authors of this study, this is due to the fact that such personality traits are not inherent in most entrepreneurs and are not a fixed behavioural model.

For example, for the exalted type, it is inherent to be in an extremely agitated state, inspired, sublime feeling; for the emotive type, to show soft-heartedness, timidity, compassion; for the pedantic type, indecision, conscientiousness, hypochondria, fear of non-compliance with the Me-ideals.

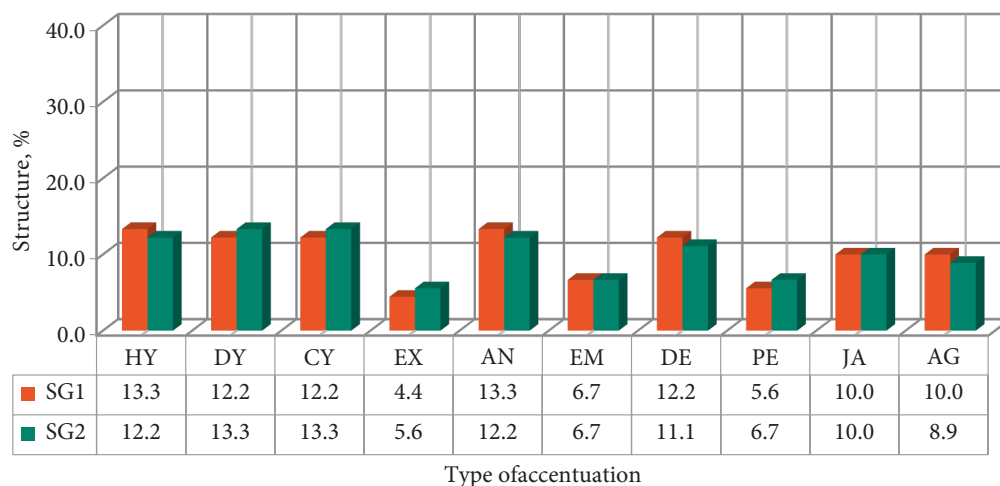


Figure 3. Profile of personal accentuations (traits) in entrepreneurs by structure, %

Notes: HY – hyperthymicity; DY – dysthymicity; CY – cyclothymicity; EX – exaltation; AN – anxiety; EM – emotionality; DE – demonstrativeness; PE – pedantry; JA – jamming; AG – agitation; $p < 0.05$

Further, discrepancies were established in the degree of severity (in points and percentages) of identified

psychological personality traits in entrepreneurs by gender. The data obtained are shown in Table 2.

Table 2. Profile of personal accentuations (traits) among entrepreneurs (by average score)

Group	Level in points	Scales									
		DE	JA	PE	AG	HY	DY	AN	EX	EM	CY
		Avg. score	Avg. score	Avg. score	Avg. score	Avg. score	Avg. score	Avg. score	Avg. score	Avg. score	Avg. score
SG1-M, n = 45	< 12	7	9	7	9	10	10	6	7	10	7
	12-19	16	16	17	18	16	16	18	17	15	14
	20-24	23	23	20	24	22	21	22	22	24	21
SG1-W, n = 45	< 12	8	9	10	9	11	11	9	8	11	7
	12-19	12	18	17	18	19	16	17	15	15	16
	20-24	21	23	22	21	23	24	21	22	23	21
SG2-M, n = 45	< 12	7	10	8	7	8	9	9	8	10	5
	12-19	15	17	18	15	17	17	19	15	18	17
	20-24	20	22	19	23	23	23	21	20	22	21
SG2-W, n = 45	< 12	7	12	8	8	8	9	9	8	7	7
	12-19	12	19	17	19	12	16	15	19	15	14
	20-24	22	23	21	22	23	23	23	21	22	24

Notes: M – men; W – women; HY – hyperthymicity; DY – dysthymicity; CY – cyclothymicity; EX – exaltation; AN – anxiety; EM – emotionality; DE – demonstrativeness; PE – pedantry; JA – jamming; AG – agitation; $p < 0.05$

The data in Table 2 shows that the distribution of male and female entrepreneurs according to the average score on the scales among the surveyed groups SG1-M, SG1-W, SG2-M, and SG2-W is variable and differs in discrepancies, which may indicate the possible influence of the severity of personal emphasis on the level of emotional intelligence and, in general, on doing business in stress-associated conditions of activity.

The tendency to a certain type of accentuation (level in points 12-19) was identified in entrepreneurs of SG1-M: demonstrativeness (12.0%), jamming (10.0%), agitation (10.0%), hyperthymicity (13.0%), exaltation (4.0%), emotionality (7.0%), cyclothymicity (12.0%).

SG1-W entrepreneurs have a similar picture, respectively: demonstrativeness (11.8.0%), jamming (9.5%), agitation (9.00%), hyperthymicity (13.0%), exaltation (5.0%), cyclothymicity (12.0%) ($p < 0.001$). In SG2-M entrepreneurs, the following distribution was identified as a trend among accentuation traits: pedantry (6.5%), hyperthymicity (12.0%), dysthymicity (13.0%), anxiety (12.0%), exaltation (6.0%), emotionality (6.0%), cyclothymicity (13.0%). In entrepreneurs of SG2-W, among the accentuation traits were: pedantry (7.0%), hyperthymicity (13.0%), dysthymicity (13.0%), anxiety (13.0%), exaltation (6.0%), emotionality (7.0%), cyclothymicity (14.0%) ($p < 0.001$).

The established "tendencies to accentuation" in the presence of provoking emotional factors can increase to accentuation. Notably, the identified tendencies to accentuation, such as pedantry, hyperthymicity, emotionality, sometimes created the basis for conflicts in the team and with partners. In psychotherapeutic correction, such entrepreneurs need to be assisted in solving existing psychological problems.

The presence of accentuation (level in points 20-24) was identified in entrepreneurs of SG1-M, where among the features prevailed: demonstrativeness (13.0%), jamming (11.0%), agitation (12.0%), hyperthymicity (10.0%), exaltation (12.0%), cyclothymicity (10.0%). SG1-W entrepreneurs have a similar picture, respectively: demonstrativeness (11.0%), jamming (12.0%), agitation (13.0%), hyperthymicity (12.0%), exaltation (11.0%), emotionality (12.0%), cyclothymicity (12.0%) ($p < 0.001$). Among the existing accentuation traits, SG2-M entrepreneurs were dominated by: pedantry (5.0%), dysthymicity (10.0%), anxiety (12.0%). SG2-W entrepreneurs have a similar picture, respectively: pedantry (6.0%), dysthymicity (12.0%), anxiety (13.0%) ($p < 0.001$).

A comparison of SG1 and SG2 showed that the distribution of male and female entrepreneurs examined in the range of 20-24 points is generally uniform. This indicates common types of accentuations ($p < 0.001$). In general, the distribution of entrepreneurs examined is not unexpected. Using the analysis of the entrepreneurial "path" in relations with the team and business partners, the general "pathogenetic" ways of conflict development in stress-associated conditions of activity are outlined. It can be noted that in both groups, such a conflict was formed based on stable accentuated reactions of the individual and evasion behaviour (coping strategy), which is partly a specific form of social behaviour in a situation of uncertainty, namely in stress-associated conditions of activity. The basis of this behaviour was the passivity of entrepreneurs in a conflict situation with postponing intervention until "better times" or ignoring the problem. Such entrepreneurs were characterised by the desire to avoid acute decision-making situations, did not discuss issues that are the subject of business disputes. In other words, while maintaining neutrality and not disclosing their views and attitudes to the problem, they were characterised by "tactics of presence without signs of active intervention."

Considering the stress-associated conditions of activity, it can be noted that men and women of all groups with a high probability of accentuation according to the demonstrative type were characterised by a tendency to embellish themselves, artistry, and emotional lability ($p < 0.001$). 50.0% of SG1 and 46.0% of SG2 did not show a tendency to conflict ($p < 0.001$), respectively, 58.0% and 62.0% showed egocentrism and inadequate self-evaluation of their own actions in stress-associated activity conditions ($p < 0.001$). SG1 and SG2 entrepreneurs with established excitable accentuation were characterised by weak emotional control. They showed increased impulsivity – 18.0% ($p < 0.001$), conflict (25.0%) ($p < 0.001$), reduced motivation to do

business (30.0%) ($p < 0.001$), reduced responsibility for their own obligations (35.0%) ($p < 0.001$). The subjects of the study with hyperthymic accentuation were characterised by a disruption of the sense of distance in the team and with partners (40.0%) ($p < 0.001$), unpredictable outbursts of anger, and increased irritability (42.0%) ($p < 0.001$).

The study of both groups with the emotive type of accentuation was characterised by a reduced ability to verbally express feelings, moods, and worries (40.0% and 45.0%, respectively) ($p < 0.001$), and internal fear of the thoughts of others towards them (36.0% and 52.0%, respectively) ($p < 0.001$).

According to the results of the study, two variants of accentuation types in entrepreneurs SG1 and SG2 were identified, which in stress-associated conditions of activity had a reducing effect on emotional intelligence.

Option 1. Predominance of jamming or dysthymic traits identified in SG1. Leading in the formation of relationships in the team and with partners identified a tendency to get jammed or stuck in affect. Entrepreneurs were characterised as pedantic and vindictive. Against the background of "increased resentment", obsessions of distrust of the team or partner, manifestations of outbursts of affect and aggression appeared. The established accentuation of the dysthymic type was manifested by a gloomy view of things, fatigue, a tendency to a bad mood, and pessimism. Entrepreneurs showed exhaustion in communication and preferred to be alone, and their feelings of anxiety were manifested by a high level of self-doubt. The entrepreneurial activity was characterised as "dysfunctional" and "unsatisfactory".

Option 2. The predominance of anxious and emotional traits in the majority was identified in SG2. Leading in the formation of relationships in the team and with partners is a tendency to mood disorders. Often, anxiety was associated with the possible loss of the team, partners, and business in general. Entrepreneurs quickly got tired and exhausted, tried to be alone, downplayed their own abilities, avoided responsibility and trouble for themselves, the team and their partners, and could not contain fear and anxiety. The established emphasis on the emotive type was manifested by a negative assessment of entrepreneurial activity now and in the future. In general, psychologically, entrepreneurs noted and agreed with "weakness" and sometimes helplessness. The sensitivity of emotive individuals was manifested in variants of reactive depression. The entrepreneurial activity was characterised as "rather dysfunctional and unsatisfactory".

Such tendencies to accentuation as demonstrativeness, pedantry, hyperthymicity, cyclothymicity, exaltation, and agitation also create the basis for the conflict of entrepreneurs in the team and with partners in stress-associated conditions of activity. The results obtained are confirmed by the study "Personality traits and entrepreneurial intentions", which indicates that the need for achievement, risk tolerance, and entrepreneurial vigilance are parameters of personal character traits that affect the development of entrepreneurial activity and encourage or restrain the intentions of entrepreneurship (Karabulut, 2016). Agreeing with the arguments about the positive influence of personal

character traits on the development of entrepreneurial activity, the reaction of the entrepreneur's personality is diverse and manifests itself in the form of demonstrative behaviour (prone to artistry, posturing, emotional lability, to conflict with the traits of egocentrism and inadequate assessment of their own actions). In addition, entrepreneurs with hyperthymic accentuation are characterised by a lack of a sense of distance, increased irritability, and outbursts of anger.

CONCLUSIONS

Psychological manifestations of high levels of stress in entrepreneurs are the emotional, cognitive, and behavioural consequences of stress-related conditions. Entrepreneurs with high levels of stress recorded a deterioration in concentration and memory, decreased performance, uncontrolled emotions, and loss of desire to work and achieve results. The assessment of emotional intelligence in both groups established a high level of it with sufficient skills to be aware of their emotions and feelings, to feel responsible for their own emotional state; with a medium level – the potential for development, and with a low – a need for its development ($p < 0.05$).

It was identified that the quality and accuracy of recognising other people's emotions depends on the level of emotional awareness. Entrepreneurs had a high level of restraint in expressing emotions ($p < 0.05$). Entrepreneurs working in war conditions showed emotional ignorance and low empathy ($p < 0.05$), but sometimes they were able to better identify the emotions of others ($p < 0.05$). In both groups, entrepreneurial activity was characterised as "rather dysfunctional and unsatisfactory".

It is proved that "tendencies to accentuation" in the presence of provoking emotional factors can increase to accentuation, and pedantry, hyperthymicity, and emotionality can create the basis for conflicts ($p < 0.001$). Pathogenetic ways of conflict development are the presence of stable accentuated reactions of the individual and evasion behaviour in a situation of uncertainty (passivity, ignoring, and postponing problems). There are two types of accentuations that affected and reduced emotional intelligence in stress-

associated conditions of activity: I – the predominance of jamming or dysthymic traits in the group that worked in COVID-19; II – the predominance of anxious and emotional traits in entrepreneurs working in war conditions.

The scientific originality of the study is the establishment of new relationships between indicators of psychosocial stress, features of an accentuated personality and indicators of emotional intelligence in entrepreneurs who conduct business in stress-associated conditions. The prospects for further research are the scientific search for psychological features of coping strategies in entrepreneurs working in stress-associated conditions and their possible impact on the effectiveness of the programme for the development of emotional intelligence in entrepreneurs.

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CONFLICT OF INTEREST

Data supporting the conclusions of this study are available upon request from the author. The data are not publicly available due to restrictions that contain information that may compromise the privacy of study participants. There is no conflict of interest in financial, commercial, legal, or professional relations with other organisations.

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Психологічні особливості підприємців, які працюють у стрес-асоційованих умовах

Анотація. Актуальність дослідження зумовлено зростанням у 2020-2023 рр. стрес-асоційованих умов діяльності підприємців в Україні. Мета статті – висвітлити результати дослідження емоційного інтелекту, психосоціального стресу, акцентуацій характеру підприємців, які працюють у стрес-асоційованих умовах. Серед ключових методик дослідження – шкала психосоціального стресу L. Reeder, тестовий опитувальник емоційного інтелекту N. Hall, визначення акцентуацій характеру K. Leonhard – H. Schmieschek. Досліджено професійну діяльність 90 підприємців в умовах COVID-19 та 90 підприємців в умовах війни у період 2021-2023 рр. В обох групах встановлено високий рівень емоційного інтелекту характеризувався вміннями усвідомлювати емоції та почуття, середній – потенціалом розвитку, а низький потребував розвитку. Виявлено міцний кореляційний взаємозв'язок між «емоційною обізнаністю» і «розпізнаванням емоцій інших людей», що характеризувало стриманість у прояві емоцій. У підприємців, що працюють в умовах війни, виявлено знижену здатність управляти емоціями та низьку самомотивацію. З'ясовано, що психосоціальний стрес проявлявся психосоматичними скаргами та імпульсивними рішеннями, агресивністю, нетерпимістю до думки оточення, гнівом. Високий рівень стресу супроводжувався погіршенням концентрації уваги, пам'яті, працездатності. Доведено, що тенденції до акцентуацій за провокативних емоційних чинників посилювалися до акцентуації, а педантичність, гіпертимність, емотивність створюють підґрунтя для конфліктів. Визначено, що патогенетичним шляхом розвитку конфлікту ставало ухилення як специфічна соціальна поведінка в стрес-асоційованих умовах діяльності, а ігнорування проблеми було базовою поведінкою у конфлікті з бажанням уникнути гострих ситуацій та рішень – «тактика присутності без ознак активного втручання». Визначено два типи акцентуацій, пов'язаних з негативним впливом на емоційний інтелект бізнесменів: застрявання або дистимія в першій групі, яка працювала під час COVID-19, і домінування тривожних та емотивних рис у другій групі, учасникам якої довелося працювати в умовах війни. Зазначено, що в обох групах підприємницька діяльність характеризувалася як «скоріше неблагополучна та незадовільна». Практичне значення дослідження полягає в можливості врахувати виявлені психологічні особливості в наданні допомоги підприємцям, які працюють у стрес-асоційованих умовах

Ключові слова: емоції; емоційний інтелект; акцентуація; підприємницька діяльність; стресогенність

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Motivation for professional activity in extreme conditions in Antarctica among winterers of different age groups

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Abstract. Professional activities in the extreme conditions of Antarctica and the Arctic are primarily associated with major risks to life and health, including psychological risks, for the personnel of polar stations. The relevance of this study is driven by the fact that in extreme forms of professional activity, such as expeditions to the Earth's poles, extreme sports, military operations, etc., one of the main criteria for selecting and forming effective and cohesive teams or groups is understanding the primary motives behind their actions. Motivated individuals tend to perform better and achieve greater success. The purpose of the study is to identify the leading motivations for professional activity in extreme conditions among winterers of Ukrainian Antarctic expeditions across different age groups. To achieve this purpose, methods of theoretical and empirical analysis, observation, generalisation, and systematisation of age groups were chosen. The paper defines and establishes an age-based classification of participants in annual expeditions to the Ukrainian Antarctic station "Academic Vernadsky". Through surveys, the study measures the level of motivation among individuals towards professional activities in Antarctica within three age groups: younger, middle-aged, and older. Three leading motives are identified: spiritual, social, and material. The analysis of the obtained data concerning the level of these leading motivational factors in polar station environments provides insights into the main reasons driving motivation for prolonged professional activity and helps in adapting to the extreme conditions of the surrounding environment. In addition, age-related differences in motivational processes among different age groups of winterers are presented, allowing for the formation of well-coordinated teams of polar expedition participants of varying age categories. The findings can be used in planning activities in long-term polar expeditions, in military and sports psychology

Keywords: adaptation; Antarctic expeditions; psychology of extreme activities; professional resilience; extreme sports

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INTRODUCTION

The motivation for professional activity is an ever-relevant question for youth choosing their career path, individuals looking to change or expand their professional capabilities, and human resources managers and work psychologists. Various forms of professional activity that involve risks to life and health are increasingly demanded by society, especially in the context of military operations in Ukraine. These professions and specialties include military, sports, and expedition-related fields, among others. There is still a deep lack of understanding of what exactly motivates people to voluntarily choose such activities. Understanding the dominant motivations among representatives of different age groups engaging in these professions is crucial for selecting expeditionary, sports, and military teams, organising their effective preparation and training. Professional activity in extreme conditions of Antarctica and the Arctic is associated with great risks to life and health, including psychological ones. At the Ukrainian Antarctic station "Academic Vernadsky", people spend an extended period (12-13 months) in a risk zone of severe environmental conditions exacerbated by social and spatial isolation.

Each generation of people gradually expands the scope of those activities that were previously considered impossible or too difficult. This is often evident in extreme activities such as expeditions to the Earth's poles and sports (mountaineering, solo free climbing, BASE jumping, big wave surfing, marathon running, mountain skiing, Paralympic sports, etc.). As a result, there is a desire to understand why and how hazardous activities attract people and why they find pleasure in them, considering that these activities are generally perceived as unpleasant and risky.

American researcher G. Musumeci (2021) explores the question: "Why would you choose extreme sports?" He found that one of the most important aspects of the motivational component for enthusiasts of extreme sports that captivate people is the opportunity to experience something that makes them feel alive in an extraordinary way. This causes euphoria, described by such expressions as the feeling of "storm", "excitement", or an "adrenaline rush".

E. Brymer *et al.* (2020) attempted to explain the neuropsychological reasons that drive people to seek extreme experiences. These studies found a correlation between the ability of certain activities to increase epinephrine secretion, the need to take risks, and a tendency to extreme experiences. The sense of imminent danger that these extreme sports eliminate activates survival mechanisms in response to stress to counteract the event through neurophysiological changes widely recognised in the scientific literature.

An example of professional activity in extreme conditions is long-term polar expeditions. The characteristics of the surrounding environment in both polar regions, the North and the South, are distinguished by strong winds, low temperatures, fog, monochromatic surroundings, and difficult access to research objects due to snowdrifts and ice. The ocean covered with ice blocks increases the sharpness of the challenge. For human life and professional

activities, such environments are unusual, unsuitable, and extreme (Lewandowski, 2022).

Antarctica has never had a native population, and the Arctic has only small groups of inhabitants. Both polar regions simultaneously attract and challenge people of different ages, including ambitious young researchers and experienced polar explorers. This particularly applies to permanently operating Antarctic stations where extreme weather conditions for professional activity are further complicated by prolonged social and spatial isolation within a small group. This contributes to the gradual development of progressive physical and psychological fatigue, interpersonal interaction difficulties, and the emergence of personality and social psychological disorders, negatively impacting the overall efficiency of expeditionary activities (Bakhmutova, 2020; 2021). Hence, it is important to understand why some individuals willingly choose such exceedingly challenging activities and what motivates them when facing the challenges of such professional activity for extended periods.

Ukrainian researchers O. Kokun & L. Bakhmutova (2021; 2022) highlight the personal qualities of Ukrainian winterers and how they change under the influence of the extreme environment and social-spatial isolation in their publications.

In a descriptive review titled "Human Psychophysiology in Antarctica", Indian sports psychologist M. Nirwan (2022) discusses the correlation between human psychology and physiology in Antarctica. The review highlights changes in the psychophysiological state due to geomagnetic disturbances, disruptions in circadian rhythms caused by the "polar day and polar night" effect, decreased immunity due to the sterility of the surrounding environment, hypoxia, bone metabolic changes, acute mountain sickness, and stress biology during prolonged stays in Antarctica.

Ukrainian psychologists O. Miroshnychenko (2021) and O. Voznyuk (Miroshnychenko & Voznyuk, 2022) have thoroughly investigated the adaptation processes of Ukrainian winterers to the harsh conditions in Antarctica. A team of researchers, N. Chen *et al.* (2016), covered different levels of adaptation among Chinese winterers during their prolonged stays in Antarctica and Subantarctic.

Thus, researchers exploring human activity in extreme conditions in the Arctic and Antarctica note the negative impact on adaptive processes and psychological changes in personality resulting from the long-term performance of professional duties at polar stations.

The purpose of this study is to identify the leading motivations of people of different age groups in engaging in activities that require increased psychological and physical endurance, effort, persistence, and determination over an extended period (one year) where failure could be catastrophic – such as an expedition to the South Pole.

Objectives of the study:

1. Based on theoretical analysis, determine and establish age-based classification of participants in annual Antarctic expeditions to the UAS "Academic Vernadsky".

2. Empirically investigate the features of the motivational component of readiness for professional activity among winterers of Ukrainian Antarctic expeditions (UAE) in the identified age groups.

LITERATURE REVIEW

The majority of psychological research results are primarily used in the development of selection methods for personnel in polar stations. Therefore, a considerable portion of researchers typically focus on medical, physiological, and psychophysiological adaptation to the surrounding environment, identifying stable individual-personality characteristics exhibited by those who visit or work in these extreme locations, and addressing emotional issues, including mood, life satisfaction, the surrounding environment, and relationships within the team.

Researchers established that most studies on motivation for risky activities have been conducted on extreme sports and activities involving physically trained individuals with sports skills and abilities. For instance, Bulgarian researchers G. Domuschieva-Rogleva and T. Iancheva (2017) studied polar expedition members of the 25th Bulgarian Antarctic Expedition on Livingston Island. The uniqueness of this expedition was that it included both researchers and sports alpinists. Psychologists investigated questions such as "What motivates people to engage in risky activities?" and "How are the needs for safety and the pursuit of thrill simultaneously satisfied?" This study complements the understanding of the role of safety needs and thrill-seeking as motivational forces underlying the desire to participate in challenging, complex, and highly risky missions in extreme environmental conditions.

S. Reiss (2000), a specialist in psychiatry and clinical psychology from Ohio University in the USA, creator of new diagnostic methods and studies in the areas of anxiety disorders, developmental disorders, intrinsic motivation, and the psychology of religion, discovered that there is no external motivation, only internal motivation. That is, a person is able to encourage oneself to take this or that action. Each person's motivational profile is as unique as fingerprints. By knowing their profile, individuals understand what and to what extent motivates them in life. Based on this, the author developed the "Theory of Motivational Sensitivity" and the methodology for determining basic motivators called Reiss Motivation Profile®, which is widely used in the USA, Europe, and Asia for leadership training and conflict resolution in organizations and large corporations, such as Comcast, Kraft, Chrysler, Siemens, and others.

Researchers from the USA, B.M. Ogles, and K.S. Masters (2003) seek to understand which specific motives drive people to participate in marathons, as it requires a considerable amount of strenuous training far exceeding the level necessary for maintaining health, well-being, physical activity, and prosperity. Preparing for a marathon is tedious, can be boring, monotonous, expensive, or lonely. Even if a runner passes the training tests in good psychological and physical shape, there is no guarantee of

satisfactory performance in the marathon itself (Ogles & Masters, 2003).

A comprehensive study on sports in extreme conditions at the North Pole was conducted by J.C. Lloyd and M.J. Apter (2006), when British polar explorer and athlete Pen Hadow documented his motivational states during a 64-day solo ski journey without resupply from Canada to the geographic North Pole. He began the expedition on March 17, 2003, pulling sledges weighing 265 pounds, and arrived on May 19. During the 850 hours of the journey, the researcher travelled on skis and on foot across the sea ice, occasionally swimming in a dry suit when encountering open water or thin ice. It took three attempts over the course of 15 years to successfully achieve this goal (Pen Hadow..., 2023). It was established that during the transition process, Pen Hadow used a wide range of motivational states, rather than relying on one main motive.

Researchers J.C. Lloyd and M.J. Apter (2006) identified eight motivational states in him:

1. Achievement: "I knew I was trying to achieve an important long-term goal. I wanted to feel successful."
2. Satisfaction: "I knew I was trying to have a good time while enjoying the activity process. I wanted to feel the fullness of life in the moment."
3. A sense of duty: "I knew I was trying to do what I had to do. I wanted to feel like I was fulfilling my obligations."
4. Negativism (freedom): "I knew that I was trying to break away from the expectations or permissions of outsiders. I wanted to feel my own rebellion."
5. Skill (strength): "I knew that I wanted to feel the mastery of a particular task or situation. I wanted a sense of control, both personally and through identification with the skills or power of others."
6. Empathy (care): "I was aware that I was trying to establish close relationships with the people around me in my daily life. I wanted a sense of friendship and compassion."
7. Individuality: "I knew that I was trying to do something unusual, something for my own benefit. I wanted to feel 'on my feet' and 'self-fulfilled'."
8. Transcendence: "I was aware that I was trying to help others. I wanted to feel part of something that was beyond me and contribute to the development of human capabilities. To demonstrate by example that what was once considered impossible becomes possible."

In psychology, there are numerous studies on motivation in extreme activities, but there has been little attention given to the motivation of individuals of different ages who work for extended periods in extreme environmental conditions.

MATERIALS AND METHODS

Theoretical and empirical methods were used to conduct the study.

The study is based on theoretical approaches in contemporary Ukrainian developmental psychology proposed by Ya. Vasilyev (2009) and K. Krutii and L. Zdanevych (2017), which have been used to develop an age-based categorisation specific to UAE fieldworkers.

Over a ten-year period from 2011 to 2020, investigations were conducted using methods such as interviewing, testing, and surveying UAE members at the Ukrainian Antarctic Station (UAS) "Akademik Vernadsky".

Empirical methods were implemented using the Reiss Motivation Profile® (RMP) method. The RMP is a scientifically developed approach to studying the motivational sphere of an individual through a hierarchy of desires, which serves as the driving force behind any activity.

Steven Reiss (2000), the author of the RMP, identified fundamental motives that influence thoughts, emotions, and actions. They are universal, that is, inherent in every person. Yet people set them differently because they have their own priorities. This is the basis for the uniqueness of each individual. RMP® is a taxonomy of 16 basic human needs (motives):

1. Power – the desire to influence others. The satisfaction of this desire creates the joy of self-admiration, while the inability to satisfy it leads to a sense of helplessness. Power – primarily the desire to be directive and lead others.

2. Independence – the desire to rely on oneself. Satisfying this desire gives one the joy of personal freedom, while not satisfying it leads to a sense of dependence. Independence is primarily about doing something without the help of other people. Low scores on this scale indicate opposing desires associated with the joy of realising that a person can rely on the support of others.

3. Curiosity – the desire to learn. Satisfying this desire leads to feelings of contentment and admiration. Curiosity is associated with an intellectual lifestyle, with the desire to explore oneself and the surrounding world, and travel. People with developed curiosity are characterised by logical thinking and the truth of their intellectual arguments.

4. Acceptance – the desire for approval, the need to belong to certain social communities. Satisfying this desire gives one a sense of dignity, and not being able to satisfy it gives one a sense of insecurity.

5. Order – the desire to arrange and organise everything. Satisfying this desire gives one a sense of stability. It motivates a person to plan everything carefully, organise it, and make a schedule. Dissatisfaction is the opposite: it causes a feeling of instability, loss of control.

6. Conservation – the desire to accumulate and preserve. Fulfilling this desire brings a sense of preparedness for any course of events, a sense of collectedness. Conversely, not being able to fulfil this desire leads to a feeling of unpreparedness.

7. Honour – the concept of moral consciousness, dignity in relation to oneself and society. Satisfying this desire brings a sense of confidence, loyalty, and loyalty. The inability to satisfy it causes feelings of guilt and shame. Honour is most associated with the adoption of the social code of morality; a little less – with patriotism, traditions, and religion.

8. Idealism – putting the spiritual foundation as the basis of activity, such as pursuing knowledge, ideas, and emotions. The desire for idealism motivates a person to

participate in public life, pay attention to public events, and engage in charity work.

9. Social contacts – the desire to interact with other people. Fulfilling this desire brings pleasure, while its absence leads to feelings of loneliness. Social contacts are primarily a desire for social activity. This motif is also associated with the desire to have friends.

10. Family – the desire for interaction within marriage or blood relations, living together with mutual moral responsibility and mutual assistance, and raising children. Fulfilling this desire brings joy in relationships and parental love. Its dissatisfaction causes feelings of anxiety. The desire for a family motivates one to spend time with children and put their needs above one's own.

11. Social status is the prestige of belonging to a certain social community. Its presence brings a sense of importance, while its absence creates feelings of vulnerability. Primarily, social status relates to one's position in society and wealth, and to a lesser extent, fame, attention, and reputation.

12. The desire for competition is the desire to surpass and defeat someone in something, striving for better results or achievements than others. The presence of this desire indicates ambition and competitiveness. Being satisfied, this desire gives the joy of victory and elevation. The inability to satisfy it leads to feelings of sadness, disappointment, resentment, and anger.

13. Romantic relationships are relationships accompanied by feelings of love, passion, devotion, care, and affection. Satisfaction of this desire gives a feeling of euphoria, dissatisfaction – lust. The desire for a romantic relationship is closely related to a sense of beauty and harmony.

14. Satiation is the desire to satisfy various aspects of one's life: spiritual, emotional, social, material, etc. The primary basis for satisfying this desire is eating food, which leads to a feeling of satiety. The opposite is the feeling of hunger.

15. Physical activity is the desire for physical movement, which is fundamental to life. Fulfilling this desire brings a sense of physical and psychological well-being. Dissatisfaction leads to feelings of restlessness, discomfort, and weakness. This desire motivates a person to play sports.

16. Peace is the desire for emotional balance, absence of worries, anxieties, doubts, troubles, etc. Fulfilling this desire provides a sense of security, while dissatisfaction evokes fear. This desire motivates a person to worry about themselves, avoid fear, pain, and despair.

The RMP® questionnaire's motivations were generalised, and three main motives for activity in extreme Antarctic conditions were identified: spiritual (independence, curiosity, honour, idealism, family values), social (power, acceptance, order, social contact, desire for competition, social status), and material (conservation, peace, romantic relationships, satiation, physical activity). The data obtained were processed using statistical methods to determine the average M level.

The RMP® test consists of 128 questions. The test result reveals the hierarchy of the respondent's values, through the prism of which reality is perceived. RMP® is an innovative

and unique comprehensive psychological tool for investigating motivation, which meets all five scientific criteria of psychometric research: validity, reliability, standardisation, objectivity, and normalisation.

The study involved winterers who worked in year-round expeditions at the Ukrainian Antarctic Station “Academic Vernadsky”. Over ten research years, from 2011 to 2020, open offline surveys were conducted with the voluntary consent of the participants during the training process in conditions close to polar.

Each expedition involved from 10 to 13 people. The number of people depended on the volume of professional tasks. Some people participated several times over the course of 10 years. This is the reason for the sample of 71 subjects. Of these, 69 are male and 2 are female. The age of the subjects is from 22 to 64 years. All studies were conducted following the principles of Good Clinical Research Practice (GCP), 1995 (World Health Organization, 2005), Convention on Human Rights and Biomedicine (Council of Europe Convention..., 1997), and WMA Declaration of Helsinki – ethical principles for medical research involving human subjects, 1964 (2022). The interviewers adhered to ethical guidelines developed by reputable organisations for research involving human subjects, including the European Commission’s instructions on ethics and data protection (European Commission, 2021).

Before the study, a hypothesis was formulated: adaptation to the harsh conditions of Antarctica depends on the age characteristics of the wintering participants, as expeditions typically include people from different generations.

RESULTS AND DISCUSSION

Definition and establishment of age periodisation of participants in annual Antarctic expeditions to the UAS “Academic Vernadsky”

For the study, identification, and establishment of age-related patterns in the field of polar professional activities, data from Ukrainian psychological studies were analysed.

Ya. Vasilyev (2009) proposes the following age periodisation for individuals in adulthood: youth period – from 21 to 28 years old, emerging adulthood – 28-34 years old, adulthood – 35-45 years old, maturity – 46-55 years old, late maturity – 56-66 years old, elderly – 66-78 years old, and beyond – old age.

K. Krutii and L. Zdanevych (2017) proposed a different periodisation based on a socio-psychological approach. This periodisation is based on generational theory, according to which modern adults are divided into age groups depending on their years of birth:

- 1947-1967 – “children of winners” or “baby boomers”, born after World War II (in this study, these are winterers aged 46-62 years old);
- 1968-1987 – generation X, or “unknown generation” (winterers aged 35-45 years old);
- 1988-2000 – generation Y, or “Millennium generation” (winterers aged 22-34 years old).

Based on the theoretical analysis conducted, three age groups (I – younger, II – middle, and III – older) were tentatively established, which are characteristic for expeditionary teams, and the number of winterers participating in annual expeditions was distributed among these groups. The obtained results are presented in Table 1.

Table 1. Age periodisation of participants in annual Antarctic expeditions

Age groups	Age limits (years)	Number of people who took part in the study
Younger	22-34	29
Middle-aged	35-45	30
Older	46-62	12

Empirical research on the motivational characteristics of winterers at the UAS based on the identified age groups

Based on the test results, the motivational priorities of each participant were determined, and an individual profile was constructed with sixteen motivations. Understanding and knowledge of these motivations are essential to help the expedition team form a shared vision and assist individuals in finding meaning in their professional activities under extreme conditions.

Visually, the results of the study are presented in the diagram (Fig. 1).

Determining the main motivations for professional activity in extreme conditions at the Antarctic station based on age groups is crucial during the final selection stage for the expedition team because candidates may have different motivations and interpersonal interaction styles. Often,

specialists responsible for selecting candidates for the expedition team do not adequately consider this fact, which may result in difficulties in assembling a cohesive team with shared or similar values, as individual sources of meaning, specific determinants of motivation, and personal preferences remain unknown at this stage.

The assessment of the level of the three identified main motivations provides generalized quantitative data, which helps understand the primary reasons motivating individuals to engage in long-term professional activities in extreme environmental conditions. Based on this, a harmonious team of individuals from different age categories can be assembled.

Comparing the three profiles of winterers from different age groups presented in Figure 1, some key results regarding the formation of expedition teams with representatives from different age groups have been obtained:

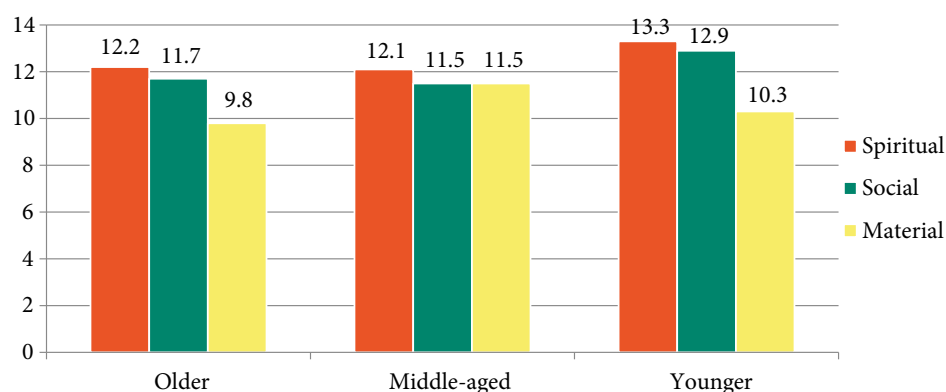


Figure 1. Level of main motivations for professional activity in extreme conditions at the Antarctic station by age groups

- The top motivation for all polar researchers is the spiritual motive of expeditionary activities (independence, curiosity, honour, idealism, family, and societal values). However, it is worth noting that the highest level ($M = 13.3$) is observed in the younger group, while the older and middle groups have approximately similar indicators. Expedition participants strive for excellence in everything they do, in all aspects of their life at the Antarctic station, including being worthy members of the Antarctic community. They take pride in performing their work to high standards while maintaining a desire for constant personal and collective improvement.

- The second-ranking motive is the social motive – the desire for power, acceptance in society, a longing for order, social contact, and competition. Interviews with winterers revealed that for many of them, the desire to prove to themselves and other members of society their involvement in social events, their own significance, and to feel society's need for them is vital. Understanding the value of each team member is ensured through collective support and constructive interpersonal interactions, which is why the level of social motive in the younger group is also the highest ($M = 12.9$).

- On the third place is the material motive – preservation, enrichment, personal peace, romantic relationships, and physical activity. This includes satisfying one's own material stability, family, and organisation. For representatives of the middle age group, this motive shares the second position with the social motive ($M = 11.5$).

This can be explained by the fact that individuals aged 35–45 years need material stability to support themselves, their families, and maintain stable functioning in their professional sphere.

Dynamics of the main indicators of winterers' motivation

The investigation of winterers' motivation for activities in the extreme conditions of Antarctica was conducted using the same methodology (RMP® questionnaire) after their return from the expedition to identify any changes in respondents' motivation. Thus, it became possible to compare two snapshots of the RMP® questionnaire, comparing the three identified motivation profiles in winterers from different age groups. The dynamics of changes regarding the examinations in the older, middle, and younger age groups are presented in Table 2 and Figures 2–4. The obtained data were also processed using statistical methods to determine the average level (M).

By analysing the data, conclusions can be drawn regarding the dynamics of indicators of motivational readiness based on the results of the RMP® questionnaire. In general, the indicators have not changed significantly: in all age groups, the indicators are within the average range. However, social motivation has become the first in the older group ($M = 12.7$), the middle group ($M = 13.0$), and overall among all winterers in all groups ($M = 13.1$).

The figures (Fig. 2–4) represent the indicators of manifestations of the main life activity motives among Ukrainian winterers in different age groups.

Table 2. Dynamics of indicators of main life activity motives in winterers of different age groups based on the results of the RMP® questionnaire

Age groups	Main life activity motives					
	spiritual		social		material	
	1 snapshot	2 snapshot	1 snapshot	2 snapshot	1 snapshot	2 snapshot
older	12.2 (± 2.4)	12.7 (± 2.8)	11.7 (± 2.6)	13.0 (± 2.4)	9.8 (± 3.5)	11.3 (± 3.4)
middle-aged	12.1 (± 2.8)	12.2 (± 3.4)	11.5 (± 3.2)	12.8 (± 2.9)	11.5 (± 3.3)	13.2 (± 3.6)
younger	13.3 (± 3.5)	14.0 (± 2.4)	12.9 (± 4.5)	13.3 (± 3.4)	10.3 (± 3.5)	12.9 (± 3.3)
Total	12.5	13.0	12.0	13.1	10.5	11.8

Note: the mean square deviation (δ) is indicated in parentheses

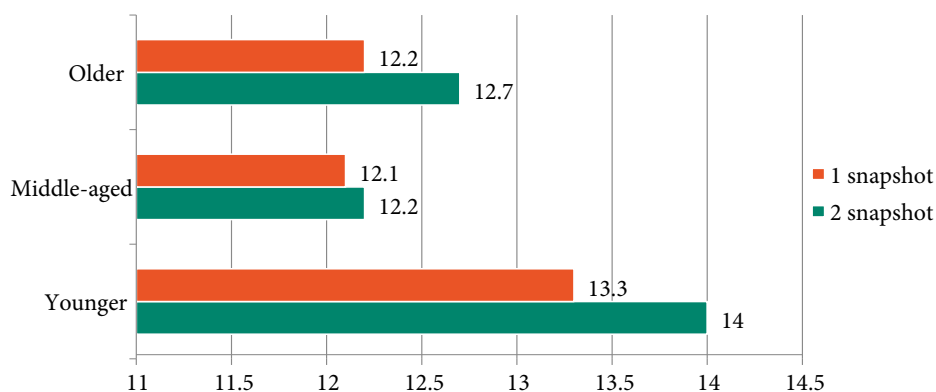


Figure 2. Dynamics of indicators of the manifestation of the spiritual motive of life activity in different age groups of winterers

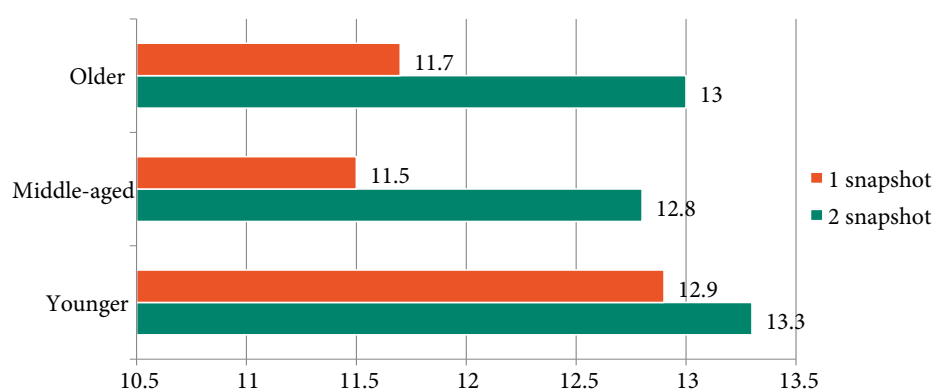


Figure 3. Dynamics of indicators of the manifestation of the social motive of life activity in different age groups of winterers

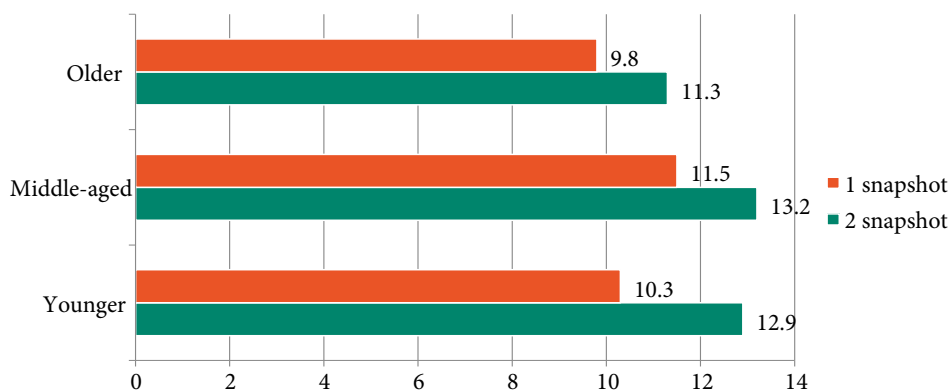


Figure 4. Dynamics of indicators of the manifestation of the material motive of life activity in different age groups of winterers

An increase in the social motive indicates that after spending a sufficient amount of time (over a year) in a closed collective, winterers begin to value good relationships even more. The importance of their actions for others increases, leading to a sense of responsibility and camaraderie.

In the second snapshot of the middle age group, the first motive becomes material. This indicates a certain rethinking of the results of activities in extreme conditions for representatives of such an age when the need to support a family is significant.

Overall, analysing the results from the two snapshots of the RMP® questionnaire, it can be concluded that the best scores in the scales of spiritual, social, and basic motivations are demonstrated by representatives of the younger age group.

In the scientific literature, the issue of motivation for extreme activities is explored using various approaches and measurement methods. Polish scientist B. Olszewska (2018) examined the motivation of people engaged in extreme sports and tourism. She examines the motives of

different social groups in relation to types of activities, age, gender, and social status.

Y. Ouyang *et al.* (2020) investigate the motivations of children, youth, and students. Studies on middle-aged and elderly individuals are often related to motivation for physical activity among teachers and employees leading sedentary lifestyles. It has been shown that these social groups are the most vulnerable to civilisation-related illnesses resulting from a passive lifestyle. Physical activity in youth affects the quality of life in old age. All of the above raises questions about motivation for physical activity and extreme activities.

The motivation for physical activity was also addressed by O.I. Holovchenko *et al.* (2014). Their study, conducted with students from Sumy State Pedagogical University, showed that the desire to feel stronger and more adapted to challenging conditions motivates modern youth to engage in physical culture and sports.

Based on the findings presented in this paper, it is essential to focus on fostering spiritual motivations in athletes, such as love and respect for the environment (landscape, nature, weather conditions) to reduce negative emotions. Instilling a love for the sport itself, not just achieving high results, can neutralise feelings of helplessness and gloominess. This can be especially useful during long training periods and endurance competitions.

CONCLUSIONS

The motivation of different individuals in extreme conditions can be diverse and sometimes contradictory. Having conducted the diagnostics of the motivational component of Ukrainian polar explorers in extreme Antarctic expeditions through the prism of age differentiation, a comprehensive approach to investigating this issue has been proposed.

The scientific originality of this paper lies in determining the motivation for extreme professional activities in the

Antarctic among adults aged 22 to 62 years, divided into three age groups. The above explains the uniqueness of the results obtained.

Based on the theoretical analysis of existing age periodisations, the age periodisation of participants in annual Antarctic expeditions to the UAS "Academic Vernadsky" was determined and established. All study participants were divided into three age groups: younger (22-34 years), middle-aged (35-45 years) and older (46-62 years).

The features of the motivational component of readiness for professional activity among winterers at the UAE within the defined age groups were identified:

- the dominant motive for all UAE winterers is spiritual, which includes independence, curiosity, honour, idealism, and collective values;
- the second-place motive is social, characterised by the desire for power, acceptance in society, the pursuit of order, social interactions, and competition;
- the third-place motive is material, related to the satisfaction of personal material stability, family, and organisational needs.

The findings underscore the necessity of developing psychological motivation techniques for practical application in extreme activities. One of the areas of application of this study may be sports or training psychology. Sports psychologists working with coaches and athletes can utilise the findings to recognise a wide range of motivational states, increase self-awareness, and adjust behaviour to enhance the effectiveness of athletes' training processes across different age groups.

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CONFLICT OF INTEREST

None.

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Мотивація до професійної діяльності в екстремальних умовах Антарктики серед зимівників різних вікових груп

Анотація. Професійна діяльність в екстремальних умовах Антарктики і Арктики пов'язана насамперед з великими ризиками для життя та здоров'я, зокрема психологічного, персоналу полярних станцій. Актуальність дослідження зумовлено тим, що в екстремальних видах професійної діяльності, як-от: експедиції до полюсів Землі, екстремальний спорт, військова справа тощо – один з головних критеріїв відбору й формування ефективних та злагоджених колективів чи груп це розуміння основних мотивів діяльності, адже вмотивовані люди працюють краще і досягають більшого успіху. Мета дослідження – визначити провідні мотиви професійної діяльності в екстремальних умовах зимівників українських антарктичних експедицій у різних вікових групах. Для досягнення поставленої мети обрано методи теоретичного та емпіричного аналізу, спостереження, узагальнення та систематизації вікових груп. У статті визначено та встановлено вікову періодизацію учасників річних експедицій на Українську Антарктичну станцію «Академік Вернадський». Шляхом опитування досліджено рівень мотивації людей щодо професійної діяльності в Антарктиці в трьох вікових групах: молодшій, середній і старшій. Визначено три провідні мотиви: духовний, соціальний, матеріальний. Аналіз отриманих даних дослідження щодо рівня виділених провідних мотивів діяльності в умовах полярних станцій дає підстави усвідомити, які основні причини мотивації до тривалої професійної діяльності існують у українських зимівників і допомагають адаптуватися до екстремальних умов навколишнього середовища. Крім цього, представлено вікові відмінності у мотиваційних процесах в різних вікових групах зимівників. Це дає змогу підібрати злагоджену команду різних за віком категорій полярників. Отримані результати можуть застосовуватися в плануванні експедиційної діяльності в довготривалих полярних експедиціях, у військовій та спортивній психології

Ключові слова: адаптація; антарктичні експедиції; психологія екстремальної діяльності; професійна життєстійкість; екстремальні види спорту

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Media religiosity as a strategy for resilience and overcoming crisis

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Abstract. The modern world is rapidly changing due to digitalisation and informatisation. Such transformations were forced through the COVID-19 pandemic and affected all spheres of life, including religion. Religion has increased its online presence, and the phenomenon of media religiosity has spread, which determines the relevance of this study. Considering the originality of the concept, the purpose of the study is to provide an empirical analysis of the relationship between media religiosity and personal coping strategies in the context of a crisis associated with pandemic restrictions. To achieve this purpose, the BASIC Ph psychological flexibility test and the questionnaire by N.S. Kostruba on the media religiosity of the individual were used. A theoretical overview and empirical study (online survey) of the possibilities of using media religiosity as a coping strategy for overcoming crisis states in personality are conducted. Empirical evidence revealed that media religious activity is associated with the psychological overcoming of difficult life circumstances and consists in relying on faith and values. The behaviour of people prone to media religiosity in stressful situations is determined by the ability to believe (in oneself, in their own strength, in God, in higher forces, in other people, etc.), to be guided by social support (or appeals for support to the family, relatives, professional circle, or providing assistance to others). It is proved that media religiosity retains a positive psychotherapeutic effect on the life of the individual in conditions of uncertainty and stress. It is also confirmed that even with the mediation of media technologies, religious practices perform the functions of social and emotional support, and provide psychological stability through the search for new meanings in events. The results obtained can become the basis for developing a model of psychological support for the population based on media religious practices and in psychotherapy (as homework or in online counselling)

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Keywords: religiosity; coping; resilience; social support; faith; values

INTRODUCTION

Modern society is characterised by the informatisation of all spheres of life. The ways of practising religion are also changing. In recent years, mobile applications for religious practices have appeared, namely electronic "smart rosary beads" for Catholics (The Vatican released..., 2019), the application "My church" with prayers and chat with priests (OCU launched a mobile..., 2021), etc. The transformation of individual religiosity through modern information technologies determines the relevance of investigating the new phenomenon.

Media religiosity in the framework of this study is defined as a modern form of religiosity, generated by the transformation towards informatisation of the modern world and the increasing role of media platforms (Internet, television, social networks, etc.). Media religiosity is characterised by network principles of communication, blurring the boundaries between the sacred, ritual, secular, and worldly aspects, without being tied to a specific territory or temple. It enables individuals to participate in online services from any part of the world.



Many psychologists and researchers consider religiosity in the context of subjective personal well-being and life satisfaction. Religiosity is considered a positive predictor of subjective well-being and its cognitive dimension (life satisfaction). Researchers say that people who feel more connected to a higher power and demonstrate high religious and spiritual involvement, tend to give a more positive assessment of their lives (Ramsay *et al.*, 2019).

In general, researchers (Sahoo *et al.*, 2020; Bhuiyan *et al.*, 2021; Abdelrahman, 2022) have a common opinion that Covid-19 quarantine has a prominent impact on the psychological state of society. Such exposure and its consequences depend on individual differences in risk perception and response, including personal hygiene practices related to social distancing (Abdelrahman, 2022). Pandemic-related restrictions that undermine economic sustainability and well-being cause anxiety, fear, anger, annoyance, frustration, helplessness, loneliness, and nervousness. Economic decline, unemployment, and poverty are strongly associated with serious consequences of psychological comorbidities, such as suicidal behaviour. There is one previous study that examined the relationship between suicide and coronavirus in Bangladesh (Bhuiyan *et al.*, 2021). S. Sahoo *et al.*, (2020) reported some psychological implications for India, including identifying harm through COVID-19 misinformation. Moreover, researchers say that a lack of accurate information can affect mental health (for example, cause depression, anxiety, panic, and traumatic stress).

Considering the theoretical overview of research confirming the effectiveness of religiosity as a coping strategy, the study aims to empirically investigate the existence of a correlation between media religiosity and coping strategies in individuals during the crisis of pandemic restrictions.

LITERATURE REVIEW

One of the personal resources for overcoming psychological distress due to a pandemic can be religiosity. Foreign researchers identify the factors of religiosity that are the basis for preventing and overcoming negative emotional states, including:

1. specific beliefs: a) beliefs about resurrection or life after death that can reduce levels of depression and anxiety (Flannelly *et al.*, 2006); b) the merciful image of God as opposed to the image of a strict God, which is associated with higher levels of depression in men (Greenway, *et al.*, 2003); c) beliefs that reduce hopelessness (Murphy *et al.*, 2000).

2. The use of positive religious overcoming, such as relying on God as an ally. The pleading strategy associated with a higher level of sadness has a negative impact (Smith *et al.*, 2003).

3. Social or spiritual support of the community. These two types of support are associated with lower levels of depression and stress, and higher levels of life satisfaction (Harris *et al.*, 2008; Harris *et al.*, 2018).

4. Religious motivation. Studies in the UK and US have shown that adults with high levels of intrinsic motivation have lower levels of depression and anxiety, and as

individuals with dominant external motivation, they have higher levels of depression. However, there is a significant individual variation in such relationships, which confirms the complex structure of connections between religious problems, types of stress, motivation, and depression (Laurencelle *et al.*, 2002).

Religiosity is the basis of a person's worldview, which affects the features of the coordinate system of the individual in relation to oneself and the world. Religiosity does not necessarily directly influence psychological well-being; however, it provides conditions for the development of one's self-actualisation potential and protects individuals from the impact of endo- and exogenous stressors. Researchers distinguish two main categories that are useful effects of religion: social and cognitive. Among social categories, the focus is on the social and spiritual support provided by a religious community, which can also play a role in social control over certain forms of psychological behaviour, such as alcohol or drug abuse. Regarding the cognitive aspect, it is about how religion imbues all events with special meaning, influencing thinking and conceptual encoding, leading to changes towards harmonisation. In general, in a complex, religion and religiosity can give a person strategies for psychologically overcoming difficult life situations (Kostruba & Fishchuk, 2023).

Thus, the transformation of social processes in connection with the digitalisation of all spheres of life, which accelerated due to the pandemic, has also changed the way religion is practised. Most churches in Ukraine and around the world have expanded their media presence to engage the younger generation in religion and faith. Often, turning to religious reflections or practices is a way to deal with difficult life circumstances, meaning religiosity acts as a coping strategy for the individual (Aflakseir & Mahdiyar, 2016; Torralba *et al.*, 2021). The problem of coping behaviour is considered by researchers through the prism of the theory of psychological adaptation (Wamsler & Brink, 2014). That is, coping is interpreted as behaviour aimed at consciously managing stressors, which a person uses as a response to a perceived threat.

Recent studies on religious coping strategies conducted by Italian and Spanish researchers J. Torralba *et al.* (2021) assert that there is a positive effect of religious belief on a person's life; however, it is moderate and cannot be used as the primary coping strategy. Researchers also emphasise that it is quite difficult to distinguish between the concepts of religious, secular, sacred, supernatural, and natural overcoming. In fact, religious coping and the search for meaning in moments of difficulty are very closely linked, so they need to be defined as related and examined in one cluster.

A group of English researchers O. Ozcan *et al.* (2021) investigated in detail the religiosity and spirituality of the individual as supporting strategies. Researchers are convinced of the effectiveness of such strategies due to a number of factors, including: acceptance and social support of the community, as well as identity. Within the framework of Acceptance and Commitment Therapy (ACT), it is

acknowledged that identifying oneself as a person of faith or spirituality, if it aligns with one's values, can be a significant source of support for the individual during times of crisis. Escape from thoughts, emotions, and memories is "one of the most pathological processes known as ... avoiding experience ... even when trying to do so causes psychological harm" (Hayes, 2004). Whereas religious people, by professing and practising their spirituality and faith, gain the opportunity to accept and experience emotions, thoughts, and memories, rather than avoid them. In addition, regular joint spiritual practice serves as social support and has a positive impact on mental health. Although social support and religiosity are not necessarily positively correlated with each other in secular contexts (Kvande *et al.*, 2015), a sense of security and belonging to prayer or meditation communities has a considerable impact as a coping strategy.

K. Pargament (1997) argues that there are three main styles of religious coping (coping strategies). Coping is self-directed when a person recognises the presence of the sacred but relies on oneself, not God, to solve the problem. Here, the emphasis is on personal autonomy and control. Self-reliance coping is negatively associated with prayer, internal motivation, and religious orthodoxy. Yet it is positively associated with feelings of personal control, self-esteem, and high levels of anxiety. People who use this coping style often worsen their mental health.

The opposite is the style of obedience, in which the responsibility for the problem is assigned to God. Therefore, man is more passive and depends on the will of God. This type of religious coping is associated with lower personal control and self-esteem, orthodoxy, religious affiliation, intolerance, and low psychosocial competence.

The third type of religious coping is cooperation, which involves an active partnership between man and God. This is linked with high personal control and self-esteem, and possibly internal religiosity. The collaboration style is positively associated with prayer, religious insight and participation, and greater psychosocial competence. In terms of mental health, this style is associated with empowerment and increased recovery of normal human activity.

In general, researchers claim that religiosity helps to overcome the causes of depression, reduces fear, anxiety, meets basic psychological needs, gives hope, helps to survive loss, and is associated with a higher life quality (Mishra *et al.*, 2017; Bozek *et al.*, 2020).

The review of studies provides an opportunity to assert that religiosity is defined as an effective way to cope with difficult life circumstances and crisis states. Religiosity can serve as a foundation for reevaluating a situation and creating new frameworks of meaning that not only promote psychological resilience but also lead to positive post-traumatic changes and personal growth.

MATERIALS AND METHODS

To test the hypothesis regarding the correlation between the level of media religiosity and coping strategies for

psychological resilience during times of crisis, the researchers used the BASIC Ph test (Lahad, 2017) for determining psychological flexibility and the study on the media religiosity of individuals (Kostruba, 2021). The survey was conducted online using Google Forms. Older subjects were recruited randomly (they were invited online).

Using the method of approximate modelling, the study involved students from Taras Shevchenko National University of Kyiv, Lesya Ukrainka Volyn National University, National University of Life and Environmental Sciences of Ukraine, and Odesa State University of Internal Affairs.

The sample in this empirical measurement consisted of 685 individuals (504 females and 181 males), with an average age of 22.7 years, representing 16 regions of Ukraine. The survey was conducted using Google Forms in March 2020, during the second wave of severe social restrictions due to the pandemic and the spread of Covid-19. This study was conducted in accordance with the following principles: Declaration of Helsinki (1964). Approval was provided by the Ethics Committee of Lesya Ukrainka Volyn National University (date 07.08.2022; No. 03-24/01/1567).

The research was conducted with the consent of the persons involved and met ethical standards. The procedures did not violate the honour and dignity of the respondents, considered the age characteristics of the respondents, and took place while maintaining the anonymity of the results obtained. In collecting, processing, and publishing the data obtained, the recommendations of the European Commission on survey ethics and personal data protection (2021) were followed.

The obtained results were subjected to various methods of statistical data analysis, including: Pearson correlation analysis to determine the coefficient "r"; One-way analysis of variance (ANOVA) with the Kruskal-Wallis H-test (to identify differences in individual-psychological characteristics among individuals with different levels of media religiosity); Multiple linear regression analysis (to identify the degree of influence of personal characteristics on the investigated phenomenon).

RESULTS

The majority of respondents, namely 41.8% of respondents, showed a low level of general media religiosity. 26.5% of the subjects are characterised by a high level of media religiosity, which implies internal motivation for religious activity (traditionally and within the framework of the latest technologies), their own religious practice in modern media, and a tendency to understand their own religiosity at the cognitive level to form new meanings. In 31.6% of the subjects, the medium level of media religiosity was recorded. Representatives of this group often develop only one or two components of media religiosity (emotional-motivational, behavioural, or cognitive).

The results of the study of the dominant personal resources of respondents to overcome difficult life circumstances showed that the subjects most often use faith and values ($\bar{x} = 21,6$) and cognitive coping skills to solve

problems ($\bar{x} = 21,6$). Many of the respondents tackle challenging life situations by relying on their faith in God, miracles, oneself, or other people, and they may turn to their mental abilities, logically assess the situation, plan, analyse problems, and find solutions. In the case of a combination of these two coping strategies, rigid or specific beliefs and thoughts are formed in the individual, which are used in all stressful situations. Quite often, respondents turn to physical activity as a coping strategy ($\bar{x} = 20,0$), which involves the release of feelings in an indirect, constructive way and can manifest itself in various forms: exercise, walking, work, hiking, etc. Many respondents use imagination as their main coping mechanism ($\bar{x} = 19,3$), which involves

using creativity to safely express thoughts and feelings through art, writing, drama, or music. Social support was recorded as the least popular among the subjects ($\bar{x} = 18,2$) and affect as a coping means ($\bar{x} = 17,8$). In other words, respondents rarely share their emotions (fears, anger, grief), and do not seek support through friendships or social communities. Reducing isolation along with increasing social responsibility can restore emotional security.

The identification of statistically significant relationships between the measurements of coping strategies and the media religiosity of the individual was conducted with the calculation of the Pearson correlation coefficient (Table 1).

Table 1. Relationship of personal coping strategies with media religiosity

	Scale 1. Emotional and motivational	Scale 2. Behavioural	Scale 3. Cognitive	General media religiosity
Faith	0.341**	0.192**	0.142**	0.331**
Affect	-0.122**	-0.189**	0.029	-0.141**
Social support	0.083*	0.015	0.044	0.073*
Imagination	0.048	-0.017	0.034	0.037
Cognitive analysis	-0.013	-0.067	0.073*	-0.020
Physical activity	0.054	-0.057	0.073*	0.035

Note: * – statistically significant relationship at the level of 0.05; ** – at the level of 0.01

Faith as a coping strategy is interconnected with all components – emotional and motivational ($r = 0.341$; $p < 0.01$), behavioural ($r = 0.192$; $p < 0.01$), cognitive ($r = 0.142$; $p < 0.01$), and integral indicator of media religiosity ($r = 0.331$; $p < 0.01$). Respondents with an internal religious orientation, a rational approach to thematic information, and active in such media practices tend to use faith as a factor of their own resilience. Such faith can be not only in God or oneself, but also in shared beliefs, based on internal basic values. Shared beliefs provide external support.

The affect coping strategy is inversely proportional to the emotional and motivational ($r = -0.122$; $p < 0.01$), behavioural ($r = -0.189$; $p < 0.01$) components and the integral indicator of media religiosity ($r = -0.141$; $p < 0.01$). Internally religiously oriented individuals with active religious activity and communication through the mediation of modern information technologies are not inclined to use feelings and emotions as coping means. While respondents with low media religiosity often use emotions as coping strategies: they share fears, anger, grief, etc. and thus have confirmation and recognition of feelings and experiences outside, so they feel less alone.

Social support as a method of overcoming is directly proportional to the emotional and motivational ($r = 0.083$; $p < 0.05$) component and the integral indicator of media religiosity ($r = 0.073$; $p < 0.05$). Seeking support through friendship or participation in a community and organisation gives a sense of responsibility within the group, which can help to remain resilient, inherent in internally religiously oriented individuals who realise their aspirations

in the media environment. Respondents with external religious orientation and low indicators of media religiosity are not inclined to use social support as coping. Reducing isolation along with increasing social responsibility can restore emotional security (Lahad *et al.*, 2013).

The cognitive analysis coping strategy is interrelated with the cognitive scale of a person's media religiosity ($r = 0.073$; $p < 0.05$). Respondents who have a rational approach to religiosity and religious information tend to use cognitive coping skills that involve analysing, evaluating, planning, and resolving a difficult situation. If the development of a survival strategy happens to other people, it can make the person feel less alone and more in control of their situation.

The cognitive scale of a person's media religiosity is interrelated with the physical activity coping strategy ($r = 0.073$; $p < 0.05$). Rational religious individuals often use physical activity, which allows reducing psychoemotional and muscle tension through the socially desired method of active loads and exercises.

Imagination as a coping strategy does not correlate with media religiosity at a statistically significant level.

The next step involved subtracting the regression model. The statistical significance of the model is confirmed by the indicator $F = 57.486$, $p < 0.001$, which explains 20% ($R^2 = 0.202$) variances (Table 2). Multicollinearity was checked using the variance-inflation factor (VIF). No multicollinearity effect was found, which is confirmed by the value of the evaluation criterion, namely, the sum for all variables is within $1 < VIF < 10$. Therefore, the model can be considered suitable for further explanation and consideration.

Table 2. Linear regression model for predicting media religiosity using coping strategies

Dependent variable	R ²	F-criterion	p
Media religiosity	0.202	57.486	<0,001

The share of contribution of each coping strategy (independent variable) to the development of media religiosity (dependent variable), which is presented in the indicators of standardised β -coefficients, is demonstrated in Table 3.

Table 3. Analysis of independent variables of a linear regression model

	β	Std. Err. of β	B	Std. Err. of B	t	p-value
Faith	0.42	0.04	1.77	0.16	10.81	0.000
Affect	-0.38	0.04	-1.66	0.20	-8.50	0.000
Social support	0.13	0.05	0.55	0.20	2.70	0.007

The most significant predictor of a person's media religiosity in the proposed model is faith as a resource of stability and coping strategy ($\beta = 0.42$, $p < 0.001$). Faith is the most powerful force that influences existence, thoughts, expectations, actions and their results, and can manifest itself in the form of faith in oneself, God, an idea, and so on. High indicators of a person's media religiosity imply reliance on faith in difficult life circumstances. Affect as a coping strategy was also identified as a predictor of media religiosity ($\beta = -0.38$, $p < 0.001$). Active users of modern information technologies on religious topics are not inclined to show various emotions (in a conversation, in a letter or SMS message, or nonverbally: in a drawing, dance, music, etc.) and name them. While respondents

with low media religiosity scores tend to share their emotions in difficult life circumstances. Perhaps these results are due to the fact that religion promotes humility and tolerance, which can encourage emotional restraint (Krause, 2010).

Another predictor of media religiosity was social support ($\beta = 0.13$, $p < 0.01$). Individuals who are active in modern information systems on a religious topic often resort to a survival strategy that involves relying on social assistance through friendship or affiliation. This coping strategy can also manifest itself through helping other victims, doing community service, or managing them.

The results of applying the Kruskal-Wallis H-criterion are shown in Table 4.

Table 4. Differences in groups of respondents with varying levels of media religiosity in the indicators of coping strategies

Scales	Level of media religiosity			H-criterion	p
	Low	Medium	High		
Faith	264.67	384.57	415.04	78.65	0.001
Affect	343.26	435.08	232.91	104.28	0.001
Social support	305.87	390.63	343.88	22.72	0.001
Cognitive analysis	351.35	347.77	324.36	2.26	0.322
Physical activity	324.45	376.11	332.34	9.19	0.010

Significant differences were found in the indicator of propensity to use faith as a coping strategy ($H = 78.65$; $p < 0.001$). Here there is a clear tendency to increase the appeal to faith as a resource of sustainability with each subsequent level of media religiosity. That is, people with a low level of media religiosity have the lowest rates of conversion to faith ($R = 264.67$; $p < 0.001$). In the group with a high level of the investigated characteristic, the highest scores were observed in the use of faith for coping ($R = 415.04$; $p < 0.001$). In the group with a medium level, moderate results were found ($R = 384.57$; $p < 0.001$).

Differences were found in the features of using affect as a coping means in different groups ($H = 104.28$; $p < 0.001$). Individuals with a medium level of media religiosity ($R = 435.08$; $p < 0.001$) were most inclined to use emotional expressions (crying, laughter, etc.) or engage

in conversations with others about their experiences, or express themselves through nonverbal methods (drawing, reading, writing). Those with a slightly lower level of media religiosity showed slightly less tendency for such expressions ($R = 343.26$; $p < 0.001$). Compared to all other groups of respondents with high activity on religious topics using modern information technologies, they are less likely to resort to affect as a coping strategy and sustainability resource ($R = 232.91$; $p < 0.001$).

Differences were found in the features of turning to social support as a coping strategy ($H = 22.72$; $p < 0.001$). Representatives of medium ($R = 390.63$; $p < 0.001$) and high-level media religiosity ($R = 343.88$; $p < 0.001$) groups are more likely to seek support in belonging to the group, performing roles, and participating in the organisations. Whereas people who rarely fulfil their religious needs or practices

through the media environment do not choose social support as the leading coping strategy ($R = 305.87$; $p < 0.001$).

Statistically significant differences in the groups were found in terms of physical activity as a coping strategy ($H = 9.19$; $p < 0.01$). Respondents in the mid-level group most often use physical manifestations along with body movements to deal with stress ($R = 376.11$; $p < 0.001$), which may include meditation, relaxation, exercise, hiking, drinking, eating, smoking, and medication. While representatives of groups with low ($R = 324.45$; $p < 0.001$) and high ($R = 332.34$; $p < 0.001$) levels of media religiosity almost coincide.

DISCUSSION

Researchers claim that the pandemic has substantially affected the quality of social relationships, and that non-inclusion in group interactions develops into a sense of social isolation, which stimulates negative cognitive processes and psychological distress (Dahlberg *et al.*, 2018; Swader, 2019; Krupina *et al.*, 2020). The empirical results obtained actually indicate that religiosity and media religiosity are aimed at overcoming such psychological consequences of the pandemic. Conducted research confirms that individuals who are prone to media religiosity often use coping strategies based on faith, social support, and include emotional responses. Engaging in media religious activities can be a way to maintain social engagement and a sense of community for an individual in a crisis (Jayarathne & Wijesinghe, 2023). Researchers state that optimism, social support, and spirituality may be important factors associated with stress caused by COVID-19 (Kim *et al.*, 2023). Accordingly, it is important to understand that media religiosity as a new form of individual religiosity has retained a positive impact on human life, serving as social support even with the use of modern media tools. After all, many studies emphasise the important role of religiosity and social support in the fight against mental health problems, in particular cognitive biases, depression, and suicidality (Amissah & Nyarko, 2020). In difficult life circumstances, the key coping strategies adopted are often spiritual (faith-based) and social support (Annan-Frey *et al.*, 2023).

Research confirms that virtual contact and physical activity should be encouraged to prevent negative effects on mental health, according to previous literature data (Stonerock *et al.*, 2015; Yang *et al.*, 2020; Olié *et al.*, 2022). The data clarified in this paper empirically confirm that one of the most effective ways to maintain social contacts through online networks is to engage in media religious practices.

The findings of this study demonstrate that media religious individuals are not prone to violent displays of emotions to overcome or alleviate suffering or heartache. Such data are supported by the opinion of researchers that religious practices are a way of emotional release. In implementing religious rites and traditions, a kind of catharsis occurs, that is, the "removal" of negative experiences in a person: believers are convinced that their confession and

repentance through the church will definitely fall to God. In this way, there is a great chance of forgiveness of sins given by God (Leonhardt *et al.*, 2023).

Moreover, the confirmation of the ability of religious persons to respond more emotionally steadily to non-rescue or crisis events and circumstances is described by C.D. Batson *et al.* (1993). Researchers specify that individuals with a predominant internal religious orientation, meaning practising religion for the sake of faith itself and communion with God, serve as the foundation for a correlation with emotional well-being and resilience. On the other hand, external religious orientation, which involves religious involvement to achieve other goals (such as being among people, gaining help, or status), is not associated with a positive impact on the mental health and well-being of the individual. Notably, one of the components of media religiosity, which are taken as a basis in these studies, is also an understanding of external or internal religious orientation (affective component). That is, the obtained results confirm the theory of C.D. Batson and his colleagues and offer new opportunities for further research.

CONCLUSIONS

The conducted empirical study on the media religiosity of the individual and ways to overcome pandemic restrictions in a crisis environment has demonstrated the presence of a statistically significant relationship between the studied phenomena. Media religiosity provides frameworks of meaning and through cognitive analysis, it enables finding new meanings in crisis events in an individual's life. In general, media-religious individuals find support in spiritual values and beliefs that help in difficult periods, and they often tend to rely on divine forces in solving problems.

Faith and social support as the foundation of coping strategies in individuals are interconnected with the media religiosity of the personality. Faith in God, oneself, beliefs, and the search for support through friendship or participation in a community and organisations, which can help to remain resilient, is inherent in internally religiously oriented individuals who achieve their aspirations in the media environment. The affect coping strategy is inversely proportional to the indicator of media religiosity. Internally religiously oriented individuals with active religious activity and communication through the mediation of modern information technologies are not inclined to use feelings and emotions as coping means. Regression analysis confirmed the obtained correlations and outlined personal resources and the basis of coping strategies – faith, affect, and social support as predictors of a person's media religiosity. In addition to the already mentioned indicators, the ability to differentiate between various groups of subjects can be used as a coping strategy.

The prospects for further research are seen in the development of a psychological support programme for the population based on media religiosity and media activity, considering a cognitive-behavioural approach.

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CONFLICT OF INTEREST

The author has no potential conflict of interest that may affect the decision to publish this paper.

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Медіарелігійність як стратегія подолання та стійкості в умовах кризи

Анотація. Сучасний світ стрімко змінюється внаслідок процесів диджиталізації та інформатизації. Такі трансформації були форсовані через пандемію COVID-19 та торкнулись усіх сфер життя, зокрема й релігії. Релігія збільшила свою присутність онлайн, і поширення набув феномен медіарелігійності, що і зумовлює актуальність цього дослідження. З огляду на новизну поняття мета дослідження передбачала емпіричний аналіз взаємозв'язку медіарелігійності та копінг-стратегій особистості в умовах кризи, пов'язаної з пандемічними обмеженнями. Для реалізації мети застосовано тест на визначення психологічної гнучкості BASIC Ph та опитувальник Н.С. Коструби щодо медіарелігійності особистості. Здійснено теоретичний огляд та емпіричне дослідження (онлайн-опитування) можливостей використання медіарелігійності як копінг-стратегії для подолання кризових станів особистості. Виявлено емпіричні докази, що медіарелігійна активність пов'язана з психологічним подоланням складних життєвих обставин і полягає в опорі на віру та цінності. Поведінка в стресових ситуаціях схильних до медіарелігійності осіб визначається вміннями вірити (у себе, у власні сили, у Бога, у вищі сили, в інших людей тощо), керуватися соціальною підтримкою (або зверненнями за підтримкою до сім'ї, близьких, професійного кола, або наданням допомоги іншим). Доведено, що медіарелігійність особистості зберігає позитивний психотерапевтичний вплив на життєдіяльність особистості в умовах невизначеності та стресу. Обґрунтовано, що навіть за опосередкуванням медіатехнологій релігійні практики виконують функції соціальної та емоційної підтримки, а також дають можливість проявити психологічну стійкість через пошук нових сенсів у подіях. Отримані результати можуть стати основою для розробки моделі психологічної підтримки населення з опорою на медіарелігійні практики, а також у психотерапевтичній роботі (як домашні завдання або в консультуванні онлайн)

Ключові слова: релігійність; копінг; резильєнтність; соціальна підтримка; віра; цінності

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Abstract. Despite the fact that the development and course of various types of eating disorders, and therefore their treatment, largely depend on the typological characteristics of patients, this aspect has been understudied. The purpose of the study is to review the problem of providing psychological assistance to eating disorder patients with various typological features. Using methods of analysis, synthesis, and comparison, the paper emphasises the importance of typological features of eating disorder patients in providing psychotherapeutic care. Patients with certain personality traits, such as perfectionism, the need for control, and impulsivity, have been found to be prone to eating disorders, while these typological personality traits, along with many others, have been shown to help build treatment strategies for anorexia nervosa, compulsive overeating, and bulimia nervosa. The analysis showed that there are traits specific to certain eating disorders that can be reinforced in overcoming food addiction. The influence of personal characteristics on the choice of psychotherapy strategy and the possibility of forming psychotherapeutic relationships are covered. The importance of typological features of eating disorder patients in the provision of psychotherapeutic care is revealed. To enhance the effectiveness of selecting a psychotherapeutic care strategy and establishing psychotherapeutic relationships, this paper summarises the primary personal characteristics associated with different types of eating disorders. Attention is paid to typical behavioural manifestations in the presence of one of the types of eating disorders. The main prerequisites for the development of a personality prone to dependent behaviour are substantiated. The central perspective on the role of the family in the development of an eating disorder is established. The practical value of the study lies in the possibility of using the findings to expand the understanding of the typological features of patients with food addiction to provide effective psychotherapeutic care

Keywords: food addiction; anorexia nervosa; bulimia nervosa; compulsive overeating; psychotherapy

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INTRODUCTION

Various types of dependent behaviours in the 21st century have emerged as major challenges for humanity, necessitating society to confront and address these issues to overcome them. The spread of eating disorders among people globally is becoming very relevant. The most well-known environmental factor contributing to the development of eating disorders is the socio-cultural idealisation of thinness. The most common eating disorders include anorexia, bulimia, and compulsive overeating (Hay, 2020; Costandache

et al., 2023). Along with the genetic, cultural, and social prerequisites for the development of eating disorders, an important place is occupied by the psychological component of the dependent person. Eating disorders are a defining characteristic of clinical eating disorders, anorexia nervosa, bulimia nervosa, and compulsive overeating. Modern psychotherapeutic theories place the main focus on the presence of dysfunctional development and disturbances in personality structure resulting from the experience of



psychotraumatic events and disharmonious relationships with significant figures during childhood in patients with food addiction (Palmisano *et al.*, 2018; Kovács-Tóth *et al.*, 2022; Malet-Karas *et al.*, 2022).

Between 2000 and 2018, the prevalence of eating disorders in the world increased from 3.4% to 7.8% (Galmiche *et al.*, 2019). 70 million people worldwide live with eating disorders (National Eating Disorders Association, n.d.). Eating disorders have the highest mortality rate among all mental illnesses (Smink *et al.*, 2013). The vast majority (97%) of people hospitalised with an eating disorder have comorbidities. Mood disorders, such as clinical depression, are the primary conditions followed by anxiety disorders, such as obsessive-compulsive disorder, post-traumatic stress disorder, and substance use disorders. Up to half of people with eating disorders abused alcohol or illegal drugs five times more often than the general population (Claudat *et al.*, 2020). Every year, the issue of dependent personality becomes more and more relevant and requires consideration of the typological features of eating disorder patients to ensure an effective model of psychotherapeutic care. To gain a deeper understanding of these disorders, it seems crucial to shift attention from abnormal eating behaviours to more complex and subtle psychological features, especially those that arise from the patient's past experience. This characterisation is an essential prerequisite for identifying new therapeutic targets and therefore for improving recovery outcomes from these severe disorders (Esposito & Stanghellini, 2020). Recent studies and theories have moved away from understanding the etiological causes of eating disorders, instead focusing on potential maintaining factors, individual characteristics, and interpersonal support, including the response of close individuals (Fox & Whittlesea, 2017).

The purpose of the study is: to analyse the main typological features of eating disorder patients. Moreover, to examine the problems of providing psychological assistance to eating disorders patients with various typological features. Compare typical behavioural manifestations of a person in the presence of one of the types of eating disorder. To identify the impact of individual personality traits on the choice of psychotherapeutic intervention strategies and the potential for forming therapeutic relationships. To determine the main prerequisites for the development of a personality prone to dependent behaviour, and the role of the family in the development of an eating disorder.

PERSONAL MANIFESTATIONS OF A PATIENT WITH FOOD ADDICTION

Clinical observations of H. Bruch (1980) highlighted key features observed in eating disorder patients that require attention in psychotherapy, in particular, distorted perceptions and misconceptions about body size, interoception, body functions of hunger and satiety, and problems related to controlling body functions. H. Bruch also emphasised the diversity of psychological and family characteristics inherent in these disorders. Her observations and ideas

remained unchanged and formed the theoretical basis of therapeutic concepts used by psychodynamically oriented and cognitive behavioural psychotherapists. Formulation of H. Bruch was influenced by a list of eating disorders and an influential cognitive analysis of P.E. Garfinkel and D.M. Gamer (1982), who identified common examples of all-or-nothing thinking in eating disorder patients. These concepts, in turn, have influenced systematic methods of cognitive behavioural psychotherapy for patients with anorexia nervosa, bulimia nervosa, and overeating developed over the past two decades.

P. E. Garfinkel and D.M. Gamer (1982) also focused on the importance of the motivational component for patient participation in treatment and recovery. These views led to the development of psychotherapeutic strategies for treating eating disorders based on transtheoretic models and strategies for increasing motivation, based on the studies of J.O. Prochaska and C.C. DiClemente (2005) and W.R. Miller and G.S. Rose (2009), whose approaches were mainly used with patients suffering from alcoholism and substance abuse. These strategies attempt to take patients out of a state that often appears pre-contemplative (denial, avoidance, minimisation), into states of contemplation in which they can acknowledge the existence of a problem, states of reflection in which they seriously consider the need for help, and states of action in which they are actually involved in treatment. Studies conducted today (Fetahi *et al.*, 2022), focus on the potential value of strategies that increase motivation at the beginning of psychotherapy for eating disorder patients. Motivational state strongly correlates with the characteristics of brain structures. People whose brains lack nutrients may be less capable of self-awareness or understanding of the situation and therefore are more likely to appear unmotivated than those whose brains receive adequate nutrition.

The main intrapsychic factors of eating disorders include: increased anxiety and a tendency to depressive reactions; distorted self-perception and misinterpretation of changes in attitudes on the part of others; a tendency to obsessive states; perfectionism (painful pursuit of perfection); unstable or exceptionally low self-esteem; sensitivity to encouragement and punishment (Keel *et al.*, 2012).

Longitudinal studies confirm the role of obsessive-compulsive disorder, neurotic states, anxiety, and negative emotional responses in the personal background of eating disorders (Loxton & Dawe, 2009).

Dissatisfaction with one's body, especially with the proportions and weight, is characterised as a dysmorphophobia – anxiety about imaginary physical deformity (Careaga *et al.*, 2016). Notably, social surroundings have a huge influence on the development of body image: the standards of beauty accepted in society, and the attitude of the family to them. Body image includes perceptual, cognitive, and emotional components, is formed based on life experience and reflects the worldview of the individual and one's psychological difficulties.

Perfectionism is a key characteristic of a person suffering from food addiction. Thus, S.E. Cassin *et al.* (2019)

note that high negative emotionality, perfectionism, and a tendency to limit and control characterise restrictive-type anorexia nervosa, while high negative emotionality, perfectionism, and impulsivity are risk factors for purging-type anorexia nervosa and bulimia nervosa.

It is worth noting that impulsivity, which also includes the search for novelty and the desire for pleasure, is one of the key characteristics when explaining eating disorders in terms of addictive behaviour. Low self-esteem can lead to a variety of maladaptive behaviours, including eating disorders (Polivy & Herman, 2002).

A. Harrison *et al.* (2020) showed that people with eating disorders are more sensitive to reward and encouragement than healthy people. D. Westen and J. Harden-Fischer (2001) examined the comorbidity of eating disorders and personality disorders, and they identified three subtypes of personality that occur among food addicts: 1) high functional / perfectionist group; 2) over-controlling / avoidant group; 3) impulsive / disorganised group

The researchers note that the identified three subtypes of personality allow for a better choice of psychotherapy strategies for eating disorder patients (Westen *et al.*, 2004).

Psychoanalytically oriented psychologists utilise Operationalised Psychodynamic Diagnosis (OPD) in their study, which helps construct the psychotherapeutic process with a focus on the individual patient's characteristics, particularly the structural level of psychic organisation, the presence of psychotraumatic events, and the dominant intrapersonal conflict (Biliavska & Medynska, 2022).

Modern studies (Rohde *et al.*, 2019) systematically describe differences in aspects of personality structure by subtype of eating disorders, considering personality structure by OPD. It was described that the differences observed in the subtypes of eating disorders can be used to guide therapeutic interventions. Unified scales can be used to discuss the goals of psychological treatment in relation to the functioning of the individual with patients.

Psychoanalysis can be effective in treating eating disorders. In one comprehensive research review of psychoanalysis and eating disorders, 67 psychoanalytic studies were analysed. The review concluded that psychodynamic therapy is effective in helping patients suffering from eating disorders and personality disorders (Bemporad *et al.*, 1992). When developing a comprehensive treatment plan for eating disorders, it is important to adapt the plan to each individual. The central focus in the treatment of eating disorders involves facilitating the external expression of aggression through transference, as this supports the patient's efforts to free themselves from the experience of emotional subordination. Subsequently, it may enhance the patient's ability to express these emotions in new relational contexts (Wooldridge, 2022).

Therefore, most studies focus their attention on the personal manifestations of a patient with food dependence and concomitant factors that affect the treatment process and the establishment of psychotherapeutic contact. Deficiencies in treatment approaches have been widely

documented around the world, with many proposed explanations. These range from the specific association of people who have eating disorders with low mental health literacy, eating disorders in people with problems and health professionals, and widespread stigma at all levels.

MAIN TYPES OF EATING DISORDERS

Eating behaviour encompasses the attitudes towards food and its consumption, the eating patterns under regular and stressful conditions, the orientation towards body image and activities related to its formation (Treasure *et al.*, 2020).

Eating disorder patients are concerned about food and exhibit behaviours that appear alternately compulsive and ritualistic (such as restriction) or disinhibited and impulsive (such as overeating). Anorexia nervosa is a mental disorder characterised by deliberate weight loss due to fear of obesity and belief in one's own excessive fullness, caused and / or maintained by the patient themselves through conscious refusal to eat, excessive exercise, artificially induced vomiting, and other actions, the use of appetite suppressants and diuretics (World Health Organization, 2010). Anorexia nervosa can be classified into two types: the purging type, in which individuals engage in binge eating and then resort to purging rituals, and the restrictive type, where individuals suffer from compulsive overeating but try to severely restrict their food intake and engage in excessive physical exercise.

Bulimia nervosa is an eating disorder characterised by episodic overeating. Binge eating involves consuming a significantly large amount of food within a specific time interval, which is far more than what an average person would typically eat. Nevertheless, there is no complete control over the process of eating food (Levinson *et al.*, 2021)

In bulimia, body weight can be low or normal because the individual engages in compensatory behaviours. Although they experience episodes of binge eating, they compensate by inducing vomiting or engaging in excessive exercise to burn calories. People with bulimia are almost always concerned about their condition, and may complain of somatic problems and attempt to lose weight. Very often, patients with this disorder experience a predominant feeling of shame, driven by an unconscious belief of "I am bad, I do not have the right to exist."

Compulsive overeating is an eating disorder very similar to bulimia, but in this case, there are no purging behaviours (vomiting) involved. Food is consumed without the presence of physical hunger. A characteristic feature is that such patients eat alone and rarely sit down at the family table. If parents with anorexia may notice that the child, for example, eats half an apple for dinner, patients with compulsive overeating feel ashamed, because the amount of food is often very large.

With anorexia, there is a sharp weight loss in a short period of time. This is a characteristic sign of this disease. People with anorexia almost never say that they have health problems: they are doing well, they are moving towards their goal, and they are actively reducing weight. The danger of anorexia is that there is no point, weight, at which the

patient can stop. Even with a weight of 25 kg in intensive care, the patient does not consider it necessary to eat. Anorexia may seem to be driven by an ideal of thinness on the surface; however, its “hidden daily order” is actually about rejecting femininity and adult life (Doerr-Zegers & Pelegri-Cetran, 2020).

In general, there is a common misconception that eating disorders are a lifestyle choice. Eating disorders are indeed serious and often life-threatening conditions, characterised by severe disturbances in people's eating behaviours, thoughts, and emotions related to food.

TYPOLOGICAL FEATURES OF EATING DISORDER PATIENTS

The fear of gaining weight in eating disorders is stronger than the fear of dying. From the experience of building psychotherapeutic relationships, such patients are wary, and it is very difficult to establish trusting relationships with them. Their biggest fear – is food, and psychologists and doctors encourage patients to start eating. It is the same as asking a person with arachnophobia (fear of spiders) to hold a spider. With such patients, it is very important to conduct psychotherapy work. The nature of symptoms in anorexia nervosa and bulimia nervosa often leads patients to seek help only after they have suffered from the disorder for many years. This mainly refers to the denial of the disease by patients with anorexia nervosa, the shame and secrecy of patients with bulimia and compulsive overeating. Once treated, patients with anorexia and bulimia are reluctant to give up their ego-synt pathologically desire to lose weight, which for patients with anorexia leads to significant weight loss, and for patients with bulimia fuels overeating and purging. This behaviour is largely selfish. Patients with anorexia nervosa pursue thinness not as a means, but as an end in itself. Clearly, individuals with anorexia nervosa exhibit resistance towards activities they feel compelled to do, as these behaviours serve an adaptive and organising function for them. This reluctance forms the basis of deficits in self-regulation and affective regulation since caloric restriction, binge eating, and purging often act as psychological anaesthetics, linking negative emotions and removing them from conscious awareness (Culbert *et al.*, 2015). As a result, these symptoms of eating disorders tend to develop their own lives, are self-sustaining, and often become immune to psychotherapy, psychological accessibility, and cognitive and behavioural interventions aimed at the symptoms of the disorder. Less clearly, food chaos and hunger can cause affective, cognitive, and somatic symptoms that can be difficult to distinguish from more typical primary depression. Eating disorder patients have serious trust issues in their relationship with a therapist. More often, this is due to a violation of basic trust in the world (Paris, 1997). Previous family relationships are often perceived as intrusive, controlling, or abusive. This can undermine the fragile self-perception during the formative years of future anorexia or bulimia, as these patients fear entrusting themselves to relationships that require a certain level of vulnerability

and loss of control. Comorbid anxiety disorders are common in patients with anorexia and bulimia. In one of the studies (Guarda *et al.*, 2015), 60% of patients with anorexia and 57% of patients with bulimia had a comorbid anxiety disorder, most of which started before the onset of the eating disorder. Women with bulimia show higher levels of novelty cravings, impulsivity, and sociability, while women with anorexia have a much more pronounced characterological style of obsessive harm avoidance. Psychologists should be aware that an eating disorder involves significant anxiety and that it is necessary to take measures, whether pharmacotherapy or specific psychotherapeutic methods, that help the patient cope with these affects, normalising their diet and gaining weight.

Eating disorder patients have a lack of self-perception, which is usually observed in people with characteristic disorders, especially with pronounced narcissistic and borderline pathology. These include difficulties in regulating self-esteem and affect, problems with separation and a sense of healthy autonomy, and problems with impulse control. Eating disorder patients are more likely to have marginal and psychotic levels of mental organisation (Kernberg, 2018). Frequently, people with anorexia have an upper limit level of mental organisation, and people with bulimia and compulsive overeating have a lower limit level of mental organisation. The boundaries of intrapersonal conflicts are often blurred, making it challenging to diagnose the primary conflict (Fuchs, 2022). However, in general, more commonly encountered conflicts include self-esteem conflicts, identity conflicts, control and submission conflicts, and autonomy versus dependency conflicts. Based on the history, the presence of psychotraumatic circumstances during the first year of life and traumas during anal and oedipal psychosexual periods can be identified (Reich & Cierpka, 1998). These typological features in eating disorder patients lead to difficulties in psychotherapeutic relationships. These include the fear of attachment and addiction, the fear of being caught up in emotions, a strong sensitivity to rejection, and the need to please others, which creates a false self. All these features complicate the already unformed trust of patients with food addiction in psychotherapeutic relationships. These difficulties create the need for the therapist to be active, open, compassionate, but firm and set realistic goals and create an environment in which a positive alliance can develop. It is necessary to focus on analysing both the patient's past experiences and current problems. Cognitive and behavioural strategies should be used to combat the humiliation of human dignity and misconceptions about nutrition (Waller & Raykos, 2019; Agras & Bohon, 2021). This approach helps limit regression and possible psychological fragmentation.

No matter how complex and severe eating disorder patients may be, they deserve serious and close attention. As with substance abuse, the change in patients with food addiction is spiral rather than linear, with frequent fluctuations between improvement and withdrawal. Screening for personality dysfunction, both in psychosomatic patients

and those with dependencies, is considered increasingly important for treatment planning in clinical settings as it allows for identifying specific clinical pathways at an early stage (Obbarius *et al.*, 2018). However, despite the phenomenological similarity between patients with other types of addictions and patients with food addiction, there is one striking attribute difference that affects motivation in these settings. In eating disorder patients, especially anorexia, there is a clear bias that their disease can be considered an outstanding achievement. This is different from substance abuse, in which there is a protest against addiction being labelled and in no way a descriptive characteristic of the individual (Piccinni *et al.*, 2020). This qualitative difference makes the anorexia nervosa patient even more reluctant and unmotivated to change than the typical addict.

These observations suggest that under-eating itself significantly contributes to cognitive impairments and amplifies many psychopathological features characteristic of anorexia nervosa (and some patients with bulimia nervosa), including obsessive thinking, perfectionism, and other relationship-building characteristics associated with eating disorders, as well as symptoms of anxiety and depression. Many of these psychopathological features are considerably improved simply by resuming eating and improving nutrition. Accordingly, modern views claim (Collantoni *et al.*, 2019a; 2019b) that psychotherapy for anorexia nervosa and bulimia nervosa should be adapted to the patient's degree of malnutrition and cognitive function.

Problems of genetics, temperament, and development define the main theories regarding psychotherapy for eating disorders (Bulik *et al.*, 2019). Individuals developing anorexia nervosa and bulimia nervosa may be more likely than others to exhibit certain premorbid vulnerabilities, such as family tendencies towards weight and energy expenditure concerns, obsessiveness, perfectionism, and/or susceptibility to anxiety, depression, low self-esteem, and self-doubt (Ralph-Nearman *et al.*; 2019 Kroplewski *et al.*, 2019; Gruber *et al.*, 2020). In some patients, the concomitant occurrence of substance abuse problems may contribute to the initial manifestation of eating disorders (Miranda-Olivos *et al.*, 2023).

The analysis of the family environment of patients with addiction acquires considerable importance (Gorrell *et al.*, 2019; Rosania & Lock, 2020). Families of eating disorder patients show great diversity in their dynamics, and systemic problems, from normal health to extreme dysfunction. All parents with a child showing self-destructive behaviour and emotional turmoil associated with serious eating disorders are upset by these events and show various signs of distress and emotional reactions towards that child. Moreover, families with certain dysfunctional behavioural patterns make an additional contribution to the pathogenesis and support of some patient problems. Many of these dysfunctional family patterns are not specific to eating disorders but are thought to exacerbate a wide range of psychosomatic illnesses, conditions, and other mental disorders.

S. Minuchin *et al.* (2007) described certain families characterised by excessive overprotectiveness, rigidity in supporting a return to the original state, and avoidance of conflicts, resulting in a lack of permission for conflicts within these families. Other difficulties are associated with psychological, physical, and/or sexual violence, a high degree of expressed negative emotions (when one or several family members are highly critical of the patient and blame them), ridicule, and the distorted influence of competitive or narcissistic parents. Parental intrusion and lack of respect for privacy or autonomy, as well as colluding with one family member, create conditions conducive to the development of pathological behaviour in patients with eating disorders. These observations have led to the recognition that family assessment and family-oriented interventions, counselling, and/or psychotherapy can be crucial in the treatment of patients with eating disorders, especially in children, adolescents, and young adults who may still be living at home and closely connected to their families. For adults who are married or in a permanent relationship, problems like the ones described above may increase the need for family therapy.

CONCLUSIONS

The study focused on the main eating disorders, namely anorexia nervosa, bulimia nervosa, and compulsive over-eating. In individuals with clinically diagnosed eating disorders seeking help, certain typological characteristics are observed, including difficulties in regulating self-esteem and emotions, issues with boundaries and a sense of healthy autonomy, impulse control problems, disruptions in basic trust in the world, and body image perception issues. Prominent individual personality traits include perfectionism, sensitivity to rewards and punishments, heightened anxiety, and a propensity towards obsessive states. These typological features in eating disorder patients lead to difficulties in psychotherapeutic relationships. Patients with food addiction often have concomitant anxiety and depressive disorders, including maladaptation.

Family factors are most often the trigger for the occurrence of eating disorders, namely conflicts in the family, mental and physical violence, high demands (control), and high levels of expectations. It is within the family that a child's body image is formed, so the attitude towards body shape and weight within the family can shape the child's attitudes and beliefs in an inadequate manner.

A review of the problem of providing psychological care to patients with various typological features emphasises that the use of only one specific model of psychotherapy care becomes ineffective due to the non-linear nature of the manifestation of the disorder. Studies show that personality can change due to important life events, such as psychotherapy, and that personality and relationships can predict treatment progress. It was possible to confirm the importance of typological features of eating disorder patients in the provision of psychotherapeutic care. The considered approaches to providing psychotherapeutic care and the

main personal characteristics of patients allow generalising the main traits associated with specific types of eating disorders to improve the effectiveness of choosing a strategy for psychotherapeutic care and establish psychotherapeutic relationships.

The scientific originality of the study lies in reviewing the main typological features of patients with anorexia nervosa, bulimia, and compulsive overeating. Differentiation and generalisation of the main personal characteristics of a dependent person help to create models of psychotherapeutic care, based on the individual characteristics of a certain group of patients.

The examination of key factors contributing to a personality inclined towards dependent behaviour, along with the family's influence on the development of

eating disorders, offers opportunities for future research concerning the creation of a comprehensive psychological rehabilitation programme for patients with eating disorders.

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CONFLICT OF INTEREST

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

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Типологічні особливості пацієнтів з розладами харчової поведінки: огляд публікацій

Анотація. Незважаючи на те, що розвиток та перебіг різних видів розладів харчової поведінки, а отже, і лікування цих порушень значною мірою залежить від типологічних особливостей пацієнтів, цьому аспекту присвячено недостатню кількість наукових досліджень. Огляд проблеми надання психологічної допомоги пацієнтам з різними типологічними особливостями, що мають розлади харчової поведінки, і став метою дослідження. За допомогою методів аналізу, синтезу та порівняння в статті представлено значення типологічних особливостей пацієнтів з розладами харчової поведінки в наданні психотерапевтичної допомоги. З'ясовано, що пацієнти з певними рисами особистості, як-от: перфекціонізм, необхідність контролю та імпульсивність – схильні до розладів харчової поведінки, водночас показано, що ці типологічні особливості особистості поряд з багатьма іншими допомагають будувати стратегії лікування від нервової анорексії, компульсивного переїдання та нервової булімії. Аналіз показав, що існують риси, специфічні для певних розладів харчової поведінки, які можуть бути посилені в процесі подолання харчової залежності. Виявлено вплив особистісних особливостей на вибір стратегії психотерапевтичної допомоги, а також можливості формування психотерапевтичних відносин. Розкрито значення типологічних особливостей пацієнтів з розладами харчової поведінки в наданні психотерапевтичної допомоги. Узагальнено основні особистісні характеристики за типом харчового розладу з метою поліпшення ефективності вибору стратегії психотерапевтичної допомоги, а також можливості формування психотерапевтичних відносин. Надається увага типовим поведінковим проявам за наявності одного з видів харчового розладу. Обґрунтовано основні передумови формування особистості, схильної до залежної поведінки. Сформовано основне бачення ролі сім'ї у формуванні розладу харчової поведінки. Практична цінність статті полягає в можливості використати матеріали дослідження для розширення уявлень про типологічні особливості пацієнтів з харчовою залежністю задля надання ефективної психотерапевтичної допомоги

Ключові слова: харчова залежність; нервова анорексія; нервова булімія; компульсивне переїдання; психотерапевтична допомога

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Paranoid personality type: Relationships with the surroundings

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Abstract. The relevance of the study lies in the fact that the transience of changes in the social surrounding requires dynamism and competitiveness from a person, which forces the individual to actively transform the emotional regulation of behaviour, in particular in communication and relationships. However, the adaptive capabilities of a person who is characterised by increased sensitivity to frustration and persistent distrust of others can be considerably limited, and therefore maintaining the mental health of people at risk has become an urgent issue. The purpose of the study is to determine the basis on which character anomalies are formed, to uncover the cause-and-effect relationships in the issue of the development of mental disorders, and to identify possible ways to overcome complications in relationships with the surroundings caused by disturbances in mental activity. At the core of the theoretical and methodological approach lies the combination of methods involving structural-functional analysis of the issue of forming a paranoid personality type and an analytical investigation of the psychological support methods for neuro-mental disorders that affect individual behavioural self-regulation. The empirical basis of the study is questionnaires and diagnostics of the mental states of people prone to personality disorders. The paper clarifies the causes and features of the development of paranoid mental anomalies and the possibilities of prevention and correction of such mental disorders. The presented results reflect the problem of the adaptive capabilities of people with congenital or acquired pathological conditions of the psyche. The paper covers the issues of interaction with the paranoid personality type socially. The most popular concepts of providing psychological assistance are considered. The correctness of the assumption that it is much more difficult for people with a paranoid personality type to cope with frustration and adapt to society is analysed. The results obtained are of practical value for social workers who are engaged in identifying mental health disorders of people at risk and predicting deviant behavioural responses, for practical psychologists who support people with a paranoid personality type, in particular through psychotherapy

Keywords: spychopathy; self-regulation; social surrounding; adaptation; pathological conditions; neuropsychiatric disorders

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INTRODUCTION

A person's emotional experiences are linked to their behavioural responses. The fluctuations of emotions throughout life characterise the process of individualisation and the social and psychological development of the personality. However, psychological and emotional burdens that hinder basic and important human needs can lead to distress and crisis states. Emotional regulation of a person's behaviour

plays a vital role in communicating with the surroundings and managing interpersonal relationships, where the specific features of emotional responses reflect a person's attitude to themselves and others (Zimmerman & Morgan, 2022).

Having investigated the impact of the COVID-19 pandemic on the manifestations of behavioural and mental disorders, B. Lopes *et al.* (2020) noted that such crises can



cause and increase feelings of hostility on the part of other people. The authors disclosed the transformative processes of internal beliefs in a person and the intensification of their paranoia due to the instability and uncertainty of external situations. Paranoid states become symptomatic of psychosis and are characterised by anxiety, distress, depression, presence of negative affect, and abnormal experiences (insomnia, hallucinations, prejudices). Similar conclusions were drawn by L. Rosebrock *et al.* (2021), who examined the relationship between human cognitive function and mental health disorders in the context of perceptions of COVID-19. This study shows that young people and students are more vulnerable to developing (or strengthening) paranoid beliefs due to changes in the social and economic spheres, accompanied by isolation, health fears, financial difficulties, and the inability to influence the current situation. J.C. Bird *et al.* (2022) and C. Humphrey *et al.* (2020), in their study on mental health disorders in young individuals, particularly psychological deviations during adolescence, highlighted emotional instability where adolescents' distress and behavioural reactions are not always constructive. The authors agree that negative events in the social life of a teenager can provoke the development of pathological states of their psyche. However, C. Michel *et al.* (2022) indicate that mental disorders can develop at an earlier age. Thus, investigating the relationship between traumatic events in childhood (threat to life, violence, death of parents, etc.) and neuropsychiatric disorders in children, a considerable influence of stress and traumatic situations on the development of psychotic symptoms in later life is noted. A similar opinion is shared by O.I. Bokovets (2022) in a study on the effects of psychological violence on a person's mental health. The researcher noted that long-term traumatic events increase the risk of developing social and psychological maladaptation when the violation of mental states occurs under the influence of prolonged psychological depression, increased anxiety, apathy, and emotional alienation. However, psychotherapeutic support for individuals during post-traumatic growth can help restore constructive relationships with their surroundings.

The transience of modern transformational processes occurring at the political, economic, and social levels can complicate a person's life, provoke negative changes in the psyche, and consolidate destructive paranoid beliefs. Understanding the impact of mental anomalies on the interpersonal relationships of an individual becomes a noteworthy issue in identifying the developmental features of neuro-mental disorders, particularly paranoid disorder. This will enable the prediction of risks and psychopathological changes in the psyche, evaluate the overall mental state of the individual, and develop an effective psychotherapeutic programme capable of supporting the mental well-being of the person.

Considering the traumatic circumstances occurring in Ukraine and analysing previous findings on the development of paranoid syndromes in individuals facing stressful situations caused by life-threatening events (COVID-19,

war), an assumption was made based on the idea that people with a predisposition to mental disorders might experience frustration more intensely and be more susceptible to maladaptation within society.

The purpose of this study is to determine the causes of the development of a paranoid personality type among adults. In addition, an important task is to establish methods of psychotherapeutic influence on the restoration of mental health in the context of the development of emotional self-regulation and adaptive capabilities of the individual.

MATERIALS AND METHODS

The methodology of the study is built upon a systematic approach that examines the process of character anomaly development within the context of a paranoid personality disorder and incorporates a sociological analysis of psychotherapeutic methods aimed at restoring individuals' mental well-being, with a specific focus on emotional regulation and behaviour accommodation. The primary focus of the study is to investigate the causal relationships between social maladaptation in individuals and determine the corrective measures needed to address the consequences of neuro-mental disorders. The research design and empirical analysis are based on the synthesis of theoretical foundations and the systematic review of global experiences in studying the issue of paranoid personality disorder. This qualitative foundation served as a stepping stone for further investigation and became the source for determining psychotherapeutic methods to restore mental functioning affected by paranoid syndrome.

To explore the theoretical foundations of human psychological development and the causes of neuro-mental disorders in connection with external influences on personality, scientific contributions from researchers in Ukraine, the USA, the UK, Poland, Switzerland, Italy, and Germany were analysed. The considered studies helped to disclose problematic aspects that reflect the consequences of destructive neoplasms in the psyche and affect the psychological, cognitive, social, and physical factors of adequate perception of oneself and the surroundings. The leading point in the organisation of the study on the relationship of a paranoid personality type in society was the definition and analysis of the causes of neuropsychic instability of the individual and factors of violation of its characterological constitution. This approach allowed for the substantiation of the key points and positions of the studied problem, which led to the formation of the scientific framework.

The set purpose and analysis of the theoretical base on the subject determined the focus of the empirical experiment, which consisted in finding research methods and tools, establishing the sample, and analysing the results obtained. To identify the impact of external circumstances on the mental well-being of the civilian population (such as relocation, loss of homes, and the death of loved ones) and to test the proposed hypothesis, a psychodiagnostic toolkit was developed, which involved determining an individual's susceptibility to personality disorders, emotional

barriers in communication, and evaluating their psychological state in hazardous conditions. Participants in the experiment were individuals seeking social support from the international organisation Caritas Poltava (Official website..., 2022), which provides assistance to internally displaced persons (IDPs) and vulnerable groups (large families, single parents, etc.), and operates in psychological, legal, social, and humanitarian domains. The sample was formed in several stages. At the preparatory stage, the experiment was implemented in a face-to-face format, where 176 participants were offered a questionnaire. The survey concerned the emotional state of the individual, in particular the presence of anxiety, fear of persecution, insomnia, hallucinations, biases about the environment, behavioural changes due to the current circumstances, and the reasons for changing their place of residence (for IDPs), and whether respondents sought psychological support in connection with the events they had suffered. The key point of the survey was the consent of respondents to be tested for predisposition to personality disorders. 98 people aged 19 to 63 years agreed to the diagnosis of negative traits and related mental processes. The implementation of the study tasks was performed using an online questionnaire with subsequent analysis of the results obtained and provided for determining a person's subjective perception of oneself and one's experiences. Moreover, during this stage, the individual's susceptibility to mental disorders was determined, and an assessment of their mental state was conducted. Factors hindering the establishment of emotional connections with the surroundings were also identified using the following assessments: Personality Disorder Test (IDR Labs, n.d.); Eysenck Personality Scale Measure for Emotional States (National University of Pharmacy, n.d.); Method of diagnosing "barriers" in establishing emotional connections according to V.V. Boyko (National University of Pharmacy, n.d.). This approach involved an analytical comparison of the results obtained with the conclusions of other researchers, which allowed identifying the main aspects of psychotherapy support for people with personality disorders.

All procedures in studies involving human participants adhered to ethical standards, respected the integrity and dignity of the respondents, and ensured the preservation of anonymity for the obtained results. During the survey, the interviewer followed the recommendations developed by the European Commission (2021).

RESULTS

Throughout life, a person experiences constant changes in their social environment, which undoubtedly influences the psychological development of their personality traits and qualities. The formation of character, under the influence of external factors, plays a key role in the development of human mental processes. Traumatic events and obstacles on the path to achieving specific goals become catalysts for the development of new formations in the psyche and may lead to destructive consequences in emotional and behavioural regulation. However, not only external factors

can cause the formation of anomalies and deviations in a person's character. The generation of basic distrust towards the surroundings at an early age, reinforced by the features of upbringing in the family (mother's emotional distance from the child), can lead to the development of diffuse fear. Consequently, distrust and anxiety towards the surroundings are characterised by the defence mechanism of projection (Michel *et al.*, 2022). In addition, during puberty, adolescents have high self-esteem, selfishness, one-sidedness of claims and hobbies, and affective tension and resentment (Bird *et al.*, 2022).

The analysed sources on the issue of paranoid personality type and its relationships with others indicate the global relevance of supporting individuals with personality disorders, particularly by providing them with psychotherapeutic assistance to manage their emotional state. However, in the context of the state of war in Ukraine (Decree of the President of Ukraine No. 64/2022..., 2022), the importance of such support increases, considering the traumatic events for society. This foresees an increase in the development of psychopathy and paranoid syndrome not only among the military but also among the general population of the country. The uniqueness of these processes lies in the complex disruption of cognitive and emotional spheres, and the inconsistency with generally accepted norms of interpersonal relationships. In social life, people with personality disorders have insufficient adaptability and a lack of flexibility in relationships (Zlivkov *et al.*, 2016). Paranoid disorder is characterised by exaggerated sensitivity, dissatisfaction with the actions of others, suspiciousness, and excessive pedantry. Such individuals tend to experience an inflated sense of importance and perceive societal transformation as specific negative intentions and conspiracy against them (Zimmerman & Morgan, 2022).

Understanding the process of forming and diagnosing paranoid mental disorders, along with the ways to support and assist in restoring the emotional states of individuals, becomes a primary goal for psychological and social organisations in society. As of B. Lopes *et al.* (2020), C. Humphrey *et al.* (2020), O.I. Bokovets (2022), the foundation for the development of destructive mental disorders is laid when the functioning of the brain is disrupted. However, the authors (Reed *et al.*, 2020; Okorn *et al.*, 2020; Preti *et al.*, 2020) mention that complications in the psyche can be caused by traumatic events, especially those experienced in childhood, the individual's temperament, an established model of negative behaviour, and immediate reactions to problems, including defence mechanisms like denial, projection, and reaction formation. The formation of paranoid personality disorder can also be influenced by acquired physical illnesses (drug addiction, alcoholism, metabolic disorders, Alzheimer's disease, cerebrovascular atherosclerosis, etc.) and exacerbated by external factors, such as the death of a loved one or financial problems. A paranoid personality type tends to be alert and aggressive, which complicates its relationship with others. The root cause of this is the desire to be better than others and the

inability to make concessions to people. A characteristic feature of a paranoid person is the tendency to generate super-valuable ideas that can determine the appropriate behaviour of a person.

To understand the current situation regarding the mental state of respondents, they were asked to take a personality disorder risk assessment test (IDR Labs, n.d.). The conducted online survey allowed identifying a person's propensity for certain behaviour and personal characteristics. Analysis of the results obtained showed the presence of a tendency to paranoid personality disorder

(PPD) in 39 respondents. Other respondents were categorised based on their tendencies towards sadistic, emotionally unstable (borderline), anxious, histrionic, and dissociative personality disorders. Notably, in this context, the propensity for a specific personality disorder is considered only as the likelihood of developing the mentioned mental disorders, as the analysis of the survey results based on these criteria revealed a predominance of over 80% of negative traits at the time of the survey. A visual representation of the results of the risk assessment test for the development of personality disorders is presented in Table 1.

Table 1. The results of determining the propensity for mental disorders and their symptoms

Mental personality disorder	Number of respondents	Characteristics of the disorder
Paranoid	39	Sensitivity to failure, tendency to inadequate perception of reality, high self-esteem, arrogance, vindictiveness, suspicion, isolation
Sadistic	10	Aggressive and violent behaviour, humiliation of others, dominance and self-affirmation by devaluing the surroundings, pathological control
Histrionic	12	Excessive emotionality, egocentrism, suggestibility, the need for constant attention of others, a tendency to dramatise
Dissociative	6	The bifurcation of ego states, a change (distortion) of self-perception and reality, can act as a mechanism of psychological protection
Borderline	16	Affective mood instability, impulsivity, relationship tension, lack of emotional control, impaired self-esteem, self-destructive behaviour, uncontrolled rage, avoidance of problematic situations, impaired identification, temporary paranoid thoughts, or dissociative symptoms due to exposure to stressful events
Anxiety	6	Emotional stiffness, isolation, pathological self-control of one's own actions, tension, destructive psychological attitudes, self-devaluation, avoidance of socio-psychological activity

Source: compiled by the author based on the results of the survey and M. Zimmerman and T.A. Morgan (2022); C. Humphrey *et al.* (2020); O.I. Bokovets (2022)

At the preparatory stage, the survey included questions about seeking psychological support among respondents. It was determined that among 39 respondents with a tendency to paranoid personality disorder, 22 people sought help from a psychologist and visited a specialist within the last at least three months. Among the respondents with a predisposition to other disorders, no requests for psychological help were identified. In this regard, respondents with a tendency to paranoid personality disorder were divided into two groups (PPD-1; PPD-2) to identify possible differences in the assessment of mental states, and respondents with a tendency to other mental disorders (OMD) made up the third group.

The next stage of the study was to determine the external influence on the formation of mental states. The analysis of the results obtained shows that the majority of respondents with PPD who applied for psychological help have average indicators of the level of anxiety and rigidity. This indicates emotional discomfort, which is directly related to the expectation of dangerous life-threatening events. The indicators of rigidity for the majority of respondents in group PPD-1 (64%) and OMD (68%) indicate difficulties in changing their own views and beliefs. Meanwhile, in the majority of respondents in group PPD-2 (65%), low scores

were identified on this scale, reflecting their adaptability to life circumstances depending on events. The previous survey confirms that respondents in group PPD-2 often changed their place of residence in the last 6 months (more than twice), so the overall score for this indicator was examined with consideration of circumstances.

Results on the scale of frustration and aggression among respondents indicate difficulties in working with people. For participants in group PPD-2 (71%), it is difficult to cooperate with others due to their belief in their own value and a tendency to assert themselves by demeaning those around them. The more stable scores in group PPD-1 on the aggression scale (average level in 68%) may indicate the result of seeking psychological support. Similarly, on the scale of frustration, this group has an average level (91%). Notably, there were no low scores for aggression and frustration among the group of individuals with a propensity for paranoid personality disorder who did not seek psychological help, which may indicate not only issues in their relationships with others but also apathetic and regressive states associated with meeting minimal life-sustaining needs. Furthermore, the overall assessment of the results of the examination of mental states indicates emotional discomfort among the respondents, characterised by

thoughts related to threats and dangers to life in conditions of social destabilisation. For a visual understanding and

comparison of the assessment of the mental states of the three groups, the survey results are presented in Figure 1.

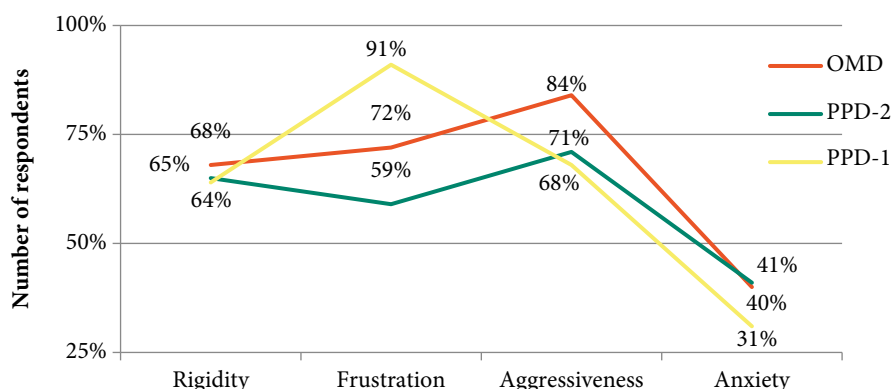


Figure 1. Analysis of respondents' mental state

Source: compiled by the author

For investigating the relationships of respondents with their surroundings, it was crucial to identify emotional barriers that negatively affect communication with others. The analysis of the obtained data revealed high levels of negative attitudes in the PPD-2 group (53%). The assessment of the results of this group of respondents reflects the dominance of destructive thinking and unwillingness to build close relationships with other people. In contrast, for the majority of respondents in the PPD-1 group (64%) who do not receive psychological help, difficulties in interpersonal interactions are characterised

by emotional ambiguity and inadequate emotional expression in stressful situations. The survey results in this group may indicate the correctness and effectiveness of the chosen psychological support. An important characteristic for the group of respondents with other mental disorders (OMD) is emotional instability in everyday life, as reported by 56% of the participants. This indicates the problem of regulating the emotional state and their psychological stress in communicating with others. The findings on emotional barriers in relationships with others are presented in Figure 2.

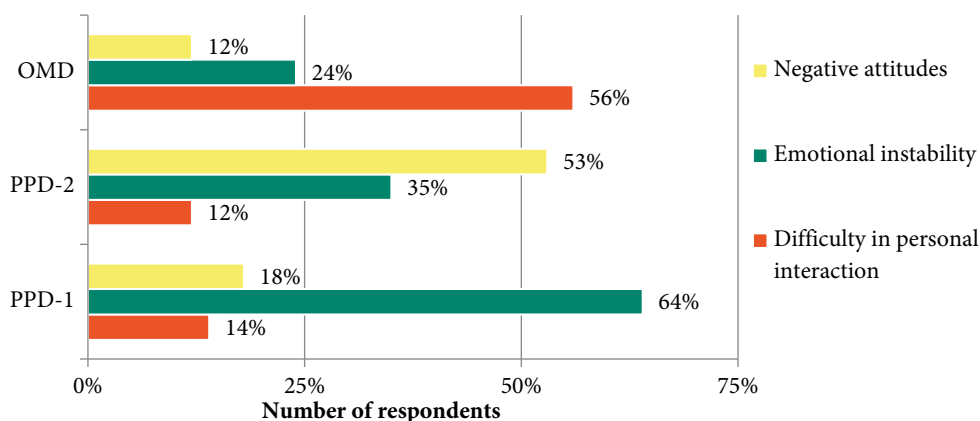


Figure 2. Analysis of difficulties in the emotional rapprochement of respondents with their environment

Source: compiled by the author

The analysis of the empirical study indicates the presence of destructive attitudes in the mental activity of the respondents. The diagnostic assessment of personality tendencies towards mental disorders and related issues in social relationships with others indicates that only a portion of the respondents in the PPD group are capable of emotional regulation and adaptation to new life circumstances. However, the results for the majority of respondents, including those with other mental disorders (OMD),

express a need for psychological support, and in some cases, the question of psychotherapy needs to be urgently addressed. The application of psychotherapeutic methods in working with individuals with a tendency towards paranoid personality disorder should be based on addressing their emotional reactions and enhancing their social-psychological capacities. The presence of affective reactions in the behaviour and emotions of people with PPD may predict psychoses and psychopathies, leading to persistent

character anomalies with sociopathic accentuations (Bokovets, 2022). Preventing these conditions involves adopting a healthy lifestyle, timely treatment of associated illnesses, maintaining a regular sleep schedule, seeking consultations with a psychotherapist, and, if necessary, taking sedative medications as prescribed by a doctor (Reed *et al.*, 2020).

The empirical research phase involved testing a hypothesis that was partially confirmed. For people who receive psychological assistance, the impact of external factors (crisis situations) is less intense on violations in social activities. However, post-traumatic growth in individuals who did not seek psychological support was associated with reduced indicators of emotional perception of the world and interactions with their surroundings. The obtained results underscore the need for the development of psychotherapeutic programmes that address destructive formations in the psyche of individuals, especially for their social-psychological adaptation, particularly crucial for individuals with a paranoid personality disorder or tendencies towards its development.

DISCUSSION

Global changes occurring in the modern world have brought to the forefront the importance of supporting people's mental health. Understanding the development of personality psychopathology allows for the formulation of a psychotherapeutic toolkit to restore adequate functioning of mental processes. Preventive methods contribute to reducing the risks of developing destructive character accentuations, including the emergence of paranoid personality disorder. Results of studies on psychopathological syndromes and their impact on the life of an individual (Preti *et al.*, 2020; Bird *et al.*, 2022; Michel *et al.*, 2022) indicate increased conflict of the individual and rigidity of their behaviour in case of violation of the mental state. A characteristic feature of paranoid disorder is a focus on an idea or a specific task and a person's low ability to understand others. The persistence of these traits implies difficulties in interpersonal relationships and social adaptation (Barnby *et al.*, 2020; Sood *et al.*, 2022). Together, these processes can lead to the development of psychopathy, which is characterised by a tendency to harsh and antisocial behaviour. That is why it is important to educate the public about the risks and consequences of long-term mental stress, including traumatic events, for the possibility of timely seeking psychological help to prevent irreversible processes of mental activity.

The characteristic behavioural patterns of individuals prone to paranoid personality disorder include mistrust of their surroundings, contempt and resentment towards others, distortion of their own experiences, perceiving others' attitudes as hostile and threatening, displaying unwarranted insistence on their views and beliefs, being argumentative, harbouring groundless suspicions and reproaches towards loved ones, and having inflated self-esteem and sensitivity to failure. Moreover, individuals with paranoid disorder tend to be prejudiced, pessimistic, show uncontrolled

anger, and display categorical statements. People with a paranoid type of disorder are prone to bias, pessimism, uncontrolled anger, and categorical statements. However, J.E. Fisher *et al.* (2014) and K. Bahlinger *et al.* (2022) note in their studies on the emotional characteristics of people with a paranoid personality disorder that such individuals exhibit strong emotional dependence on others, particularly in the satisfaction of needs, financial well-being, and decision-making, including those related to health. The authors also agree that negative emotions and crisis events experienced by a person with PPD can lead to hysteria, depression, panic attacks, or victim behaviour. Notably, current conversations at the beginning of the experiment with respondents who sought psychological help revealed that one of the reasons for contacting a psychologist was the manifestation of panic attacks after experiencing a traumatic event, because of which people were forced to change their place of residence. In addition, the majority of respondents lost financial stability, and the combination of all negative events led to an apathetic state and indifference or hostility in social relations. In examining the issue of an individual's adaptive ability and its correlation with stressful states, A. Clamor and K. Krkovic (2018) state that paranoid thinking in mentally healthy individuals can serve as an adaptive response to traumatic events, functioning as a lever to restore physiological balance after experiencing stress. However, V. Thewissen *et al.* (2011), while investigating the relationship between emotions, self-esteem, and paranoid ideation, identified that paranoid ideations are influenced by experiencing negative emotions and are accompanied by a decrease in an individual's self-esteem. The author notes that paranoid ideations do not serve a protective function, thus highlighting the necessity of psychotherapy to work specifically with emotional processes and self-esteem. The analysis of the results from the conducted empirical research also indicates a decrease in the self-esteem of respondents, reflecting in their lack of confidence in their abilities, introversion, and inability to believe in a positive future (survey). Nevertheless, among the group of people receiving psychological support, it was found that some individuals demonstrate an understanding of their aggressive expressions and an inability to control them during moments of stress. This emotional instability forces individuals to feel like victims or aggressors, depending on the situation they find themselves in, and it leads to changes in their behaviour based on these feelings. Respondents also note an increase in social conflicts and confrontational situations in their lives.

According to D. Freeman and P. Garety (2006), the therapeutic atmosphere should be strict but reflect care and respect. Investigating the issue of support for people with paranoid disorder, the effectiveness of the cognitive-behavioural approach, which should be formed based on an individual formulation of the personality problem, is noted. It is also important to encourage a person to talk about their own paranoid experiences. This idea is developed in the study of P.A. Garety *et al.* (2020), which states that

psychological concerns in people prone to paranoid personality disorder are based on introversion and are accompanied by emotions of fear of criticism from others due to their own social inadequacy. Therefore, the establishment of trusting relationships between the psychotherapist and the individual is crucial. Regarding the effectiveness of psychotherapy, S. Gaskell *et al.* (2023) indicate that the success of therapeutic sessions relies on the psychologist's ability to adequately perceive and withstand the patient's aggressive behavioural reactions when preserving therapeutic relationships becomes necessary. The empirical research results align with these conclusions. The analysis of the obtained data revealed that some respondents tend to be aggressive in their behaviour, which affects their communication with their surroundings. Those who sought psychological help mentioned that they felt distrustful during the initial individual sessions with the psychologist and were reserved during these sessions, with their expressions being more aggressive compared to the present time. L. Giusti *et al.* (2018), covering group therapy, note that the cognitive-behavioural approach contributes to changes in the mental state, particularly through the development of skills to control impulsivity and anger, as well as through teaching positive social skills. Furthermore, showing a caring attitude during psychotherapeutic sessions helps develop experiences of adequate communication with their surroundings, and group meetings aid in developing compensatory strategies and communication methods through observing examples of maladaptive behaviour in others.

The choice of psychotherapy methods for people with personality disorders is quite large. Properly selected therapy in accordance with the patient's needs effectively contributes to the restoration of one's mental health. The key goal of psychological therapy is the transformation of thinking and behaviour of the individual, which activates the reserves of personal growth. This goal is achieved through the selection of appropriate methods of influence, and the ways and means of their implementation (Johnson *et al.*, 2018). It is crucial to inform the individual about their problem during psychotherapy, which will help change their attitude towards their behaviour and emotions. The psychologist should create conditions where the person feels emotional comfort and can express their feelings. Psychotherapy increases the resilience of the individual to stressful situations and helps them become more flexible in behaviour and psychological attitudes (Kramer *et al.*, 2022).

Modern areas of psychotherapy allow the specialist to select and combine the necessary approaches to achieve the goal. Analysis of previous studies (Michel *et al.*, 2022; Sood *et al.*, 2022; Bahlinger *et al.*, 2022) allowed identifying the most popular concepts of providing psychological assistance, in particular: explanatory therapy: involves the therapist's influence through verbal means, such as conversations, lectures, and explanations; cognitive-behavioural therapy: collaborative partnership, changing thinking patterns, and behaviour; suggestion: aims to influence the individual's psyche to reduce criticality and increase

acceptance of suggested content; psychoanalysis: involves the therapist helping the patient explore unconscious connections, dependencies, and processes; group therapy: involves a group of individuals with similar problems to reduce conflicts, solve behavioural issues, and alleviate tension; gestalt therapy: aims to expand awareness and promote the closure of holistic interaction patterns with the external world; art therapy: utilises creative approaches such as storytelling, sandplay, music, dance, etc., to influence the individual's psychoemotional state during therapy sessions; autogenic training: involves self-regulation techniques to reduce nervous tension and restore balance after experiencing stressful situations or events; causal therapy: focuses on correcting the causes and influencing factors of personality disorders; psychodrama: involves dramatic improvisation to study the individual's psyche; logotherapy: focuses on the search for the meaning of existence. EMDR therapy (Eye Movement Desensitisation and Reprocessing): diminishes or eliminates negative reactions to stimuli, particularly in the treatment of post-traumatic disorders.

A comprehensive therapeutic approach is planned only after a thorough examination of the history of paranoid personality disorder (e.g., head injuries, traumatic events, family members with schizophrenia, etc.). In addition to psychological support methods, people with paranoid disorder may need medical treatment. In such cases, individuals may be prescribed antidepressants (in complicated forms of the disorder, depression, suicidal tendencies, or danger to others), benzodiazepines (for excessive anxiety), antipsychotic drugs (for unwarranted irritability), and sleep aids (for sleep disorders). The combination of psychological and medical approaches contributes to the success of the treatment of people with PPD (Völm *et al.*, 2011).

The similarity with the conclusions of the analysed studies (Clamor & Krkovic, 2018; Preti *et al.*, 2020; Rosebrock *et al.*, 2021) is evident in the results of the conducted empirical research, which indicates the influence of external factors (stress, isolation, traumatic events) on the development of mental disorders. An experimental examination of the problem of relationships between people with a paranoid personality type reflects the social and psychological maladaptation of respondents. The results obtained also correlate with study of B. Lopes *et al.* (2020), V.L. Zlivkov *et al.* (2016) and I. Okorn *et al.* (2020), in which authors highlight the causes of mental disorders precisely through experienced crises and the need for psychological support to prevent the formation of persistent mental disorders. For example, I. Okorn *et al.* (2020) draw parallels regarding the impact of the pandemic and war on the state of the human psyche, outlining the collapse of the external safe environment. The results of the conducted empirical research indicate the influence of both traumatising events, with the latter leading to the rapid development of mental health disorders in individuals. The study also revealed that not all individuals willingly seek psychotherapeutic help. Some try to cope with their mental state independently, often losing valuable time in the process. According to V.L. Zlivkov *et*

al. (2016), the worst aspect of experiencing paranoid syndrome is getting accustomed to this state and perceiving it as an inseparable part of the consequences of traumatic events. This situation can lead to the development of psychosomatic disorders, which may be more challenging to treat. Among the respondents who already receive psychological assistance, the effectiveness of EMDR therapy was noted (subjective evaluation by several respondents). After a single therapeutic session using EMDR, the psychological tension related to traumatic events that constantly haunted the respondents' thoughts significantly decreased. Art therapy sessions also helped to reduce tension at the moment, while autogenic training, as recommended by the psychologist, assisted respondents in lowering their anxiety levels in everyday life. However, B. Lopes *et al.* (2020) emphasise that the consequences of traumatic events require long-term treatment, so it is essential to identify and adjust therapeutic methods according to the patient's progress towards mental health recovery. Overall, the analysis of the research results underscores the necessity of promoting awareness, particularly for people at risk. Such an approach would help them understand their emotions and pay attention to the deterioration of their mental state while fostering a positive view of psychotherapy as a means of restoring mental health.

Global practice highlights the risks of complications in mental disorders that may lead to pathological and irreversible processes in mental health disturbances. Hence, it is essential to create a comprehensive diagnostic and therapeutic toolkit that can be modernised, transformed, and integrated into social organisational structures to assist the population in dealing with the consequences of mental disorders, including paranoid personality disorder. Establishing such conditions will facilitate the prompt determination of the best psychotherapeutic concept for each individual case, according to their needs and requirements.

CONCLUSIONS

The problem of personality disorders has a profound impact on various aspects of people's life, including social, legal, psychological, educational, medical, and economic spheres. Due to this, an important mission arises to educate the population about the potential risks and consequences of mental disorders. It is also important to improve

diagnostic methods for identifying personality disorders and develop effective models for restoring mental health in individuals with paranoid personality traits.

The study indicated that the causes of paranoid diseases can be genetic factors, childhood psychological trauma, and physical brain injuries. People who have experienced life-threatening crisis situations are at risk as well. The instability of mental processes may lead to a tendency towards paranoid syndromes, resulting in difficulties in maintaining social relationships and controlling emotional and behavioural reactions. Such individuals often strive to present their interpersonal relationships as constructive, but their formed negative attitudes and personality traits often lead to conflict situations. The constant need to protect their importance is rooted in sensitivity to failures, leading to the active defence of their interests. Psychotherapeutic treatment methods for paranoid personality disorder aim to improve the emotional, cognitive, and behavioural aspects of individuals, helping them to better adapt to the social environment.

The initial hypothesis formed at the beginning of the empirical research was partially confirmed during the experimental stage. Notably, the indicators for evaluating mental states were significantly better among respondents who already received psychological assistance, and their psychological barriers to emotional closeness with others were lower compared to other groups. These indicators may reflect the effectiveness of the psychological support provided to them. The results obtained can be utilised by psychological and social workers, and individuals involved in the development and testing of a complex of psychological support methods for individuals with a propensity for personality disorders. A promising area for further studies on the issue of social interactions among people with paranoid disorders is the analysis of psychotherapeutic methods when providing psychological support to individuals who have experienced traumatic events in life.

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CONFLICT OF INTEREST

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Параноїдальний тип особистості: стосунки з оточенням

Анотація. Актуальність дослідження зумовлено тим, що швидкоплинність змін у соціальному середовищі вимагає від людини динамічності та конкурентоспроможності, що змушує особистість активно трансформувати емоційну регуляцію поведінки, зокрема у спілкуванні та взаємостосунках. Однак адаптаційні можливості особистості, для якої характерні підвищена чутливість до фрустрації та стійка недовіра до оточення, можуть бути значно обмеженими, а тому нагальним питанням постала підтримка психічного здоров'я людей із групи ризику. Мета науково-дослідної роботи – з'ясувати, на якому підґрунті формуються аномалії характеру, та розкрити причинно-наслідкові зв'язки в проблемі розвитку психічних розладів, а також визначити можливі шляхи подолання ускладнень у стосунках з оточенням, що спричинені розладом діяльності психіки. В основі теоретико-методологічного підходу – поєднання методів структурно-функціонального аналізу проблеми формування параноїдального типу особистості та аналітичне дослідження методів психологічної підтримки нервово-психічних порушень, які впливають на поведінкову саморегуляцію людини. Емпірична база дослідження – анкетування та діагностика психічних станів людей, схильних до розладу особистості. У статті з'ясовано причини та особливості розвитку параноїдальних аномалій психіки, а також можливості профілактики та корекції таких ментальних порушень. Представлені результати в науково-дослідній роботі відображають проблему адаптаційних можливостей людей із вродженими або набутими патологічними станами психіки. У статті розкрито питання взаємодії з параноїдальним типом особистості в соціальній сфері. Розглянуто найпопулярніші концепції надання психологічної допомоги. Перевірено коректність припущення про те, що людям з параноїдальним типом особистості значно важче справлятися з фрустрацією та адаптуватися в соціумі. Отримані результати мають практичну цінність для робітників соціальної сфери, які займаються виявленням порушень психічного здоров'я людей з групи ризику та прогнозуванням девіантних поведінкових реакцій, а також для практичних психологів, що підтримують людей з параноїдальним типом особистості, зокрема за допомогою психотерапії

Ключові слова: психопатія; саморегуляція; соціальне середовище; адаптація; патологічні стани; нервово-психічні порушення

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