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The problem of psychologist certification: A comparative analysis of international experience

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Abstract. As the war in Ukraine poses a significant threat to national mental health, professional psychological support has become more crucial than ever for Ukrainians. The need to regulate the profession and establish a safe environment for consumers of psychological services has led to the implementation of psychologist licensing and certification. In Ukraine, this system is imperfect and requires optimisation, one of the ways to achieve which is to study and adapt the best international experience. In light of this, the aim of this article was to examine the characteristics of psychologist certification in the United States, Canada, the United Kingdom, the European Union, and China to identify prospects for developing the psychologist certification system in Ukraine. The methodological tools used included the dialectical method, as well as systemic, informational, theological, and functional approaches, which allowed for the presentation of the features of certification in the current conditions of professionalisation of psychological activities. It has been established that certification has historically been one of the methods for measuring competence in professional psychology. For this purpose, professional associations create voluntary certification systems. The features of the most developed psychologist certification systems (USA, Canada, and the United Kingdom) were examined, and an attempt was made to compare them with similar certification models in the European Union and China. Common requirements for psychologist certification in these countries were identified, including requirements for the content and duration of specialised education; requirements for supervised psychological practice; requirements for professional development in both practical and research areas; and requirements for the moral and ethical qualities of the psychologist. Conceptualising and measuring psychologist competence is an ongoing dynamic process as the field of psychological practice continues to evolve. The practical value of the results lies in their potential use to identify ways to improve the national psychologist certification system and the possibilities for transitioning from voluntary certification to mandatory certification

Keywords: professional qualification of psychologists; licensing; certification; psychological practice; system of psychological training; supervision

INTRODUCTION

The modern Ukrainian system for recognising the qualifications of scientific and pedagogical workers (the system of academic degrees and titles) is quite well developed. However, the grades of academic qualifications either cover only one, "university", stage of a professional

career (bachelor, master, specialist), or only one direction of a career – scientific achievements (candidate and doctor of science). The practical experience and achievements of a professional as a successful practitioner actually remain outside the academic framework

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of qualification recognition and are essentially beyond the control of the professional community. This problem is of particular importance in the confirmation and recognition of the qualifications of specialists of the psychological profile, since the level of consequences of unprofessional psychological activity is quite critical.

Qualification recognition is typically represented by a certification system. A certificate confirms a professional's qualifications, providing legitimacy for their professional activities and increasing their value in the labour market (Psychology certifications..., n.d.). Certification takes on particular importance due to the diversity of systems for obtaining basic professional knowledge and qualification recognition systems, as academic training is not always sufficient for qualification recognition. Licensing or certification of psychologists is aimed at protecting consumers from unsafe or low-quality goods and services. As an alternative to state regulation through the development of certification and licensing laws, nonstatutory certifying boards can also be created (Henderson & Hildreth, 1965; Dittmann, 2004).

In addition, the field of psychological practice continues to evolve and expand with new areas of focus. In particular, the issue of standardising online psychological counselling and the experience of counsellors, psychotherapists, and psychologists in obtaining online clinical supervision is growing in line with digital health trends (Ratcliffe & Kaluzeviciute-Moreton, 2023; Arzuyan *et al.*, 2023; Wong *et al.*, 2023).

Therefore, it becomes evident that there is a need to improve the national system for recognising the qualifications of practising psychologists, which complements the system of academic degrees, becomes obvious. Mentioned above confirms the relevance of studying foreign experience in the certification of psychologists to identify models for additional oversight of the practical activities of professional psychologists. It should be noted that in the future, the recognition of qualifications will increasingly be shifted from the state level of regulation to the professional associations themselves (so-called self-regulatory organisations), which should be directly interested in preventing low-qualified specialists from engaging in practical activities. For this purpose, professional associations create systems of voluntary certification. The most developed certification systems exist in the USA, Canada and the United Kingdom. Certification in these countries has already passed from voluntary to mandatory (Cherry, n.d.). Ukraine's active European integration into the European Union (EU) has led to the adoption of the European certification system for psychologists. For a comprehensive comparison of foreign experience, we also analysed the Chinese system for the certification of psychologists.

Despite the wide range of such studies, international developments related to the challenges of the national present remain unexplored. Therefore, the aim of this article was to study and summarise inter-

national experience in the functioning of psychologist certification systems in order to identify promising areas for improving the national doctrine of psychologist certification. The research tasks were chosen according to the goal:

- ◆ to analyse the history of the introduction of psychologist certification in the USA, Canada, the United Kingdom, the EU and China;
- ◆ to establish typical requirements for the certification of psychologists in these countries;
- ◆ to characterise the developers of the system of training and certification of psychologists, identifying prospects for improving the national system of psychologist certification.

LITERATURE REVIEW

In recent years, research on this topic has been actively conducted in the international scientific community, confirming the need to optimise the psychologist certification system taking into account modern challenges. Thus, research on improving the system of testing and certification of professional psychologists who are engaged in specialised practice is constantly being conducted by scientists of the American Board of Professional Psychology. In particular, they are actively studying effective methods of motivating young psychologists to certification, highlighting the following advantages (Certification benefits for..., n.d.): 1. Board certification facilitates license mobility in most states. 2. Board certification distinguishes the young psychologist in the labour market. 3. Health insurance companies regularly inquire about board certification when applying for network participation. 4. Many hospitals inquire about board certification when applying for privileges. 5. Some academic and medical institutions require board certification for promotion and tenure. 6. Board-certified uniformed psychologists working at the Department of Defense or Public Health Service receive a monthly speciality pay bonus. 7. Renew the emphasis on lifelong learning and professional development.

In the context of the problems of this study, the historical aspect of the creation of the psychological profession through certification is also valuable, in particular, the criteria of competence, the specifics of coverage, the attitude to the types of coverage, the attitude to the types of employment and the bodies that can carry out certification (Bott, 1947). The author notes that there are several possible approaches to certification: the first is the licensing of psychologists, the legalisation of such a term as "certified psychologist" and the establishment of subspecialties in the existing structure, and the second is the control of standards by manipulating the education required for employment.

Noteworthy are the studies devoted to the consideration of the differentiated features of certification and licensing of psychologists (Certification benefits for..., n.d.). The authors rightly emphasise that certification

and licensing are professional qualifications, but they differ from each other. To engage in psychological practice, the Canadian Psychological Association requires you to have a license from a professional association of psychologists. Unlike licensing, certification is a specialised course that allows training in a specific area, such as counselling or rehabilitation. A license may give you the ability to work with patients, but certification allows you to treat different patients using specialised advanced techniques. At the same time, studying the experience of the American Board of Clinical Neuropsychology and the American Academy of Clinical Neuropsychology, the board certification (collective bodies) through American Board of Professional Psychology (ABPP) is considered (Cox, 2010). The ABPP board certification process involves several steps: credential verification, submission of practice samples, and an oral exam. These aspects of the process are similar for each speciality board. At the discretion of the speciality committee, a written exam (e.g., multiple choice) may also be included in the process. Currently, such exams include forensic psychology and clinical neuropsychology. On the other hand, the results of the qualitative characteristics of the ABPP board are interesting (Frost *et al.*, 2019). While ABPP specialists are found to be more diverse in certain aspects, particularly gender (female, 43% vs 34% in a previous survey), the majority remain non-Hispanic, White in race/ethnicity (87%), followed by only 3% Black, and 3% Latinx representation. Recognition as a specialist, work requirements, and professional expectations were the three main reasons for board certification. The three most popular themes related to the experience of specialists regarding diversity were (a) Need for active outreach and mentorship, (b) ABPP does a good job in terms of diversity, and (c) Making it more affordable.

Given the detailed issues at hand, certain researchers emphasize the organizational and methodological challenges associated with broadening the application of accumulated psychological expertise. This includes integrating psychological practices into the organizational cultures of sports entities, enhancing professional identity, and developing methods for certifying psychologists' competencies (Sly *et al.*, 2020; Shevchuk & Vlasiuk, 2022; Quartiroli *et al.*, 2022).

A significant theoretical basis for the elaboration of this topic is the article of S. Kononenko, V. Savchenko, L. Kononenko "Problems and prospects of development of standardisation and certification processes in Ukraine in the context of Eurointegration", which thoroughly examines the directions for the development of standardisation and certification processes in the context of European integration, as well as the impact of standardisation and certification on the quality of services (Kononenko *et al.*, 2023). The authors primarily emphasise the need to align domestic legislation with European norms in the context of European integration.

Today, psychological practice in Ukraine is determined by the conditions of martial law. Therefore, the provision of qualified psychological assistance and services to the population is one of the most important places in the system of preserving, maintaining and preventing the psychological health of the nation. The relevance in Ukraine of the problem of standardisation of the quality of psychological services and certification of practising psychologists is confirmed by the research of Ukrainian scientists (Larionov & Matsehora, 2019; Lefterov, 2022). In particular, according to S. Larionov & Ya. Matsehora (2019), the development of a separate Regulation "On the Certification of Psychologists" for regulatory and legal support of certification is inappropriate. It is important to normatively establish the benefits that certified psychologists will receive (Kim *et al.*, 2022). Additionally, the authors justify the most optimal way for departmental psychologists to integrate into the broader professional community and create an association of psychologists from law enforcement agencies, which can become part of a nationwide structure, such as the National Psychological Association of Ukraine, under associated membership terms. V. Lefterov (2022) notes that the certification of practising psychologists should ensure that real professionals – psychologists – receive the appropriate licenses and access to psychological practice.

MATERIALS AND METHODS

A fundamental component of the methodological toolkit was the dialectical method, which made it possible to study the cause-effect relationship between the legislative intent to protect the general health, safety and well-being of citizens and the introduction of psychologist certification, its differentiation processes and integration in different countries. This is especially relevant in the variability of the construction of the Ukrainian strategy for recognising the qualifications of psychologists. The systemic approach made it possible to analyse the object of research through the components of the system and their interconnections within a specific foreign country, to identify typical requirements for the certification of psychologists both in voluntary and mandatory forms. The importance of taking into account the standards of professional activity in psychology for the certification of a specialist was substantiated based on a teleological approach.

The study of the essence of certification in the current conditions of professionalisation of psychological activity also involved the application of an informational approach, capable of presenting the comprehensiveness of a fully-fledged regulation system of psychological practice through the prism of certification of psychological tools and standards for providing psychological services.

Since the certification of psychologists constitutes a process of synchronising the provision of professional

standards at the level of higher educational institutions and professional societies to achieve the set goal, it was appropriate to apply the functional approach. This approach can reflect the dynamics of the studied object, which is implemented in a synchronic context.

RESULTS AND DISCUSSION

The doctrine of qualification confirmation for psychologists in the USA and Canada. The development of psychology as a profession in the United States and Canada was accompanied by government regulation. In particular, during the 1960s and 1970s, regulatory statutes were adopted by the legislatures of half of the states and six Canadian provinces. Connecticut became the first state to pass such legislation in 1945, followed by Virginia in 1946 and Kentucky in 1948. Since 1977, the profession of psychology has been regulated by statute in all states and the District of Columbia. Since 1982, in Canada, almost all provinces, except Newfoundland and Prince Edward Island, have legislated the activity of psychologists. The purpose of such legal regulation of psychologists' activities is to legislatively protect the general health, safety, and well-being of citizens. In addition, in these countries, there is an initial system of training psychologists, which includes specialised educational programs in schools and colleges and then allows obtaining an academic degree in universities. At the same time, an academic degree in psychological sciences does not grant the right to practice. All psychologists whose activities are related to the direct provision of psychological services to the population (Direct Services) are subject to the requirement of licensing and certification. However, psychologists who are engaged in research in government organisations, agencies, colleges or universities are exempt from licensing by the laws of some states and provinces.

Psychological practice without a license is prohibited in the territory of these countries. Violations of the legal requirements result in administrative penalties in the form of fines. The admission of professional psychologists to practice is separately regulated by the laws of each state and the District of Columbia, as well as by the legislation of eight Canadian provinces.

The following are the most typical requirements for mandatory certification of a psychologist:

1. *Possession of a specialised education.* Licensing psychologists for private practice in most states of the USA and Canada requires holding a doctoral degree in psychological sciences. Such a degree can be obtained from accredited educational institutions with an appropriate curriculum.

2. *Possession of work experience.* A mandatory requirement is 1-2 years of supervised work experience in institutions and organisations approved by the state professional board. In many US states, supervised work experience is required immediately after obtaining a doctoral degree (Wong *et al.*, 2023).

3. *Passing exams successfully.* All applicants for certification must pass the Examination for Professional Practice in Psychology (EPPP). It is recommended to take the exam at the place of future work (practice), in fact – in the same state. Its content is determined based on the results of analytical reviews of psychological practice in the United States and Canada. Practice reviews are initiated by the Association of State and Provincial Psychology Boards (ASPPB). As already mentioned, this organisation was created in 1961 to ensure the licensing of psychologists' activities. One of the tasks of the Association is to develop the EPPP exam, which is used by the relevant Licensing Boards for the licensing and certification of specialists. The results are recorded in the ASPPB database and can be obtained by a specialist upon request in case of opening a practice in another state. To simplify the specialist's accreditation procedure in case of moving to another state, the "Certificate of Professional Qualification in Psychology" (CPQ) was created. However, this certificate is also not recognised by all states, and in this case, the specialist is forced to obtain the EPPP exam results upon request.

The exam consists of more than 200 questions covering the following topics: methods and tools of psychological research; interpretation and report writing; selection and development of instruments, designing plans based on diagnostic results, monitoring dynamics; knowledge of general psychological literature and ability to apply it in practice; experimental design; professional ethical and legal constraints in psychologists' activities (confidentiality, adherence to professional standards, etc.).

4. *Administrative requirements.* Depending on the legislation of states and provinces, requirements may vary concerning age, citizenship tenure, place of residence, and moral-ethical standards.

5. *Possibility of re-examination.* According to the laws of states and provinces, terms for re-examination are set from 1 to 3 years.

In addition to mandatory certification, psychologists can also obtain speciality certification of their proficiency level in a specific field of practice (specialisation). This function is carried out by the ABPP. Incidentally, this is also required by the laws of some states.

ABPP is the only organisation to which the American Psychological Association (APA) refers psychologists for official recognition of their professionalism. Candidates for ABPP certification must hold a doctoral degree in psychology (PsyD), documented post-doctoral training, 5 years of practical experience, receive positive reviews of their professional activities, and achieve positive results on the Examination for Professional Practice in Psychology.

The list of professional specialities for which ABPP-certified specialists includes: clinical psychology, clinical health psychology, clinical neuropsychology, counselling psychology, family psychology, behavioural

psychology, forensic psychology, group psychology, psychoanalysis in psychology, rehabilitation psychology, school psychology, clinical child and adolescent psychology, organisational psychology, and consulting (Guiney & Newman, 2024).

English doctrine of psychologist certification. The system for training and certifying psychologists in the United Kingdom also has a long history. The fundamental requirement for professionalisation as a psychologist is having a bachelor's degree. Upon completing a bachelor's degree, specialisation in a specific area of psychology becomes possible. The professional development of a psychologist in the UK consists of three levels:

1. Practical experience as a psychologist's assistant, gaining professional experience (during this period, a bachelor's degree holder cannot be called a psychologist).

2. Continuing education to obtain a Master of Science in Psychology degree, defending a doctoral dissertation to earn a Doctor of Psychology (PsyD) or Doctor of Philosophy (PhD) in Psychology.

3. Achieving Chartered Psychologist status and practising independently. It should be noted that in the United Kingdom, working as a psychologist is not permitted without obtaining Chartered Psychologist status.

Chartered Psychologist status can be obtained in the following areas of psychological practice: psychological counselling, health psychology, forensic psychology, psychology in educational settings, clinical psychology, and occupational psychology.

To achieve Chartered Psychologist status, the requirements are:

- 1) Holding a second-level education degree (Master's degree or Doctorate).

- 2) Having work experience in a chosen area of specialisation.

- 3) Have supervised work experience.

- 4) Complete continuing professional development courses.

Unlike many European countries, the UK has opted not to legislate the practice of psychotherapy, leaving psychologists in an interesting situation. On one hand, there are no restrictions on practising psychotherapy regardless of experience or education. On the other hand, career advancement is not possible without membership in one of the self-regulating professional bodies such as The British Association for Counselling and Psychotherapy (BACP), The UK Council for Psychotherapy (UKCP), or The National Counselling Society (NCS).

European doctrine of psychologist certification. In Europe, there have been significant transformations in the content and methods of delivering psychological services since the 1990s. Prior to the European Union's formation, psychology training programs and practice conditions were influenced by each country's educational traditions, employment structures, government involvement, and languages. However, with the establishment of the EU's common internal market in 1993, there was

a substantial increase in the mobility of psychology professionals and the seamless transfer of psychological services across borders. The Bologna Declaration of 1999 further enhanced educational mobility, reshaping the university education system and creating the European Higher Education Area. Additionally, regulations by the European Commission in the 2000s continued to drive these changes forward. Consequently, in September 2005, Directive 2005/36/EC was adopted, establishing a regulatory framework for psychological activities across the 27 EU member states, holding profound implications for both psychologists and their clients.

EU legal initiatives have enabled psychologists to obtain education and practice anywhere within the EU. Additionally, it has also become possible for recipients of psychological services to access competent psychologists in any location within the EU. To ensure the quality of psychological services provided by European professionals, frameworks and standards have been created in the field of psychology for European countries. In 1990, the European Federation of Professional Psychologists Associations (EFPPA) adopted a set of Optimal Standards for the Profession of Psychology (EFPPA, 1990), which outlined the requirements for the content and scope of academic education and levels of professional training for psychologists. The European Network of Organizational and Work Psychologists (ENOP) developed a curriculum structure and minimum standards for these areas of psychology (ENOP, 1998). A team of European psychologists adopted a comparable strategy to develop a framework for academic education and professional training for psychologists in Europe, aligning with the EU's Leonardo da Vinci program (Lunt, 2000; Lunt, 2002ab). A framework for education and training for Psychologists in Europe (EuroPsyT) was adopted by the European Federation of Psychologists Associations in 2001 (Lunt *et al.*, 2001ab). The current tasks of developing Professional Standards in the field of practical psychology are to develop competencies that can be assessed as a common outcome of academic education and professional training, rather than being limited to the completion of an academic training program.

Today, the alignment of academic qualifications at the national level is assessed by the National Academic Recognition Information Centres (NARIC), which operate within the European Network of Information Centres (ENIC) at the European level. A significant advantage of the European psychologist certification model, which allows for a more transparent assessment of compliance with standards and improves the quality of professional services for clients, is the combination of the specifics of educational programs with the specification of competencies of professional psychologists, which are defined in European Certificate in Psychology (EuroPsy). To ensure compliance with various forms of academic education and professional training for psychologists, the EFPA EuroPsy regulation distinguishes

between internships and independent professional activities, the fields of practice in which psychologists work, and the differences in the training and specialization of psychologists (Kim *et al.*, 2022).

EuroPsy enhances the mobility of psychologists and ensures access to quality psychological services across the EU. It sets a standard for basic-level psychological practice, focusing on internships and independent professional activities within one or two practice areas. However, the Basic EuroPsy Certificate is not a license to practice and does not replace national licensing regulations or EFPA rules on EuroPsy. Specialist Certificates are available to certify advanced competence and knowledge in specific fields of psychology. Currently, specialist certificates have been developed in the fields of psychotherapy, occupational psychology, and organisational psychology. The development of the new *Specialist EuroPsy Certificate* will most likely continue to be based on the *Basic EuroPsy Certificate*. In some countries, specialist qualifications or additional training are a mandatory condition for the implementation of individual tasks in the professional activity of a psychologist. Such tasks in the development of the professional development institute in the future may lead to certain restrictions on the conditions, levels, and tasks for confirming qualifications by holders of the Basic EuroPsy Certificate, as well as on conducting independent professional activities. Each EU country will determine this independently but in accordance with the EFPA's EuroPsy regulations adopted in that country.

The EuroPsy framework is guided by several principles aimed at advancing the provision of high-quality psychological services across Europe. It ensures universal access to competent and qualified psychologists, supports their mobility throughout Europe based on recognized qualifications, and safeguards consumers from unqualified practitioners. The certification process emphasizes specialized education, confirmed competence through supervised practice, and adherence to European and national ethical standards. It promotes fairness by avoiding bias based on educational or professional background, prioritizing quality services. Additionally, it mandates continuous professional development and respects existing national standards for psychologists.

In addition, the EuroPsy is designed to ensure a standard of academic education and professional training. In this sense, the goal of EuroPsy is to establish a single standard of competence in all countries where it operates and to promote the free employment of psychologists in the EU countries, as well as in other countries that have adopted this standard.

To qualify for EuroPsy certification, applicants must meet several standard criteria. This includes completing a nationally accredited psychology program at a university or equivalent institution, spanning at least five years of full-time study and totaling 300 ECTS credits.

This education must align with the EuroPsy framework detailed in Appendix II (EuroPsy is a European standard..., n.d.). Additionally, candidates must have undergone supervised practice as a practicing psychologist for a minimum of one year full-time (or equivalent), with their performance evaluated by supervisors (refer to Appendix I and Appendix V). Lastly, applicants are required to submit a written commitment to the National Awarding Committee, pledging adherence to professional conduct principles and ethical guidelines set forth by their National Psychological Association.

Based on the results of the verification of the submitted information, the individual is entered into the Register and receives the EuroPsy Certificate or receives a refusal. The Certificate is valid for 7 years and requires revalidation.

To maintain EuroPsy registration, psychologists must meet two main criteria. Firstly, they must demonstrate enhanced professional competence through documented hours of practice and participation in continuing education, as detailed in Appendix VI. Secondly, they must submit a written commitment to uphold professional conduct standards to the National Awarding Committee. A Registered EuroPsy Psychologist is authorized for independent practice within their specified field as indicated in their Registration Details, assuming no restrictions from national regulations in their country of practice. These standards apply universally in countries where EFPA's Associate Members have adopted EuroPsy and adhere to these regulations.

The Chinese certification doctrine for psychologists. The Chinese Psychological Association first began accrediting psychologists for its official members relatively recently, in October 2008. Candidates for accreditation had to meet the following requirements:

- 1) have at least 8 years (inclusive) of professional experience in the field of psychology;
- 2) have been a professor of psychology for over 8 years (inclusive);
- 3) candidates had to prepare representative high-level works or have a scientific publication in professional psychology journals, and it must be among the top three first prize winners or the top two-second prize winners or national awards.

On December 28, 2023, the "Standards of the Chinese Psychological Association and the Institute of Psychology of the Chinese Academy of Sciences" (Official website of the Institute..., n.d.) were officially released for evaluating the levels of psychological consultants (hereinafter referred to as the "Standards"). Its purpose is to strengthen the professionalism, standardisation and professionalisation of the psychological consultant team and promote the healthy development of China's psychological consulting industry. According to the "Standards", psychological consultants are divided into four levels from low to high: assistant psychological consultant, third-level psychological consultant,

second-level psychological consultant, and first-level psychological consultant, and define the job content and requirements, application conditions and training courses for psychological consultants of different levels. The evaluation of the level of psychological consultants in accordance with the requirements of the "Standards" is jointly conducted by representatives of the Chinese Psychological Association and the Institute of Psychology of the Chinese Academy of Sciences.

It should be noted that to apply for the third level of psychological consultant, candidates are not required to have a bachelor's degree or higher in psychology. It is sufficient to hold an assistant psychological consultant certificate for at least 2 years, completed at least 80 hours of continuing education courses in psychological counselling over the past 2 years (including at least 12 hours of professional ethics courses); or a professional qualification certificate for a social worker, jointly issued by the Ministry of Human Resources and Social Security and the Ministry of Civil Affairs. The only additional requirement for this category of candidates is to complete all courses for the training of third-level psychological consultants. Or candidates who have a bachelor's degree or higher in psychology, education, social work, psychiatry and other specialties in domestic and foreign institutions of higher education recognised by the national education administration, and have completed all courses for third-level psychological consultants. If these courses were taken in a foreign institution, the candidate is exempt from taking them again.

To apply for a second-level psychological consultant, individuals must hold a bachelor's degree or higher and have obtained a third-level psychological consultant certificate for at least 3 years; a second-level professional qualification certificate; or have graduated from a domestic or foreign higher education institution recognized by the national education administration with a master's degree in clinical psychology, counselling psychology, or psychiatry. All candidates must have completed at least 360 hours of counselling in the last 3 years and have received supervision totalling at least 120 hours (including at least 40 hours of individual supervision), and completed all second-level psychological consultant courses. Additionally, candidates must have completed at least 120 hours of psychological counselling in continuing education courses over the last three years, including at least 18 hours of professional ethics courses (Wong *et al.*, 2023).

Candidates for a first-level psychological consultant must have held a second-level psychological consultant certificate for over 5 years; possess a national psychological consultant certificate, a second-level professional qualification certificate, and a second-level psychological consultant certificate for at least 4 years. They must also complete all first-level psychological consultant courses and participate in at least

120 hours of psychological counselling in continuing education courses over the last three years (including at least 18 hours of practical courses in professional ethics). Compared to previous levels, the requirements for a first-level psychological consultant include active scientific research activities, specifically publications on psychological research findings in official journals or at national psychological conferences within the last 5 years. Requirements for practical professional experience and supervision are also increased. Specifically, candidates must have confirmed at least 720 hours of psychological counselling in the last 3 years. Supervision must total at least 120 hours (including 40 hours of individual supervision). Continuing education courses in psychological counselling (including professional ethics of psychological counselling) are required without specifying the volume.

CONCLUSIONS

Based on the foregoing, the author concludes that in all analysed countries, the basis for certifying a specialist is the standards of professional activity in psychology. However, for comprehensive regulation of psychological practice, certification of professional psychological instruments and standards for general requirements for psychological practice are also necessary. These requirements pertain to the process of delivering psychological services itself.

It has been found that the highest level of development of the psychologist certification system is in the USA, Canada, and the UK due to the long history of regulation of psychologists' professional activity. Such legislation has been regulating the profession of a psychologist in all states of America and the District of Columbia for over eighty-five years, and for almost 45 years in all Canadian provinces, with the exception of Newfoundland and Prince Edward Island. The "youngest" is the Chinese psychologist certification system, which was created only in 2008.

Typical requirements for psychologist certification in the USA and Canada include specialised education, licensure for private practice in most states and provinces requiring a doctoral degree in psychology; one or two years of supervised experience; passing examinations; depending on state and provincial laws, requirements may vary regarding age, citizenship status, residency, moral and ethical standards; re-examination periods range from 1 to 3 years.

In the United Kingdom, the professional development of a psychologist consists of three levels: 1) assistant psychologist; 2) continuing education to obtain a Master of Science in Psychology, defending a doctoral dissertation to obtain a Doctor of Psychology (PsyD) or Doctor of Philosophy (PhD) degree, and 3) Chartered Psychologist certification and independent practice. A somewhat similar career development structure for consultant psychologists has been established in China.

According to the “Standards”, consultant psychologists are divided into four levels from low to high: assistant consultant psychologist, consultant psychologist level three, consultant psychologist level two, and consultant psychologist level one, defining the job content, requirements, document submission conditions, and educational courses for psychologists of different levels.

It has been established that typical requirements for a certified psychologist in the EU include: possession of a university diploma in psychology obtained through at least 5 years of full-time study; a minimum of one year of supervised practice (integrated into or supplementary to the university education program); and a signed pledge to adhere to the European Ethical Code for Psychologists.

In addition, an important aspect of the psychologist certification system is the characteristics of its developers in the mentioned countries. Thus, in the USA and Canada, such a developer is the EPPP, which is used by the relevant Licensing Boards for licensing and certifying specialists. As already mentioned, in the UK, career advancement for a psychologist is possible only

on condition of membership in one of the professional organizations – BACP, UKCP or NCS. For EU countries, there is the EFPPA, which has adopted a set of Optimal Standards for Psychology as a profession, which includes requirements for the academic education and professional training of psychologists.

Further research is needed to identify optimal directions for improving the national psychologist certification system, define its typological requirements, and explore the possibilities of transitioning from voluntary to mandatory certification. Also worthy of attention is the study of international experience in the certification of professional psychological instruments and standards of general requirements for psychological practice, which will ensure its comprehensive regulation.

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CONFLICT OF INTEREST

None

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Проблема сертифікації психологів: порівняльний аналіз міжнародного досвіду

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Анотація. Оскільки війна стала серйозною загрозою для національного ментального здоров'я, професійна психологічна допомога стала, як ніколи, актуальною для українців. Необхідність регуляції професії та створення безпечного середовища для споживачів психологічних послуг обумовили запровадження ліцензування та сертифікації психологів. В Україні ця система є недосконалою і потребує оптимізації, одним із джерел якої є вивчення та адаптація найкращого міжнародного досвіду. З огляду на зазначене, метою статті стало вивчення особливостей сертифікації психологів у США, Канаді, Великобританії, Європейському Союзі та Китаї для виявлення перспектив розвитку системи сертифікації психологів в Україні. Основу методологічного інструментарію становив діалектичний метод, а також системний, інформаційний, теологічний та функціональний підходи, завдяки яким вдалося представити особливості сертифікації в сучасних умовах професіоналізації психологічної діяльності. Встановлено, що сертифікація історично була одним із методів вимірювання компетентності в професійній психології. З цією метою професійними товариствами створюються системи добровільної сертифікації. Розглянуто особливості найбільш розвинутих систем сертифікації психологів (США, Канада і Великобританія) та зроблена спроба порівняти їх із аналогічними моделями сертифікації в Європейському Союзі та Китаї. Встановлено типові вимоги до сертифікації психологів у зазначених країнах, серед яких: вимоги до змісту та тривалості спеціальної освіти; вимоги до психологічної практики під супервізією; вимоги до підвищення кваліфікації, як в практичному так і у науково-дослідному напрямках та вимоги до морально-етичних якостей психолога. Оскільки сфера психологічної практики продовжує розвиватися, концептуалізація та вимірювання компетентності психолога є постійним динамічним процесом. Практична цінність результатів полягає в тому, що їх може бути використано для визначення шляхів удосконалення національної системи сертифікації психологів та можливостей переходу від добровільної сертифікації до обов'язкової

Ключові слова: професійна кваліфікація психологів; ліцензування; сертифікація; психологічна практика; система підготовки психологів; супервізія

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Post-traumatic stress in children as a result of war: Strategies for psychological support

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Abstract. Investigation of the early detection and treatment of post-traumatic stress disorder is essential to ensure the healthy development of a child. The purpose of this study was to develop and analyse effective strategies of psychological support to overcome the consequences of this disorder. For this, a survey of children who were in Ukraine during the hostilities was conducted and approaches to helping children who have experienced trauma or war were considered. According to the findings, children who lived in areas where hostilities took place testify to the detrimental impact of traumatic stress on the mental health of young people. Children in primary school may be more likely to display aggressive, withdrawn, and lonely behaviour in addition to post-traumatic stress disorder-induced anxiety. Adolescents who have experienced traumatic stress are more likely to express anxiety, irritability, aggression, and stiffness, as well as symptoms of depression. Thus, younger students who have experienced traumatic stress demonstrate aggressiveness, anxiety, secrecy, and loneliness. Preventive measures are needed to reduce the harmful effects of traumatic events on children's mental health. Implementing interventions that prioritise early detection of trauma, psychoeducation for both children and caregivers, and the creation of a safe and supportive environment is imperative. By prioritising prevention and continuously implementing the innovation, it will be possible to better prepare for the process of overcoming the long-term effects of trauma on the well-being and mental health of citizens, including children

Keywords: psychological education; emotional sphere; therapy; traumatic events; childhood trauma; rehabilitation

INTRODUCTION

Military conflicts and wars always leave deep traumas not only on the battlefield, but also on the civilian population, especially children. Children are the most vul-

nerable group of the population suffering from the consequences of war, as their psyche is not yet formed and is extremely sensitive to external traumatic influences.

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In today's environment, when many countries are facing military conflicts and terrorist threats, the study of post-traumatic stress disorder (PTSD) in children is becoming crucial and relevant. Research on PTSD in children helps to understand the extent of the problem and develop effective strategies for providing support. PTSD in children can have long-term negative consequences for their mental health and social adaptation. This includes an increased risk of depression, anxiety disorders, behavioural problems, learning difficulties, and social integration. Professional psychotherapy, family and community support, and, in some cases, medication are essential aspects. Prompt and adequate psychological support can reduce these consequences and contribute to the healthy development of children. It is difficult to overestimate the relevance of researching PTSD in children who have experienced military action. This issue concerns not only the health and well-being of individual children, but also the stability and prosperity of society as a whole. Developing effective strategies for psychological support is a significant step towards overcoming the consequences of war and ensuring a happy future for future generations. The study of this topic will help to improve the skills of specialists working with children who have survived military conflicts. This will help provide them with the necessary knowledge and skills to provide quality psychological support.

According to L. Ovcharenko (2024), wars and armed conflicts have a devastating impact on all aspects of life, especially on children's mental health. Children who have survived war often face serious psychological trauma, including PTSD. Following K. Andriievskyi (2024), investigation of the impact of war on children's mental health and developing effective psychological support strategies are essential to ensure their well-being. PTSD in children occurs as a result of traumatic events that may be related to war, violence or disasters. According to A. Hilman & N. Kulesha (2022), in children, this stress can manifest itself through various symptoms such as anxiety, drowsiness, dying dreams, aggressiveness, and a sense of loss of control. From a psychological standpoint, PTSD is a negative reaction to stressful events that can lead to dire consequences for a child's mental and emotional health. As K. Borsch (2023) notes, children can also manifest symptoms of behavioural disorders, even anorexia or autism. It is important to understand these psychological effects to provide relevant support and rehabilitation to young victims.

Following O. Izyanova (2023), in Ukraine and many other countries, the research of PTSD in children and the development of effective methods of psychological support are at an early stage. Most existing methodologies are based on the experience of other countries and need to be adapted to national conditions. PTSD in children who survived the war is a fundamental problem that requires a comprehensive approach to address.

According to V.V. Chupryna (2023), the implementation of effective psychological support strategies based on international practices can considerably improve children's mental health and facilitate their return to normal life. Following T. Los (2024), it is vital to use specialised methods, such as self-assessment scales and psychological tests aimed at identifying stress symptoms, to diagnose PTSD in children. Furthermore, clinical observations and interviews with parents help to get a complete picture of the child's mental state. It is vital to pay attention not only to external manifestations of stress, but also to internal experiences, which allows for a more accurate diagnosis and an individualised approach to supporting each child affected by war.

Despite the growing interest in this topic, there are several aspects that are still unexplored or require further investigation. It is essential to examine the effectiveness of state programmes and policies aimed at supporting child survivors of war, as well as the interaction between different state and non-governmental organisations in providing support to children. Thus, the purpose of this study was to examine the impact of military operations on children's mental health and to develop effective strategies for psychological support to overcome PTSD in children who have survived wars and armed conflicts. Objectives: to describe the key symptoms and manifestations of PTSD in children of different ages; to investigate the existing methods and approaches to psychological support to children with PTSD in different countries; to develop concrete recommendations for the government, schools, and NGOs on the implementation of effective psychological support strategies.

MATERIALS AND METHODS

Using the structural-functional method, the key term "post-traumatic stress disorder" was investigated, and the problems faced by children who survived the war were identified. The study investigated the signs and symptoms of PTSD in children. The role of assessment and diagnosis of PTSD in children was analysed. The significance of PTSD prevention strategies in mitigating the impact of traumatic experiences on children's mental health was highlighted. Using the dialectical method, the views of other researchers on this issue were investigated, which helped to formulate a common idea of strategies for psychological support to children with war-related PTSD. Methods of helping children affected by war and other traumatic incidents were considered, which can be found on the Anxiety Canada website (Chorney *et al.*, 2022).

Within the framework of this study, a survey was conducted among young people who were in Ukraine during the hostilities. The experimental basis of the study was an educational institution in Kryvyi Rih district. The sample consisted of 45 children aged 8 to 10, including 29 males and 16 females. To calculate the level of anxiety, the study employed the General

Anxiety scale of the Multiscale Child Anxiety Inventory (MCAI) (Lemak & Petryshche, 2015). Having conducted the survey using the questionnaire, the degree of anxiety was accurately assessed in people aged 7 to 18 years. The scale has ten questions about a child's typical mood. The scale displays the child's overall anxiety level over the previous period. This is due to the child's unique sense of self-esteem, confidence, outlook on the future, and predisposition to various problems. One of the aspects of data processing is determining the score value for a question, which is zero or one. The data collected revealed extremely high, high, medium, and low levels of anxiety.

To investigate the emotional sphere of the child, the Projective Methodology "Cactus" (2015) by M.A. Panfilova was used, namely, to identify the presence of aggression, secrecy, and a sense of loneliness. The Projective Methodology "Cactus" is designed for children over three years old. This method can be used to observe and record behavioural manifestations such as aggression, anxiety, loneliness, desire to protect the home, impulsivity, withdrawal, cautiousness, ostentation and openness, and self-esteem. The respondent receives a sheet of A4 paper, coloured pencils, and a writing pencil for diagnostics. Several features, analogous to all projective methods, are considered when examining the result of this approach, such as the spatial organisation of the drawing, the type of lines used, and the pressure of the pencil. Furthermore, the evaluation uses exclusive metrics from this method, including "cactus image" attributes (wild, domestic, primitive, detailed) and needle attributes (size, location, quantity).

The Children's Revised Impact of Event Scale (CRIES-8) is a method for assessing the psychological impact of stressful events on children aged 8 to 18 years (Revised Child Impact..., 1979). A modified impact assessment scale was used to assess how the traumatic incident affected children and adolescents.

RESULTS

According to research, as many as 80% of children and young people who grow up in developed countries with analogous war experiences may have neuropsychiatric problems and aftermath. Although 50% of children are directly involved in wars and the war process, only 5% have received psychological support during the war process (Biazoli & Pluess, 2022). This situation leads both to certain problems and to the invitation of uncertainty on a vital issue such as peace in society. It is undeniable that psychological support for children and young people can have a positive or negative impact on the future of society, its integrity, and cultural quality.

Childhood is a crucial phase of life, and damage or injury during this stage can have grave and lasting consequences. Wars and conflicts almost always adversely affect the mental health of the population, including

psychological harm, anxiety, depression, suffering, and personality disorders (Bürgin *et al.*, 2022). Thus, children, as the most vulnerable group, suffer the most from the psychological consequences of war. In the early years of development, wars can have a serious impact on children's mental health, as they consider violence as a means of solving problems, which can lead to problems related to a lack of security and peace for society as a whole in the future. War can disrupt the healthy emotional development of children and distort their behaviour, leaving traces in the more mature characteristics and personality development of the future citizen. These circumstances, caused by the war, put the psychological state of children and youth in the spotlight and attract the attention of scientists. The psychological effects of war on children can be extremely serious and long-lasting. Children who have survived war often have problems with anxiety, depression, PTSD, and even speech loss. They may experience fear, panic, and guilt, as well as sleep problems and aggression. The provision of psychological support and therapy is essential to help children recover their mental health and adapt to life after the war.

Several factors influence the development and severity of PTSD in children affected by war (Anthony *et al.*, 2022). The intensity and duration of traumatic experiences play a significant role. Children exposed to prolonged or repetitive traumatic events, such as explosions, witnessing violence or being separated from their families, are more likely to experience higher levels of PTSD. The decisive factor is the age of the child at the time of the injury. Younger children may have a harder time understanding and processing traumatic events, which can contribute to the development of PTSD. Furthermore, the presence of interpersonal support systems such as family, friends, and trusted adults can mitigate the effects of trauma and reduce the risk of PTSD in children. Finally, individual factors such as temperament, coping skills, and resilience also contribute to variations in PTSD outcomes among children affected by war. Notably, the signs and symptoms of PTSD can vary greatly from one child to another. Some children may manifest clearer signs, while others may internalise their distress and cope well on the surface (Powell *et al.*, 2021). It is paramount for caregivers to pay close attention to any changes in behaviour or mood, as this may indicate that the child is struggling with the effects of the traumatic experience. By understanding and recognising the signs and symptoms of PTSD in children, adults can provide suitable support and interventions to help the child on the path to healing.

Children who have experienced trauma may exhibit a wide range of signs and symptoms that indicate their struggle with PTSD. These can include physical symptoms such as headaches, abdominal pain, and sleep disturbances. Furthermore, they may show emotional signs

such as irritability, mood swings, and increased anxiety (McRae *et al.*, 2021). Behavioural changes such as withdrawal from activities they once enjoyed, sudden outbursts or difficulty concentrating are also common indicators of PTSD in children. It is important for caregivers and professionals to be aware of these signs and symptoms, as early recognition and intervention can considerably improve a child's ability to cope with and heal from trauma. Apart from assessing the presence of PTSD symptoms, it is vital to evaluate the impact of the trauma on the child's daily functioning, including academic performance, relationships with peers and caregivers, and overall emotional well-being. This comprehensive examination allows establishing an accurate diagnosis and develop an individual treatment plan according to the child's specific needs. Overall, the assessment and diagnosis of PTSD in children requires a thorough and multifaceted approach to ensure that children receive the support and care they need to heal and recover (Hou *et al.*, 2020).

Assessment and diagnosis of PTSD in children is crucial for providing relevant intervention and support. The assessment and diagnosis of PTSD in children is a complex and multifaceted process that requires consideration of many factors, such as the child's age, the nature of the traumatic event, and individual characteristics. The process involves gathering information from multiple sources, including the child, parents, and other caregivers, and observing the child's behaviour and symptoms (Moner *et al.*, 2022). Standardised diagnostic tools, such as the childhood PTSD symptom scale, can also be employed to assess the severity of PTSD symptoms in children. When assessing and establishing a diagnosis, it is important for mental health professionals to consider the child's developmental stage, cultural background, and individual differences. To assess the degree of anxiety, the General Anxiety Scale of the Multiscale Childhood Anxiety Inventory (MACI) was used (Lemak & Petryshche, 2015). Participants were asked to indicate their level of agreement with ten statements (Fig. 1).

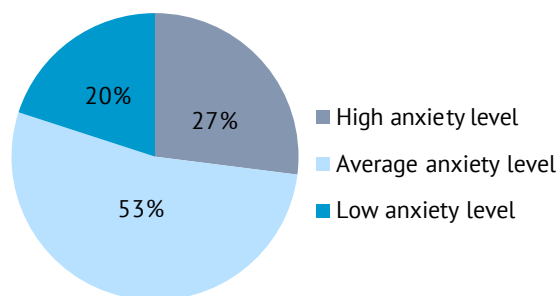


Figure 1. Distribution of anxiety levels

Source: compiled by the authors of this study

Considering this, 12 respondents reported high anxiety levels. Recently, these children have been showing signs of mild depression, moderate anxiety, and

instability of their general emotional state. Children often lack self-confidence, are anxious about their chances in circumstances that are of particular importance to them and doubt their ability to cope with difficult circumstances. They are more or less calm, emotionally stable and able to work, especially when they are already accustomed to the environment and are aware of their responsibilities and appropriate behaviour. Anxiety, worry, internal discomfort, and loss of emotional balance occur when things become more difficult or unusual. 24 respondents had an average level of anxiety. Overall, these people feel calmer. Teenagers are self-confident, logically assess their expectations, and identify obstacles based on the power of objective emotions. When a child's life is in danger, they usually feel threatened. Confidence in one's ability to succeed and resolve conflicts affects behaviour and interpersonal relationships. Children tend to blame when there is a disagreement, take criticism well and believe that they deserve praise and gratitude. 9 respondents had a low anxiety level. The emotional state of children is usually determined by a slightly elevated mood. Despite a generally healthy sense of self-esteem, they often overestimate their abilities. They communicate with teachers and students, approach learning activities with a positive emotional attitude, and have a positive self-perception. They also show self-confidence and a positive attitude towards school. However, low anxiety levels can also be a sign of superficiality in the emotional and sensual sphere, as well as ease and optimism in assessing others. Furthermore, one should not neglect defensive reactions.

The emotional sphere of the child was studied using the Projective Methodology "Cactus" (2015) by M.A. Panfilova, which was aimed at identifying the presence of aggression, secrecy, and a sense of loneliness. The participants were asked to draw a cactus on a piece of paper. The results of the methodology are presented in Figure 2.

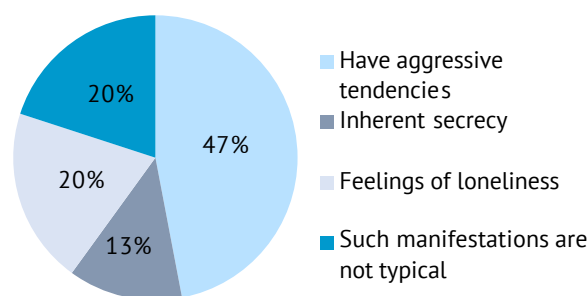


Figure 2. Research of the child's emotional sphere according to the Projective Methodology "Cactus" by M.A. Panfilova

Source: compiled by the authors of this study

A study was conducted to assess the impact of a traumatic incident on children using the modified

CRIES-8 scale for assessing the impact of a traumatic event on children after diagnosing the character-

istics of the impact of traumatic stress on children (Table 1).

Table 1. Results of the CRIES-8 study of the impact of traumatic events on children

Scale	Results
“Intervention”	27% – high level 33% – average level 40% – low level
“Avoidance”	47% – high level 40% – average level 13% – low level

Source: compiled by the authors of this study

On the “Intervention” scale, a low level means that the child needs little or no additional support. A teenager can cope with stress on their own. A moderate level indicates that the child needs more help from adults, such as family members, teachers, or licensed health professionals. A child may feel fear, anxiety, or anger, and therefore it is important to support and help them to resolve this issue. A high level indicates that the child is in immediate need of adult help and support. Extreme fear or anger in a child can lead to behavioural and emotional problems. It is important to provide immediate support to the child and, if necessary, consult a specialist. On the “Avoidance” scale, children with low scores do not show any noticeable avoidance of stressful circumstances. At the average level, the child avoids circumstances related to the trauma a little bit, but this is not a serious obstacle for them. Individuals with high scores clearly avoid stressful circumstances. This can manifest as an unwillingness to take part in concrete trauma-related activities, a desire to stay away from risky circumstances, or an attempt to avoid talking about the trauma. A high degree of avoidance may be a sign of extreme anxiety and terror related to the traumatic experience, which may impair the child’s ability to function in everyday life.

Thus, having analysed the results of this study, it can be concluded that 27% of respondents react to trauma to a high degree, 40% – to a medium degree, 33% – to a minimal degree. When a child shows minimal distress, this indicates that the traumatic event had little impact on them, that their reaction is normal and that they do not need further help. A child who has experienced a moderate traumatic event may show signs of stress, anxiety, or depression in response. The child may experience psychological discomfort and need additional support. A high score indicates that the child has been substantially affected by the traumatic experience and that the adolescent’s reaction may have been significant, showing severe symptoms of stress, anxiety, sadness, and PTSD. An adolescent needs considerable support to cope with the effects of a traumatic event and may also need expert help. The results of psychodiagnostic studies show a substantial impact of traumatic stress on the mental health of children and adolescents. Children

of primary school age may be more prone to anxiety after traumatic stress, in addition to aggressive, withdrawn, and lonely behaviour. Apart from anxiety, irritability, aggressiveness, and stiffness, children who have experienced severe stress are more likely to manifest symptoms of depression. Thus, aggressiveness, anxiety, secrecy, and loneliness are characteristics of primary school children who have experienced traumatic stress.

Prevention strategies play a crucial role in mitigating the impact of traumatic experiences on children’s mental health. It is vital to implement interventions that focus on early detection of trauma, provide psychological education to children and caregivers, and create a safe and supportive environment (Davidson & Ornstein, 2023). Furthermore, future avenues in this area include the development of innovative interventions such as trauma-focused cognitive behavioural therapy, telemedicine services, and school-based mental health programmes. Research and advocacy efforts are also important to increase awareness and understanding of PTSD in children, and to promote policies that support trauma-informed care. By focusing on prevention and continuous innovation, the long-term impact of trauma on children’s well-being and mental health can be better addressed. The findings of the study confirm the idea that the impact of traumatic stress has a detrimental effect on children and adolescents who were in Ukraine during the hostilities. In this regard, it is necessary to develop recommendations for parents on how to help children and adolescents who have experienced traumatic stress. International psychologists have also raised the topic of helping children who have experienced traumatic experiences. Specifically, psychologists D. Chorney *et al.* (2022) have developed the following strategies for helping children traumatised by war and other traumatic situations; they can be found on the Anxiety Canada website:

1. Safety must be prioritised more than anything else. This advice is only applicable if everyone is protected from harm. Children’s basic needs (such as food, shelter, haven, and adequate sleep) should be prioritised if they are difficult to meet.

2. It is important to clarify that the child’s reaction is typical. A child needs help to understand that all their

emotions, including confusion, anger, sadness, and anxiety, are normal and understandable given what they have been through. Adolescents often hide their true emotions out of fear that they are the only ones who share these emotions. Loved ones can tell them that they understand if they are nervous.

3. It is worth remembering that the problem may affect more than just one family member. It should be kept in mind that every family member who has experienced a traumatic event or learned about it from the victim has been examined and treated. Individuals who learn about disturbing or shocking events may also experience traumatic experiences.

4. Children need to have their traumatic reactions explained. Children should be told that their strong emotions are a reaction to “bad things” that have happened in their lives and that they should be understood when they are reminded of the trauma. Any of the five senses – sight, hearing, taste, touch, and smell – as well as any elements associated with the traumatic event, such as the time of day the incident occurred, a specific date on the calendar or a returning visit to the place where the traumatic incident occurred, can serve as “triggers” or reminders.

5. The child needs help to cope with their reaction to the trauma. Adults and children can work together to plan and practice healthy coping strategies if they are aware of things (people, places, situations, sights, smells, memories, internal feelings) that can trigger a serious reaction. Adolescents may learn unhealthy coping mechanisms, such as denying unpleasant emotions, withdrawing emotionally, or not expressing their feelings.

6. The child should be congratulated for good behaviour. Some traumatised children may develop negative behaviours, such as disrespecting others, not following rules or not listening to their parents. Thus, it is crucial to make time every day for “bonding” with children. When a child is misbehaving, they can be distracted by praising their traits that adults want them to show more of, such as cooperation, friendliness, and emotional control. If the child is behaving aggressively, they should be given full attention and praise for any times they are behaving well towards others or themselves.

7. The child needs help to relax. To help the child relax, one can try to slow down their breathing, repeat muscle tension and relaxation, engage in physical activity, and not give in to their feelings. While some children and adolescents prefer quieter, more soothing activities such as reading or drawing, others will prefer more energetic activities such as dancing or singing. Whichever method is chosen; one should help their child to use this relaxation technique if it is noticeable that their body is tense. In this way, children can learn to calm down before they become overwhelmed.

8. It is necessary to help the child to address objects that gradually begin to trigger memories of the trauma. One can find objects for children that remind

them of the trauma (e.g., safe situations or memories). They can be encouraged to write and discuss, for instance, the events leading up to, during, and after the traumatic event. One can try to express their feelings and thoughts during a traumatic event, such as war, in writing. This will help the child understand what happened and its consequences.

9. If necessary, expert help should be sought. Many people treat trauma without the help of a professional. However, getting professional help can be helpful, especially if the symptoms of traumatic stress last longer than a month.

Considering the findings of the study and the lives of children and adolescents in war-torn Ukraine, it is important to pay attention to the advice parents can give to help their children and adolescents who have experienced severe stress. Parents can help their children and adolescents by showing them that they are always there for them in times of need, and by providing them with physical and emotional support. Children should always be listened to, given the opportunity to express their feelings, and never be dismissed as unjustified or bad. It is important to discuss current events in their country or local area with children. A teenager or child may feel anxious or worried if they are unaware of what is happening around them. But one should act with caution and responsibility. It is important to choose a language that the child can understand and to limit the information according to the child’s developmental stage and point of view. It is vital to help children return to normal life. Maintaining a consistent routine of eating, sleeping, exercising, and resting can also help restore children’s psychological resilience. One should allow their child to see classmates and friends. When it comes to reducing feelings of isolation and loneliness, social support is crucial. It is important to encourage children to relax and have fun. One can include anything from sports and games to artistic endeavours or leisure activities. It is essential that a child believes that they can enjoy life and that there are good things in it. Sometimes it is useful to seek professional help for mental health issues. Children and adolescents with severe emotional and behavioural problems caused by traumatic stress can benefit from it.

If children and adolescents who have experienced traumatic stress follow these principles, they will be better able to cope with negative symptoms such as anxiety, anger, despair, loneliness, frustration, withdrawal, and rigidity. Furthermore, the implementation of these suggestions can enhance a favourable social atmosphere, especially between parents and children, which is particularly useful in conflict situations. It is crucial that therapists implementing evidence-based treatments for children with PTSD have a good understanding of how trauma-related mental health problems can affect children and whether treatments need to be adapted to the cultural context in which

children live. In conclusion, there is accumulating evidence that war-related PTSD is a substantial stressor in children's lives and leads to significant psychological impacts before the age of 10. Furthermore, assessment and intervention tools in Mental Health and Psychosocial Support (MHPSS) programmes should be based on a well-organised, multi-tiered approach to be able to understand and address children's needs and circumstances. Interventions for traumatised children affected by war and war-related oppression and violence should be based on scientific knowledge. There are several evidence-based treatments for PTSD in children after a single trauma. Treatment methods for refugee children are modifications of several of these methods and include psychoeducation, resocialisation techniques, school programmes, and cultural adaptation of both assessment and treatment.

It is vital to understand the profound impact of war on the mental health of civilians to develop effective measures and support systems. Addressing the mental health of war-affected populations can help break the cycle of trauma and promote healing and resilience in individuals and communities affected by conflict. This requires a multifaceted approach that addresses the social, economic, and political factors that contribute to mental health problems, as well as ensuring culturally appropriate and evidence-based access to mental health. The impact of war on the mental health of civilians is further exacerbated by the lack of access to mental health services and support. Many war-affected populations have limited or no access to adequate mental health care, forcing them to cope with the psychological consequences of war unassisted. Furthermore, the stigma of mental illness in some cultures can prevent people from seeking help, further perpetuating the cycle of suffering. War has a profound impact on the mental health of civilians living in conflict-affected areas. The constant threat of violence, loss of loved ones, and displacement can lead to a wide range of mental health problems, including PTSD, anxiety, depression, and other psychological disorders. The psychological trauma caused by war can have long-term effects on individuals, families, and communities, contributing to a cycle of violence and instability.

DISCUSSION

PTSD is a serious psychological problem that can occur in children who have experienced horrific events such as war. Military conflicts, violence, loss of loved ones, and forced migration are factors that can have a strong impact on children's mental health. Understanding the characteristics of PTSD in children and developing effective psychological care strategies are critical to supporting their healthy development and well-being.

Everyone experiences stress because life is full of changes and adjustments due to almost daily events. However, from time to time, something can happen

that is so terrible and overwhelming that it breaks a person's heart and makes them feel completely powerless. This occurs when typical coping mechanisms fail, and the person is faced with a threat to life, risk of injury, or loss of safety or sanity. S. Musisi & E. Kin-yanda (2020) found that when someone experiences a traumatic event that makes them feel powerless in the face of intolerable danger, anxiety, and over-arousal, it is called trauma. Such traumatic experiences can lead to a set of severe, long-lasting, physically, emotionally, and cognitively disabling symptoms, collectively referred to as PTSD.

According to the present study, PTSD is often associated with complications such as depression, anxiety attacks, aggressive, withdrawn and lonely behaviour. The idea that the symptoms of PTSD are common to all cultures has sparked much discussion and research. Thus, according to P.J. Bracken *et al.* (1995), PTSD is a peculiar construct of the West, while D. Summerfield (2001) objected that PTSD is universal to non-Western cultures. Nevertheless, a core group of symptoms that are present in all societies and cultures has been identified by numerous researchers as the core syndrome of PTSD as defined by the DSM-5 and ICD-10. The concept of "post-traumatic culturally related syndromes" arose from the study by J.K. Boehnlein (2001) on how PTSD symptoms manifest in different cultural contexts and how common physiological processes such as nightmares are interpreted. The researcher concluded that a fuller understanding of human suffering can be achieved in caring for victims by understanding cultural metaphors, observing somatic (body) language and listening to literal (spoken) language at the same time.

According to C.A. Nelson *et al.* (2020), poor mental health is associated with traumatic or psychologically stressful life events. This is especially true for individuals who were exposed to childhood abuse, as evidenced by the present theoretical and empirical research, as this can increase the risk of PTSD, depression, and outward behaviour. War is often associated with negative life events, such as direct or indirect exposure to violence, conflict, and bombing, as well as factors that lead to forced displacement and precarious living conditions. As noted by V. Kovess-Masfety *et al.* (2021), this causes a deterioration in mental health in the future, especially affecting the development of PTSD. In 2022, according to D. Smeeth *et al.* (2023), there were over 100 million displaced people worldwide, many of them under the age of eighteen and survivors of war. Having analysed the studies by the researchers, it can be concluded that a more profound understanding of the relationship between the impact of previous war, current life circumstances, and mental health is needed.

As has already been established, psychological treatment is needed to support these children as an urgent intervention. According to the survey results, it was found that such shocking events as war leave a

deep imprint, disrupting the development of the individual as a whole, and the consequences of war events are manifested primarily in the emergence of negative psychological conditions in children traumatised by war. Having conducted research in this area, A. Maercker *et al.* (2022) note that children can live with PTSD for a long time without any disorders. However, it is quite common for many children to experience various behavioural symptoms in preschool. The child's psychological development is blocked: unconscious self-searching intensifies; terror and nightmares are frequent; moaning, crying, and fear prevail. Due to fear, the child does not sleep well; the child is shy and keeps away from peers.

Considering the findings of the study, the most popular methods of helping children with PTSD as a result of the war were analysed and recommendations were developed for the prevention of this syndrome. It is important to implement effective interventions that focus on early detection of trauma, which will play a crucial role in mitigating the impact of traumatic experiences on children's mental health. Overall, according to A.F. Alzaghoul *et al.* (2022), effective psychological care for children who have experienced war-related PTSD requires a comprehensive approach that accommodates the unique needs of each child and their family, as well as the broader social and cultural context in which they live. By implementing such strategies, mental health professionals can play a crucial role in supporting the recovery and well-being of vulnerable children. Furthermore, B. El-Khodary & M. Samara (2019) note that the use of creative and expressive therapies, such as art and music therapy, can provide children with alternative ways to process their emotions and experiences. Creating a sense of routine and predictability can also be beneficial for children who have experienced war-related trauma, as it can help them feel safe and in control. Building resilience and coping skills through psychoeducation and support groups can enable children to better manage their symptoms and overcome the challenges they face. According to the findings of C.Y. Xian-Yu *et al.* (2022), strategies may include providing a safe and supportive environment for children to express their feelings, using evidence-based therapies such as cognitive behavioural therapy and play therapy, and involving the family in the treatment process. It is also important to add that mental health professionals working with these children need to be well-trained and ethically competent, as they may be dealing with complex issues related to the impact of war on a child's psychological state.

In their research, D. Bürgin *et al.* (2022) note that families and communities play a crucial role in supporting children with PTSD by creating a supportive environment and a sense of security and stability. When children face war and its traumatic effects, their families and communities can offer emotional support, reassurance, and understanding. It is important for caregivers

to have a basic understanding of PTSD and its symptoms to offer suitable support and care to affected children. Furthermore, communities can provide resources such as mental health services, support groups, and educational programmes to address the psychological needs of children affected by war-related trauma. By creating an environment of support and understanding, families and communities can help children develop resilience and cope with PTSD. Moreover, they can also promote a sense of belonging and connection, which is essential for the recovery process. Through these strategies, families and communities can play an important role in supporting the well-being and recovery of children affected by war-related PTSD.

PTSD in children as a result of war is a complex and multifaceted phenomenon that requires a comprehensive approach to treatment and support. Developing and implementing effective psychological support strategies is crucial to ensure the healthy mental development of children who have experienced military conflict. The integration of psychotherapy, social support, and preventive measures can considerably improve the quality of life of children and their chances for successful adaptation and recovery.

CONCLUSIONS

Children who have experienced trauma may manifest a variety of signs and symptoms that point to PTSD. These can include physical symptoms such as headaches, abdominal pain, and sleep disturbances. They may also exhibit emotional symptoms such as irritability, mood swings, and increased anxiety. PTSD in children is also often manifested by behavioural changes, such as withdrawal from activities they once enjoyed, uncontrollable outbursts, or problems with concentration. It is crucial that professionals and carers are aware of these symptoms and indicators, as early detection and treatment can significantly increase a child's ability to recover from trauma. To offer the suitable kind of support and intervention, it is crucial that children with PTSD are assessed and diagnosed. It is important to assess the impact of the trauma on the child's daily functioning, including academic performance, peer relationships, interactions with caregivers, and overall emotional well-being, in addition to determining whether there are symptoms of PTSD.

The results of psychodiagnostic studies of children who were in Ukraine during the hostilities show that traumatic stress has serious negative consequences for the mental well-being of children and adolescents. Children may be more prone to anxiety after traumatic stress, in addition to aggressive, withdrawn, and lonely behaviour. Adolescents who have experienced traumatic stress are more likely to show depressive symptoms in addition to anxiety, irritability, aggression, and stiffness. Thus, aggressiveness, anxiety, secrecy, and loneliness are characteristics of young people in primary school who

have experienced severe stress. Preventive methods are needed to reduce the negative impact of traumatic events on children's mental health. It is essential to implement interventions that emphasise early detection of trauma, psychoeducation for children and caregivers, and the creation of a safe, supportive environment.

The findings of the study confirm that the impact of traumatic stress has a detrimental effect on children and adolescents who were in Ukraine during the hostilities. Particular attention should be paid to methods of providing support to children who have experienced trauma from war and other traumatic incidents. The study encountered limitations in the form of parents' and/or children's refusal to take the survey, as well as

the difficulty of obtaining answers from children, as they are still experiencing stressful situations. One of the key areas for future research is to investigate the long-term effects of PTSD in children who have experienced war. This includes analysing how PTSD affects subsequent mental health, social skills, and academic performance. It is important to identify factors that contribute to the persistence or worsening of symptoms over time.

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CONFLICT OF INTEREST

None.

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Посттравматичний стрес у дітей в наслідок війни: стратегії психологічної допомоги

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Анотація. Вивчення раннього виявлення та лікування посттравматичного стресового розладу необхідне для забезпечення здорового розвитку дитини. Метою дослідження була розробка та аналіз ефективних стратегій психологічної допомоги для подолання наслідків цього розладу. Для цього було проведено опитування дітей, які перебували в Україні під час бойових дій, та розглянуто підходи до допомоги дітям, які пережили травму чи війну. Згідно з даними досліджень, діти, які перебували на територіях, де відбувалися бойові дії, свідчать про згубний вплив травматичного стресу на психічне здоров'я молоді. Діти в початковій школі можуть частіше проявляти агресивну, замкнуту та самотню поведінку на додаток до тривоги через посттравматичний стресовий розлад. Підлітки, які пережили травматичний стрес, частіше проявляють тривогу, дратівливість, агресію та самотність, а також симптоми депресії. Отже, молодші школярі, які перенесли травматичний стрес, демонструють агресивність, тривожність, скритність, самотність. Щоб зменшити шкідливий вплив психотравмуючих подій на психічне здоров'я дітей, необхідні профілактичні заходи. Впровадження втручань, які надають пріоритет ранньому виявленню травми, психоосвіті як для дітей, так і для опікунів, а також створення безпечного та сприятливого середовища є обов'язковим. У випадку надання пріоритету профілактиці та безперервного впровадження інновації буде можливість краще підготуватися до процесу подолання довгострокових наслідків травми для благополуччя та психічного здоров'я громадян, зокрема дітей

Ключові слова: психологічна освіта; емоційна сфера; терапія; травматичні події; дитяча травма; реабілітація

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The media-psychological model of environmental risk perception

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Abstract. The article presents the results of a theoretical analysis on the topic of media-psychological aspects of the perception of environmental risks and the presentation of the author's media psychological model of the impact of media messages on the perception of environmental risks. The presented model examines the processes and stages involved in the initial encounter with environmental risk messages in the media and the further outcomes of their processing which can manifest in information-seeking behaviour. According to the presented model, changes in risk perception are considered a series of stages initiated by attention to information and can continue when information-seeking behaviour is triggered. The main models relied on by the author of this study are the Limited Capacity Model of Motivated Mediated Message Processing to describe media message processing and the Risk Information Search and Processing Model to describe aspects of information-seeking behaviour. Several additional communication models dedicated to the consideration of information behaviour and processing of media messages were also used to describe the processes of mass media influence on the perception of environmental risks. Thus, dual models of information processing and persuasive communication are also considered, including the Heuristic-Systematic Model and the Elaboration Likelihood Model, as well as additional theories examining information-seeking behaviour: the Theory of Motivated Information Management and the Planned Risk Information Seeking Model

Keywords: risk perception; risk communication; risk information seeking; environmental risks

INTRODUCTION

Sustainable development and resilience to various kinds of environmental threats depend on laypeople's ability to understand and adequately interpret risk-related information and form informed opinions about environmental issues and threats and their impact on society and themselves personally. It is clear that risk perceptions influence individual decision-making processes, especially in terms of disaster preparedness and behaviour during disaster (Hernández *et al.*, 2018; Li *et al.*, 2024) as well as being a strong mediator of pro-environmental behaviour (Zeng *et al.*, 2020) because it determines what hazards and issues people worry about

and how they see possible ways to deal with them (Paek & Hove, 2017). In addition, the raised issue is of particular relevance in the current situation, which an increasing number of scientists and policymakers characterise as a "polycrisis" (Lawrence *et al.*, 2024) producing an ever-increasing number of intertwined risks faced by both social systems and individual subjects. One of the important components of this situation in which modern society finds itself is environmental problems and associated risks, both chronic and acute. Moreover, Ukrainian society is now faced with a huge number of new, previously unknown environmental

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and technogenic threats associated with a large-scale war (e.g., higher risks of nuclear incidents, flooding as a result of dam destruction, demolition waste etc.) or an extreme aggravation of already existing negative eco-tendencies, which have significant adverse and sometimes catastrophic consequences for the state of the environment, public health and the functioning of the social system.

It can certainly be stated that the mass media are one of the most important sources of information for the public when dealing with environmental and technogenic risks (Klößner, 2015). The mass media play an important role in shaping public perceptions of risk serving as a “social amplification station” interpreting and disseminating information about environmental risks into a form understandable to the public by either amplifying or attenuating public risk perception (Kasperson *et al.*, 2022).

The goal of objective and adequate risk communication practices in the media is not to cause motivated reasoning and defensive processing but, on the contrary, to capture and maintain attention, enhance the retention of information related to the message, and shape risk perception in order to impact future behaviour in ways that minimise the negative impact of environmental risks and their consequences. However, it is worth noting the significant problems and obstacles that accompany risk communication during the war and which may undermine effective risk communication attempts. Regarding environmental risks, several examples of such negative information impacts can be given, such as the spread in January 2024 of a fake message, allegedly from the State Emergency Service, about damage to the Khmelnytsky Nuclear Power Plant by a Russian strike and the need to download an electronic evacuation plan via a suspicious link (Ukrainians started sending fake..., 2024), or the dissemination of information that the authorities declare an emergency state of the Kyiv Hydroelectric Power Plant and the possibility of catastrophic flooding of Kyiv and some nearby areas, although no official statements from the authorities have been received (Balyuk, 2023). Thus, the questions raised prompt to consider the psychological and communicative processes involved in the influence of media communication on the perception of environmental risks.

LITERATURE REVIEW

Attention. Attention is one of the fundamental constructs in media studies, as confirmed by a large, multi-year body of research examining various forms of attention (Verschooren *et al.*, 2019; Thompson & Coen, 2021; Fisher *et al.*, 2023). Since early research, attention has been viewed as a prerequisite for message reception (Chaffee & Berger, 1987) and as an antecedent, moderator, or goal in a variety of communication theories and models (e.g., Elaboration Likelihood

Model) (Petty & Cacioppo, 1986). Considering attention and incorporating it into the model as a separate element becomes more important given the increasing multitasking nature of media usage and the sheer volume of media information in total (Lopez *et al.*, 2018; Segijn *et al.*, 2018). Risk and crisis communication researchers have also long argued that risk communication must take into account not only the dissemination and reception of information but also the problem of attention to the message (Wogalter, 2018; Li *et al.*, 2023).

Both exposure and attention are essential prerequisites for the effectiveness of persuasive communication and the acquisition of new knowledge (McGuire, 1989), but attention should be distinguished from similar but different concepts such as exposure. Media exposure refers to the amount of media content individuals hear or see in relation to specific messages (Li *et al.*, 2017a). For instance, individuals who are consistently exposed to environmental information are inclined to view environmental values as significant, have a more extensive understanding of environmental issues, and hold favourable views towards environmental conservation (Huang, 2016; Liao *et al.*, 2016). However, mere exposure does not determine whether cognitive resources will be allocated to processing a media message. People can be exposed to information without paying attention to it and can direct their attention towards different information and things with different intensities (Kahneman, 1973). Even though exposure to media material has occurred, there may be significant differences in the level of involvement and attention to the message and, accordingly, the degree of its processing. Thus, media attention is the basis for active participation in communication and serves as the stable foundation for processing and incorporating information into the structure of one’s own knowledge (Ho & Yang, 2018).

A lot of environmental risks often have no immediate impact (Hansen, 1991; Weber, 2010). Such risks often do not evoke immediate emotions (as in the case of direct personal risks) and are difficult to conceptualise. This difficulty arises due to the somewhat abstract nature, causal complexity, and significant time extension of these risks (Weber, 2006). In relation to environmental risks, K. Mrkva *et al.* (2021) have shown that simply paying attention to such risks can amplify the perceived severity of these risks because attention increases the fear and distinctiveness of attended risks. That is an important factor, especially in relation to impersonal and abstract risks such as climate change. Moreover, when it comes to environmental risks with high catastrophic potential (risks of man-made disasters and natural disasters), attention to risk communications is the initial stage in making decisions regarding preventive measures (Lindell & Perry, 2012). Thus, among other things, successfully attracting attention to risk messages (e.g., alerts and warnings) and their elements is a crucial task for risk communication.

Information processing and communication theories have demonstrated that people have a limited amount of mental resources to process all stimuli in a noisy media environment and will selectively attend to some of the information and only a limited number of media messages they encounter (Lang, 2017; Leung, 2020; Fisher *et al.*, 2023). Attention can be described as a finite resource for processing information (Wickens, 1980). Another perspective on attention views it as a mechanism for selecting which information to prioritise for processing (Chun *et al.*, 2011). M.D. Slater *et al.* (2009) describe media attention as the conscious allocation of cognitive resources towards specific types of media messages. Thus, attention is considered, on the one hand, as a filter that selects elements for subsequent processing from the volume of media exposure, and on the other hand, as a means of maintaining information processing.

One of the promising ways of considering the problem of attention in multimodal media space and multimedia multitasking is the approach in which attention is described in terms of “priority maps” that integrate top-down, bottom-up, and selection history to guide information processing (Fisher *et al.*, 2023). As such, attentional priority is a joint product of multiple control mechanisms that may cooperate or conflict with each other. The first is salience or the degree to which a stimulus stands out from surrounding stimuli. Secondly, the features of the goal-relevance of the stimulus. Third, selection history relates to lingering selection biases that are unrelated to top-down control or the salience and distinctiveness of objects and is associated with the history of selection episodes from the past and previous experience (Awh *et al.*, 2012; Chelazzi & Santandrea, 2018). At the same time, some authors suggest that the learning mechanisms underlying attentional capture driven by outcome-independent selection history differ qualitatively from those underlying value-driven attentional capture (Anderson & Britton, 2019) and also consider different mechanisms and components of experience-driven attention that collectively constitute selection history (Anderson *et al.*, 2021).

MATERIALS AND METHODS

Information seeking and processing. In recent years, in the field of communication research, considerable attention has been paid to information-seeking behaviour, especially about risk. Risk information seeking is usually described as a goal-directed information-gathering behaviour that can be carried out with varying degrees of intensity, including the use of various communication channels, both indirect and interpersonal. It is driven by personal goals, involving a range of cognitive and emotional motivations (Griffin *et al.*, 2013). During the history of studying information-seeking behaviour related to risk information, various conceptual models and theories mapping individual and social

cognitive motivators of risk information seeking have been proposed, which in some aspects may overlap and use common constructs or incorporate elements of previously developed models to explain information-seeking behaviour. Among such frameworks, several that have a fairly long history of research and an accumulated evidence base can be highlighted: *The theory of motivated information management* (TMIM), which examines the relationship between information behaviour and uncertainty (Afifi & Weiner, 2004), *the Risk Information Seeking and Processing Model* (RISP) which explains the factors and mechanisms underlying risk information seeking and processing (Griffin *et al.*, 1999); and *the Planned Risk Information Seeking Model* (PRISM), which focuses on purposeful risk information seeking behaviour (Kahlor, 2010). Each framework will be briefly discussed further.

Concerning the object of study, the RISP model formulated by Griffin *et al.* (1999) stands out as one of the most detailed models designed to unravel the psychological, communicative and social factors conditioning risk information seeking and processing. The RISP predictions have, for the most part, been substantiated by the results obtained thus far; for example, a meta-analysis of empirical RISP studies concluded that “Overall, the RISP model exemplified excellent explanatory power in analyses with information seeking and systematic processing as the outcome variables” (Yang *et al.*, 2014, p. 34). Since its original development, the RISP model has been used in empirical studies in a variety of risk communication settings to consider risk information behaviour (mainly seeking) and processing risk-related information (Yang *et al.*, 2014). It combines theoretical ideas represented by the Heuristic-Systematic Model (HSM) of the information process (Eagly & Chaiken, 1993) and the theory of planned behaviour (TPB) (Ajzen, 1991). The RISP model has been applied to various environmental risks including, but not limited to, climate change (Yang *et al.*, 2014a), air pollution (Rose *et al.*, 2017), disaster resettlement (Shi *et al.*, 2020) various pollutants (Hovick *et al.*, 2020), water quality and contaminated fish consumption (Kahlor *et al.*, 2004) and flooding (Griffin *et al.*, 2008). The model suggests different characteristics of people that may predispose them to seek risk-related information. RISP posits that feelings of information insufficiency (*the need for information as a person perceives it*), beliefs about relevant channels, and perceived ability to gather information (*a person's belief in their ability to find and understand information*), alongside indirect predictors that include perceived hazard characteristics (*an individual's perceptions of risk*), subjective norms about information (*a person's perceived social pressure to obtain information*), affective reactions (*fear or worry*), and various individual characteristics, will play a role in motivation to seek and process information about risk (Griffin *et al.*, 2013; Dunwoody & Griffin, 2015). The

concept of information insufficiency is a key element in the RISP model. It pertains to an individual's perception of the disparity between available knowledge and the necessary knowledge to effectively address a specific risk, also known as the "sufficiency threshold". Thus, the feeling of information insufficiency is considered a direct motivator for information-seeking behaviour (Dunwoody & Griffin, 2015).

The PRISM is primarily an extension of RISP but more systematically involves elements of the theory of planned behaviour. According to this framework, the seven main factors that shape information-seeking intention include: (a) subjective norms associated with searching, (b) attitudes toward searching, (c) perceived current knowledge, (d) perceived search control, (e) perceived lack of knowledge, (f) risk perception, and (g) emotional response to risk (Kahlor *et al.*, 2019). PRISM has also been used to study information-seeking behaviour related to environmental risks, and support for the model has been firm across various fields including hydraulic fracturing (Eastin *et al.*, 2015), earthquakes (Li *et al.*, 2017b; Kahlor *et al.*, 2019), nuclear energy (Zeng *et al.*, 2017), flooding (Stephens *et al.*, 2023), and climate change (Ho *et al.*, 2014). As such, the model offers a viable point for understanding risk information-seeking intent in the context of environmental risks.

The Theory of Motivated Information Management (TMIM) is built upon traditional frameworks like the uncertainty reduction theory (Berger & Calabrese, 1975). TMIM posits that individuals go through three stages when faced with uncertainty: interpretation, evaluation, and decision. The interpretation commences with the identification of a perceived uncertainty gap. The gap lies in the difference between an individual's current degree of uncertainty and the preferred degree of certainty. TMIM argues that recognising this disparity between desired and actual uncertainty levels leads to anxiety, which then motivates the move to the evaluation and decision stages. Individuals, when faced with heightened uncertainty and feelings of anxiety, engage in a process of evaluating potential outcomes and their own ability to alleviate anxiety through information seeking. The evaluation of the costs and benefits associated with seeking information will impact how information is managed. Furthermore, individuals evaluate their capacity to handle the information received (coping effectiveness), successfully search for information (communication effectiveness), and view the information source as competent and trustworthy in providing the necessary information (target efficiency) (Afifi *et al.*, 2015). The TMIM was primarily developed to examine interpersonal contexts and health-related topics; to date, it has not received significant use or validation in relation to environmental risks, partly because it was originally developed for other purposes (Kuang & Wilson, 2021).

The considered models have common elements regarding the motivating factor of information-seeking

behaviour and are somehow based on the sufficiency principle of the Heuristic-Systematic Model (HSM). Taken together, it can be broadly said that the main motivation for information-seeking behaviour is as follows: a) uncertainty and a sense of lack of information, leading to an unfulfilled need for additional information, b) perceived ability to effectively seek and cope/interpret information, c) perceptions of risk and associated emotional reactions, and d) perceived social expectations about the need to seek information.

Information processing plays a crucial role in understanding how risk information influences risk perception. Communication and psychological studies have produced several theories and models that focus on the processing of information and persuasion. The first theories represent a dual-process approach to theorising message processing, attitude formation, and persuasion phenomena, which postulate that persuasion and message processing operate through two different modes of information processing. One requires more cognitive effort and systematic processing of information, while the other requires fewer resources and operates more automatically (Evans, 2008). Two of the most notable dual process models which can be used to consider information processing are the Elaboration Likelihood Model (ELM) (Petty & Cacioppo, 1986) and the Heuristic-Systematic Model (HSM) (Chaiken, 1987).

The ELM and the HSM share several similarities, which can be summarised in the following points. Firstly, they both assert that persuasion can occur through two distinct modes of information processing. Secondly, these models recognise that the desire for accuracy plays a significant role in influencing information processing. However, this motivation for accuracy does not necessarily eliminate bias in the processing of information; factors such as prior knowledge and existing attitudes towards a particular issue can influence how individuals process information. Thirdly, they propose that people tend to conserve cognitive resources even when they want their judgments to be correct. Lastly, they emphasise that a person's motivation and processing ability are crucial factors in determining the primary processing mode. In existing ELM and HSM studies, it has been identified that certain factors can impact information processing ability. Among them are such factors as distraction, time pressure, problem knowledge, and message repetition (Gawronski & Creighton, 2013; Xu, 2017). A more detailed review of these models and their differences can be found in relevant studies and is beyond the scope of the current article.

It is important to note that the RISP model also considers message processing and relies on dual models to describe this process, in particular, the Heuristic-Systematic Model (HSM). The HSM itself as a theoretical framework for studying environmental risk information processing has also been tested empirically (e.g., for studying risk information processes following

a nuclear incident (Yeonjae & Seoyong, 2015)). In this sense, some overlap may be found with the views of P. Slovic *et al.* (2004), who propose that risk perception can be understood as a dual process that combines both cognitive and affective systems. The risk-as-analysis system is characterised by its analytical, rational, controlled, and goal-oriented nature albeit being labour-intensive and unhurried in adhering to normative principles of probability in order to generate behaviour that is logical and reason-driven. In contrast, the experiential, automatic, and intuitive risk-as-feeling system operates swiftly, although it may be less precise, being more attuned to heuristics, associations, images, emotions, and feelings.

These interconnected information processing systems, which often operate simultaneously, are believed to collaborate in influencing the cognitive processes involved in perceiving and evaluating risks. This phenomenon has been referred to as the intricate interplay between emotions and rationality, which has been named the “dance of affect and reason” (Finucane *et al.*, 2003).

Other theories, among which the Limited Capacity Model of Motivated Mediated Message Processing (LC4MP) (Lang, 2000), can be distinguished. This model is devoted to a detailed consideration of the mechanisms and subprocesses through which media messages are processed. LC4MP provides a conceptual framework for viewing media communication processes that can be used to consider communication in a variety of contexts, including environmental risks. Because environmental risk communication often conveys complicated information in multiple modalities (e.g., text, images, and video), the LC4MP is a useful theoretical framework for investigating how individuals process those messages, since it looks at message processing without focusing on the specific type and modality of information embedded in the message.

This model is based on a cognitive approach and views people as processors with limited information processing capabilities. Research using this model has revealed a complex interaction between individual differences (e.g., sensation seeking and individual differences in motivation), stimulus variables (e.g., content and message structure features), and time. The LC4MP has proven its practical usefulness for developing media messages in a variety of contexts, including persuasive messages, news, video games, risk communication campaigns, and more (Lang *et al.*, 2013; Fisher *et al.*, 2018a; Fisher *et al.*, 2018b). The LC4MP model conceptualises media message processing as the interaction of three subprocesses that occur dynamically, continuously, and simultaneously: encoding, storage, and retrieval (Fisher & Weber, 2020). The LC4MP theory posits that the human processing system has a limited capacity and operates with a single pool of cognitive resources that are divided into categories such as resources required, resources allocated, resources available, and resources

remaining (Lang, 2006). Within the LC4MP framework, it is suggested that resources are dynamically distributed to encoding, storage, and retrieval processes, with the consumption rate of these resources being dependent on the complexity of the message.

Based on LC4MP, these processes operate concurrently and persistently while engaging with media. The individual’s objectives, message content, and structure consistently trigger the automatic and controlled distribution and redistribution of resources for encoding, storage, and retrieval. These resources are independently allocated among three subprocesses from a single finite pool of resources. The primary variables of LC4MP include the medium, structure, content, and goal of a message, which are believed to interact with each other and with the attributes of the message recipients to influence the outcomes of communication (Lang *et al.*, 2006).

Encoding refers to the act of constructing a mental image of a stimulus. It is the process by which information from the message is selected for further processing. In order for information to be encoded, a person must controllably (consciously) or automatically allocate some resources to it. Storing a message involves linking encoded information with already accumulated information. When a cognitive resource is allocated to process a media message, it is encoded. Resources can be allocated in a controlled or automatic manner.

Storage is understood as linking newly encoded information with previously stored information. The simultaneous activation of these processes strengthens the connection between new and existing information. As a result, a dynamic cognitive representation is created when new information is encoded or when previously stored information is retrieved. This simultaneous activity strengthens the connection. Therefore, the greater the number of connections a new piece of information forms with existing information, the more effectively it is retained. In this way, this process is understood as the procedural inclusion of encoded information in an associative structure and describes how information is incorporated into long-term memory.

The third subprocess is retrieval. This subprocess involves reactivating stored information for concurrent and parallel information processing. The volumes of extracted related information depend on the allocated resources. Thus, within this model, retrieval can be described as searching the associative memory network for a specific piece of information and then returning it to working memory through reactivation (Lang, 2000).

RESULTS AND DISCUSSION

The model was built taking into account the passage of three main stages: 1) exposure and attention filter; 2) message processing; and 3) information-seeking behaviour (Fig. 1).

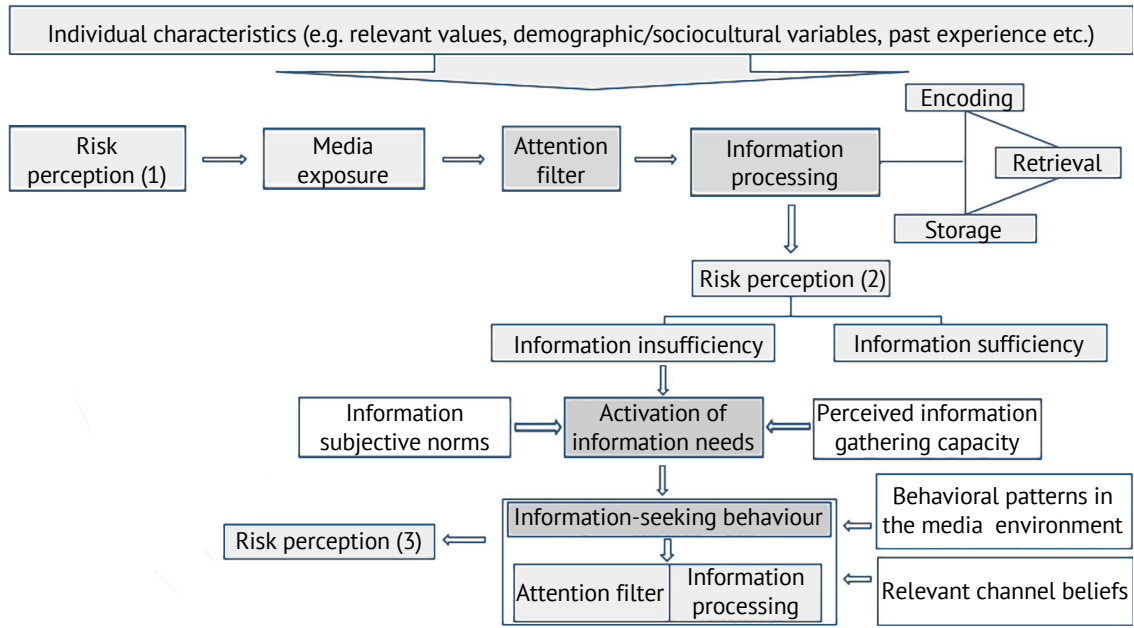


Figure 1. The Media-psychological model of environmental risk perception

Note: compiled by the author

First, regardless of whether is considered random media exposure or information-seeking behaviour, any conscious interaction and processing of a media stimulus begins with an attention filter – in the process of interacting with the media, a person needs to filter numerous and often competing information stimuli, since cognitive resources are limited in nature and therefore able to target only a limited amount of information. Currently, considering the information oversaturation of the media space and the complex nature of environmental risks, the inclusion of an *attention filter* in the model is considered an extremely important element since it will directly determine which messages from the entire intense information flow containing many emotionally arousing messages will be prioritised for deeper processing.

Just as noted above, attention to the message not only provides further processing through the prioritisation of the message but also influences risk perception (Mrkva *et al.*, 2021) since attention has a profound impact on perceptions and mental representations. Moreover, directing attention towards specific objects enhances their perceived distinctiveness and vividness (Carrasco, 2006). Thus, the message must not only be received (get into the structure of the information flow that the media user will encounter) but attention must also be paid to it. The priority of attention can be explained by the interaction of three factors or three distinct categories of selection bias. It is important to note that in everyday media consumption, bottom-up, top-down processing, and selection history constantly interact to direct attention to the messages that are embedded in information channels that the media consumer usually uses. This is consistent with the view

proposed in LC4MP, which states that resources are allocated separately to encoding, retrieval, and storage via automatic and controlled processes. Controlled allocation is determined by the viewer and is associated with viewer objectives and preferences. On the other hand, automatic allocation is dictated by the message itself. The allocation of resources automatically is influenced by the orienting response and by the activation within the motivational systems (Fisher & Weber, 2020).

The first of these is salience. Thus, if a stimulus is salient, attention is allocated involuntarily. This phenomenon is known as involuntary attentional capture. Salience is the property of a stimulus that can attract attention (a bottom-up component of attention) (Treue, 2003; Bouvier *et al.*, 2023) Thus, the characteristics of a message that distinguish it from the general information flow are more likely to attract attention during exposure. For example, utilising visual elements, such as bright colours, images and warning signs, increases message impact because these elements are very noticeable to the audience and can involuntarily attract attention (Sutton *et al.*, 2024). This implies that visually salient and bright elements of a message play a crucial role in capturing the attention of audiences.

However, overemphasising automatic, involuntary responses related to the perceptual salience of the message underestimates the role of a person's goals and objectives in processing and paying attention to messages. While some distinctive yet irrelevant stimuli can draw someone's attention, attention can be quickly switched to another stimulus, avoiding further processing of the message. This refers to top-down attention, which is a deliberate mechanism where an individual internally chooses and concentrates on a particular

location, feature, or object that is pertinent to their ongoing behavioural objectives (Hopfinger *et al.*, 2000). Limited capacity theorists have additionally highlighted that individuals conserve cognitive resources across all levels and employ only the essential amount of resources required unless they possess a strong motivation (Lang, 2006). Thus, the message about the risk should activate the motivational system for further processing and maintaining attention to it. As such, this factor primarily plays a role in the selection of messages when initiating information-seeking behaviour or activating the motivational component after media exposure.

Selection history reflects the role of associative learning and memory in the allocation of attention. It refers to the influence of previous experience on the allocation of attention and the prioritisation of messages, which are unrelated to current goals and the physical salience of the items competing for allocation (Anderson *et al.*, 2021). It includes various features of the influence of risk perception, social learning, and past experience on the allocation of attention during media message exposure. For example, past personal experience of a natural disaster, specifics of previous media coverage of the risk, or environmental attitudes may be significant factors in attracting attention to messages about environmental risks.

Processing a message containing risk information can be described using the components of the LC4MP model, where message processing is considered the interaction of three subprocesses: encoding, storage, and retrieval. A variety of personal and stimulus variables influence this process, and the outcome of message processing can be considered as a product of the content, composition, personal, and motivational significance of the mediated message. As such, the results of message processing, depending on the specific risk, will be influenced by a whole complex of individual dispositional and situational factors (e.g., values, relevant hazard experience, knowledge, institutional trust, message complexity, structure etc.). Depending on the resources allocated, information processing will involve systematic processing and heuristic processing with varying degrees of dominance. Here, systematic processing refers to the deliberate and effortful processing of risk information, whereas heuristic processing refers to more automatic processing based on cognitive shortcuts or heuristics.

However, the informational impact of a message does not end with the cessation of its processing. On the contrary, initial exposure and attention to a media message can trigger additional forms of information behaviour. Depending on the results of information processing, subsequent changes in risk perception may increase the gap between the sufficiency threshold (what a person thinks he needs to know) and current knowledge (what he knows at the moment). Based on the RISP model, various variables can either directly

influence the feeling of information insufficiency (e.g., perceived hazard characteristics) or act as moderators (e.g., perceived information gathering capacity) of the translation of information insufficiency into information-seeking behaviour (Dunwoody & Griffin, 2015).

Information insufficiency entails a person's feeling that they lack the necessary information to adequately handle a risk, which is a strong motivator for seeking additional information and engaging in systematic processing of this information. Furthermore, as stated by the RISP model, *information subjective norms* play a significant role in influencing the act of seeking information and the sufficiency threshold. Thus, social contexts possess the capability to mould individuals' perspectives on the amount of information necessary to meet their information-processing goals (Griffin *et al.*, 2013).

Risk perception could be considered as a combination of perceived hazard characteristics and affective response. Perceived hazard characteristics include various risk evaluation factors at the cognitive level (e.g., vulnerability, severity, personal control, probability, and so on). The impact of perceived hazard characteristics on information insufficiency is suggested to be mediated by affective responses (Griffin *et al.*, 2004). In response to perceived risk characteristics, people experience negative emotions, such as anxiety or fear (Griffin *et al.*, 2008; ter Huurne *et al.*, 2009), and these affective responses stimulate information-seeking behaviour by increasing information insufficiency. Thus, the initial processing of a risk message can lead to a change in risk perception stimulated by this feeling of information insufficiency and consequently trigger information-seeking behaviour.

Relevant channel beliefs encompass the cognitive and affective ways used by individuals to evaluate information channels (Dunwoody & Griffin, 2014). Beliefs about risk information channels, including such characteristics as their trustworthiness and usefulness, could affect information seeking, processing, and source selection. *Information gathering capacity* reflects the perceived capability to carry out the steps involved in seeking and processing information to achieve a desired result (Griffin *et al.*, 2008).

The RISP model also considers the role of *various individual characteristics* (e.g., past experiences with hazards, relevant values, etc.) as crucial to influencing multiple components of information seeking and processing. Empirical studies have shown a consistent relationship between individuals' attitudes towards environmental information and their intentions or actions to seek out such information (Ho *et al.*, 2014; Kahlor *et al.*, 2019). Another example that can be highlighted is typical media usage patterns, including characteristics such as usage frequency and preferences for content/activity, which generally determine interaction models with media and many aspects of information behaviour (Brandtzæg, 2010).

CONCLUSIONS

The theoretical analysis and the model presented provide a framework for further research into the communication and psychological processes involved in how media information influences environmental risk perception. The model focuses solely on information behaviour and processing related to environmental risk information, without considering changes in behaviour towards risk. The model particularly emphasises attention, distinguishing it from exposure and highlighting its role as the initial stage of message processing and in shaping risk perception. The components of the RISP model allow for a comprehensive consideration of risk communication beyond processing individual media messages, encompassing subsequent

stages of information behaviour. The model does not address other forms of information behaviour that may occur post-exposure, such as information spreading or avoidance, which would require separate analysis. Future research prospects may involve exploring factors influencing information behaviour regarding environmental information, comparing attention to chronic and acute risks, and validating predictive models within the Ukrainian cultural context.

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CONFLICT OF INTEREST

None.

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Медіа-психологічна модель сприйняття екологічних ризиків

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Анотація. У статті представлені результати теоретичного аналізу на тему медіа-психологічних аспектів сприйняття екологічних ризиків та презентація медіа-психологічної моделі впливу медійних повідомлень на сприйняття екологічних ризиків, побудованої на її основі. Представлена модель досліджує процеси та етапи, що включаються у початкове знайомство з повідомленнями про екологічні ризики у медіа та подальші наслідки їх обробки, які можуть виявитися в поведінці з пошуку інформації. Згідно з представленою моделлю, зміни у сприйнятті ризиків розглядаються як послідовність етапів, що починаються з уваги до інформації і можуть продовжуватися, коли викликається поведінка з пошуку інформації. Основні моделі, на яких спирається автор цього дослідження – це обмежена модель обробки мотивованих медійних повідомлень для опису обробки медійних повідомлень і Модель пошуку та обробки інформації про ризики для опису аспектів поведінки з пошуку інформації. Також використовувалася ряд додаткових комунікаційних моделей, приділених вивченню інформаційної поведінки та обробки медійних повідомлень, для опису процесів впливу мас-медіа на сприйняття екологічних ризиків. Таким чином, також розглядаються двійкові моделі обробки інформації та переконливої комунікації, включаючи модель евристичного систематичного підходу та модель обґрунтованого шляху, а також додаткові теорії, що вивчають поведінку пошуку інформації: теорія мотивованого керування інформацією та Модель планованого пошуку інформації про ризики

Ключові слова: сприйняття ризиків; комунікація ризиків; пошук інформації про ризики; екологічні ризики

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Social support as a factor of mental health in wartime conditions: Communication and interaction

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Abstract. According to researchers, social support is a powerful tool for maintaining a person's mental health. The aim of this study was to empirically identify the relationship between social support as a resource and the stability of an individual's mental health in wartime conditions. The following methods were used in the study: "The Mental Health Continuum – Short Form" (E.L. Nosenko, A.H. Chetveryk-Burchak), and the BASIC Ph Model. Mathematical-statistical methods applied included correlation analysis with the determination of the Pearson correlation coefficient (r) and the determination of differences using the Student's t-test. The study sample consisted of 382 Ukrainians living in Ukraine (of which 116 were men and 266 were women), with an average age of 21.3 years (ranging from 18 to 43 years). The results obtained demonstrate that more than a third of the respondents have a low level of stability of mental health, which is interpreted as a state of depression, a tense psycho-emotional state, passivity in activity and interaction with others. To overcome this state, the respondents most often resort to cognitive skills, belief and physical activity. Analysis of the relationship between mental health stability and various forms of social support revealed that communication and interaction with friends, family members, and members of organisations or communities to which one belongs are associated with higher indicators of mental health and well-being. Differences in mental health indicators and the use of social support were also found between men and women. Men are less likely to use social support as a method of coping with difficult life circumstances. The obtained data do not exhaust the problem of studying social support as a factor of mental health in wartime conditions, but they confirm that communication and interaction are associated with the psychological health and well-being of the individual

Keywords: mental health; psychological well-being; hedonic well-being; social well-being; social support; psychological resources

INTRODUCTION

Sociopolitical conditions and military actions in Ukraine are a constant threat to physical and mental health. The state, in order to support citizens, is implementing the

All-Ukrainian Mental Health Program and developing a system in the field of mental health and psychosocial support. In particular, a recovery-oriented approach is

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being applied. Within the framework of this approach, one of the main aspects that support life during the recovery period is the community, that is, relationships and social networks that provide support, friendship, love and hope. However, the extent to which society supports the mental health of Ukrainians in current conditions and whether there are statistically significant connections between mental health and the presence of social ties are questions this scientific study addresses.

A group of Spanish researchers found that perceived social support has a positive impact on the mental health of the older generation and is important for enhancing their mental well-being (Muñoz-Bermejo *et al.*, 2020). A study conducted on the same age group using the CLHLS 2018 data showed that formal social support generally improved the health indicators of older adults, while informal social support had a positive impact on their mental health (Xie *et al.*, 2022). The researchers' findings also suggest that both formal and informal social support have a positive impact on the mental health of cancer patients (Zhu, 2024).

The family as a social unit has a significant impact on a person's mental health (An *et al.*, 2024). Even perceived family support significantly improves a person's emotional well-being. Based on social support theory, a positive, supportive family environment, where every member of the social group is cared for, provides a person's basic needs for security, love, and acceptance (Stoddard-Bennett *et al.*, 2023). Emotional support, understanding, and acceptance from family members help people cope with anxiety, stress, and other emotional problems (Eisenberg *et al.*, 1997). By encouraging open communication using active listening and showing empathy, the family becomes a supportive environment where it is safe to express emotions and seek comfort (Harris, 1994). Family ties can include not only immediate relatives but also broader and extend to the community. In general, if a person is convinced of the presence of family support, this significantly increases social well-being (Addae & Kühner, 2022). A group of Dutch researchers, studying the long-term mental health risks of military personnel involved in combat and peacekeeping missions, emphasise the importance of social support after returning home and its potential to prevent long-term mental health problems (van der Wal *et al.*, 2023).

Researchers propose an integrative model of social support, based on the idea that social support can reduce distress through three different pathways: emotional state (e.g., reduction of affect), event appraisal (e.g., positive appraisal), and situation-relevant behaviour (e.g., use of constructive coping strategies) (Feeney & Collins, 2015). A psychosocial construct that aligns with these three pathways is mindfulness (the cognitive ability to be aware of the present moment) (Feldman *et al.*, 2007; Wilson *et al.*, 2020). And it is also associated with greater social support (Wilson *et al.*, 2022).

A theoretical analysis of current research on the preservation of mental health and psychological well-being confirms that formal, informal, and even perceived (or imagined) social support is an important factor in reducing distress and preventing mental health problems. Thus, the aim of this study was to test the empirical relationship between social support and mental health in the modern realities of Ukrainians.

Research objectives:

1. To identify the level of mental health stability and the most commonly used resources among the respondents according to the BASIC Ph model of coping and resiliency.
2. To analyse the relationship between mental health stability and social support as a resource for psychological resilience.
3. To analyse the differences in indicators of mental health stability and social support between men and women.

MATERIALS AND METHODS

To achieve the research objectives, the BASIC Ph Model and the "The Mental Health Continuum – Short Form" (E.L. Nosenko, A.H. Chetveryk-Burchak) were used. Mathematical-statistical methods applied included correlation analysis with the determination of the Pearson correlation coefficient (r) and the determination of differences using the Student's t -test. The study sample consisted of 382 Ukrainians living in Ukraine (116 men and 266 women), with an average age of 21.3 years (ranging from 18 to 43 years). The survey was conducted anonymously, voluntarily, using Google Forms from March to April 2024.

RESULTS AND DISCUSSION

Mental health stability for the majority of respondents (56.1%) is characterised at a medium level, which is defined as a satisfactory level. A high level of such stability, which implies flourishing and experiencing symptoms of psychological, social, and hedonic well-being daily, was found in 9.2% of respondents. For 34.7%, a low level of mental health stability is characteristic, which is interpreted as a state of depression, when asthenic emotions dominate, a feeling of detachment from society, the personality does not value itself and does not strive for development. Hedonic well-being as a component of mental health stability is demonstrated at a high level by 19.9% of respondents who feel satisfaction and interest in life. The average level of such feelings is characteristic of 45.9%, the low level – 34.2% (Fig. 1). A medium level of social well-being is characteristic for the majority of respondents, specifically 54.6%. A high level was found only in 9.7% of respondents who feel the ability to act, influence the life of society, and belong to a certain social group. However, 35.7% of the respondents noted their social dis-

advantage, which implies a hostile, unfriendly attitude towards people, as well as an attitude towards events in society as meaningless.

Psychological well-being is characteristic for 48.5% of respondents at an average level. Individuals who want to develop, improve, and feel free to express their own views are 18.4% of respondents with a high level

of psychological well-being. For 33.2%, a low level is characteristic on this scale, such respondents do not believe in the successful fulfilment of everyday obligations and do not have a goal in life. The results of an empirical study of the respondents' top personal resources that they use to overcome difficult life circumstances are shown in Figure 2.

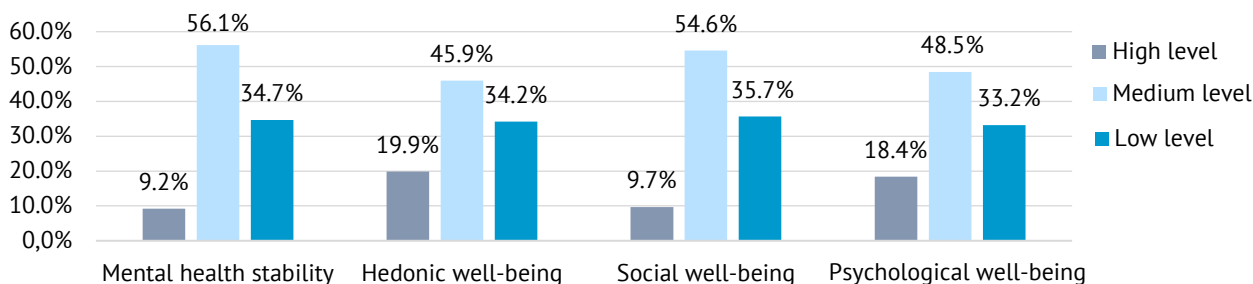


Figure 1. Percentage results of the distribution of respondents by the level of mental health stability and its components

Source: compiled by the authors

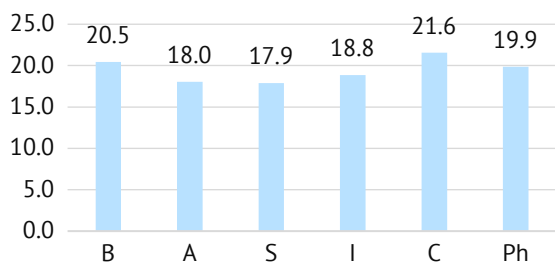


Figure 2. Dominant measures of personal resources to overcome the stress of war, \bar{x}

Note: B – belief and values; A – affect (emotions), S – social support, I – imagination, C – cognitive coping, Ph – physical activity

Source: compiled by the authors

The respondents are most inclined to use cognitive coping skills ($\bar{x} = 21.6$), as well as belief and values ($\bar{x} = 20.5$). Many respondents tend to solve difficult life situations by relying on their own minds and logic,

analysing problems, making plans of action, or turning to believe in God, themselves, or other people. Among the frequently used coping resources, the respondents mentioned physical activity ($\bar{x} = 19.9$), which involves constructively releasing emotions through physical exertion of varying degrees of difficulty. For example, even a walk can be a way to relieve emotional tension, not necessarily running or professional sports.

Respondents often turn to imagination as a coping mechanism ($\bar{x} = 18.8$), which involves distraction through their own ideas, engaging in creativity, self-expression through art, and so on. The least popular among the respondents were affect ($\bar{x} = 18.0$) and social support ($\bar{x} = 17.9$). This means that the respondents are not inclined to share their emotions (grief, fears, anger, etc.), and do not seek support through friendship or social communities. To identify significant correlations between mental health stability and coping resources, the Pearson correlation was applied (Table 1).

Table 1. Relationships between mental health stability and its components and coping resources

	Mental health stability	Hedonic well-being	Social well-being	Psychological well-being
B	0.516**	0.456**	0.336**	0.480**
A	0.289**	0.208**	0.070	0.197**
S	0.274**	0.210**	0.116*	0.211**
I	0.232**	0.109	0.090	0.138*
C	0.490**	0.461**	0.392**	0.516**
Ph	0.357**	0.231**	0.197**	0.295**

Note: * – $p < 0.05$; ** – $p < 0.01$

Source: compiled by the authors

The conducted correlation analysis allowed to identify a large number of statistically significant indicators at the level of 0.01. All coping resources correlate with

mental health stability, that is, the presence and use of such resources improve the level of mental health and vice versa. The next stage of the study involved analysing

the relationship between social support and mental health. For this, the correlation between the scales of mental health stability and its components with indi-

vidual items of the social support scale of the BASIC Ph Model was calculated. The results of the analysis are shown in Table 2.

Table 2. Relationships between mental health stability and its components and social support as a coping resource

	Mental health stability	Hedonic well-being	Social well-being	Psychological well-being
3. I seek the support of other people	0.248**	0.149*	0.090	0.198**
9. I have conversations with friends on the phone	0.210**	0.188**	0.113*	0.208**
15. I try to find support from a friend or family member	0.374**	0.367**	0.213**	0.339**
21. I am deeply involved in relationships with members of my community or organisation to which I belong	0.147*	0.080	0.168**	0.114*
27. I look for people to spend time with, without doing anything in particular	0.137*	0.089	-0.047	0.088
33. I write letters and emails to my friends – hoping for their response	0.032	-0.022	-0.051	-0.082

Note: * -p < 0.05; ** -p < 0.01

Source: compiled by the authors

Seeking support from others is statistically significantly correlated with mental health stability (r = 0.248; p < 0.01), hedonic well-being (r = 0.149; p < 0.05), and psychological well-being (r = 0.198; p < 0.01). This means that the coping strategy and specific activity aimed at seeking support from others are associated with high levels of mental health stability.

Communicating with friends over the phone is directly proportional and significantly correlated with mental health stability (r = 0.210; p < 0.01), hedonic well-being (r = 0.188; p < 0.01), social well-being (r = 0.113; p < 0.05), and psychological well-being (r = 0.208; p < 0.01). Talking with friends is associated with higher mental health indicators, likely due to the opportunity to express all thoughts and feelings and receive a caring emotional response from a close person.

Seeking support from friends or family members is statistically significantly correlated with mental health stability (r = 0.374; p < 0.01), hedonic well-being (r = 0.367; p < 0.01), social well-being (r = 0.213; p < 0.01), and psychological well-being (r = 0.339; p < 0.01). Communication and interaction with friends and family are associated with higher levels of mental well-being and health.

Maintaining relationships with members of the community or organisation to which one belongs is statistically significantly correlated with mental health

stability (r = 0.147; p < 0.05), social well-being (r = 0.168; p < 0.01), and psychological well-being (r = 0.114; p < 0.05). Interaction with the community and members of the organisation to which an individual belongs is associated with higher indicators of social and psychological well-being, as well as mental health. This interaction seems to create a supportive environment among people where the individual spends a significant amount of time. Seeking people to spend time with, without doing anything in particular, is directly and statistically significantly correlated with mental health stability (r = 0.137; p < 0.05). Thus, a detailed analysis of the relationship between mental health stability and various manifestations of social support has demonstrated that communication and interaction with friends, family members, and also members of an organisation or community to which one belongs leads to higher levels of mental health and well-being.

The next task of the study was to identify differences in the indicators of mental health stability and social support between men and women. Table 3 shows the results of the calculation of the Student's t-test to determine statistically significant differences in the indicators. This method of statistical analysis was chosen because the experimental data obtained follow a normal distribution.

Table 3. Differences in indicators of mental health stability and social support between men and women

	Women		Men		t-test
	Mean	Standard Error	Mean	Standard Error	
Mental health stability	39.21	1.03	24.88	1.50	7.86***
Hedonic well-being	9.17	0.26	6.67	0.42	5.08***
Social well-being	11.27	0.36	7.48	0.56	5.70***

Table 3, Continued

	Women		Men		t-test
	Mean	Standard Error	Mean	Standard Error	
Psychological well-being	18.78	0.51	13.21	0.79	5.96***
B (Belief)	21.64	0.36	17.19	0.60	6.35***
A (Affect)	19.07	0.34	15.24	0.52	6.16***
S (Social support)	18.92	0.37	15.29	0.58	5.23***
I (Imagination)	19.70	0.35	16.55	0.62	4.43***
C (Cognitive coping)	22.25	0.40	19.41	0.80	3.17***
Ph (Physical activity)	20.72	0.33	17.48	0.66	4.40***

Note: * – $p < 0.05$; ** – $p < 0.01$

Source: compiled by the authors

The results obtained demonstrate the presence of statistically significant differences at the level of $p < 0.001$ in all studied indicators in the groups of men and women. Thus, the results obtained demonstrate that women have higher indicators of mental health stability, psychological, social, and hedonic well-being, as well as more frequent recourse to belief, social support, imagination, cognitive coping, and physical activity to overcome difficult life circumstances due to the war.

Research affirms that social support is a primary tool for strengthening mental health. A study by American researchers involved assessing the link between social support and mental health among a sample of university students. The level of social support was measured using a Multidimensional Scale of Perceived Social Support. The results showed that students with lower social support were at a greater risk of mental health issues, with a sixfold higher likelihood of experiencing depression symptoms compared to students with high social support (Hefner & Eisenberg, 2009). The relationship between physical and mental health and social support was studied in Canada on a sample of 220 young people. The results confirmed the existence of a positive relationship between different sources of support and levels of mental well-being and health (London-Nadeau, *et al.*, 2023). A study of the impact of social support on mental health in China during the COVID-19 outbreak showed that adolescents with moderate or low levels of social support had a significantly higher prevalence of mental health problems (Qi *et al.*, 2020). Similar results were found by researchers when studying the younger generation (Hu *et al.*, 2022). Social support is a key factor in improving mental health, so it is important to provide people with access to resources and opportunities to receive it.

CONCLUSIONS

The conducted theoretical and empirical analysis of the features of the relationship between social support and mental health has demonstrated the validity of ideas and projects to support mental health and well-being

during the war by increasing community cohesion. Overall, the results obtained indicate that more than a third of the respondents have a low level of mental health stability, which is interpreted as a state of depression, when asthenic emotions dominate, a feeling of detachment from society, the personality does not value itself and does not strive for development. Most often, the respondents use cognitive skills, belief, and physical activity to overcome and solve problems caused by the war.

The analysis of the relationship between mental health stability and various manifestations of social support revealed that communication and interaction with friends, family members, and also members of an organisation or community to which one belongs leads to higher levels of mental health and well-being. Differences in mental health indicators and the use of social support between men and women were also found. Men are less likely to use social support as a way to cope with difficult life circumstances. The results obtained do not exhaust the problem of researching social support as a factor in mental health in wartime conditions, but they confirm that communication and interaction are associated with the psychological health and well-being of an individual. The prospects for further scientific research involve an in-depth study of different types of social support and their impact on the mental health of Ukrainians in modern military and political realities.

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CONFLICT OF INTEREST

None.

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Соціальна підтримка як чинник психічного здоров'я в умовах війни: комунікація та взаємодія

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Анотація. За твердженнями науковців соціальна підтримка є потужним інструментом підтримки психічного здоров'я людини. У цьому дослідженні метою було емпірично виявити взаємозв'язок між соціальною підтримкою як ресурсом та стабільністю психічного здоров'я особистості в умовах війни. У дослідженні використано такі методики: Опитувальник «стабільність психічного здоров'я – коротка форма» (Е. Л. Носенко, А. Г. Четверик-Бурчак), Методика BASIC Ph. Математично-статистичні методи, що було застосовано це кореляційний аналіз із визначенням коефіцієнта r -Пірсона та знаходження відмінностей із визначенням t -критерія Стюдента. Вибірку дослідження склади 382 українці, які проживають в Україні (за статевою ознакою з них 116 чоловіків та 266 жінок), середній вік 21,3 роки (діапазон від 18 до 43 років). Отримані результати демонструють, що більше третини опитаних мають низький рівень стабільності психічного здоров'я, що інтерпретується як стан пригнічення, напружений психоемоційний стан, пасивність у діяльності та взаємодії з іншими. Для подолання такого стану опитані найчастіше звертаються до когнітивних навичок, віри та фізичної активності. Аналіз взаємозв'язку стабільності психічного здоров'я з різними проявами соціальної підтримки виявив, що комунікація та взаємодія з друзями, членами сім'ї, а також членами організації чи громади до якої належиш передбачає вищі показники психічного здоров'я та благополуччя. Також виявлені відмінності у показниках психічного здоров'я та використання соціальної підтримки у чоловіків та жінок. Чоловіки менш схильні до використання соціальної підтримки як методу подолання складних життєвих обставин. Отримані дані не вичерпують проблему дослідження соціальної підтримки як чинника психічного здоров'я в умовах війни, проте підтверджують, що комунікація та взаємодія пов'язані із психологічним здоров'ям та благополуччям особистості

Ключові слова: психічне здоров'я; психологічне благополуччя; гедонічне благополуччя; соціальне благополуччя; соціальна підтримка; психологічні ресурси

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Demographic and occupational determinants of technical overload, techno-intrusion and techno-complexity

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Abstract. Main goal of this paper was to draw more attention to the pervasiveness of technostress in the consulting environment. As TS tends to be perceived differently in terms of what it entails, authors have focused, instead, on its relationship with such demographical variables as gender, age, work level and family status in the research. Study was conducted using a quantitative questionnaire. Sample consisted of 702 consulting employees (417 men and 275 women) aged 18-65. Data analysis was based on ANOVA and stepwise regression models. Results reveal that female participants and employees older than 35, experience significantly more Techno-Complexity compared to other groups. No significant effect of family status on Techno-Complexity was found. Senior-rank employees experience more Techno-Overload and Techno-Invasion, compared to co-workers in more junior positions. The authors' findings point out to the necessity of workplace-stress prevention solutions focusing specifically on gender, age and the seniority level of an employee. The Results imply that such focus can prove essential in the prevention of burnout and considerable decrease in individual stress levels, loss of workplace focus and overall workplace productivity

Keywords: information and communication technology; stress, technology; technostress; workplace

INTRODUCTION

The concept of "technostress" (TS) has been introduced in response to the need to describe an array of psychological reactions to unfavourable computer use. Seminal research in the domain identifies TS as a contemporary adjustment disease, caused by an incapability to cope with the demands of the current information and communication technology that may result in stress, anxiety, or overall distress. More recently, TS experience has been explained by a negative spiral of deterioration. Research has identified the main de-

terminants of the spiral to be low personal resources and low technological self-efficacy. Significance of these determinants is reflected in their capacity to extend authors' critical understanding concerning the adverse effects of the interaction between elevated technological expectations and low technological means. In particular, the effects that lead to psychosocial disorders such as techno strain and adverse organizational consequences such as low performance (Pflügner *et al.*, 2021).

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Breadth of TS definition deemed it necessary for researchers to identify its more specific sub-categories (La Torre *et al.*, 2019). Furthermore, early as well as the recent studies have also revealed a more direct link of these creators, and TS, to specific demographic variables (Stadin *et al.*, 2020). These studies demonstrate significant associations between gender (Marchiori *et al.*, 2019), age, work level (Bakker and Demerouti, 2018) and workplace TS. P. Borle *et al.* (2021) studied the relationship between technological stress factors and mental health and work results in the context of the techno-stress model. The researchers found empirical evidence of the connection between various types of techno-stressors and negative consequences for the mental health of employees, such as stress, burnout, and reduced life satisfaction. At the same time, they did not offer ideas for reducing the level of technological stress in companies.

S. Yener *et al.* (2020) analysed the impact of TS on employee burnout and their productivity, and also considered potential factors that moderate this relationship. In this study, it was established that employees with a higher level of technological self-efficacy experience less negative impact of TS on the reduction of labor productivity. At the same time, the researchers did not reveal ways to increase the level of technological self-efficacy among employees.

X. Cheng *et al.* (2023) concluded that while Techno-Overload and techno-intrusion increase intentions to avoid technology, techno-insecurity (feelings of incompetence in using technology) actually decreases this avoidance. At the same time, the authors did not reveal the reasons for the formation of techno-uncertainty among employees of various categories. D.R. Dunaez (2022) proposed his own definition of “technostress”, under which the researcher understands the negative psychological and physiological effects caused by the inability to productively and healthily cope with the demands of new technologies. At the same time, he did not classify the reasons for the formation of this condition among employees of different age and professional categories.

N. Aprilia & A.L. Riani (2023) came to the conclusion that technostressors should be attributed to the system of stressors associated with the use of information and communication technologies. The researchers established that highly developed psychological capital of employees can counteract the spread of TS. At the same time, this article did not specify recommendations for company managers to reduce the level of technological stress among employees in conditions of digitalization.

However, the literature review has pointed out to an important gap, this study attempts to bridge. Namely, the lack of more substantial critical quantitative research on family status as an indicator of organizational TS. And, additionally, how it links to gender, age and work level to form a cluster, which affords a space

for the identification of the breadth of impact each indicator has on the current profile of organizational TS within the consulting environment.

Taking the above insights and identified gaps as its starting point, present work builds its explanatory account by focusing on three sub-dimensions of TS – Techno-Overload, Techno-Invasion and Techno-Complexity, the author’s quantitative study identifies as integral to the in-depth understanding of the extent and the implications of the present-time organizational TS for the consulting workforce. Accordingly, the main aim, and contribution, of this study was the determination of specific associations between gender (male and female), age (18-35 and 36+), levels at work (analysts, associates; consultants; managers, senior managers, leadership), family status (participants with children and participants without children) and TS creators (Techno-Overload, Techno-Invasion, Techno-Complexity). Consequently, the following hypotheses were formulated:

H₁ – Employees’ gender will influence how a person perceives Techno-Overload.

H₂ – Employees’ gender will influence how a person perceives Techno-Invasion.

H₃ – Employees’ gender will influence how a person perceives Techno-Complexity.

H₄ – Employees’ age will influence how a person perceives Techno-Overload.

H₅ – Employees’ age will influence how a person perceives Techno-Invasion.

H₆ – Employees’ age will influence how a person perceives Techno-Complexity.

H₇ – Employees’ work level will influence how a person perceives Techno-Overload.

H₈ – Employees’ work level will influence how a person perceives Techno-Invasion.

H₉ – Employees’ work level will influence how a person perceives Techno-Complexity.

H₁₀ – Employees’ family status will influence how a person perceives Techno-Overload.

H₁₁ – Employees’ family status will influence how a person perceives Techno-Invasion.

H₁₂ – Employees’ family status will influence how a person perceives Techno-Complexity.

LITERATURE REVIEW

Current literature shows that gender is an important factor influencing the level of TS (Tams *et al.*, 2018). Such a discrepancy in the perception and response to technostressors among men and women signals the need to more carefully examine the specific relationship between gender and TS (Marchiori *et al.*, 2019). The following research responds to this critical call and implements it in the form of initial guiding hypotheses (1-3) to investigate the role of gender as a potential moderator of the relationship between various factors of TS and its consequences. Aside from gender salience,

recent studies also suggest age salience. Specifically, older people have been found to experience significantly higher levels of TS compared to younger individuals (Chen & Muthitharoen, 2017; Pflügner *et al.*, 2020), due to their vulnerability to physical weakening (González-López *et al.*, 2021; Tams *et al.*, 2022). However, certain studies have also revealed the countertendency that suggests younger individuals experience higher levels of TS. Such inconsistency, as in the case of gender, necessitates further critical research. The following work responds to this gap by putting to the practical test its second set of hypotheses (4-6).

Compared to the evidential and explanatory divergence above, studies focused on the employees' work level have indicated a direct effect link between this indicator variable and TS (Bakker and Demerouti, 2018; La Torre *et al.*, 2020). Employees have, in particular, been found to experience different levels of TS with respect to different work levels such as technical staff, blue-collar and white-collar workers, managers and supervisors. However, what these studies leave as an open question is whether work levels significantly predict each type of TS. In this respect, this work contributes to the pool of potential answers by putting to direct test the work-level related hypotheses (7-9). A limited number of studies have also looked at the relationship between TS and family status. One such study has

indicated a significant correlation between TS and family status (Harris *et al.*, 2022).

However, there is currently only limited additional empirical evidence and studies examining the more specific effect of family status on either on Techno-Overload, Techno-Invasion and Techno-Complexity (Riglea *et al.*, 2021). This is especially the case with respect to the effect of having children or not. As to the authors' knowledge there have not been any recent studies specifically addressing this link to TS. The present study aims to fill a gap in the literature by providing a reliable preliminary quantification of the effect that having children has on employees' TS levels (hypotheses 10-12).

MATERIALS AND METHODS

A convenience sampling technique was used as a foundation for the quantitative study. The sample consisted of German participants, recruited from a publicly traded consulting company whose additional fields of expertise include technology and related outsourcing. The company's workforce consists of close to 624,000 employees worldwide, 11,000 of whom are located in Germany. The target sample totalled 707 employees across different city offices. Following the sample adequacy analysis, five participants were excluded from the final analysis as outliers resulting in a total of 702 participants aged 18 to 65 years (Table 1).

Table 1. Demographics of variables

		N	%
Gender	Female	275	39.2
	Male	417	59.4
Age	18-35	401	57.1
	36+	301	42.9
Level at work	Analyst + Associate	257	36.6
	Consultant	190	27.1
	Manager + Senior Manager + Leadership	255	36.3
Family status	Participants with Children	251	35.8
	Participants without Children	451	64.2

Source: compiled by the authors

The Technostress Creator instrument employed in this study is an adaptation of the test battery originally developed by M. Tarafdar *et al.* (2007). The latter builds its empirical power on five TS sub-scales: Techno-Overload, Techno-Invasion, Techno-Complexity, Techno-Insecurity and Techno-Uncertainty. In accordance with its focus, this study has adapted the original instrument so as to maximize the potential of the three sub-scales in particular: Techno-Overload (5 items), Techno-Invasion (4 items) and Techno-Complexity (5 items). Mean scores were calculated for the subcategories. Higher scores translate to a higher perception related to the sub-scales. The item scoring follows a standard 5 item Likert scale (not at all true = 1, slightly true = 2, neutral = 3, much true = 4, and very much true = 5). Cron-

bach's alpha reliability values were calculated at 0.81 and 0.89 in M. Tarafdar *et al.* (2007) study, and 0.79 and 0.85 in the present study.

In the present study, gender, age, employee's work level and family status constituted the independent variables. The following questions: "Do companies need more training to prevent TS?", "Do women experience more TS?", "Do older people experience more TS?" and "Are rules against TS are financially demanding?", Techno-Overload, Techno-Invasion and Techno-Complexity constituted the study's dependent variables. A set of demographic variables was dummy coded, and the variables were entered as categorical predictor variables for Techno-Overload, Techno-Invasion and Techno-Complexity.

An online survey was designed and implemented using Quicksurvey. The chosen distributive channel was e-mail. Survey was officially distributed among the employees in September 2021. To ensure internal legal and ethical compliance, the questionnaire was submitted to the company's legal department and employee council prior to the distribution. Out of a total of 11,042 questionnaires, 707 (7.1%) have been submitted. Following the data cleaning phase, 702 questionnaires have qualified for statistical analysis. As the missing information was less than 5%, no data imputation algorithms have been utilized. Data was statistically analysed for reliability, differences and associations between variables.

Collected data were analysed using SPSS 25.0/MAC software. Normality assumption was based on the

computation of the skewness and kurtosis values, which were found to be within the acceptable range for a normal distribution (Table 2). Five outliers were excluded from the data following the results of the box plot analyses. To test for multicollinearity, authors computed Pearson correlation coefficients among variables, variance inflation factor (VIF), and tolerance values. According to B.G. Tabachnick *et al.* (2007), the VIF value should be lower than 4, while the tolerance should be higher than 0.2. Authors' findings indicated that the VIF and tolerance values of this study were within the acceptable range, suggesting that the assumption of multicollinearity was not violated. Assumptions of linearity and homoscedasticity were tested and found to be satisfied. The residuals were reasonably rectangular, and the data was collected in the centre.

Table 2. Descriptive statistics

Variables	N	Range	Min.	Max.	Mean	SD	Skewness	Kurtosis	α
Techno-Overload	702	4	1	5	3.04	1.04	-0.2	-0.83	0.85
Techno-Invasion	702	4	1	5	2.35	1	0.46	-0.58	0.79
Techno-Complexity	702	3.4	1	4.4	2	0.84	0.78	-0.12	0.8

Source: compiled by the authors

Descriptive statistics (frequencies, means and SD) and one-way analysis of variance (ANOVA) were performed in order to examine the collected data and investigate if single items such as: "Do companies need more training to prevent TS?", "Do women experience more TS?", "Do older people experience more TS?", "Are rules against TS financially demanding?", Techno-Overload, Techno-Invasion, and Techno-Complexity differed with respect to demographic variables. Tukey's HSD tests was used for the purpose of post hoc comparisons. Regression analysis was preceded by the phase where demographic variables were dummy coded. The values in the regression model were coded as "1", while other categorical values in the groups were coded as "0" to differentiate the effects of each category on the dependent variables. The final phase has included the stepwise regression analyses.

Consent was taken from both the company and the employees prior to the study. All participants have been previously informed about the purpose of the research as well as that all the collected data will only be used for research purposes and, as such, are fully anonymized. To make sure the study meets all the necessary ethical requirements, the researcher herself has devised it according to the relevant German laws and regulations. In addition, the article follows the research and publication ethical guidelines recommended by the Council of Science Editors, International Committee of Medical Journal Editors and the World Association of Medical Editors.

RESULTS

Techno-Overload, Techno-Intrusion, and Techno-Complexity are different manifestations of technological stress that occurs in workers due to excessive use of digital technologies and related demands. To effectively study and form a general understanding of technological stress, it is advisable to analyse the signs and characteristics of each of its subtypes.

A condition in which the amount of information, messages, tasks, and demands associated with the use of technology exceeds a person's ability to process and effectively perform them is a manifestation of technical overload (Aprilia & Riani, 2023). It can affect the development of the employee's feeling of constant time pressure and the impossibility of getting everything done. People who are in this state may experience anxiety, stress, and difficulty concentrating due to an excessive flow of information. Thus, the signs of technical overload include a feeling of overload due to an excessive amount of information, messages, and tasks related to the use of technologies; difficulties with the organization and efficient processing of large volumes of data; feeling of constant pressure and impossibility to do everything in time. In this case, it is also important to determine the factors contributing to the appearance of technical overload. First of all, it should be noted the increase in the number of sources of information, in particular e-mail, messengers, social networks, mobile applications. In addition, the need to constantly be in touch and respond to messages also negatively

affects the emotional state of the employee. Another factor contributing to the prevalence of technology overload may be the increase in workloads and tasks that are performed with the help of technology. A lack of skills among employees to effectively manage time and information also has a negative impact. At the same time, it should be emphasized that the consequences of technical overload can be expressed in employees in different ways, for example, in exhaustion, reduced productivity, difficulties with concentration, and sleep disorders (Borle *et al.*, 2021).

As for techno-invasion, it encompasses the violation of boundaries between work and personal life through the use of technology. The constant availability of employees thanks to smartphones, messengers and e-mail creates in them an expectation of immediate response and communication support at any time. This can lead to the feeling that work and technology are invading an employee's private life, taking away time for rest and recovery. In connection with techno-intrusion, people may experience irritation, loss of control, and difficulty separating work from personal life. Based on the above, it is possible to single out such signs of this state as the feeling that technologies invade the private life and violate the personal boundaries of the employee, as well as the emergence of difficulties in distinguishing between professional and domestic tasks. As for the factors that lead to the spread of techno-invasion, they include the proliferation of mobile devices and the ability to be connected anytime, anywhere (Cheng *et al.*, 2023). In addition, in modern conditions, the work culture is being reformed, which accordingly encourages employees to be constantly available and promptly respond to requests. This process is also influenced by the popularity of remote workers with flexible schedules, which blurs the boundaries between work and free time.

Manifestations of techno-intrusion can be constant interruptions and distractions due to messages, calls, and notifications during free time, and the inability to "disconnect" from work and have a full rest. Also, this condition can be expressed in employees in the context of a conflict between the demands of work and family/personal life. Effective ways to overcome this problem can be: establishing clear boundaries of availability and mode of operation; turning off notifications and messages at inappropriate times; and organizational policy to support work-life balance. Separately, it is worth emphasizing the priority of training the management team on the importance of this balance, as well as the organization of pieces of training on time management, prioritization, and digital well-being. The implementation of the listed measures is necessary to preserve the mental health of employees, their family well-being, and general productivity (Kluge *et al.*, 2019). At the same time, it should be understood that it requires efforts on the part of both employees and organizations to create a culture that supports

healthy boundaries between work and private life in the age of digital technologies. It is expedient to pay special attention to techno-complexity, which is associated with the difficulties employees face when learning and using new, often complex, technologies and software. It is worth noting that constant updates and changes in technology require continuous training and adaptation from employees. In the opposite case, Techno-Complexity can provoke feelings of powerlessness and frustration in such subjects. Moreover, complex interfaces and systems can be perceived as obstacles to effective work. A manifestation of the development of Techno-Complexity in a person can be the appearance of a feeling of incompetence when working with complex systems. In addition, it is necessary to emphasize the possible decrease in the employee's productivity due to the time spent on training and adaptation, as well as the biased attitude towards technological innovations due to the fear of complexity. The reasons for the development of Techno-Complexity among employees may be age and cognitive differences in the perception and assimilation of new technologies. It should also be noted about the low level of digital skills and technological literacy among individual employees. The last factor is due to the lack of educational resources and support in mastering new programs, as well as the hasty introduction of technologies without proper training of users (Marchiori *et al.*, 2019).

To overcome employees' resistance to changes and increase the efficiency of their use of the potential of new technologies, it is advisable to implement a system of measures. First of all, investments should be allocated for training and development of digital skills among employees, as well as developing intuitive, user-friendly interfaces and programs. In addition, it is important to provide affordable technical support and advice during the gradual introduction of new technologies in companies. Another way to overcome Techno-Complexity is to involve employees in the process of developing and testing programs. This approach will encourage them to share knowledge and experience (Tams *et al.*, 2022). The implementation of the proposed methods for overcoming Techno-Complexity will allow to an increase in the level of efficiency of the use of technologies in production, as well as contribute to increasing the productivity of employees and their job satisfaction. Accordingly, organizations must make efforts to simplify technology, train employees, and create an enabling environment for them to master new digital tools (Pv & Viswanathan, 2021). This will maximize the benefits of technological innovation and minimize the associated stress and complexity.

The above-mentioned phenomena, namely technical overload, techno-invasion, and Techno-Complexity can overlap, and in this connection strengthen the influence of each other and form a complex state of technological stress. It should be noted that they are closely

related to human characteristics (for example, age, gender, level of technological literacy), professional factors (field of activity, workload, corporate culture), and personal circumstances (marital status, lifestyle). ANOVA analysis was conducted to determine the specific level of influence of each of the external characteristics during the study. ANOVA analysis has revealed that females scored higher compared to male participants, suggesting women experienced more TS (Table 3). Compared

to the 36+ participants, the younger participants scored higher commenting older people experienced higher levels of TS. In terms of the participants' work level, consultants, managers, senior managers, and leaders scored higher compared to associates and analysts stating women in general experienced more TS. Finally, with respect to family status, the analysis showed the participants with children to score higher compared to participants without children when tested for TS levels.

Table 3. ANOVA test of the relation between demographic factors of respondents and the following statements

Variables	Groups	Do companies need more training to prevent TS?		Do women experience more TS?		Do Older People Experience More TS?		Are Rules against TS Financially Demanding?		Notes
		M (SD)	F	M (SD)	F	M (SD)	F	M (SD)	F	
Gender	Female	3.64 (1.15)	2.26	0.26 (0.44)	14.65***	0.81 (0.39)	1.16	0.26 (0.44)	0.60	Women TS: Female>Male
	Male	3.56 (1.18)		0.14 (0.35)		0.78 (0.42)		0.29 (0.45)		
Age	18-35	3.64 (1.14)	0.88	0.19 (0.39)	0.004	0.84 (0.37)	16.02***	0.29 (0.46)	0.25	Older TS: 18-35>36+
	36+	3.55 (1.24)		0.19 (0.39)		0.72 (0.45)		0.27 (0.45)		
Level at work	Associate + Analyst ^a	3.66 (1.1)	1.952	0.18 (0.39)	2.897**	0.87 (0.34)	1.279	0.37 (0.49)	0.962	Women TS: b, c>a
	Consultant ^b	3.67 (1.18)		0.24 (0.43)		0.79 (0.41)		0.28 (0.45)		
	Manager + Senior Manager + Leadership ^c	3.60 (1.18)		0.23 (0.42)		0.80 (0.40)		0.26 (0.44)		
Family status	With children ^a	3.59 (1.16)	1.07	0.2 (0.4)	0.69	0.83 (0.38)	11.72***	0.29 (0.45)	0.12	Older People TS: a>b
	Without children ^b	3.72 (1.1)		0.21 (0.42)		0.88 (0.33)		0.24 (0.44)		

Note: ***p < 0.001; **p < 0.01; *p < 0.05

Source: compiled by the authors

Female participants exhibited significantly higher Techno-Complexity scores compared to the male participants (Table 4). Participants older than 35 exhibited significantly higher Techno-Complexity scores compared to the 35-year-old and younger participants. In terms of work level, managers, senior managers, and leaders exhibited a higher level of Techno-Overload and Techno-Invasion compared to consultants, associates, and analysts. On the other hand, consultants had higher Techno-Overload and Techno-Invasion scores compared to associates and analysts. Finally, in terms

of Techno-Complexity, participants with children scored higher compared to those without children. Findings following the stepwise regression analysis revealed levels of manager, senior manager, and leadership to have a significant positive impact on both Techno-Overload and Techno-Invasion. Furthermore, the three work levels explained 1% of the total variance in the case of Techno-Overload and Techno-Invasion (Table 5). Gender, age, different work levels (analysts, associates, consultants), and having children or not, did not exhibit any significant impact on either Techno-Overload or Techno-Invasion.

Table 4. ANOVA test of Techno-Overload, Techno-Invasion, and Techno-Complexity in demographics

Variables	Groups	Techno-Overload		Techno-Invasion		Techno-Complexity		Post hoc results
		M (SD)	F	M (SD)	F	M (SD)	F	
Gender	Female	3.1 (1.06)	1.62	2.33 (1.01)	0.25	2.09 (0.87)	5.07*	TC: Female>Male
	Male	3 (1.02)		2.36 (0.97)		1.94 (0.8)		
Age	18-35	2.99 (1.02)	2.41	2.32 (0.98)	1.15	1.86 (0.77)	25.24***	TC: 36+>18-35
	36+	3.11 (1.06)		2.4 (1.01)		2.18 (0.89)		

Table 4, Continued

Variables	Groups	Techno-Overload		Techno-Invasion		Techno-Complexity		Post hoc results
		M (SD)	F	M (SD)	F	M (SD)	F	
Level at work	Associate + Analyst ^a	2.93 (1)	3.13*	2.22 (0.94)	5.39**	1.93 (0.84)	1.23	TO: c>b>a
	Consultant ^b	3.02 (1.08)		2.32 (1.02)		2.04 (0.85)		TI: c>b>a
	Manager + Senior Manager + Leadership ^c	3.16 (1.04)		2.5 (1.01)		2.03 (0.83)		
Family Status	With children ^a	3.07 (1.02)	0.48	2.37 (0.98)	0.16	2.11 (0.9)	6.57**	TC: a>b
	Without children ^b	3.02 (1.04)		2.34 (1)		1.94 (0.8)		

Note: ***p < 0.001; **p < 0.01; *p < 0.05; TO – Techno-Overload; TI – Techno-Invasion; TC – Techno-Complexity
Source: compiled by the authors

Table 5. Stepwise regression analyses predicting Techno-Overload and Techno-Invasion

Dependent Variables	Predictors	B	t	Sig.	R	R ²	F	Sig.
Techno-Overload	Managers; Senior Managers; Leadership	0.09	2.34	0.019	0.09	0.01	5.49	0.02
Techno-Invasion	Managers; Senior Managers; Leadership	0.12	3.08	0.002	0.12	0.01	9.51	0.002

Source: compiled by the authors

The follow-up stepwise regression analysis has shown the 18-35 age group to be significantly predictive of Techno-Complexity in a negative way (Model 1), predicting 3.5% of the total variance (Table 6). In the second model, the 18-35 age group had a negative

impact on Techno-Complexity, while the female gender impact was positive, explaining about 5% of the total variance in Techno-Complexity. Contrariwise, 35+ age, male gender, work level and having children or not did not show any significant impact on Techno-Complexity.

Table 6. Stepwise regression analyses predicting Techno-Complexity

Models	Age	B	t	Sig.	R	R ²	F	Sig.
1	18-35 years-old	-0.187	-5.024	0	0.19	0.035	25.24	0
2	18-35 years-old	-0.208	-5.55	0	0.22	0.049	18.05	0.001
Female		0.122	3.243	0.001				

Source: compiled by the authors

Based on the above, it can be stated that TS is a common phenomenon among employees of various demographic and professional categories. Understanding and addressing the prevalence of this problem is becoming increasingly important for businesses as technology continues to permeate all areas of their professional lives and operations. In this regard, companies must develop effective strategies to reduce technological stress among their employees. In this case, it is advisable to focus on teaching them digital skills, establishing clear boundaries between work and personal life, optimizing work processes and providing adequate technical support.

DISCUSSION

Present study contributes to the extension of the current literature on TS within the consulting workforce, by

systematically assessing and quantifying the specificities of the relationship between gender, age, work levels, family status and the three formative indicators – Techno-Overload, Techno-Invasion and Techno-Complexity. An additional contribution of this study is its focus on the previously unexamined workforce culture in this context, i.e., the German consulting employees' culture. The onset point of this critical study was the investigation of the connection between gender and the three above-mentioned indicators. As identified in the sections above, previous research approaches show considerable inconsistency in terms of findings. This is particularly the case with studies focusing on the gender-TS relation which are characterized by considerable contradictions. In effect, a body of research suggests female population experiences more TS than male population, e.g., due to higher computer anxiety.

Finally, certain number of most recent studies also suggests no significant association between gender and TS (Özgür, 2020; Pv & Viswanathan, 2021).

On a more fine-grained level, findings do indicate that gender influences TS, particularly if authors focus on the three singled out TS indicators. Specifically, studies by D.M. Marchiori *et al.* (2019) and C.B. Califf & S. Brooks (2020) demonstrate that women experience higher Techno-Complexity, whereas men experience higher Techno-Overload and Techno-Invasion. G. La Torre *et al.* (2020) study reveals women to experience Techno-Overload, Techno-Invasion and Techno-Complexity more commonly than men. Such lack of consensus deems further critical investigations necessary. Particularly those investigations that analyse Techno-Overload, Techno-Invasion and Techno-Complexity through the lens of gender, and especially in a setting where people have more similar characteristics, e.g., the same profession (Sareen, 2019). With respect to this, present study contributes evidence that demonstrates female consultants to have significantly higher Techno-Complexity (H_3) scores than their male counterparts. Furthermore, evidence also shows female gender to have a positive impact on Techno-Complexity. Females explained about 2% of the entire variance of Techno-Complexity. However, gender has no significant impact on Techno-Overload (H_1) and Techno-Invasion (H_2). Overall, current evidence extends the literature on consulting workforce TS in terms of novel gender-related findings. Additionally, it indicates a more likely link between female consulting population and Techno-Complexity than with Techno-Overload and Techno-Invasion.

The study has, additionally, examined the connection between age and the three above-mentioned indicators. Results indicate that employees' age had a significant positive impact on Techno-Complexity (H_6), but not on Techno-Overload (H_4) or Techno-Invasion (H_5). Specifically, participants older than 35 had significantly higher Techno-Complexity scores compared to the 35-years-olds and younger, indicating the 18-35 age range to predict Techno-Complexity in a negative way. This, consequently, points to the potential of TS levels, (Techno-Complexity, in particular), to increase with age. What, additionally, supports this tendency is the original assumption that older adults are more susceptible to interruptions and their aftereffects compared to younger adults, particularly in light of age-specific cognitive capabilities span. More recently, S. Tams *et al.* (2018) provide additional practice-informed insights indicating that older employees may experience higher Techno-Complexity due to age-specific cognitive skills changes. Similarly, other relevant recent studies also regard age to be a significant TS-influencing factor (Özgür, 2020). S. Tams *et al.* (2018) explain above to be the case due to the lack of consensus originating from the fact that majority of research does not draw on theories of aging. In its attempt to bridge this gap, t

concerning the association between employees' age and TS, this study contributes new empirical evidence in support of the link between the increased age and difficulties to adapt at to new technologies.

Following age, next focus point was the examination of the connection between work levels and Techno-Complexity, Techno-Overload and Techno-Invasion. In this respect, present research contributes evidence in support of H7 and H8 More specifically, managers, senior managers, the leadership, and consultants exhibited higher levels of Techno-Overload (H_7) and Techno-Invasion (H_8) compared to associates and analysts. No significant difference was detected in the case of Techno-Complexity (H_9). This implies managerial, senior managerial, leadership, and consultant work levels to have a significant positive effect on both Techno-Overload and Techno-Invasion, but no such effect on Techno-Complexity. In support of these findings, recent researcher recent research findings indicate Techno-Overload and Techno-Invasion to be especially demanding for management-level employees (Li & Wang, 2020; Pflügner *et al.*, 2021). Because senior work levels struggle to adapt to new technological developments due to excess responsibility, they tend to reorder habits and daily routines resulting in Techno-Overload and Techno-Invasion increase. Overall, employees at higher work levels experience Techno-Invasion, due to the conviction they should be constantly connected.

Finally, the results obtained by means of regression analysis did not support any of the family-status related hypotheses (H_{10} - H_{12}). More specifically, having children or not did not have any significant impact on Techno-Overload, Techno-Invasion or Techno-Complexity. Likewise, J. Kluge *et al.* (2019) found no significant difference in the level of TS between participants who had children and those who did not. However, an important finding resulted from the ANOVA analysis. It has revealed higher Techno-Complexity scores in the case of participants with children compared to those without children. Potential explanation for this tendency is that the former lack sufficient time to adopt new technological developments due to the child-care demands, making them in turn more prone to TS. Additional insightful conclusions involve the ANOVA analysis results concerning the difference of TS levels in terms of gender, age and levels at work. For instance, female participants showed higher TS levels compared to male participants, indicating a greater tendency of the former to experience TS. Considering age, younger participants reported significantly less TS than older ones. Other informative findings include the consultants, managers, senior managers, and the leadership stating that women experience more TS compared to other work levels.

These outcomes point to various important implications for organizations as well as researchers working on the employee-related TS. The research gaps it reveals and the new findings it contributes make this

study a productive point of reference for understanding the breadth of impact various variables such as gender, age, work levels and family status, previously not investigated in such a setting and combinatorial arrangement, can have on specific TS dimensions as Techno-Overload, Techno-Invasion and Techno-Complexity. Employers and organizations willing to safeguard their employees from TS can use these findings to devise adequate employee training programs and orientations that would provide them both with psychological and organizational assets to effectively deal with Techno-Overload, Techno-Invasion and Techno-Complexity. Accordingly, deeper understanding of the various TS dimensions and how technological developments impact people can lead to a significant decrease in physical, emotional and psychological harm.

CONCLUSIONS

The main power of the present study lies in its cross-sectional design, which affords greater informational versatility compared to other designs concerning the defining characteristics of a population under research. One drawback of such a design is that it does not allow for cause-and-effect associations to be built. Other important limitations of the present study concern its general applicability, as its participant pool consisted exclusively of the employees from a consulting company in Germany. On the other hand, the benefit of such a specific study is that it can serve as a pool of data-supported ideas for larger-scale studies involving employees from various sectors and different

world regions. Final limitation of the study is its adoption only of the quantitative approach. Future research can, therefore, utilize the power of a mixed method for gathering richer data on organizational TS, facilitating thus also cross-validation.

Despite its limitations, this study has within its scope also contributed beneficial practice-informed insights concerning the existence and nature of TS in the German consulting environment. It contributes to the current literature by demonstrating significant associations between work levels, age, gender, family status and TS as well as its more specific sub-dimensions of Techno-Overload, Techno-Invasion and Techno-Complexity. Specifically, the study's novel contribution concerns the finding that older female employees experience significantly more Techno-Complexity, while the family status shows no effect on it. Additional novel contribution is also the finding that senior employees experience more Techno-Overload and Techno-Invasion compared to their co-workers in junior positions.

Overall, the present research results indicate not only the importance, but also the necessity of stress prevention solutions that specifically focus on employee gender, age, and the seniority level as the main starting points for the effective prevention of TS.

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CONFLICT OF INTEREST

None.

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Демографічні та професійні детермінанти технічного перевантаження, техноінтрузії та технокомплексності

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Анотація. Основною метою цієї статті було привернути більше уваги до поширеності техностресу в консалтинговому середовищі. Оскільки TS сприймається по-різному щодо його змісту, автори зосередились на вивченні його зв'язку з такими демографічними змінними, як стать, вік, рівень роботи та сімейний статус. Дослідження проводилося за допомогою кількісного опитувальника. Вибірка складалася з 702 працівників консалтингових компаній (417 чоловіків і 275 жінок) у віці від 18 до 65 років. Аналіз даних базувався на ANOVA та моделях ступінчастої регресії. Результати показують, що жінки-учасники та працівники старше 35 років відчувають значно більшу технічну складність порівняно з іншими групами. Сімейний статус не має значного впливу на технічну складність. Старші співробітники відчувають більше технічного перевантаження та техно-інвазії порівняно з колегами на нижчих посадах. Висновки авторів вказують на необхідність рішень щодо запобігання стресу на робочому місці, зосереджуючись конкретно на статі, віці та стажі роботи працівника. Результати свідчать про те, що така зосередженість може виявитися необхідною для запобігання вигоранню та значного зниження індивідуальних рівнів стресу, втрати концентрації на робочому місці та загальної продуктивності на робочому місці

Ключові слова: інформаційно-комунікаційні технології; стрес; технологія; технострес; робоче місце

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Characteristics of bullying among adolescents in Ukraine after the full-scale russian invasion

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Abstract. This article presents the results of an all-Ukrainian study titled “Bullying and Tolerance in Educational Institutions after February 24, 2022”, conducted between November 2023 and January 2024. The study aimed to identify the prevalence of bullying among middle school students (grades 5-9) and its most common types and pretexts. Additionally, the research identified support-seeking patterns for adolescents experiencing bullying and how schools respond to these appeals. Common school responses included communication with the bully or target and involving the bully’s parents. Police intervention occurred in 3.9% of cases. Notably, some peculiarities of bullying in Ukrainian schools emerged after the full-scale russian invasion, including increased bullying levels in Kyiv and new pretexts such as refugee status. The overall prevalence of bullying since the invasion began is 24.7%. Among bullied students, 59.4% sought help from someone and 52.2% of those received help. Appearance, behaviour, and worldview were the most common pretexts for bullying. Based on language, those who live abroad and moved there from the Kharkiv, Kherson, Luhansk, Kyiv Regions and Kyiv, as well as those who live in the Lviv Region and Kyiv and moved there from the Kherson and Donetsk Regions, are more likely to be bullied because of their use of the russian language. Relational bullying, such as spreading rumours and discouraging friendships, was the most prevalent type among Ukrainian adolescents. The study results can be used for more effective anti-bullying intervention programs in educational institutions

Keywords: bullying; types of bullying; pretexts of bullying; full-scale invasion; intergroup relations; group dynamics

INTRODUCTION

Every year, both in Ukraine and around the world, there is increasing discussion about bullying in the school environment. On the one hand, this is due to the prevalence of information technology and the emergence of cyber-bullying, and on the other hand, new trends emphasise putting the child and their psychological safety at the centre of the educational process (Samchenko, 2023).

The need to comprehensively study the prevalence, responses, and characteristics of bullying in Ukraine has long been overdue. However, since 2022, due to changes in migration processes and the psycho-emotional state of Ukrainians, this issue has become even more urgent. Conducting a narrowly thematic representative study enables to determine the baseline

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prevalence of bullying after the full-scale invasion and understand the characteristics of bullying and responses to it in Ukraine, especially given the changes in the psychosocial context in recent years. This information can be used to develop and implement anti-bullying prevention and intervention programs in Ukrainian educational institutions.

LITERATURE REVIEW

The issue of bullying gained recognition primarily within the English-speaking world, particularly with the publication of Dan Olweus' *Aggression in the Schools* (1978), where the author describes research on bullies and targets of bullying conducted in Stockholm schools in the early 1970s. Most scholars refer to the definition by Olweus: "A student is being bullied when he or she is exposed, **repeatedly** and over time, to **negative actions** on the part of one or more other students", and "there should be **imbalance in strength**" (Olweus, 1993).

National prevention and intervention programs, when formulating the definition of bullying, are based on three (sometimes four) main characteristics inherent in bullying: regularity (repeated action), pain, power imbalance, and, in some cases, intent. Olweus also identified these characteristics: 1) aggressive behaviour aimed at harming someone; 2) this behaviour is repeated over a long period of time; 3) it is characterised by an imbalance of power and/or authority (Olweus, 1994; Smith *et al.*, 1999). As for the fourth characteristic (intent to harm), in Rigby's book, he writes about the initial intention to harm (Rigby, 2007). D. Olweus (1997) also writes about the initial intent to harm as a feature of bullying.

Ukrainian legislation (as of April 2024) defines the concept of "bullying" without considering the characteristics that the author of the definition gave to bullying and provides only two out of three (or four) characteristics: 1) harm (pain) and 2) systematic nature (The Law of Ukraine No. 2657-VIII..., 2018). This may cause other forms of aggression to be mistakenly attributed to bullying.

Some scholars point out that **bullying** is defined differently in different cultures and languages despite the classic definition by D. Olweus (1994). In addition, in Ukraine, the term "bullying" is used synonymously with the term "цькування" (tskuvannia), although it has a somewhat broader meaning than bullying.

The everyday Ukrainian understanding of bullying, due to the imposition of the term "цькування", differs significantly from the one accepted in Western academic tradition and is often used to describe a much wider range of aggressive behaviour. D.P. Farrington (1993) also complains about the confusion in definition among Western scholars. In particular, because of this confusion, in the more than 20 years of studying the topic after Farrington's article, researchers have tried to adhere to the classic definition of bullying provided by D. Olweus. The authors also use this definition in this article.

Bullying has yet to be studied in Ukraine, but questions about it have been included in several large-scale sociological surveys. All-Ukrainian surveys on the prevalence of bullying have been conducted in several waves as part of the Health and Behavioural Science Centre (HBSC) study. According to the 2018 study, 37.9% of all adolescents surveyed admitted to being victims of insults/humiliation/bullying in the past two months, experiencing them with regularity. However, the researchers included individuals who reported experiencing such actions "once or twice" in this percentage (Balakireva & Bondar, 2019). This raises the question of whether a single occurrence can be classified as bullying if systematicity and repetition are considered key characteristics. Excluding the share of those who answered "once or twice" to this question gives a prevalence rate of 15.8% of respondents who were victims several times a week, once or twice a week, or 2-3 times a month. This figure seems low compared to the bullying prevalence surveys of previous years, as well as our current survey of 2023/2024. This may be explained by the generalised wording of the questions about bullying and violence, which yields lower prevalence rates than questions describing specific situations that are considered bullying (Huang & Cornell, 2016).

Although the HBSC study examined the prevalence of bullying over five waves, it did not examine the pretexts for bullying or how schools responded. This is not surprising given that the study does not specifically focus on bullying but instead on children's rights.

The ESPAD-2019 survey (Balakireva *et al.*, 2019) shows that more than a third of adolescents aged 15-16 (35%) have engaged in "insulting" behaviour in the past two months. Slightly more than a third (39%) reported being "insulted" during the same period. Similar questions, but where the word "bullying" was used instead of "insulting" yielded a combined 15.9% of adolescents being attackers and targets. According to the PISA study (conducted among adolescents aged 15), in 2022, only 21.7% of students in Ukraine suffered from bullying (Bychko *et al.*, 2023). In 2018, the same study recorded the prevalence of bullying in Ukraine at 25.8% (Mazorchuk *et al.*, 2019).

Types of bullying. Based on the analysis of Ukrainian publications, it can be seen that studies usually measure only the prevalence of bullying, but almost never identify (except for some studies, such as ESPAD-2019) the types, reasons, and pretexts of bullying in the school environment.

When dividing bullying by type, we propose to use the following criteria: the place of the incident and the type of interaction between the participants. Two types of bullying can be distinguished by the place of occurrence: traditional and cyberbullying (Kowalski *et al.*, 2012; Hase *et al.*, 2015). Traditional bullying occurs in person and is limited to a specific space, such as a school, club, or classroom. Cyberbullying occurs

“remotely” through electronic means of communication. Direct and indirect bullying are distinguished based on the type of interaction (Olweus, 1993). In direct bullying, the target knows who the perpetrator is. Direct bullying can manifest in name-calling, hitting, pushing, ridicule, and mockery. Indirect bullying is expressed in social isolation, spreading rumours, etc. (Chester *et al.*, 2017; Hu *et al.*, 2022; Ratcliff *et al.*, 2022). This type of bullying is also called relational.

Pretexts for bullying. Traditionally, children who are vulnerable to bullying are those with special educational needs and/or disabilities (Cullinan, 2007; McLaughlin *et al.*, 2012), those who are overweight (Merrill & Hanson, 2016), and those from families with low socio-economic status (Låftman *et al.*, 2017). A separate category includes targets of bullying against whom society has already formed certain prejudices. Usually, these are representatives of so-called minorities, including racial, sexual, ethnic, linguistic, and religious minorities.

Children who present with mental health challenges, substance use, or video game addiction also face a higher risk of bullying (Merrill & Hanson, 2016). Targets of bullying usually have a lag in communication skills and the quantity of social interactions (Gresham, 2015; Weeden *et al.*, 2016; Romera *et al.*, 2021). When selecting pretexts for bullying, the authors of the study considered these risk groups.

MATERIALS AND METHODS

The sociological study was conducted from November 2023 to December 2024 by an online survey through the Qualtrics platform among students in grades 5-9 (10-14 years old). The age group was chosen because bullying spikes during “crisis” periods in school life, especially during the transition from primary to secondary school. At this point, several factors coincide with the beginning of hormonal changes in the child’s body, when physical and mental transformations occur; changes in group dynamics (mixing of the group, class newcomers, change and restructuring of roles in the group); as well as many school challenges: a new curriculum, new subject teachers, etc. (Farmer *et al.*, 2010; Turunen *et al.*, 2021; Clark *et al.*, 2022).

The link to the parental/guardian consent form was sent to secondary education institutions through regional and district education departments, where classroom teachers distributed the consent form to parents/guardians of students in grades 5-9. If parents gave their consent, they automatically received a link to an anonymous student questionnaire with instructions and a request to pass it to their child(ren). The respondents also gave their assent to the questionnaire; thereby the consent of both parents/guardians and children was obtained.

Sample design. A controlled sample was used for this study. The calculation of the sample population for the survey of students in grades 5-9 by region of Ukraine

was based on official statistics at the beginning of the 2022/23 school year. The active dissemination of information and the type of sampling allowed to survey of 14,728 respondents aged 9-16 in 24 regions of Ukraine and Kyiv (except for the temporarily occupied and/or uncontrolled territories). To work with the data set and to ensure an even distribution across the regions of Ukraine, the sample population was weighted by region following the planned sample. In this case, the confidence interval for the sample of 5 576 respondents is $\pm 0.80\%$ with a ratio of variables from 0.1 to 0.9. Due to the distribution of respondents, which corresponds to the structure of the population by region for this age and covers all regions except the temporarily occupied ones, the data are representative.

The student survey results were analysed using the specialized statistical package IBM SPSS Statistics, which allows for the use of the most modern methods of mathematical statistics for data processing. As part of the survey data analysis, frequency (univariate) and bivariate data distributions were constructed for nominal and ordinal attributes and nominal attributes with compatible alternatives. The following analysis methods were used to analyse the results: the mean value method, the standard deviation method, and the ranking method.

Socio-demographic characteristics of the respondents. The study included 52.6% male and 47.4% female respondents. According to the age distribution, most respondents were 14 (28.8%), and the least were 10 (15.7%). The age groups of 11-13 comprise almost the same proportion of respondents (18.0%). Of the respondents, 99.2% studied at schools, lyceums, and gymnasiums, and 0.8% at technical schools and colleges. The distribution of students by grade matches the statistically significant error. Specifically, 21.8% of respondents study in the 5th grade, 19.9% in the 6th, 18.4% in the 7th, 18.4% in the 8th, and 21.6% in the 9th.

One-third of the surveyed students study in schools located in rural areas (23.7%), 12.3% in villages, 46.4% in cities (including 8.7% in cities of regional significance (including Kyiv), 29.9% in cities of district significance, and 7.8% in other cities). Almost half of the surveyed students study at school in Ukraine full-time (45.3%), one in five in a mixed form of education (19.3%), and (20.6%) online with their classes in Ukraine. Additionally, 7.7% of the surveyed students study online at a distance school in Ukraine, and 6.5% combine studying abroad and a distance school in Ukraine. The study was approved by the Institutional Review Board of Princeton University (IRB No. 15642).

RESULTS AND DISCUSSION

The first set of questions about bullying focused on the respondents’ general experience without reference to a recent period. We did not ask a direct question about

bullying; instead, we used a projective question that described the bullying situation but did not name it. In total, 51.3% of the adolescents surveyed said they had repeatedly experienced at least one of the following. (Fig. 1).

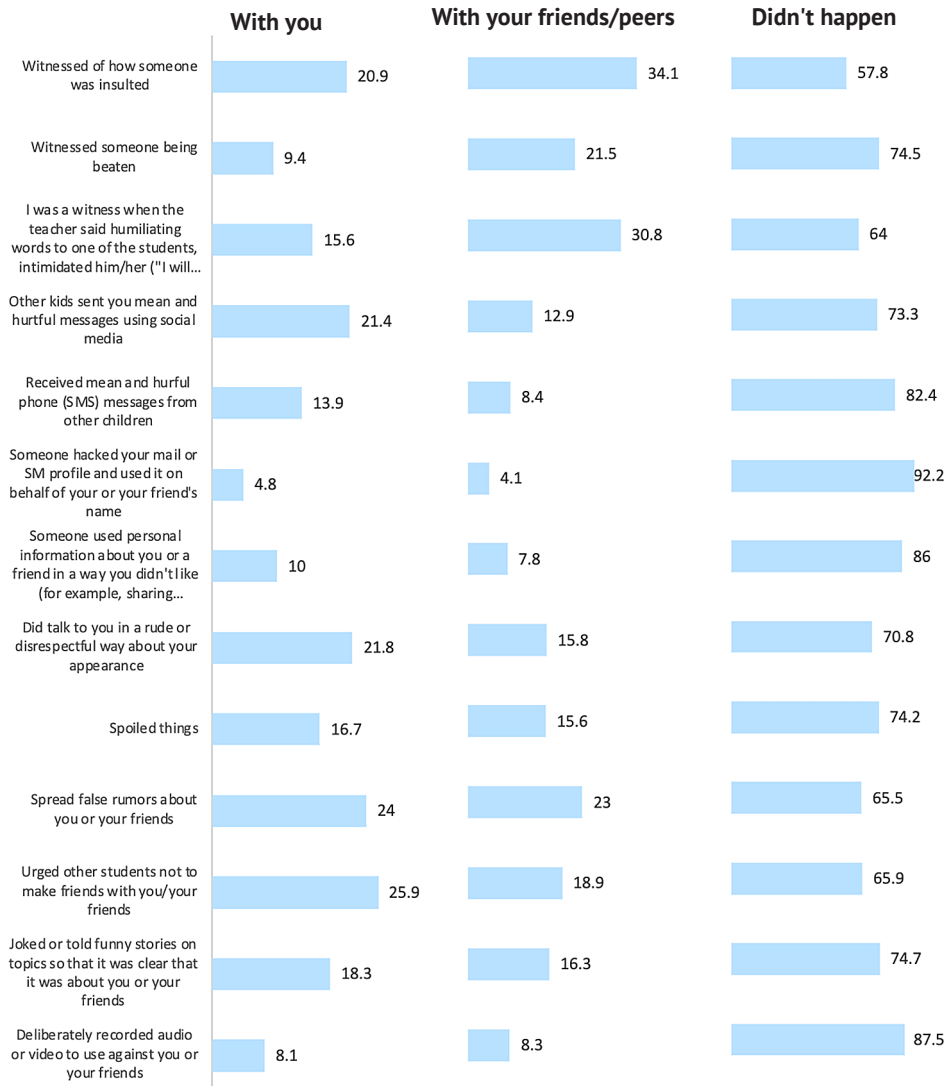


Figure 1. Distribution of responses to the question

“Has any of the following ever happened to you or your friends repeatedly (i.e., several times)?”, %

Note: respondents could choose several answers, so the sum of answers does not equal 100%

Source: compiled by the authors of this study

A comparison of students' responses by gender regarding the mention of at least one of the listed situations of bullying shows that 55.9% of females and 46.2% of males have experienced it. Since *September 1, 2022*, 24.7% of students who participated in the survey have faced “repeated intimidation, insults, isolation, rumours, etc., that could cause mental or physical pain” (Fig. 2).

Among males, 24.1% have been bullied since September 1, 2022, while among girls, it is 25.4%. This

matches the trend in the distribution of bullying by gender observed in foreign statistics (Digest of Education Statistics, n.d.). According to the region where the respondents' school is located, students in Kyiv have faced bullying most often since September 1, 2022 (33.7% reported having experienced bullying). The least frequent cases of bullying during this period were reported by students in the eastern (18%) and southern (22%) regions (Fig. 3).

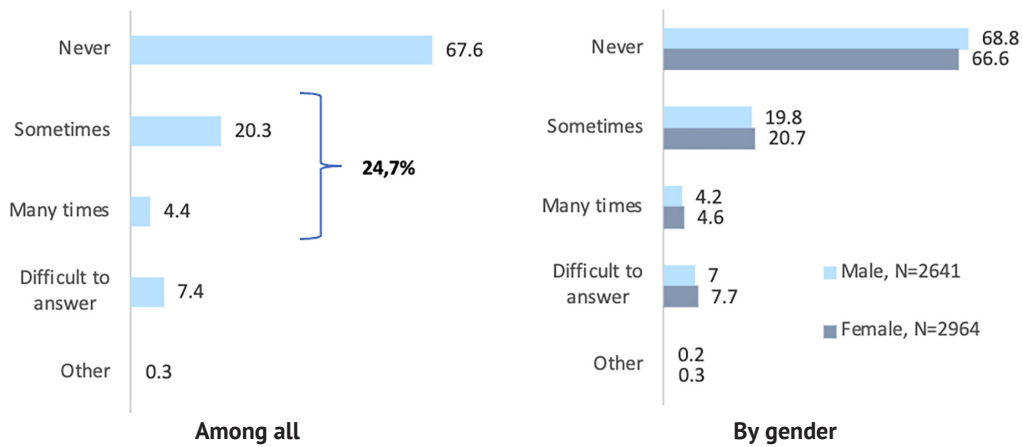


Figure 2. Distribution of responses to the question “*Since September 1, 2022, have you suffered from repeated intimidation, insults, isolation, rumours, beatings, etc., that could cause mental or physical pain?*”
Source: compiled by the authors of this study

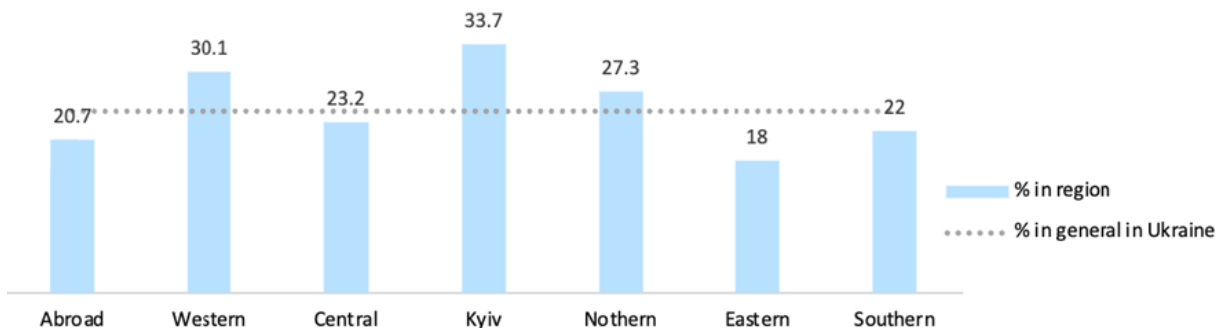


Figure 3. Distribution of answers of respondents who have suffered from repeated intimidation, insults, isolation, rumours, beatings, etc., depending on the macro-region, %
Source: compiled by the authors of this study

The highest rate of bullying was found in regional centres (34.4%) compared to cities of district significance and other cities (25.8% and 24.1%, respectively), as well as in rural areas – 25.3% (Fig. 4).

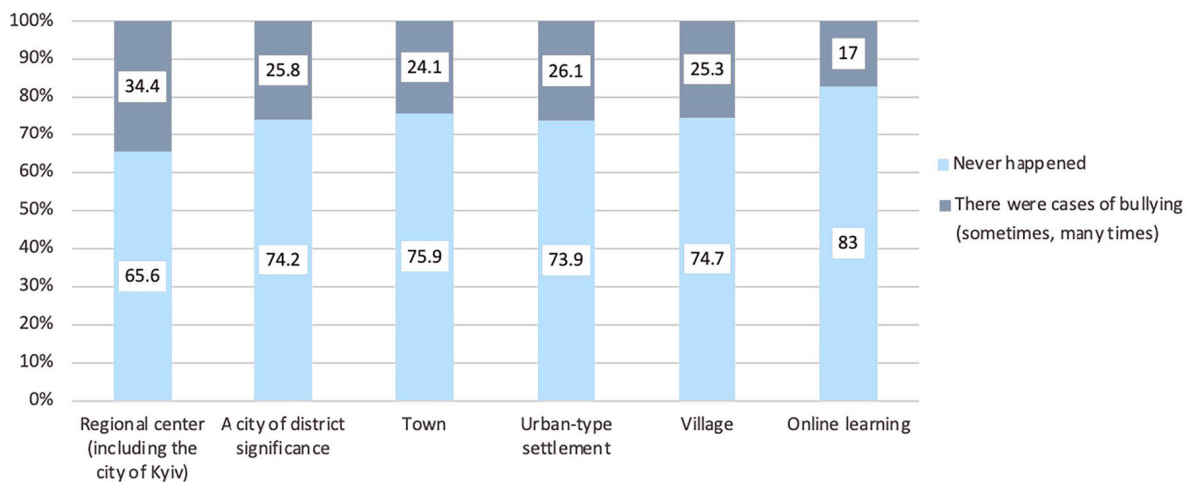


Figure 4. Distribution of responses about experiencing bullying by type of settlement, % (share of those who chose at least one of the listed cases that have happened repeatedly at any time)
Source: compiled by the authors of this study

Regarding the types of bullying, the most commonly reported were (the sum of the percentages may exceed 100, as respondents could choose more than one answer):

1. Being told not to be friends with them (25.9%);
2. Spreading false rumours about them (24.0%);
3. Derogatory or humiliating comments about their appearance (21.8%);
4. Offensive online messages (21.4%);
5. Jokes or anecdotes told in a way that made it clear that they were about the target of bullying (18.3%).

One of the objectives of our study was to find out what pretexts of bullying have been used to bully adolescents since September 1, 2022. Thus, 21.5% of the surveyed students do not know why they were bullied, 28.7% mentioned appearance, 22.6% – strange behaviour (too active, too shy or indecisive, too different from others), 21.5% – a worldview that differs from the opinions of others, and 18.7% – preferences/hobbies.

The least frequently mentioned reasons for bullying were race and family lifestyle (Fig. 5).

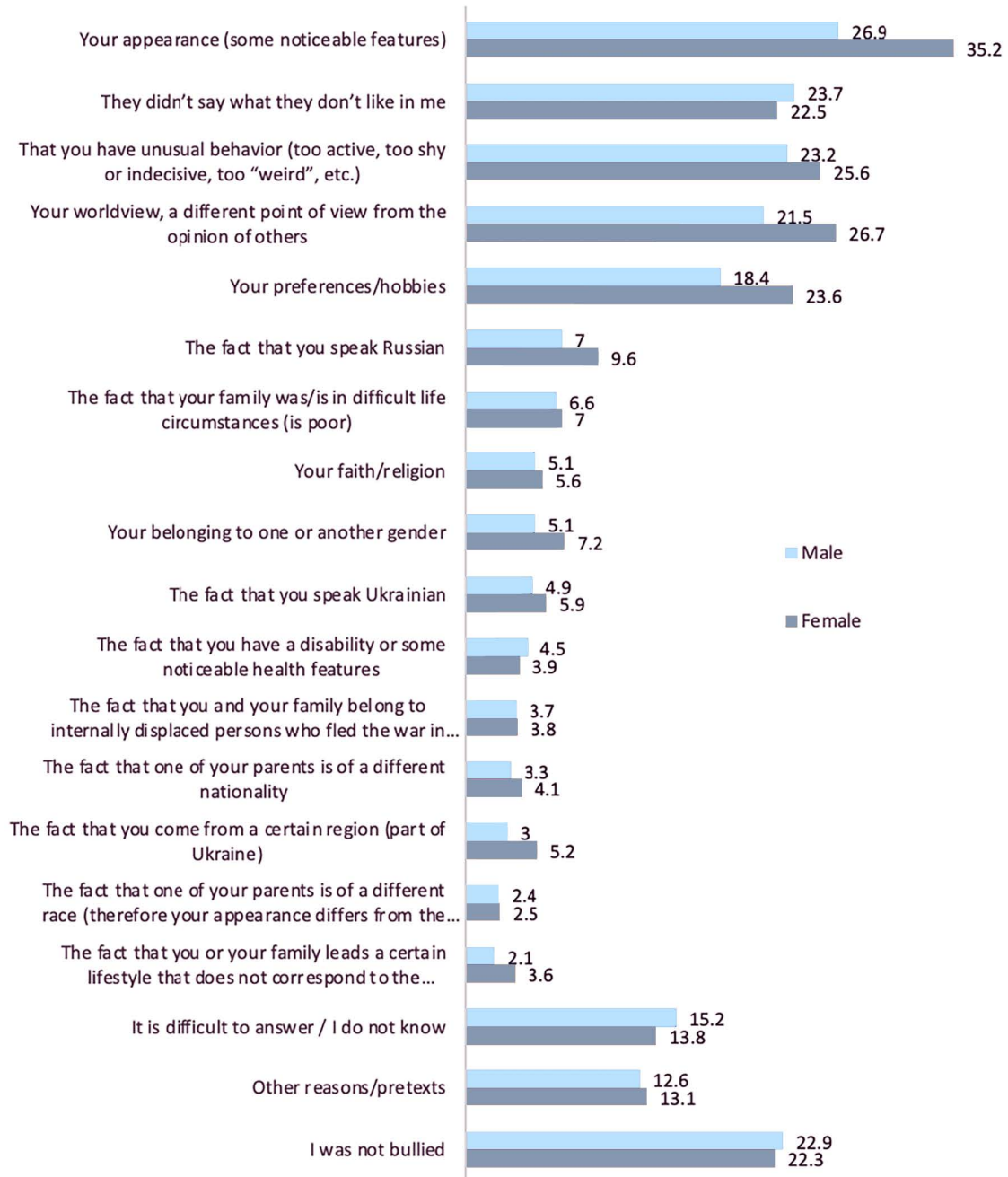


Figure 5. Distribution of responses to the question “What is the pretext why you might have been bullied since September 1, 2022, or after the outbreak of a full-scale war?”, by gender, %, N = 1,380

Note: respondents could choose several answers, so the sum of answers does not equal 100%

Source: compiled by the authors of this study

When analysing each of the pretexts by gender, no statistically significant differences were found, except for bullying due to “because of appearance”. Among 35.2% of girls said they were bullied because of their appearance, whereas among boys, this figure was 26.9% (Fig. 5).

Respondents living abroad most often mentioned pretexts for bullying, such as origin from a certain region (oblast, part of Ukraine) (10.7%), speaking Russian (13.2%), or Ukrainian (10.7%). Separating those who are bullied for speaking Russian and calculating the dependence on the region of origin and the region of location during the survey revealed that those who are abroad and moved there from the Kharkiv, Kherson, Luhansk and Kyiv Regions, as well as Kyiv, are bullied for this reason. The same applies to those in the Lviv

Region and Kyiv and moved there from Kherson and Donetsk Regions.

Asking for help and the school's response to bullying. After September 1, 2022, 16.2% of all respondents sought help from at least someone. Among students who have been or are being bullied, there are 59.4% of those who asked for help. In particular, girls (62.4%) were more likely than boys (55.8%) to seek help from at least someone. Girls (45.8% of bullying targets) more often than boys (40.6%) sought help from their parents, as well as from friends and peers (23.1% and 11.8%, respectively) (Fig. 6). These findings are consistent with similar studies that show that girls are more likely to seek help (Cortes & Kochenderfer-Ladd, 2014; Modecki *et al.*, 2014). One-third of targets turned to teachers (30.1%).

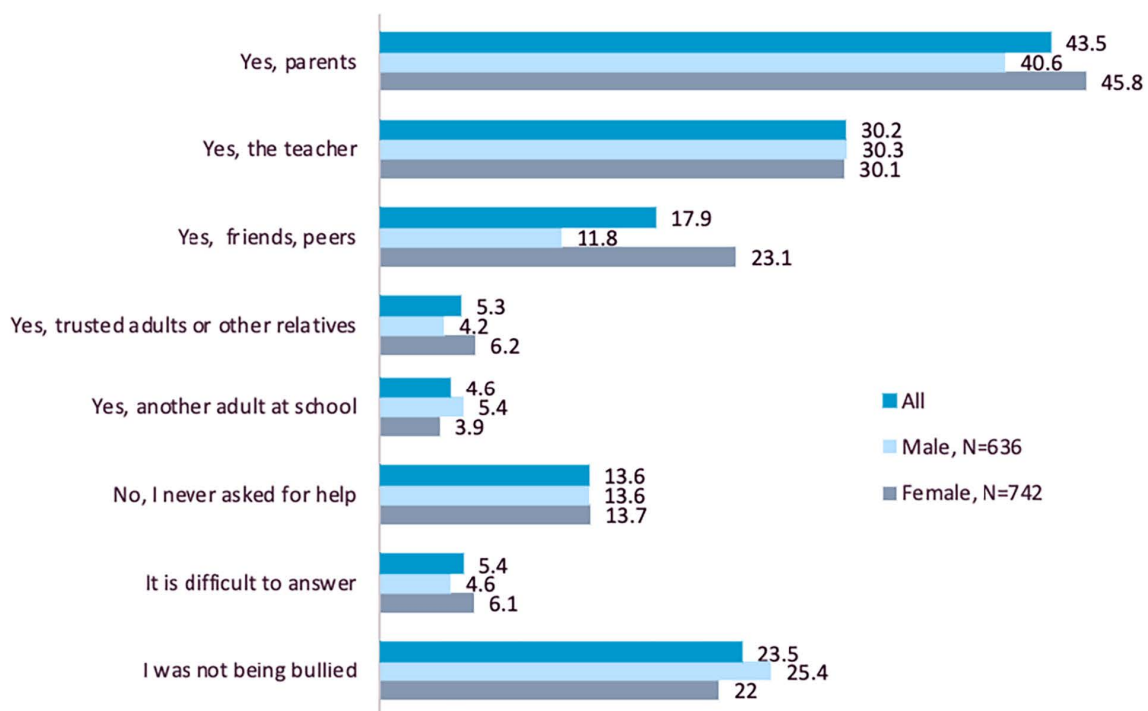


Figure 6. Distribution of responses to the question “If you were or are being bullied, have you asked anyone for help?”, % of those who have suffered at least sometime since *September 1, 2022*, N=1 380

Note: respondents could choose several answers, so the sum of answers does not equal 100%

Source: compiled by the authors of this study

As the age of respondents and grade level increase, the frequency of children seeking help in cases of bullying decreases. Among all surveyed 5th-grade students, the proportion of those who have asked someone for help is 18.7%; among 9th-grade students, it is 12.8% (Fig. 7). Among bullying targets, the respective figures are 68.1% and 47.9%.

Half of the students who sought help from someone said that everyone they approached responded to their need for help (52.2%). 34.9% said that some responded and some did not, 5.6% of surveyed students answered that no one responded to their request for help, while 6.4% hesitated to answer this question (Fig. 8).

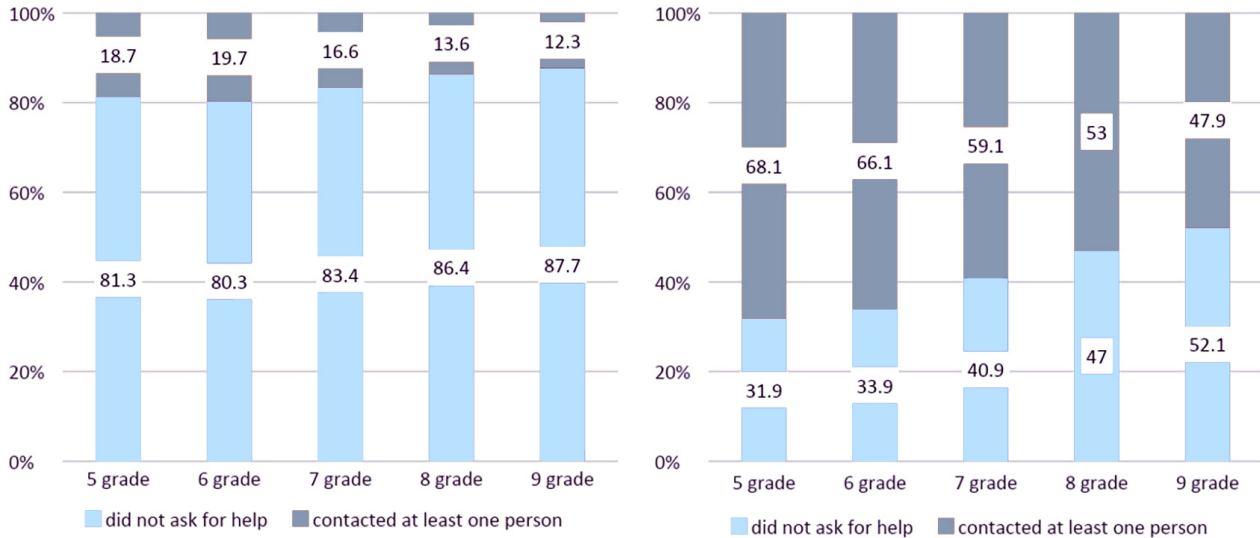


Figure 7. Distribution of respondents' appeals to someone because of bullying depending on the grade, % of those who have suffered at least sometime since *September 1, 2022*, from repeated intimidation, insults, isolation, rumours, beatings, etc., that could cause mental or physical pain, N = 1,380

Note: % of all, N = 5,576

Source: compiled by the authors of this study

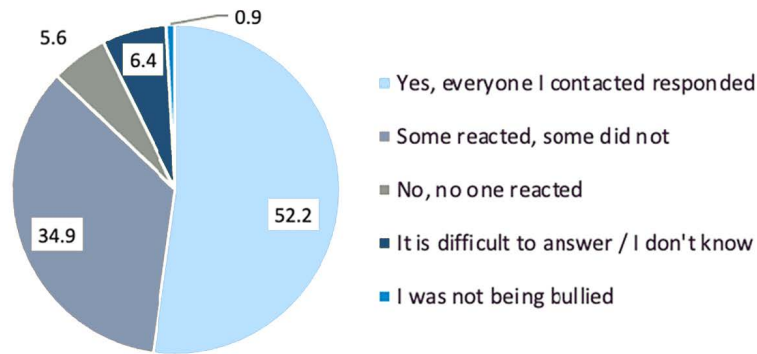


Figure 8. Distribution of responses to the question "Did those to whom you sought help respond in any way?"; % of those who sought help when they were or are being bullied, N = 820

Source: compiled by the authors of this study

13.5% of all surveyed students said that a teacher or other adult from school had witnessed bullying, 52.5% said that no adults or teachers were among the witnesses, and 33.9% hesitated to answer. However, 19.6% of those who said that teachers or other adults from school witnessed bullying claim that adults did nothing. 51.0% say that witnesses of bullying talked to the attacker, and one in three says they talked to the victim of bullying (30.4%). 26.1% of students said that adults talked to both the attacker and the bully simu-

taneously. Other actions mentioned by students included calling the parents of the bully (23.8%), the parents of the victim (15.8%), involving the principal (19.4%) and psychologist (16.4%) (Fig. 9).

19.9% of respondents reported that bullying stopped after adult intervention, 26.1% reported that it became easier, and 25% reported that nothing changed. In addition, 3.8% of respondents reported that bullying had increased, and 2.5% reported that it had become much worse (Fig. 10).

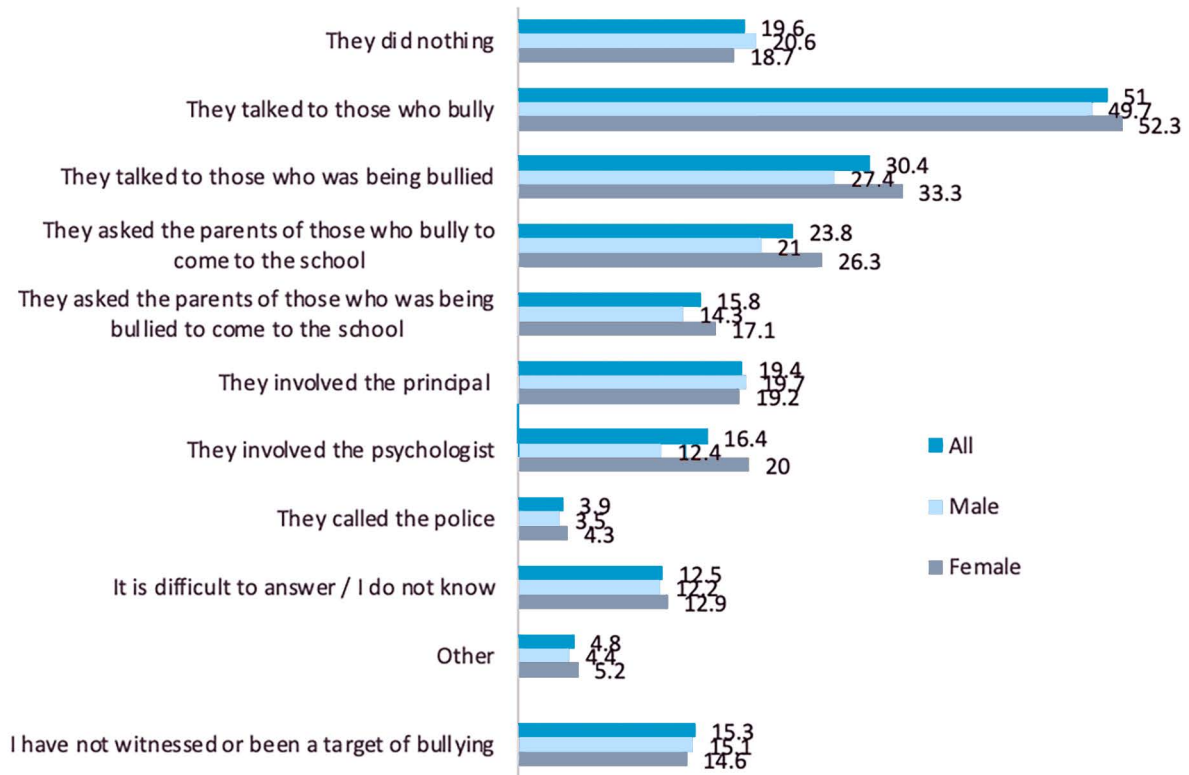


Figure 9. Distribution of responses to the question “What exactly did the school, or an adult do?”, % of those who said that one of the teachers or other adults from the school witnessed bullying, N = 751

Note: respondents could choose several answers, so the sum of answers does not equal 100%
Source: compiled by the authors of this study

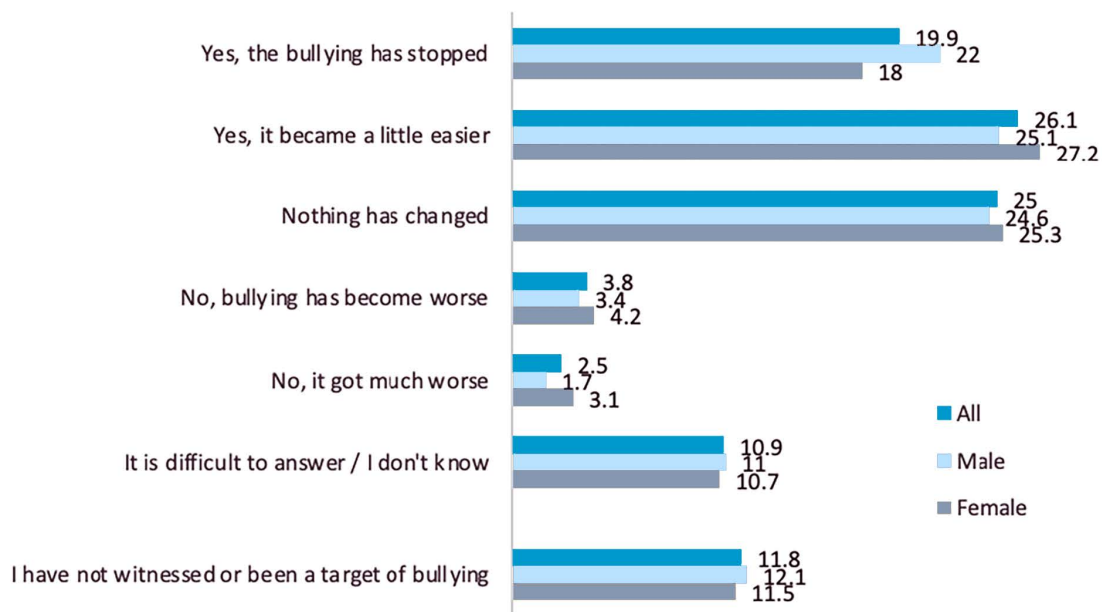


Figure 10. Distribution of responses to the question “Did it help with the bullying situation?”, % of those who said that one of the teachers or other adults from school had witnessed bullying, N = 751

Source: compiled by the authors of this study

The most effective method of dealing with bullying was to involve a psychologist. Thus, 68.4% of respondents said that bullying stopped or became a little easier. Also, according to the respondents, one of the most influential methods was to invite the parents of the

target of bullying to school (70.4%) and the invitation of parents of the bully as well (66.1%) (Fig. 11). After calling the police, the situation with bullying worsened in 16.0% of cases, and in the case of non-intervention – in 11.4% (Fig. 11).

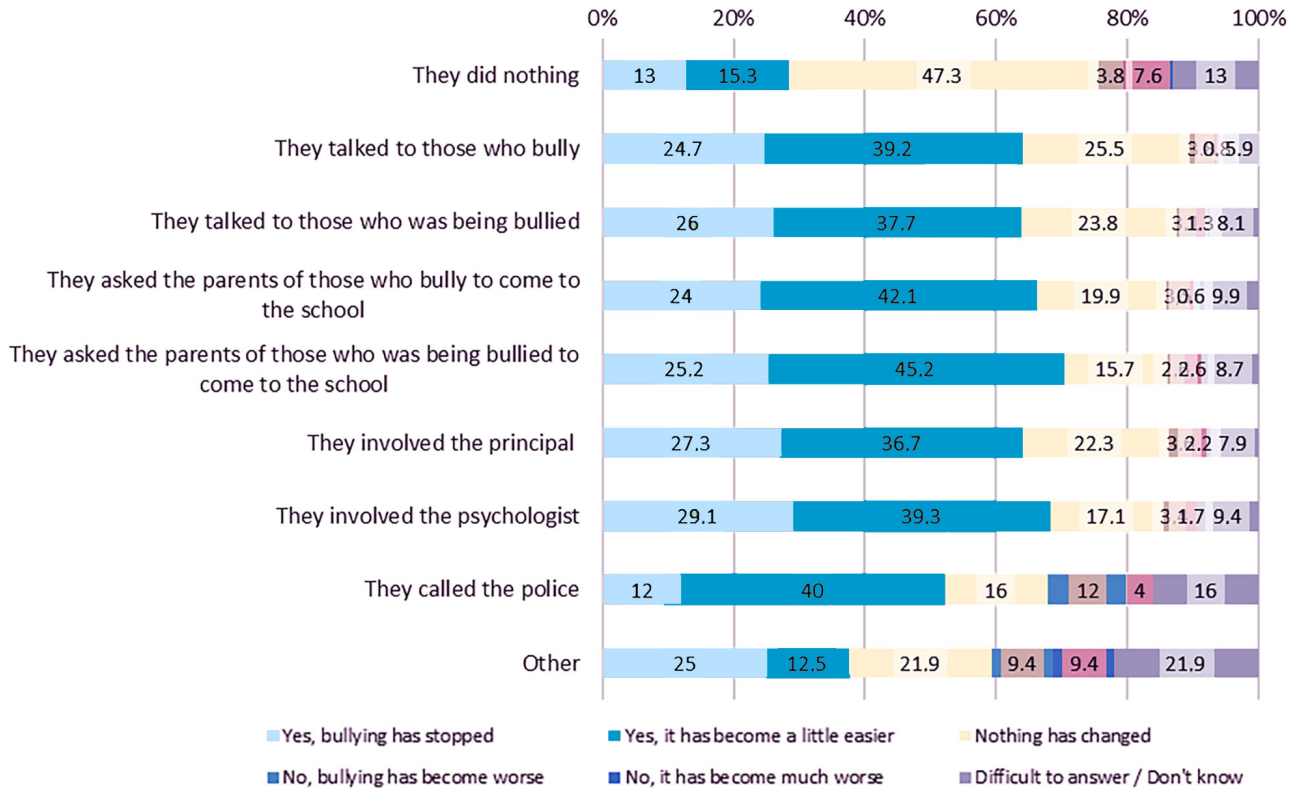


Figure 11. Distribution of respondents' answers about actions of the school or adults in relation to bullying situations they participated in or witnessed, depending on the consequences of these actions, % of those who said that one of the teachers or other adults from the school witnessed bullying, N = 751

Source: compiled by the authors of this study

This study demonstrates the significant presence of indirect relational bullying in the school environment. Not only does relational bullying often go unnoticed by teachers and is not taken seriously (many educators and parents do not perceive humour or social isolation as something that can be harmful), but it is also the type of bullying that causes the most mental health damage (Hu *et al.*, 2022). Research findings indicate (Bradshaw *et al.*, 2007; Duy, 2013) that teachers are more likely to intervene in direct (physical and psychological) bullying than in cases of relational bullying. It is important to consider these indicators when comparing student and teacher perceptions of bullying: teachers, with significant types of bullying may be unaware of certain types of bullying, which may not receive the appropriate intervention.

There is hidden a vast potential for intervention in the responses to adults' reactions to reports of bullying. According to this survey, every fifth adult who witnessed bullying did not intervene. The fact that

adults did not respond at all to the request for help was reported by 5.6% of respondents, and "Some responded, but some did not" by 34.9%. However, when teachers or other adults intervened, bullying ceased (19.9%) or the situation improved (26.1%). Thus, overall, the bullying situation was resolved in 46% of cases. Authors assume that involving adults who did not respond to bullying can significantly improve the situation in the educational environment. However, ways to engage passive adults most effectively have yet to be explored.

Another noteworthy aspect of improving the situation with bullying is that only a third of students sought help from teachers, who are in a position to intervene directly and immediately. Adolescents either do not trust teachers, have strained relationships with them, or lack an anonymous channel for reporting bullying. One of the objectives of our study was to understand the specifics of the bullying situation in Ukraine in the period after the start of the full-scale

russian invasion. As evident from the results, Kyiv shows higher bullying rates than other macro-regions, which is somewhat anomalous. Typically, cities report lower bullying rates than rural areas (Student reports of bullying..., 2019). However, upon comparing with other indicators, it can be observed that Kyiv has the highest proportions of individuals who have travelled abroad and returned (15.9%), as well as those who relocated to Kyiv from other regions (31.6%). Kyiv also has the lowest proportion of students who have not moved from their homes after February 24, 2022, due to the war (37.0%).

Against the backdrop of such migration processes in Kyiv schools, there are consequences of roles being redistributed within groups due to the influx of new (IDPs) or new-old (returnees) group members. Drawing on social identity theory (Tajfel & Turner, 1979), the mere presence of a representative from external groups can precipitate intergroup conflicts. According to a study by K. Ojala & D. Nesdale (2004), grounded in SIT, perceiving a situation as threatening to ingroup distinctions contributes to the tolerance of bullying by other group members. Moreover, bullying can become a tool for accentuating positive differences between ingroup and outgroup members. The same study suggests that ingroup favouritism, fostered through social identity processes, may eventually lead to the bullying of outgroup members (Ojala & Nesdale, 2004; Scherr & Larson, 2010).

It can be assumed that the influx of IDPs to Kyiv has led to the formation of new minority groups in classrooms, which constitutes an additional factor of victimisation (Graham & Juvonen, 2002), as intergroup interaction occurs from the perspective of different identities and values.

The third risk factor is the accumulated stressors experienced by newcomers to Kyiv schools (Goldweber *et al.*, 2013), such as relocation, experiences, escaping from occupation, witnessing war, forced migration, chronic stress, etc. These factors increase the likelihood of becoming targets of bullying. Additionally, "the negative effects of intergroup interaction increase in times of social crises or war" (Chorna, 2023).

The high prevalence of language (russian and Ukrainian) and regional origin among children abroad presents challenges in interpretation, as the question design does not distinguish whether these respondents experienced bullying based on these factors offline from other Ukrainian refugees, members of the local community, or Ukrainian students online. Bullying of migrants based on language by the local population is described in the literature as a common phenomenon. For example: "Social exclusion and the formation of social identity groups create bullying at these schools. The findings show that immigrant learners tend to withdraw from participation in verbal activities in the classroom because they are ridiculed." (Babane, 2020; Biswas *et al.*, 2020; Lebrun-Harris *et*

al., 2020). S. Dovchin (2020) discusses the concept of "ethnic accent bullying", focusing on bullying related to biographical accents and sociolinguistic backgrounds. At the same time, bullying based on origin from specific regions of Ukraine may be perceived by refugee students within the broader context of "originating from Ukraine".

Overall, identifying changes in the nature of bullying in Ukraine following the full-scale russian invasion is challenging primarily because there have been no systematic and targeted surveys of children and adolescents regarding bullying in the school environment in Ukraine. The few studies that have been conducted are sporadic and used different tools (with varying questions and definitions of bullying), targeted different age groups, and employed diverse survey methods.

It is also challenging to compare these results with data from other countries, as differences in tools and research methodologies also contribute to this difficulty.

CONCLUSIONS

It is worth noting that the prevalence and manifestations of bullying in this study are comparable to other studies conducted in Ukraine before the outbreak of full-scale war. The survey results provide insight into the prevalence of indirect, relational bullying, which often remains invisible to teachers (van der Wal *et al.*, 2003) and thus directly affects how teachers respond to reports of bullying (Cortes & Kochenderfer-Ladd, 2014). Recognising that some types of bullying may be invisible to teachers and understanding the importance of responding to such bullying will help encourage children to report instances of bullying.

It is also essential that the study sheds light on the funnel of responses to bullying at school. Not all children report bullying to adults, and not all reported incidents receive responses. Involving more adults in responding to bullying, as well as addressing the prevalence of indirect relational bullying, can help educational institutions combat its manifestations effectively. Additionally, the study revealed regional variations in the prevalence of bullying in Ukraine. For example, increased rates of reported bullying were found in Kyiv due to migration processes in the capital after February 24, 2022. These processes contribute to the reshuffling of group dynamics and bullying towards out-group representatives, reflecting social identity formation and ingroup favouritism.

The most common pretexts for bullying include appearance, unusual behaviour, differences in worldview, and preferences/hobbies. In Kyiv, students are more often bullied due to their gender, appearance, and preferences/hobbies compared to other regions of Ukraine. Conversely, students abroad are bullied based on their origin from specific Ukrainian regions or their proficiency in russian or Ukrainian languages. There is a clear need for further systematic research on bullying

in Ukraine to understand the changes in societal dynamics during wartime and post-war periods.

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CONFLICT OF INTEREST

The authors are not aware of any possible conflict of interest.

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Особливості булінгу серед підлітків в Україні після повномасштабного російського вторгнення

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Анотація. У статті представлено результати всеукраїнського дослідження «Булінг і толерантність у закладах освіти після 24 лютого 2022 року», проведеного в листопаді 2023- січні 2024 року. Дослідження мало на меті виявити розповсюдженість булінгу серед учнів середньої школи (5-9 класи), його найпоширеніші види та приводи. Крім того, дослідження визначило патерни пошуку підтримки підлітками, які зазнають булінгу, та шляхи реагування школи на ці звернення. Найпоширеніші відповіді шкіл містили спілкування з кривдником або мішенню та залучення батьків кривдника. Поліція втручалася у 3,9 % випадків. Слід зазначити, що деякі особливості булінгу в українських школах з'явилися вже після повномасштабного російського вторгнення, зокрема підвищений рівень булінгу в Києві та нові приводи, такі як статус біженця. Загальна поширеність булінгу з початку вторгнення становить 24,7 %. Серед учнів, які зазнали булінгу, 59,4 % зверталися по допомогу до когось, з них 52,2 % отримали допомогу. Зовнішній вигляд, поведінка та світогляд були найпоширенішими причинами для булінгу. За мовною ознакою частіше зазнають цькування через російську мову ті, хто проживає за кордоном і переїхав туди з Харківської, Херсонської, Луганської, Київської областей та м. Києва, а також ті, хто проживає у Львівській області та м. Києві і переїхав туди з Херсонської та Донецької областей. Серед українських підлітків найрозповсюдженішим типом булінгу є реляційний булінг, зокрема поширення чуток та перешкоджання дружбі. Результати дослідження можуть бути використані для більш ефективних програм протидії булінгу в навчальних закладах

Ключові слова: булінг; цькування; види булінгу; приводи булінгу; повномасштабне вторгнення; міжгрупові відносини; групова динаміка

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Traditional Chinese medicine as a tool for improving China's image: The role of socio-political factors

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Abstract. The purpose of the study was to analyse the factors of influence of traditional Chinese medicine (TCM) on improving the image of China in the international arena at the present stage of historical development. The methodological base of the study is built on the basis of an integrated approach with a combination of theoretical and empirical methods of cognition such as historical, comparative, system, statistical data analysis. Within the framework of the study, the main stages and features of the development of TCM, which has a thousand-year history, are considered, its basic principles and methods of therapy are formulated. In addition, the territory of distribution of TCM is determined, and the countries where it is most common are identified. Namely, the approximate number of TCM doctors and departments in medical institutions of the Republic of Kazakhstan is considered. Special attention is paid to determining the place of China in the modern international arena in the context of implementing the policy of "soft power", considering the role of the Investment Project "One Belt, One Road" in improving the image of the state in the international arena, assessing the importance of TCM in the process of becoming a country as one of the world hegemon against the background of the coronavirus pandemic, and analysing the contribution of TCM to the preservation of human health and world culture. In particular, it is proved that although Chinese medicine differs from Western medicine in its global, comprehensive approach to treatment, its therapeutic techniques are increasingly being introduced into the healthcare system of Western states and other countries of the world, including the Central Asian region

Keywords: healthcare; treatment system; diagnostics; national brand; prevention; soft power

INTRODUCTION

At the beginning of the 21st century, there was a situation in the system of international relations in which the role of the People's Republic of China (PRC) substantially increased. In a short period of time, the country was able to transform from an economically backward state to a state claiming world leadership. However, China's hegemony is a specific type of dominance. In other words, it is based on non-violent means of influence, that is, this hegemony is based on the use of "soft power".

One of the factors contributing to improving the image of the PRC in the international arena is traditional Chinese medicine (TCM), which is currently widespread on various scales in more than 180 countries around the world. In addition, China has signed about 90 agreements on medical and pharmaceutical cooperation with other countries and international organisations. With China's assistance, hundreds of educational institutions that teach TCM methods have been created, as have dozens of foreign centres of Chinese medicine

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(Jin *et al.*, 2020). The subject of the development of TCM interests both Western and Asian researchers, so it is sufficiently examined in various aspects. However, TCM, as a tool for improving China's image on the world stage at the present stage of historical development, is considered in science for the first time.

The history, main strategies and treatment methods, current development, and future prospects of TCM are being investigated by a group of researchers, D. Ma *et al.* (2021). In addition, the origin and fundamental principles of TCM are considered by J. Zhao (2023). However, in their papers, the researchers do not analyse how the spread of TCM in the world affects the improvement of China's image in the international arena. The problem of integrating TCM into the Western Health System is considered by such researchers as L.C. Matos *et al.* (2021) and W. Liauw (2021). They conclude that over the past decades, western views on healthcare have changed, and the demand for complementary and alternative medicines has increased. In particular, more active implementation of TCM methods has begun. Therewith, researchers do not analyse how this affects the change in the perception of China in the minds of Western people.

Shaping the image of China in the media of the United States, Great Britain, Canada, and Australia against the background of the coronavirus pandemic is being examined by researcher D. Zhang (2022). The author concludes that in the Western media, the situation with the coronavirus in China is described subjectively and using "double standards". According to the author, this negatively affects the image of the PRC in the world. The researcher suggests turning the crisis into an opportunity to improve the international situation, discussing China's struggle with COVID-19, and actively forming the image of the state as a "responsible country". However, the author does not consider other aspects of shaping the image of the PRC in Western countries and focuses on the time interval between the beginning of the coronavirus pandemic. TCM is considered by R. Gaur (2024) and X. Xiao (2019) as one of the modern alternative therapies. They pay attention to the development of TCM, primary methods of treatment, and prospects for their use in the future. The authors state that TCM is beginning to receive scientific recognition in Western countries, but in their papers, they did not specify how these methods are implemented in the West and in other regions of the world.

The purpose of the study was to analyse the impact of TCM on the formation of a positive image of the PRC on the world stage. The following tasks were set to achieve the goal: consider the main principles and methods of TCM; assess the place of China in the modern system of international relations; analyse the geography of the spread of TCM; describe the concept of "soft power" as an element of the PRC's foreign policy; determine the approximate number of TCM doctors and departments in medical institutions of the Republic of Kazakhstan.

MATERIALS AND METHODS

The historical method of cognition became the basis for considering the conditions of formation, features and stages of development of TCM against the background of isolation from the achievements of other parts of the world. Ancient Chinese doctors were well versed in human anatomy and physiology, although they had original, different from European, ideas about the functioning of the human body and its connection with the world around it. Special attention was paid to the analysis of the treatise, which, for the first time, systematically presented the theory of Chinese traditional medicine (Veith, 2016). This book is considered to be the oldest work on Chinese medicine that has survived to this day.

The method of statistical data analysis was used to assess the geography of the distribution of TCM institutions in different countries of the world. Within the framework of this method, it was also possible to determine what factors influenced the increase in the number of hospitals using TCM methods in Western countries and how this was affected by the implementation of a large-scale Chinese investment project, "One Belt, One Road". In addition, this method of cognition became the basis for determining the approximate number of Chinese medicine doctors and TCM departments in the territory of the Republic of Kazakhstan. As part of this method, data posted on the website of the Ministry of Health of the Republic of Kazakhstan and various medical portals of the country were analysed. In particular, the services Bolnica.kz and Polikliniki.kz published information about all licensed public and private medical institutions of TCM and the services they provide in this area in the largest cities of Kazakhstan (Almaty, Astana, Shymkent, Aktobe, Karaganda, Pavlodar, Aktau, and other localities). Data on the opening of state centres of Chinese medicine are posted, in particular, on the website of the hospital of the Medical Centre of the Presidential Administration of the Republic of Kazakhstan (A center of traditional..., 2017).

The comparative method became the basis for comparing the main differences in China's positioning in the international arena – in the second half of the 20th century and in the first decades of the 21st century. The emphasis was placed on Beijing's change in foreign policy against the background of successful economic reforms and assessing the importance of TCM in improving the image of the PRC. Within the framework of the structural and functional method, the actions of the Chinese authorities aimed at improving their image in the international arena were analysed. In particular, soft power tools such as providing assistance to countries affected by natural disasters or epidemics of infectious diseases were considered. In addition, this method provided an opportunity to consider how the implementation of the Chinese initiative "One Belt, One Road" in the medical field affects the growing role of the PRC in the world.

The forecasting method was used to identify the most likely ways to develop TCM in Western countries and other regions of the world in the coming years against the background of China's growing role on the world stage. In addition, this method allowed determining the main problems of TCM development on the example of Kazakhstan and assessing the prospects for their solution in the context of the rapid development of alternative medicine. In particular, difficulties in training highly qualified TCM personnel and the shortage of high-quality medical preparations were reviewed.

RESULTS

Fundamentals of TCM and therapy methods. During the present stage of historical development, TCM continues to be one of the components of the Chinese health-care system. It has a long history, but despite this, it is widely practised and integrated into modern medicine both in China and in other countries of the world. Chinese medicine is based on a system of knowledge accumulated over thousands of years, its own diagnostic methods, when the disease is determined by skin colour and pulse, methods of treatment with acupuncture, moxibustion, and the use of medicines made from natural herbs. Over the course of two millennia, TCM has developed theoretical and practical approaches to the treatment and prevention of various diseases. The first work of Chinese medical theory that has survived to this day is the treatise "Huang Di Neijing". It was created between 300 and 100 BC. This document describes the diagnosis and treatment of a substantial number of diseases and provides recommendations on a healthy lifestyle, exercise, and diet to prevent diseases caused by vitamin deficiency (Wang *et al.*, 2018). Chinese medicine has evolved over two thousand years, and the result is a heritage of works that exceeds eight thousand texts devoted to various health problems.

Like most varieties of traditional medicine, the theoretical and diagnostic foundations of TCM are not always explained by the terms of Western science. They are often found in philosophy, beliefs, and logic. The Chinese, in ancient times, considered the human body a reduced world in which there was a constant exchange between the five main elements: fire, earth, water,

wood, and metal. The forces of this exchange are concentrated in two polar principles, on the relationship of which the balance or violation of it depends both in the human body and the world. The Chinese consider one of these poles to be the masculine principle (Yang), which is considered active and light; the second pole, the feminine principle (Yin), is passive and dark. In this context, all diseases are divided into two groups: with a predominance of Yang, which is manifested by symptoms of activation of certain body functions, and with a predominance of Yin – with signs of suppression of these functions. Notably, TCM has long developed separately from the rest of the world. For example, information about it reached Europe only in the 13th century. The fundamental theoretical provisions of Chinese medicine have been tested for centuries and have survived to this day. Therewith, TCM plays a more substantial role in today's globalised world. A comprehensive examination of the phenomenon of TCM is important for the further development of this field.

TCM applies various approaches to the treatment and strengthening of the human body. In particular, such methods as herbal medicine, acupuncture, moxibustion, cans, tuina (Chinese therapeutic massage), and many others, are used. The approach used by TCM is radically different from Western ideas about health. While specialists in the West treat diseases and their manifestations, Eastern healers, both past and present, consider the human body a single system where everything is interconnected. According to Chinese doctors, a person's well-being depends on the circulation of vital energy – Qi and the balance of Yin and Yang. If the energy exchange is disrupted, it will definitely manifest itself in the form of a disease. Therefore, it is necessary to treat not the symptom but the cause, restoring harmony of the entire body (Nye, 2005). Notably, within the framework of TCM, treatment is always selected individually since no two people are similar. In general, an individual approach is a fundamental principle of TCM. The doctor chooses a set of methods that are suitable not for the disease but for a specific person, and even herbal preparations that are actively used in Chinese medicine are compiled for each patient individually (Table 1).

Table 1. TCM methods

Method	Scope of application
Massage	Chinese massage helps to relieve pain, swelling, and inflammation, deeply affecting the tissues and improving metabolism and blood circulation. In addition, massage relieves muscle tension, which can lead to problems with the joints, spine, breathing, and digestion.
Acupuncture	Acupuncture is a therapeutic method that helps to overcome pain. It is also recommended for diseases of internal organs, metabolic disorders, reduced immunity, insomnia, and some nervous disorders.
Herbal medicine	Many of the herbs that form the basis of herbal medicine in China are adaptogens that help the body cope with environmental influences: they strengthen the immune system, regulate blood pressure and sugar levels, strengthen defences, and normalise metabolism.

Table 1, Continued

Method	Scope of application
Therapeutic qigong gymnastics	It helps to harmonise the state of the body and spirit and allows these energies to flow freely. If you look at Chinese gymnastics from a Western standpoint, it substantially improves the oxygen supply to the brain and all systems and organs of the human body, increases concentration and performance, relieves muscle tension, and normalises blood pressure.

Source: R. Gaur (2024)

Despite the active development of TCM for many centuries in China, medicine was available only to a small part of the population, which included rich and powerful people. The average life expectancy in China for many years was approximately 35 years. The situation changed only in 1950-1960. Due to Mao Zedong, an extensive primary healthcare system based on the agricultural community was created in the middle of the 20th century. As part of the reform, comprehensive and specialised hospitals with state-of-the-art equipment were established in medium-sized cities in all provinces and autonomous regions of the country. In most rural areas, a three-stage treatment and prevention network was established only at the level of the county, parish, and village; central district hospitals were established in the counties, village outpatient clinics were established, and medical centres – in administrative villages. Mao Zedong's government, considering disease prevention, health care, and the further development of traditional medicine an important part of its strategy, paid great attention to the creation of medical institutions and the training of medical personnel (Dong, 2023).

Currently, Chinese medicine is divided into nine separate areas: gynaecology, therapy, external medicine, paediatrics, ophthalmology, laryngology, orthopaedics, massage, and acupuncture. Each of the above-mentioned industries covers a substantial amount of information, which is examined in the PRC as a separate medical speciality. Notably, in China, traditional medicine accounts for 40% of all medical manipulations. Almost all methods of Chinese medicine are non-invasive and non-traumatic and have a small list of contraindications and side effects. Thus, TCM exists and develops as a separate system of knowledge about the human body for several millennia. Its diagnostic and therapeutic effectiveness has been proven in practice and implemented in healthcare systems not only in China, where it originated, but also in dozens of countries around the world. In addition, the World Health Organisation (WHO) recommends wider application of TCM methods in countries with limited resources and in countries that develop an integrative health system model.

China's place in the modern system of international relations. Global initiative "One Belt, One Road". The main goal of the foreign policy strategy of modern China from the very beginning of its formation is to strengthen the status of a great power, which the country lost during the opium wars in the middle of the 21st

century. This goal has remained unchanged throughout the recent history of China, only the means of achieving it have changed. The leadership of the PRC formulated the main foreign policy postulate – peaceful coexistence with all peoples, which is based on the doctrine of five principles: mutual respect for territorial integrity and sovereignty; non-aggression; non-interference in internal affairs; equality and mutual benefit; peaceful coexistence (Lanteigne, 2013).

In the modern multipolar system of international relations, the competition of great powers in their quest to gain superpower-level influence is becoming increasingly important. Recently, one of the great powers – the PRC, has substantially distinguished itself among other world leaders, which makes it visible in the international arena. According to the four criteria of a superpower, China is firmly on the path of development, increasing increasingly high indicators in the political, economic, and cultural sectors, resorting to the use of "soft power". Although some indicators need to be developed, nevertheless, the PRC is developing confidently and is one of the most confident potential superpowers. Therewith, three decades ago, in the worldview of the inhabitants of the Western world, the PRC was perceived as a socialist state with a closed political system and limited cultural and information exchange with the world community. However, at the beginning of the 21st century, economic growth, reforms in various spheres of public life, and the policy of "open doors" in the industrial, cultural, and other sectors contributed to the partial debunking of these stereotypes.

Previously, the world's ideas about China were formed on the basis of a number of factors. First, the long-term history of the Chinese empire, which influenced the development of world civilisation in different periods, and the ambiguous stage of the formation of "Chinese socialism" during the reign of Mao Zedong. However, rapid economic growth could not but contribute to changing the ideas that the international community previously used in its assessments of modern China. These changes were also facilitated by Beijing's targeted policies. Technologies for purposeful correction of public consciousness, which are prerequisites for achieving appropriate military-political goals and profound changes in socio-political reality, have occupied a prominent place in the arsenal of modern asymmetric strategies. In particular, these are the doctrines and practices of "soft power" and "public diplomacy", which allowed to shift of the emphasis on non-hard

power levers of constructing a new international reality against the background of the establishment of a new paradigm of international relations – geographic information, in which information flows and influence on mass consciousness became the decisive factor in world politics.

Until the beginning of the 21st century, the “soft power” of the Chinese state was not a priority. Further strengthening of “hard power” without the development of “soft power” threatened to lead to negative consequences in the PRC’s international political positioning, as it would contribute to the spread and strengthening of the myth of the “Chinese threat”, which would root public prejudices about China and its policies. This would indirectly affect the state’s ability to maintain and institutionally expand trade and economic ties and conduct its own development. In fact, it can be stated that the “soft power” in foreign policy and diplomacy of the PRC acts as a potential for trust and international image of the country, its ability to achieve its foreign policy goals without the use of coercion or necessary concessions. Therefore, at the present stage of development, the Chinese authorities face new tasks, among them: the promotion of socialist values on the world stage, respectively, the role of Chinese culture as an instrument of “soft power” becomes leading; simultaneously, the task of countering the penetration of Western values into the country becomes urgent, and instead the demonstration of Beijing’s success should grow. In favour of hard strategies in politics, “soft power” is the ability to engage and cooperate, as opposed to coercion.

In Western political science, “soft power” is a structural element of foreign policy activity, which is used by different countries to increase their own influence due to interest in their values and institutions. While hard power is based on military intervention, coercive diplomacy, or sanctions pressure, “soft power” is achieved precisely by creating a positive image of a particular country. This concept was formulated by the American political researcher J.S. Nye in the early 90s of the 20th century. It appeals to three main structural elements – culture, political ideology, and diplomacy (Mirza *et al.*, 2020). Despite the effectiveness of the use of “hard” forms of force on the world stage, both political theorists and practitioners tend to believe that the role of non-violent means of influence is gradually increasing. Since the early 1990s, the concept of “soft power” has gradually entered the foreign policy discourse of the world’s leading countries. The Chinese concept of “soft power” differs in that the PRC has a broader, more flexible interpretation of this concept. It includes culture, traditional medicine, and the Chinese economic model, ideology, and, in general, everything that can improve China’s image is associated with “soft power”. Beijing combines cultural and economic influence in practice. The Chinese concept of “soft power”, although formed under the influence of the American one, had

a different background, which was associated with the growing role of culture in socialist construction.

The PRC’s interest in the means of its own “soft” influence began to manifest itself in the 1990s, but only in 2007, at the Congress of the Communist Party of the PRC, “soft power” (primarily cultural) was identified as an important component of national policy. Along with the increasing role of the Middle Kingdom in the international arena in the political and economic spheres, the Chinese authorities began to formulate their own model of “soft power”, which is based on a combination of Marxist and Confucian ideologies (Upadhyay, 2023). China is actively pursuing a multi-vector policy aimed at increasing its “soft power”. This process not only contributes to more successful lobbying of the economic and political interests of the PRC but also substantially improves the perception of the country in other countries, even in those with which relations with China are traditionally difficult. Over time, “soft power” in China has acquired the importance of a strategic foreign policy resource of practical value. Moreover, this resource contributes to ensuring conditions for realising the potential of China’s international leadership.

In the wake of growing anti-Chinese sentiment, the Chinese leadership decided to use the potential of “soft” influence to improve the country’s image abroad. It also considered the proximity of the concept of “soft power” with the ideas of ancient Chinese philosophical teachings, in particular, Confucianism, which, in turn, influenced the process of implementing the concept within the country’s foreign policy doctrine, transforming the foreign concept of “soft power” and adding Chinese specifics to it. In this context, China’s traditional culture has become an attractive source of global interest, relying on the PRC’s establishment of several hundred Confucius Institutes in different parts of the world to promote the Chinese language and culture. The number of international students in China increased from several tens of thousands at the end of the 20th century to at least 240 thousand in 2010. China is the most popular country in Asia for international students and the second most popular country for education in the world. Notably, TCM is one of the elements of the country’s culture. TCM, like Chinese opera and Chinese painting, is one of the three main elements of the national cultural heritage of the PRC. In 2010, acupuncture, a branch of Chinese traditional medicine, was included in the UNESCO Intangible Cultural Heritage list. Therefore, it can be concluded that the spread of TCM methods in the world contributes to the formation of a positive image of China in the world.

At the present stage of development, TCM has attracted attention outside of China and has followers and practitioners all over the world. The WHO has recognised the value of TCM and included it in its International Classification of Diseases system. TCM has also become the subject of interest and research in many

countries. The phenomenon of TCM in a modern modernised society is of natural interest. It testifies to the unique survivability of the tradition, which has been developing for two millennia and remains in demand today. In addition, it is TCM that focuses on the prevention of diseases and is more beneficial both for the individual and for society in general. In addition, its techniques usually represent only an integral part of complex systems of perception of the world and the world order. Another way to improve the international image is China's continued assistance to states affected by natural disasters or other emergencies. In particular, Beijing helped African countries fight the Ebola virus, supplied fertilisers and food to North Korea after the typhoon, or sent its own search team to Nepal, where the earthquake occurred. Assistance to countries in difficult situations became particularly relevant in 2020, when the world was gripped by the COVID-19 pandemic. At that time, dozens of planes with medical workers, masks, medicines, and other medical supplies flew from China to Europe, Asia, Africa, and Latin America. Although there were many questions about the origin of the virus in China at the beginning of the coronavirus pandemic, Beijing's lively response to the outbreak in different parts of the world and its efforts to help other countries fight it helped improve its image to some extent.

Also, one of the tools for improving the image of the PRC was the so-called "vaccine diplomacy". It was also actively used by other influential countries of the world to attract partners because obtaining drugs for vaccinating the population became a chance for a rapid recovery of the "pre-pandemic" state of the world economy. The improvement in the situation with coronavirus inside China has allowed the provision of a Chinese-made vaccine for the needs of other countries. It has become a tool of Chinese foreign policy activities, helping to shape the country's image as a world leader in healthcare. It should be emphasised that China is not only the second-largest economy but also a substantial investor in foreign infrastructure through aid programs, which is a structural element of the "One Belt, One Road" initiative. This is an infrastructure project aimed at strengthening integration from Asia to Africa and Europe. The creators expected that this initiative would help China become a leader of "soft power" (Zhao *et al.*, 2021). Expanding infrastructure, trade relations, scientific cooperation, and communication between countries, peoples, and cultures within the project can create unprecedented opportunities and synergies to strengthen health systems, eliminate major infectious diseases, and improve the health of hundreds of millions of people (Minghui, 2018).

Chinese traditional medicine is distributed by the countries participating in the project. Despite the fact that the achievements of Western medicine are widely used in China today, some ancient methods are still of interest to specialists both inside and outside the

country. In particular, students from these countries study at Chinese universities. In addition, the PRC promotes the opening of TCM centres in the countries where the initiative is being implemented. Such establishments operate in Singapore, Russia, Thailand, Cambodia. Thus, the strengthening of China's international economic and political competitiveness directly affects the increase in its activity on a global and regional scale. With this in mind, today, the activation of China's foreign policy actions is determined by the tasks of the country's internal development. In relations with the main world centres, the country's leadership prefers to maintain stable relations and avoid open confrontation while defending positions on issues of principle for itself. At the regional level and in relations with developing countries, China seeks to build trust to create a stable and predictable environment in which Beijing can advance its interests. Thus, economic growth, demographics, military power, and geopolitical success make China a key factor in East Asia.

China's new strategy is no longer a strategy of closeness, hostility, dissociation from modern world processes, positioning itself as an antipode to Western states; at the moment, it is aimed at the active participation of the state in the process of globalisation and the development of global rules, at maintaining political, economic, and cultural cooperation between states, and at active participation in international affairs. This is the position of a state that assumes the role of a hegemon – a world leader. From this, it can be concluded that throughout its long history, which is full of philosophical trends, China has repeatedly shown "softness" in the field of politics. However, only after J.S. Nye introduced the term "soft power" into scientific circulation, it was widely used in the PRC in the field of foreign policy and, having gone through a long process of adapting to Chinese realities, became an integral part of the foreign policy strategy of the country.

The relationship between Western and traditional Chinese medicine. TCM development in Kazakhstan. Even more than two thousand years ago, during the reign of the dynasty of the "Spring and autumn periods" (770-476 BC) and "Warring empires" (475-221 BC), in the territory of modern China there were works devoted to medicine. The works of the Greek philosopher and physician, the father of Western medicine Hippocrates, who lived in 446-377 BC, in turn, belong to a later time. But it was he who generalised the practical medical experience collected by generations of Chinese healers, justified the theoretical taxonomy of the traditional art of treatment and passed on the main principles of Chinese drug therapy and such methods as acupuncture and moxibustion. In addition to China, where TCM originates, many countries in East and Southeast Asia, such as Japan, South Korea, Vietnam, and Singapore, have integrated aspects of TCM into their own health

systems. In addition, in recent decades, there has been a surge in the popularity of TCM in Western countries, including the United States, Canada, the United Kingdom and Australia, due to its holistic approach and natural treatment methods. This is due to the fact that many of the treatment principles used by Chinese medicine are recognised as effective and are actively implemented in the practice of Western doctors (Liu, 2023).

Chinese medicine has developed an independent system that explains the causes of diseases, created diagnostic methods and treatment methods. A person is perceived as a single organism, individual changes in which affect the state of the system in general. Each person is treated individually, depending on their lifestyle, profession, age. Western medicine is essentially allopathic, meaning it acts mainly on symptoms of the opposite principle. For this purpose, antagonist drugs are used against inflammation, fever, spasms, and the like. Chinese Medicine also affects the mechanisms of disease development. If this requires increasing the symptoms, the doctor will not relieve them but will deliberately provoke an exacerbation. Its purpose is to cure the disease, not to alleviate the condition. The second radical difference is the holistic approach. Chinese medicine treats the body in general, not a separate part of it, and not the disease, but the patient.

In China, TCM and Western Medicine co-exist and are often integrated into healthcare facilities. Many

hospitals in the country have departments that offer both traditional and Western medicine. Patients may receive TCM therapy along with traditional treatments, depending on their condition and the preferences of a particular method. However, it is notable that TCM is aimed at conservative treatment; in Western medicine, surgical treatment prevails. In China, operations are performed in extreme cases, for example, in cancer, when it is urgently necessary to save a person's life or when conservative treatment has not worked. Chinese medicine successfully treats chronic diseases conservatively. The drugs offered by TCM are cheaper. Since they are natural, of plant origin, they do not cause side effects. In addition, TCM is also common in Central Asia. In particular, in recent years, Kazakhstan has shown increased interest in integrating TCM into its healthcare system, due to the growing demand for alternative treatments and the desire to expand the range of medical services. An important step in this direction was the opening of the Sino-Kazakh Centre for Traditional Medicine in Almaty in 2017. This centre has become a place for the practice and spread of TCM in Kazakhstan and symbolises cultural and scientific exchange between states. It offers a wide range of services, from acupuncture to herbal medicine, and promotes international cooperation in the field of traditional medicine (Marshall, 2020). TCM centres also operate in the country's largest cities, where dozens of specialists' work (Table 2).

Table 2. TCM centres in Kazakhstan

City	Name of the establishment	Estimated number of TCM doctors
Almaty	DAO treatment and rehabilitation centre	The main staff consists of four specialists
Astana	Chinese Health and Wellness centre "Kainar"	One specialist
Almaty	Teo family health centre	Over 10 specialists
Almaty	Maya Maneza health and beauty centre	Over 10 specialists
Almaty	Centre for Chinese medicine and acupuncture	One specialist

Note: data on medical institutions are collected on the basis of open information posted on the portal Polikliniki.kz as of 2024

Source: created by the authors

However, despite these positive trends, there are also substantial problems in this area. One of the main ones is the lack of professional personnel. In Kazakhstan, the issue of training qualified specialists in the field of TCM who are able to professionally apply various methods and approaches characteristic of this medical system is acute. In addition, an increase in the number of private medical institutions operating without appropriate licenses creates risks to patient health and generally undermines confidence in TCM.

Another important problem is the shortage of herbal remedies necessary for full-fledged work in this area (Hashimova, 2023). Many of these drugs are imported from China, which creates dependence on external supplies and complicates the process of their certification and registration in the country (Yague *et al.*, 2022). A systematic approach is needed to overcome these

challenges, including improving the regulatory framework and developing educational programmes in TCM. Cooperation with Chinese educational and medical institutions can play a key role in this process, ensuring not only the transfer of knowledge and experience but also contributing to the development of appropriate standards. Despite a number of unresolved problems in this area, there are agreements at the highest interstate level to open new centres of TCM in different cities of the country and strengthen cooperation between the two countries in this area.

DISCUSSION

The topic of the development of TCM has interested researchers since the emergence of this phenomenon. Researchers from different countries examine various aspects of this issue. However, it is still insufficiently

examined how the TCM affects the formation of a positive image of China on the world stage in the context of Beijing's implementation of the "soft power" policy. Notably, the phenomenon of TCM in a modern modernised society arouses reasonable interest among researchers. This indicates the unique persistence of the Chinese tradition of treatment, which is constantly developing and remains in demand in the modern world.

Researchers consider this problem in the context of modernising TCM methods and applying them in Western countries, particularly E. Yague *et al.* (2022). They believe that the inclusion of TCM in modern medical practice is gaining momentum in the world. Researchers claim that Parkinson's and Alzheimer's diseases, cancer, and heart and vascular diseases are the leading causes of death in the Western world. TCM has long been used to treat these diseases in China and other East Asian countries. However, for the application of these methods in the West, it is necessary to change the treatment paradigm. TCM methods are beginning to be introduced in the Western world for the treatment of coronavirus. As noted in the previous section, China, trying to improve its image internationally, helped countries around the world fight the coronavirus pandemic. Namely, Beijing has actively implemented so-called "mask diplomacy", which involved providing medical workers and equipment to those states affected by the coronavirus to turn claims of China's guilt in the pandemic into a story of Chinese endurance gained by authoritarian policies.

X. Kang *et al.* (2022) examine the effectiveness of TCM methods in the fight against coronavirus infection. They concluded that TCM can relieve clinical symptoms, shorten hospital stays, and improve laboratory metrics. However, researchers state that there are currently too few clinical studies during the recovery period to see the long-term effects of TCM on COVID-19. Therewith, researchers have proven that TCM has a certain therapeutic effect on the coronavirus. In particular, TCM can reduce the proportion of patients with progressive severe diseases by 55% and reduce the mortality rate of severe or critical patients by 49%. In addition, the mechanism was examined and it was concluded that TCM plays a therapeutic role in COVID-19, mainly due to its antiviral, anti-inflammatory effects and immune strengthening. In this context, it can be stated that the use of TCM methods in the world will only gain momentum because the coronavirus mutates, so COVID-19 remains a relevant disease (Yuan *et al.*, 2022). However, the PRC improves its image not only by popularising its own medicine. The country's authorities are making efforts to form their zone of influence and understand their potential for implementing the "soft power" policy and in which regions of the world it is possible to do this. First of all, this refers to relations with the states of Latin America, Africa, the Middle East, and Southeast Asia (Bush, 2021). China is using a variety of tools to

increase its influence in developing countries. This refers to economic incentives and military cooperation, but the key element is the creation of institutions and the use of various mechanisms for implementing "soft power" (Albert, 2018). Although the economic sector is still the foundation of cooperation, an increase in the number of cultural exchanges, the distribution of academic programmes, and the organisation of various cultural and sports events by Beijing in different parts of the world is notable.

In this context, researchers X. Li & V. Worm (2009) conclude that China has made the idea of "soft power" its national strategy. In their opinion, China's soft power strategy is consistent with the country's Confucian culture and political values. Therewith, researchers believe that the Chinese are a nation with unique traditions and culture. In this regard, the country has many unique cultural resources, including national medicine, architecture, philosophy, cinema, painting, cuisine. However, in their paper, the researchers do not comprehensively consider the above-mentioned components but only describe the general features of China's cultural influence. Therewith, they state that China lags substantially behind the United States in this regard. The researchers propose to create a separate institution that would spread Chinese culture abroad. Thus, China has a progressive tendency to intensify "soft power". In other words, Beijing is gradually increasing its cultural, ideological, and political influence in its interstate relations (Dai & Cheng, 2022). In addition, the Chinese authorities are forming an institutional matrix of the "soft power" policy, which is aimed at creating a positive image of the country on the world stage. This happens, among other things, by popularising the methods of TCM in the world as one of the structural elements of the state's culture.

The Chinese initiative "One Belt, One Road" in the context of implementing projects in the field of healthcare is considered by researchers E. Tambo *et al.* (2019). The researchers believe that the initiative offers huge opportunities for partnership and collective action involving many countries to combat globalisation-related infectious and chronic diseases, pandemics, and outbreaks of potential threats. National and global health challenges are increasingly proving that economic prosperity cannot be achieved if there are huge gaps in knowledge and capabilities in health systems. Thus, there is a need for health initiatives aimed at strengthening health systems beyond sovereign borders to influence the global economy. K.E. Kuah (2021), in turn, notes that during the launch of the "One Belt, One Road" Initiative in 2013, the Chinese government defined TCM as a "commodity" that needs to be promoted on the world market as part of the country's cultural and intangible heritage. The researcher claims that the project contributes to the popularisation of TCM methods in those countries that have joined it. In particular,

this refers to Asian states. The researcher also expresses the opinion that this has already led to the development of cooperation, partnership and strengthening of socio-economic cooperation between China and the countries participating in the initiative.

As noted in the previous section, the “One Belt, One Road” initiative was created to stimulate China’s development through the search for new sources of growth, the creation of modern industries around the world, and increasing the role of the state at the regional and global level (Schulhof *et al.*, 2022). Now, it is the largest infrastructure project in history, covering more than 100 countries on all continents and dozens of international organisations; its implementation will lead to an increase in interconnectedness in the trans-regional space, primarily Europe and Asia, and a full-scale presence of China. Therewith, the healthcare sector is not yet a priority in the implementation of the Chinese programme. This factor determines the need for a comprehensive review of China’s policy in the field of promoting TCM methods as a unique phenomenon.

CONCLUSIONS

Due to the implementation of a number of reforms, China has managed to become one of the most influential international actors over several decades. This positioning was facilitated by Beijing’s use of a “soft power” policy in interstate relations. Its essence is creating a positive image of the state in the international arena by spreading its culture and values.

One of the elements of Chinese culture is TCM. Due to its success at home, the proposed solutions enjoy special prestige when exporting to other countries. Since the beginning of the 21st century and the development of globalisation processes, following

the transformation of ideas about human health and the change in the medical model, TCM has proved its unique advantages, and its own development has played an active role in the development of world medicine. Despite the fact that the medicine of the Western world does not recognise some Chinese methods, the popularity of the latter is only increasing. Hundreds of researchers around the world research TCM methods, confirming or refuting their effectiveness. In this context, it is also important to mention China’s global project “One Belt, One Road”. In the field of healthcare, the initiative has great potential and can be expanded from today’s health safety issues to broader collaboration, especially in the context of cancer treatment, diabetes, and cardiovascular diseases. Gradually, Beijing has scaled up the implementation of its own infrastructure projects, making an increasing contribution to the fight against global problems and stimulating the spread of Chinese culture. In the future, the number of countries interested in building partnerships with China will only grow.

The prospect of further research on this subject is a detailed examination of the experience of specific countries of the world in the context of introducing TCM methods into the healthcare system. In addition, this study can become a starting point for considering the experience of the PRC in implementing geopolitical interests in the context of the “One Belt, One Road” project.

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CONFLICT OF INTEREST

None.

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Традиційна китайська медицина як інструмент покращення іміджу Китаю: роль соціально-політичних чинників

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Анотація. Метою дослідження був аналіз факторів впливу традиційної китайської медицини на покращення іміджу Китаю на міжнародній арені на сучасному етапі історичного розвитку. Методологічна база дослідження побудована на основі комплексного підходу з поєднанням теоретичних та емпіричних методів пізнання, таких як історичний, порівняльний, системний, аналіз статистичних даних. В рамках дослідження розглянуто основні етапи та особливості розвитку традиційної китайської медицини, яка має тисячолітню історію, сформульовано її основні принципи та методи терапії. Крім того, визначено територію поширення традиційної китайської медицини та виявлено країни, де вона найбільш поширена. А саме, розглянуто приблизну кількість лікарів традиційної китайської медицини і відділень в медичних установах Республіки Казахстан. Особливу увагу приділено визначенню місця Китаю на сучасній міжнародній арені в контексті реалізації політики “м'якої сили”, розгляду ролі інвестиційного проекту “Один пояс, один шлях” у покращенні іміджу держави на міжнародній арені, оцінці значення традиційної китайської медицини у процесі становлення країни як одного зі світових гегемонів на тлі пандемії коронавірусу, а також аналізу внеску традиційної китайської медицини у збереження здоров'я людини і світової культури. Зокрема, доведено, що хоча китайська медицина відрізняється від західної глобальним, комплексним підходом до лікування, її терапевтичні методики все частіше впроваджуються в систему охорони здоров'я західних держав та інших країн світу, в тому числі й Центральноазіатського регіону

Ключові слова: охорона здоров'я; система лікування; діагностика; національний бренд; профілактика; м'яка сила

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Psychological preservation of volunteers during the war: An empirical analysis

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Abstract. The article presents the results of an empirical study of the psychological self-preservation of volunteers with varying lengths of volunteer experience. The main structural components of psychological self-preservation, the level of subjective stress, and the psychological safety of the individual are identified. The presence of meaning in life and personal characteristics such as extraversion, friendliness, conscientiousness, and openness to new experiences were examined. The use of basic coping strategies in stressful situations was analysed. In order to study the psychological self-preservation of the personality of volunteers through structural components, including cognitive, emotional, behavioural, and social, the following psychodiagnostic methods were used: Ukrainian adaptation of the short five-factor personality questionnaire (TIPI-UKR); "Express diagnostics of the psychological safety of the individual"; Questionnaire of the Perceived Stress Scale PSS-10; The Meaning of Life Questionnaire MLQ 2006, and the method of psychological diagnostics of coping mechanisms (E. Heim). Psychological self-preservation implies the ability of a person to effectively adapt to negative events and the ability to think positively and rationally assess the situation. This implies the ability to manage emotions, create a positive social environment, and have the resources to restore mental and physical health after difficult life events. It was found that in the subjects, with an increase in the duration of volunteer work, the level of subjective stress increases and the level of feeling of psychological safety decreases, which also indicates that volunteer work is a complex multifaceted process and requires resources and energy. However, with regard to the presence of meaning in life, it can be seen that with increasing experience of volunteering, there is a higher level of presence and search for meaning in life. It can be assumed that volunteer work and helping others gives a sense of self-realisation, significance, and personal importance. The search for meaning in life is relevant for all the subjects studied and reflects the current situation of self-realisation both professional and personal life and serves as a structural element of the psychological self-preservation framework, giving meaning and awareness to a person's activities. Further study of the structural components of psychological self-preservation requires the development and implementation of psychological training on the development of resistance to stressful situations, taking into account the presented results of empirical research

Keywords: psychological self-preservation; volunteering; stress; components of psychological self-preservation

INTRODUCTION

The events of recent years in Ukraine have witnessed a remarkable surge in the volunteer movement. The war has triggered a wave of people who consider it necessary to help those in difficult living conditions caused

by Russia's military aggression. This has led to a great demand and interest in describing the concept of volunteering and the psychological characteristics of this phenomenon.

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In psychology, volunteerism is conceptualised as a form of collective interaction and an effective mechanism for solving current social challenges. Volunteering is based on the desire to help, provide social support, advocacy, and protection to those in need through compassion. Freedom stands as a cornerstone of the volunteer movement's philosophy, as it would be impossible without goodwill. In other words, volunteerism can be characterised as a free-will activity for the benefit of society. Engaging in selfless volunteer work, a person is driven by the desire to be useful, as well as feelings of pride and self-sufficiency (Kolomiets *et al.*, 2017; Ome-lianska, 2021).

Volunteer activities contribute to the formation of social maturity in individuals and manifest as altruistic and prosocial behaviour. Five key components are identified within the structure of volunteer activity: the value component, the motivational component, the cognitive component, the emotional-volitional component, and the communicative component (Vainilovich, 2012). The personality of a volunteer is characterised by confidence, prosociality, high motivation and activity, a high level of functional capabilities of the nervous system, a readiness for professional cooperation, optimism, friendliness, and openness to new experiences (Klimanska & Haletska, 2019). Even under martial law, volunteer activities, although it does not require a high level of professional training, place certain demands on the psychological qualities of a person. This is related to the need to perform tasks in difficult or constrained conditions and in situations where time for decision-making is limited. Therefore, the development of psychological self-preservation in volunteers is essential.

A distinctive feature of the development of Ukrainian volunteerism is its activity during the military conflict. The intensive growth of the volunteer movement in Ukraine began in 2014 due to the military conflict in Donbas. From 2022 to 2024, volunteer initiatives related to resisting Russian aggression have gained significant recognition in Ukrainian society and at the state level.

The issue of stress has undoubtedly become a pressing concern for most Ukrainians during martial law. Therefore, for volunteers who face the consequences of war daily, the question of psychological self-preservation is crucial (Predko, 2021ab; Bondarenko & Vdovtsov, 2021). During wartime, people experience complex psycho-emotional states that significantly impact their psychological safety. Consequently, it is the responsibility of psychologists to study the structural components of the formation and development of psychological self-preservation, as well as to identify personal traits and coping strategies that help effectively address and overcome life's difficulties.

The situation of war is an emotional distress for every Ukrainian as it negatively impacts psychological, emotional, and physical well-being and carries negative consequences for the future. Psychological

self-preservation serves as a fundamental process for developing the stability and resilience of the individual through the lens of health and safety. Feelings of uncertainty, fear, and helplessness intensify the sense of internal anxiety (Lazorko, 2016; Yantsalovskyi, 2021).

Psychological self-preservation is a crucial factor in maintaining mental health and improving the quality of life. Understanding this process is essential for developing effective strategies of psychological support and psychotherapy in the face of negative external influences on the human psyche (Kashliuk, 2016; Pakhol, 2017). It is necessary to examine the psychological characteristics of the professional activities of volunteers in wartime conditions to identify aspects that impact their psychological self-preservation and facilitate the effective management of the consequences of stressful situations.

MATERIALS AND METHODS

The research idea aims to explore the structural components of psychological self-preservation in volunteers, which help overcome life difficulties, increase stability in stressful situations, and develop resilience. To examine these structural components of psychological self-preservation, particularly the cognitive, emotional, behavioural, and social aspects, the following psychodiagnostic methods were used:

1. The five-factor questionnaire (Ukrainian adaptation of the short five-factor personality questionnaire (TIPI-UKR), was used to diagnose personality traits such as extraversion, friendliness, conscientiousness, emotional stability, and openness to new experiences.

2. "Express diagnostics of the psychological safety of the individual", which includes components such as moral-communicative, value-meaning, motivational-volitional, and internal comfort aspects (Prykhodko, 2013).

3. Perceived Stress Scale (PSS-10), (Veldbrekht & Tavrovetska, 2022).

4. The Meaning in Life Questionnaire, MLQ 2006.

5. Coping Mechanisms Diagnostic Technique (E. Heim), revealed patterns of behaviour used by individuals in complex life situations, particularly in the cognitive, emotional, and behavioural spheres.

The research was conducted at the Ukraine YMCA, an international volunteer organisation, during September-October 2023 using Google Forms in an online format. It involved 90 respondents aged 18 to 35 years old.

The sample was graded according to the duration of volunteer experience. 1 year – 33%, up to 3 years – 33%, more than 5 years – 34% of respondents.

RESULTS AND DISCUSSION

Having analysed the results of the respondents according to their volunteer experience using the Five-Factor Personality Inventory (Fig. 1), it was found that the respondents with the least volunteer experience

exhibited slightly higher scores. The highest scores were found on the openness to experience scale (Xavg = 11.8), indicating a high interest in everything

that happens in life, and they also have a high level of creativity, an unconventional approach to tasks, and independence of judgment from others' opinions.

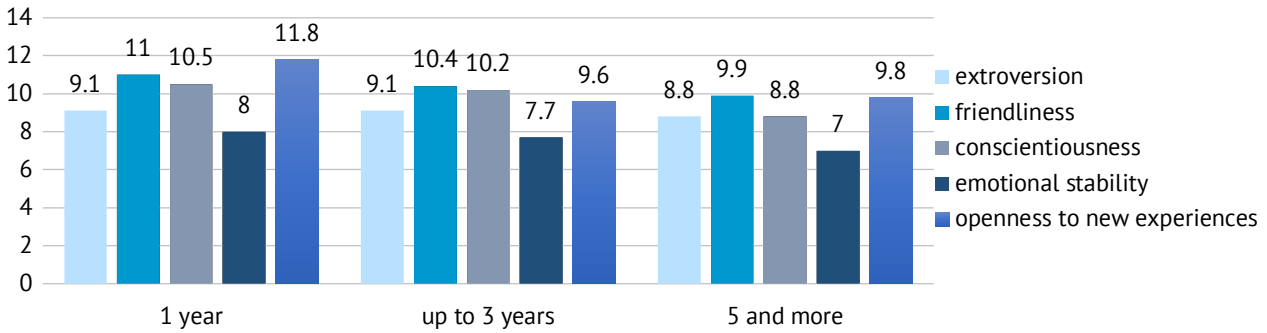


Figure 1. Average group scores of the Five-Factor Personality Inventory according to the duration of volunteering experience

Source: compiled by the author

High scores were also observed on the friendliness scale (Xavg = 11) and conscientiousness (Xavg = 10.5), indicating a high level of sociability and social interaction. The lowest scores were observed on the emotional stability scale in the group with the most extensive volunteer experience (Xavg = 7), indicating an average level of emotional resilience. This group may face difficulties in controlling emotional reactions and experiences. It is also worth noting that the decrease in emotional stability might be caused by professional deformations related to working with people, as volunteer activities require active engagement and energy, which may eventually lead to emotional disturbances and burnout.

However, all groups of respondents showed an average level on the "Emotional stability" scale compared to other scales, indicating that working with people and volunteer activities demands a lot of energy and can be emotionally exhausting.

Regarding the level of subjective stress in accordance with the duration of volunteer activity, it was found that the highest level of perceived stress (Xavg = 21.8) is observed in respondents with three years of volunteer experience (Fig. 2), which indicates the presence of a higher level of emotional vulnerability. Volunteer activity is aimed at working with people, their problems, and requires great effort, both emotional and physical.

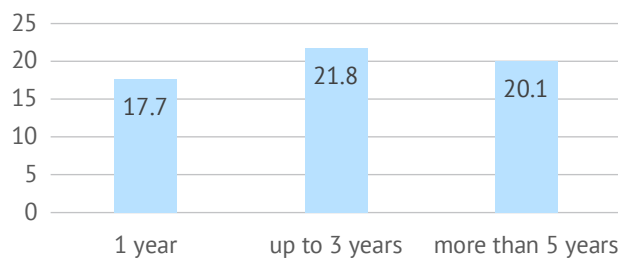


Figure 2. Average group indicators of subjective stress according to the duration of volunteering experience

Source: compiled by the author

The period of up to 3 years indicates that the respondents have not yet developed stability and resistance to the difficulties and challenges associated with volunteer activities, and they are not always able to critically and rationally analyse the situation and show emotional vulnerability to stressful situations, which is accompanied by experiencing negative emotional states. The lowest indicators are observed in the group with the shortest period of volunteer experience, 1 year (Xavg = 17.7), which can be explained by the fact that the activity is new and interesting, the adaptation and habituation process is ongoing, the respondents

are still actively interested in helping others, and feel a sense of belonging and satisfaction from understanding the importance of their activities (Heim, 1988). The average indicators are observed in the respondents with the longest period of volunteer experience, 5 years (Xavg = 20.1), which indicates that this group of people has actively developed stability and resistance to stressful situations, but in certain situations, they are prone to emotional vulnerability and negative experiences related to difficulties and conflicts, and they tend to take excessive responsibility in solving problematic situations. Analysing the results of the Meaning in Life

Questionnaire, it was found that the highest scores on the “presence of meaning in life” scale were observed

in participants with the longest volunteer experience (more than 5 years), ($X_{avg} = 17.4$) (Fig. 3).

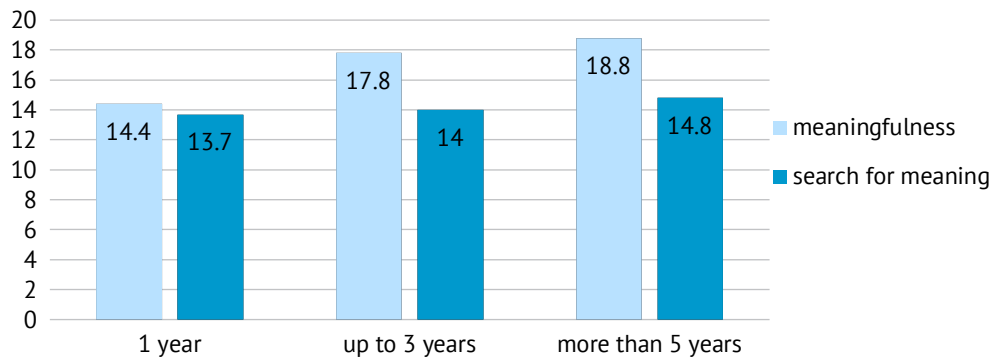


Figure 3. Average group indicators of the presence of meaning in life according to the duration of volunteering experience

Source: compiled by the author

This indicates that the respondents understand what they want in life, fill their activities, work, life with meaning and are satisfied with their self-esteem. They have a clearly formed self-concept that aligns with their self-perception. It can be assumed that volunteering and helping others gives a sense of self-realisation, significance and personal importance. The lowest indicators are observed in the respondents with the shortest period of volunteering (1 year) ($X_{avg} = 14.4$), which indicates that this group is in search of their own meaning in life, understanding themselves, their desires and needs for professional and personal self-realisation.

Analysing the results on the search for the meaning of life scale, it can be seen that the absence of significant differences in the three groups of respondents, indicates that the search for the meaning of life is relevant and is formed throughout life. Engaging in one or another activity, individuals are in the process of searching for meaning and the importance of those activities to them. Thus, it is possible to assume that the search for the meaning of life does not depend on the length of volunteer experience and is relevant for everyone. A slightly higher indicator is observed in the group of respondents with more than 5 years of volunteer experience ($X_{avg} = 14.8$), which confirms the opinion that the search for the meaning of life is relevant

for all respondents and reflects the current situation of self-realisation both professional and personal life and serves as a structural element of psychological self-preservation, providing meaning and awareness to a person's activities.

Regarding the indicators of psychological safety in accordance with the duration of volunteer activity, it was found that the highest indicators of psychological safety are observed in the group of respondents with one year of volunteer experience, which indicates that the respondents have a fairly high level of flexibility to different social conditions, are open to new relationships, are ready to help each other, know how to set goals, and are able to adapt to change. They actively use moral-communicative norms to maintain a comfortable level of social connections. In stressful situations, they tend to seek situations of psychological comfort, while maintaining a high level of self-confidence and belief in their abilities. There is a high level of goal setting to improve the quality of life. The highest indicator is observed on the “inner comfort” scale ($X_{avg} = 28.1$), (Fig. 4), which indicates a high level of self-confidence and attractiveness to others. The respondents are satisfied with life and relationships with others and strive to achieve their goals. They show a high level of altruism in interpersonal interaction and are ready to help each other.

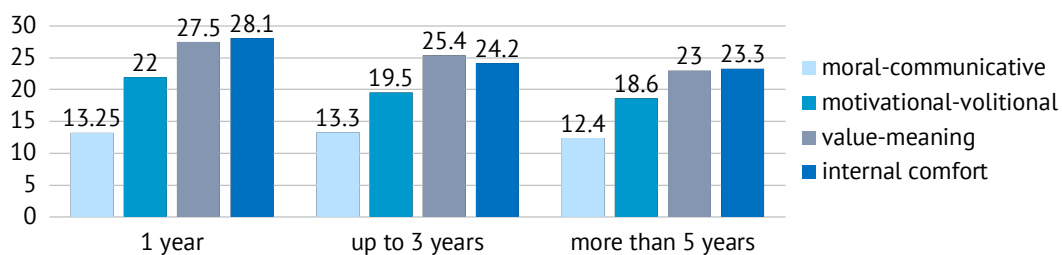


Figure 4. Average group indicators of psychological safety according to the duration of volunteering experience
Source: compiled by the author

Overall, the analysis shows that on the “value-meaning scale” high indicators are observed in the respondents with the shortest period of volunteer experience ($X_{avg} = 27.5$), which indicates a mature and conscious understanding of their own life, they are prone to invest meaning in their activities, which reflects a high level of involvement in their own social environment. They easily overcome difficulties using effective and efficient strategies to overcome stressful situations (Strack, 2007). The lowest indicator is observed on the “moral-communicative” scale ($X_{avg} = 12.4$), in the group of respondents with the longest period of volunteer

experience, which indicates the presence of certain difficulties in establishing communication with other people, difficulties with trust and excessive control. The respondents find it difficult to delegate duties and tasks, which has a negative impact on the creation of comfortable interpersonal communication connections. There may be a dependence on others, subordination, or conversely, fear related to loss of personal identity and manifestations of social isolation and loneliness. In general, there is a noticeable tendency towards a decrease in the level of psychological safety indicators (Fig. 5) with increasing volunteer experience.

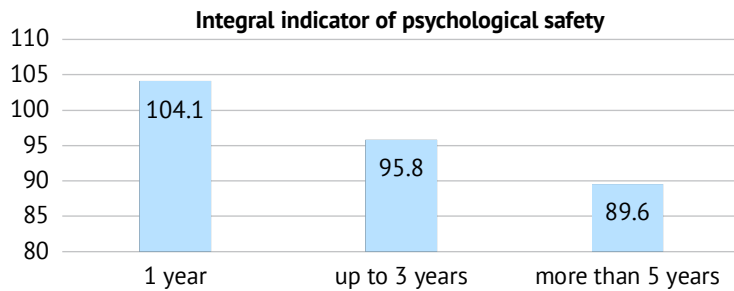


Figure 5. Average group indicators of the overall level of psychological safety according to the duration of volunteering experience

Source: compiled by the author

This also indicates that volunteering is filled with various events and requires active involvement and internal resources, which can be exhausting both psychologically and physically, and reduces the personality’s psychological stability to external stressful situations. Constant stressful situations cause a feeling of inability to control one’s own life and is accompanied by a feeling of uncertainty and fear for the future. There is a tendency to experience negative emotional states, emotional tension, self-control and

self-regulation in situations of uncertainty and stress. Analysing the quantitative ratios of coping strategies for resolving stressful situations, it was found that respondents with the longest volunteer experience (more than 5 years) use adaptive cognitive (80%), emotional (46%), and behavioural (45%), (Fig. 6) coping strategies. They analyse difficulties and look for ways to solve problems, objectively assess the situation without guilt, and have an optimistic attitude towards resolving any situation.

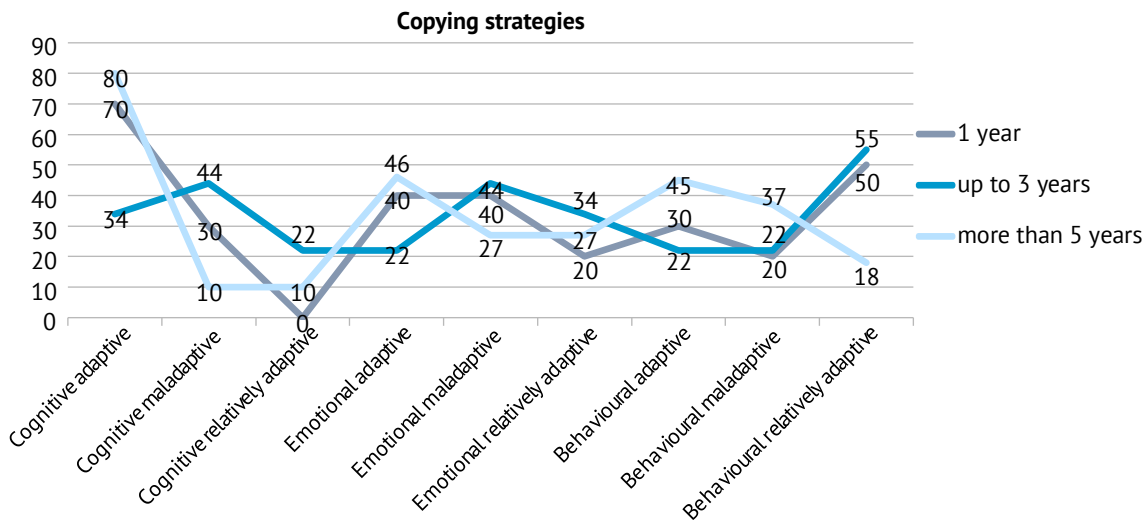


Figure 6. Quantitative indicators of coping strategies according to the duration of volunteering experience

Source: compiled by the author

Able to respond emotionally to situations, express emotions and maintain high self-esteem and confidence in their abilities. Social support from the community and immediate environment is important to respondents, and they are willing to cooperate with others to solve problems and difficulties.

Analysing the results of the group of respondents with average volunteer experience (3 years), it can be seen that in situations of stress and uncertainty, cognitive maladaptive (44%), emotional maladaptive (44%), and behavioural relatively adaptive (55%) coping strategies predominate. This indicates that this group of people is prone to dissimulation, concealment, and unwillingness to see real problems and negative situations, which may manifest as compensatory behaviour in stressful situations. The studied group tends to suppress emotional reactions, and as a result of the manifestation of negative emotions, they are prone to self-blame. In the behavioural sphere, they tend to be distracted by other activities that are pleasant and evoke positive emotions, thereby conditionally escaping from solving real problems and choosing other behavioural strategies. This compensation serves as a protective mechanism in dealing with imaginary or non-existent issues and displays constructive activity as maladaptive behaviour aimed at disrupting old reaction patterns without resolving problematic situations (Mikulincer & Florian, 1998).

For respondents with the least volunteer experience (1 year), it was found that in difficult life situations, cognitive adaptive (70%), emotionally adaptive (40%), emotionally maladaptive (40%), and behavioural relatively adaptive (50%) coping strategies predominate. This indicates that when experiencing difficult stressful situations, they attempt to objectively approach problem-solving while maintaining and understanding their resources and strengths to overcome all possible difficulties, understanding their own value and maintaining self-control. Depending on the situation, they are able to control emotional experiences by focusing on optimistic resolutions or, conversely, suppress emotions with a strong sense of self-blame. Their behaviour tends towards engaging in activities they enjoy to distract themselves, avoiding addressing and overcoming unpleasantness and difficulties, showing a reluctance to take responsibility and resolve real problems. As a result, a protective mechanism of compensation may manifest, or they may address imaginary, fabricated issues.

CONCLUSIONS

Therefore, the war situation in Ukraine has a negative impact on people's livelihoods, health, and self-realisation. Volunteering, as a social phenomenon, has become

a common activity for many Ukrainians and contributes to the formation of social maturity of the individual, however, it requires a lot of energy and resources, therefore it is important to provide proper support and assistance to those who help others and suffer from the negative consequences of the war.

This study demonstrated that the respondents with the least volunteer experience have higher scores on personality characteristics, indicating a high level of creativity, friendliness, conscientiousness, communication skills, and social interaction. There is a tendency to be unconventional in completing tasks and independent in judgment from the opinions of others. As the duration of volunteer experience increases, the level of subjective stress increases and the level of emotional stability and a sense of psychological security decreases. This also indicates that volunteering is a complex and multifaceted process that requires resources and energy. However, in terms of the presence of the meaning of life, it was observed that with increasing volunteer experience, there is a higher level of the presence and search for the meaning of life. It can be assumed that volunteering and helping others gives a sense of self-realisation and personal significance to others. The search for the meaning of life is relevant for all respondents and reflects the current situation of self-realisation both professional and serving as a structural element of psychological self-preservation and providing meaning and awareness to human activity. Respondents with the longest volunteer experience use adaptive cognitive, emotional, and behavioural strategies, choosing the best response option for themselves while maintaining their own values and confidence in their abilities.

Psychological self-preservation is especially important in times of war, danger, and uncertainty, as it helps to maintain mental and physical health and contributes to harmonious personal development. Further study of the structural components of psychological self-preservation requires the development and implementation of psychological training for the development of stability in stressful situations, taking into account the presented results.

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CONFLICT OF INTEREST

None.

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Психологічне збереження волонтерів під час війни: емпіричний аналіз

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Анотація. У статті представлено результати емпіричного дослідження психологічного самозбереження волонтерів з різним стажем волонтерської діяльності. Визначено основні структурні компоненти психологічного самозбереження, рівень суб'єктивного стресу, та психологічної безпеки особистості. Наявність сенсу в житті та особистісні характеристики, такі як екстраверсія, дружелюбність, добросовісність та відкритість до нового досвіду. Проаналізовано використання основних копінг-стратегії в стресових ситуаціях. З метою дослідження психологічного самозбереження особистості волонтерів через структурні компоненти зокрема когнітивний, емоційний, поведінковий та соціальний, було використано наступні психодіагностичні методики: Українську адаптацію короткого п'ятифакторного опитувальника особистості (TIPI-UKR); «Експрес-діагностика психологічної безпеки особистості»; Опитувальник рівня суб'єктивного стресу PSS-10; Опитувальник сенсу життя (The Meaning in Life Questionnaire, MLQ 2006), та методику психологічної діагностики копінг-механізмів (E. Heim). Психологічне самозбереження передбачає здатність людини до ефективної адаптації до негативних подій та здатність до позитивного мислення та раціонального оцінювання ситуації. Це передбачає вміння керувати емоціями, створювати позитивне соціальне середовище та мати ресурси для відновлення психічного і фізичного здоров'я після складних життєвих подій. Виявлено, що у досліджуваних зі збільшенням стажу волонтерської діяльності збільшується рівень суб'єктивного стресу та знижуються рівень відчуття психологічної безпеки, що також вказує на те, що волонтерська діяльність є складним багатогранним процесом та потребує ресурсів та енергії, проте щодо наявності сенсу життя, то ми бачимо що зі збільшенням стажу волонтерської діяльності спостерігається вищий рівень наявності та пошуку сенсу життя. Можна припустити, що волонтерська діяльність та допомога іншим надає відчуття самореалізації, значимості та особистої важливості. Пошук сенсу життя актуальний для усіх досліджуваних та відображає актуальну ситуацію самореалізації як в професійному житті так і особистому та виступає структурним елементом структури психологічного самозбереження та надає діяльності людини значення та усвідомленості. Подальше вивчення структурних компонентів психологічного самозбереження потребує розробки та проведення психологічного тренінгу розвитку стійкості до стресових ситуацій з урахуванням представлених результатів емпіричного дослідження

Ключові слова: психологічне самозбереження; волонтерська діяльність; стрес; компоненти психологічного самозбереження

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The impact of collateral damage: Unravelling psychological mechanisms in the context of war and conflict: A literature review

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Abstract. The enduring conflicts among Middle Eastern nations have caused devastating casualties and loss of life, leading to deep human suffering and significant societal distress. Their impact is not limited to the immediate regions involved but has reverberated across communities within those countries. Additionally, the international community has been deeply affected by the conflict and has made efforts to seek a resolution. The inadequate understanding of collateral damage and a primitive mindset have resulted in the unfortunate deaths of numerous innocent civilians. This article explores the psychological mechanisms underlying collateral damage in the context of war and conflict. In an effort to shed light on the multifaceted nature of collateral damage and its impact on both affected populations and combatants, the complex interplay of cognitive, emotional, and social factors was explored. The aim was to explore the psychological consequences of collateral damage and provide theoretical assumptions to understand collateral damage and war. The SANRA narrative review method was adopted to discuss the psychological underpinnings of collateral damage. Several studies have explored the concept of collateral damage in the context of war and psychology. By understanding the psychological mechanisms behind collateral damage, it is possible to effectively address the root causes and develop strategies to minimise its occurrence in armed conflicts. Moreover, it is essential to prioritise the education of leaders and military personnel regarding the concept of collateral damage

Keywords: war; collateral damage; war and conflict; war trauma; international humanitarian law; peace psychology

INTRODUCTION

Throughout history, humans have frequently engaged in armed conflicts with one another. Regrettably, they engage in aggressive attacks on other countries, causing harm to people with whom they could potentially foster peaceful relations. The concept of collateral damage, which refers to unintended harm inflicted on civilian entities during military actions, can be relatively easy to assess in terms of unintentional harm to non-military targets compared to anticipated benefits, thanks to well-defined definitions and technical evaluations

(Romanosky & Goldman, 2016). In traditional contexts, when determining the permissibility of a strategy or action in a war based on proportionality and necessity, both international law and just war theory have historically concentrated solely on civilian casualties and the devastation inflicted upon civilian infrastructure (Davidovic, 2018).

However, understanding the psychological, social, and cultural factors that contribute to acts of violence is essential in comprehending the complexities of

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collateral damage and its implications. Psychological, social, and cultural factors play a significant role in shaping individuals' support, advocacy, and engagement in violence against innocent people, as explored through the lens of terror management theory (Pyszczynski *et al.*, 2009). These factors, such as religious, ideological, national, or ethnic bonds, can generate animosity and fuel acts of violence. Therefore, it is crucial to delve into the underlying psychological and sociocultural dynamics that contribute to violent behaviour.

Moreover, a survey conducted among Jewish-Israelis following a conflict between Israelis and Palestinians revealed interesting insights. The study found that minimal ideological differences existed in the acceptance of "collateral damage", support for retribution, or willingness to compromise when discussing the Israeli-Palestinian conflict without strong moral intensity. However, individuals on both the left and right sides of the political spectrum exhibited polarised policy preferences only when their positions in the conflict were accompanied by strong moral convictions (Tagar *et al.*, 2014). This highlights the importance of moral conviction and its influence on individuals' perspectives and policy preferences in the context of collateral damage and conflicts.

Additionally, it is essential to provide education and promote understanding of the concept of collateral damage to both sides involved in the Israeli-Palestinian conflict. In educational curricula, it is essential to avoid demonising other countries. Despite technological advancements in military capabilities, the outcomes and consequences of conflicts have remained largely unchanged. Although the use of "smart" bombs has become more prevalent, it has led to what some observers perceive as a significant number of casualties (Byron, 2011).

Furthermore, it is important to recognise that during times of war, civilians can suffer casualties even without direct attacks. An example of this is the examination of the impact of the perceived threat of annihilation during the Iraqi missile attack on Israel, which provided an opportunity to study the occurrence of acute myocardial infarction and sudden death among civilians. In the early days of the Gulf War, there was a notable increase in the occurrence of acute myocardial infarction and sudden death (Meisel *et al.*, 1991).

The presence of innocent people affected by war serves as a stark reminder of the imperative for countries to make every effort to prevent such harm. Furthermore, gaining an understanding of the underlying causes of terrorist behaviour is crucial. A prior article highlights that terrorist conduct is nurtured through extensive training in moral disengagement (Bandura, 1990). Systematic desensitisation can be used to reduce the moral disengagement that contributes to the evolution of terrorist behaviour. However, it is important to note that individuals exhibiting such behaviour may be unaware of the impact or consequences of their actions. Specifically, when a significant number of

people embrace terrorist ideologies or when their superiors enforce such beliefs, individuals may be inclined to accept them unquestioningly.

Moreover, a previous study utilised precise geo-coded information on violence in Iraq spanning from 2004 to 2009, revealing that both parties face consequences for the collateral damage they cause. The study found that instances of coalition forces causing civilian casualties were associated with increased levels of insurgent violence (Condra & Shapiro, 2012). Additionally, the previous study emphasised the significance of distinguishing between accidental and incidental collateral damage (Schwenkenbecher, 2014). In this context, it is imperative to provide military personnel with training aimed at minimising collateral damage. Moreover, defensive war systems should be developed and implemented in a manner that minimises the risk of collateral damage and harm to innocent civilians.

Furthermore, soldiers who experience traumas can encounter specific challenges that may lead to increased aggression towards civilians. For example, military sexual trauma can be a harmful aspect of military life (Holland *et al.*, 2016). Given this consideration, it is crucial to ensure that military personnel are not subjected to psychological trauma as part of their education and training.

THE IMPACT OF TECHNOLOGY ON COLLATERAL DAMAGE AND DESENSITISATION

Understanding the interplay between technology, collateral damage, and desensitisation is crucial in comprehending the potential consequences and implications of technological advancements in modern conflicts. The pervasive influence of social media and modern computer games can contribute to the tendency of individuals to generalise complex situations or foster a demonising perception of specific countries. As a result, such tendencies can have implications for collateral damage, potentially leading soldiers from certain countries to engage in actions without considering the possibility that the individuals they are targeting may be completely innocent.

Additionally, the advancement of technology and the proliferation of video games can introduce numerous gaming experiences that may desensitise individuals to the act of killing innocent people. For example, the association between involvement in violent video games and negative consequences, particularly desensitisation to violence, has been established (Chittaro & Sioni, 2012). Furthermore, a previous study revealed that individuals with moderate levels of exposure to television violence experienced a smaller increase in blood pressure when viewing violent videos compared to those with low exposure. This indicates that such exposure may have negative effects on individuals (Mrug *et al.*, 2015). These findings suggest that exposure to violent media content may have detrimental

effects on individuals. Thus, it is paramount to further explore the social and cultural factors that contribute to desensitisation and prioritise strategies aimed at promoting healthier media consumption and fostering empathy and non-violent behaviours.

FACTORS INFLUENCING POST-WAR DYNAMICS

After a war, it becomes crucial to examine and address the factors related to collateral damage. Collateral damage refers to the unintended harm inflicted on civilians, their property, or non-military targets during military operations. Understanding and addressing these factors is essential.

The analysis findings indicate that providing post-harm compensation effectively reduces local levels of insurgent violence, regardless of the form of compensation. These observed patterns can be best understood through a rationalist mechanism, whereby civilians adjust their beliefs about violent incidents based on newly acquired information (Silverman, 2020).

In conclusion, the analysis findings strongly suggest that the provision of post-harm compensation plays a significant role in reducing levels of insurgent violence within local communities. Hence, in situations where governments are inadvertently responsible for the loss of innocent lives, it is crucial for them to take responsibility and provide appropriate compensation.

Furthermore, sanctions can inadvertently contribute to the criminalization of the state, economy, and civil society of both the targeted nation and its neighbouring countries (Andreas, 2005). Hence, it is essential to calculate and assess the impact of sanctions to minimise any unintended negative consequences, particularly those that may harm innocent individuals. It is imperative to ensure that sanctions do not result in the loss of innocent lives. To illustrate, accounts emerging from Syria, Yemen, and South Sudan indicate that civilian populations residing in conflict-affected areas are experiencing widespread famine and severe food shortages (Stevoli, 2020). Therefore, sanctions should be designed in a way that avoids targeting essential items such as medicine and necessities like food and water.

In addition, the impact on health resulting from the US-led war on terror and civil armed conflicts in the Arab world extends far beyond the direct harm caused to civilians, infrastructure, environment, and healthcare systems. A previous report examined the repercussions of conflicts in Iraq and Syria, revealing how wars and conflicts have led to the militarization and regionalisation of healthcare. These circumstances pose challenges to the reconstruction of once-resilient

national healthcare systems (Dewachi *et al.*, 2014). The findings underscore the urgent need for concerted efforts to address the long-term health implications of these conflicts.

The SANRA narrative review method was used to search articles (Baethge *et al.*, 2019). Based on the primary findings, numerous studies have been encountered that explore the intersection of psychology, warfare, and collateral damage. Nevertheless, it is important to note that the studies primarily consist of commentaries and encompass various geographical regions and conflict zones.

CONCLUSIONS

Understanding the psychological mechanisms behind collateral damage allows for the effective addressing of root causes and the development of strategies to minimise its occurrence in armed conflicts. Additionally, leaders of countries should regularly meet to promote peace around the globe. It is particularly crucial to provide training to soldiers regarding the importance of minimising civilian casualties. Moreover, it is of utmost importance to prioritise diplomatic channels for conflict resolution rather than resorting to war. As mentioned in the previous article, recognising the importance of understanding the elements that shape public perception, it is vital to persuade military organisations to prioritise strategies that emphasise social and political resolutions rather than relying solely on kinetic operations (Clark, 2010). Furthermore, it is crucial to identify and examine other social, economic, and cultural factors that could contribute to the occurrence of collateral damage.

It is crucial to provide comprehensive education on collateral damage to both leaders and soldiers. Furthermore, it is important to include lessons on peace in history classes and refrain from promoting violence. Younger individuals should refrain from watching cartoons that depict collateral damage and collateral violence. The authors did not conduct a comprehensive and structured search for relevant keywords. Hence, it is important to clarify that this manuscript does not serve as a systematic review. Additionally, conducting surveys during times of war can be challenging, as individuals may be hesitant to express their true opinions and may instead conceal their viewpoints.

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CONFLICT OF INTEREST

None.

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Вплив випадкових втрат: розкриття психологічних механізмів в контексті війни та конфлікту: огляд літератури

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Анотація. Тривалі конфлікти між країнами Близького Сходу призвели до величезних жертв і втрат, викликавши глибокі людські страждання та значний суспільний розлад. Їх вплив не обмежується безпосередніми регіонами, але відгукується у громадах цих країн. Крім того, міжнародна спільнота була глибоко зачеплена конфліктом і робила зусилля для пошуку рішення. Недостатнє розуміння супутніх втрат і примітивний менталітет призвели до трагічних смертей багатьох невинних цивільних осіб. У цій статті досліджуються психологічні механізми, що лежать в основі супутніх втрат у контексті війни та конфлікту. З метою висвітлення багатогранної природи супутніх втрат та їхнього впливу як на постраждале населення так і на учасників бойових дій, було досліджено складну взаємодію когнітивних, емоційних і соціальних чинників. Метою було дослідити психологічні наслідки супутніх втрат і надати теоретичні припущення для розуміння супутніх втрат і війни. Метод наративного огляду SANRA був прийнятий для обговорення психологічних основ супутньої шкоди. У кількох дослідженнях вивчали її концепцію в контексті війни та психології. Розуміючи психологічні механізми, що лежать в основі супутніх втрат, можна ефективно вирішувати корінні причини та розробляти стратегії для мінімізації їх виникнення під час збройних конфліктів. Крім того, важливо надавати пріоритет освіті лідерів та військовослужбовців щодо концепції супутніх втрат

Ключові слова: війна; супутні збитки; війни і конфлікти; травма війни; міжнародне гуманітарне право; психологія миру

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Research issues in the psychological preparation of adolescent gymnasts: A literature review

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Abstract. In the article, the researcher conducted on the psychological preparation of adolescent gymnasts is analysed and systematised. Additionally, the factors that play an important role in the psychological preparation of gymnasts are discussed and psychologically interpreted. In the article, the author emphasises the importance of the individual psychological characteristics of gymnasts in preparing them for the competition. Furthermore, it is noted that the gymnast-coach relationship and their interactions with peers have a significant impact on the psychological preparation of gymnasts. This, in turn, leads to a change in the psychological climate of a team. According to literature, psychological preparation, or psychological skills training as it is also called, constitutes part of the whole process followed by an athlete during their athletic preparation. Weinberg & Williams suggest the best time to implement such a program is off-season or preseason. Psychological preparation nowadays constitutes an integral part of any sports programme aimed at preparing athletes for the achievement of high performance. Indeed, the importance of psychological skills training in developing athletic performance is widely acknowledged, and the number of athletes implementing psychological training strategies is increasing. Success in the psychological preparation of athletes can be achieved by having the right influence on their psyche. It is impossible to train athletes successfully without considering the psychology of the individual and the team. This is especially important in the field of gymnastics

Keywords: athlete; gymnast; psychological preparation; competition; social relationship; interpersonal relationships

INTRODUCTION

Studies on the problem of psychological preparation of athletes can be classified in various ways. However, before going on to classify them, several points should be noted. First of all, gymnast psychology is a branch of sports psychology. Research conducted in this field focuses on the psychological characteristics of gymnasts, their psychological preparation etc. Such issues can be included in the general plan. Whether it is a football player, track and field athlete, or other types of sports, it is possible to find psychological commonalities for a specific type of sport.

Second, gymnastics is a sport that combines gymnastic equipment, floor exercises, and balance competitions. The modern gymnastics program for women includes bars of different heights, balance beams, supports, and floor exercises; for men, it includes floor exercises, vaults, pommel horses, rings, parallel bars, and horizontal bars. From this point of view, psychological studies conducted in the field of gymnastics differ according to their specificity.

Third, various factors influence the successful performance of gymnasts. Among these factors, along with

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psychological factors, socio-psychological factors also play an important role. Research shows that social dynamics can be more important than physical fitness, such as psychological factors.

Fourth, since gymnastics encompasses many disciplines, the physical and psychological requirements for each type can vary. However, the psychological characteristics and personality qualities required for gymnasts, including serious considerations in psychological preparation, are often overlooked. Therefore, the psychological preparation of gymnasts and their mechanisms of success show diversity in these areas, with only minor differences. From this point of view, in the context of socio-psychological issues related to the success of gymnasts in general, commonalities in fundamental research necessary from a psychological perspective will be identified.

Studies involving problems can be distinguished in four directions according to the psychological approach to the context of the studied problem:

1. Research related to the psychological preparation of gymnasts;
2. Research related to the personality characteristics of gymnasts;
3. Studies related to internal and external motivation, which play an important role in the success of gymnasts;
4. Research related to the social relations of gymnasts, including intra-group and interpersonal relations, and social and sports competition.

Before examining the studies related to the problem, it is appropriate to provide concise information about the sport of gymnastics and its history.

THE UNIQUE PSYCHOLOGICAL DEMANDS OF GYMNASTICS

It should be noted that gymnastic exercises developed in the ancient world. As far back as 4000 BC, gymnastic exercises were used for medicinal purposes in China, India and other nations. Chinese texts from that era mention that practising gymnastics at home in the morning and evening was considered very important (Bandura, 1997). Indian historical sources (monuments, frescoes, paintings) indicate the widespread practice of gymnastic exercises among ancient peoples, including Egyptians, Turks, Assyrians, peoples of Transcaucasia, Romans etc. Horses have been used as equipment in some types of gymnastics since ancient times. These gymnastic exercises performed on horseback helped master riding. In ancient times, gymnastics for medicinal purposes was also used in India and China, but there it turned into spiritual practices and specific pagan religions (e.g., yoga) and lost their relevance. Therefore, they did not have a mass character like in Greece and Rome, where gymnastics was widely practised (Bandura, 1997).

The term "gymnastics" first appeared among the Greeks during the 8th century BC. Gymnastics exercises

were part of the physical education system in Ancient Greece, used to prepare young people for participation in the Olympic Games. The main purpose of the Olympic Games was the military training of young people. They ran with a shield, jumped with dumbbells, and fights evolved into boxing, where punches were delivered with the help of hard, unsoftened leather. In 393 AD, gymnastics began to be banned because it was associated with paganism and had a negative effect on the moral education of young people (Hardy *et al.*, 1996).

From the end of the 18th century to the beginning of the 19th century, gymnastics equipment and exercises on apparatus were incorporated into the physical education systems of Western Europe and Russia. In the second half of the 19th century, competitions in specific types of gymnastic movements began to be held in several Western European countries.

Modern sports gymnastics is considered one of the most beautiful and popular sports. However, gymnastics is also the most extreme sport, associated with risk and injury. Beginner gymnasts are subject to these risks, performing the most complex elements and exercises with high technical difficulty to achieve the highest level of mastery in accordance with international competition rules. Behind both the successful and unsuccessful performances of a gymnast is the work of the coach, whose unique professional characteristics impose certain requirements on the specialist's personality, training quality, knowledge, skills, and attitude to work.

Perhaps in no other sport does a coach have such a responsible job as a gymnastics coach. During training and competition, the coach must constantly solve a large number of problems. For this, special knowledge in the principles and methodology of gymnastics, pedagogy, biomechanics, age-related physiology and psychology, psychology of gymnastics, anthropology and morphology, and sports metrology is required (Treasure, 2001).

Gymnastics is as much a mental sport as it is a physical one. Indeed, many gymnasts have even said that mental and psychological preparation is much more difficult than physical preparation because it is challenging to control this process. A gymnast can perform movements perfectly in training, but without mental preparation to face opponents, judges, and personal nerves, the best performance cannot be expected (Treasure, 2001).

In gymnastics, the primary focus is on the gymnast's own body, with lesser emphasis on the external world. Modern sports, including gymnastics, place high demands not only on motor skills but also on the mental sphere. The "psychogram" of artistic gymnastics is very unique. This sport is characterised by its "introversion", the gymnast's focus on sensory perception and evaluation of their own body movements, as well as the tempo-rhythm of movements, and spatial and temporal awareness.

Furthermore, gymnastics is one of the most emotionally intense sports, requiring concentration, willpower, and high plasticity of the central nervous system at the same time. The psychological characteristics of sports related to gymnastics include the artificiality of gymnastic movements, their precision, and the frequent occurrence of truly dangerous situations for the athlete.

The development and performance of gymnastic exercises are based on the psychological "control" of feelings and have the character of "reference" points. A gymnast needs well-developed anticipatory reactions, which are the ability to quickly assess the state of movement and, based on this, urgently predict future movements. High-level gymnastics is characterised by significant emotional stress, requiring high self-control and strong-willed qualities from athletes. It is extremely important to consider the process of voluntary mobilisation as a condition for the concentration of efforts necessary to perform exercises with maximum physical strain in gymnastics.

KEY AREAS OF RESEARCH IN THE PSYCHOLOGICAL PREPARATION OF ADOLESCENT GYMNASTS

Studies have shown that the development of psychological characteristics in gymnasts is related to competitive or winning behaviour. It should be taken into account that the different feelings experienced by gymnasts are related to the competition. During competitions, athletes may feel excited, nervous, or confident. The values that motivate them, including the desire to achieve goals and the satisfaction and happiness from success, significantly impact their performance.

Sometimes athletes worry about what to prioritise and what to expect if they do not succeed. This worry can lead to fear, muscle tension, stomach pains, body tightness, frequent sweating of hands, and negative thoughts. As a result, gymnasts may begin to believe that they will never be able to win a big competition (Martens, 1971, 1977). These feelings are accompanied by a stress response. In this context, stress can act as a physical and mental load that disrupts the homeostasis system of the human body (Treasure, 2001). However, personal development and strong personality traits can help overcome this.

Adriana Kaplanova's research showed that the effectiveness of stress relief strategies in such cases depends on the level of gymnasts' personality traits, emotional lability and stability, extroversion or introversion, and openness to experience, among others. To better understand the personality characteristics of gymnasts, it is recommended to determine their behaviour in stressful situations. To alleviate these situations, trainers should develop more effective methods (Solomon, 2004).

An important point to note is that when gymnasts face real or potential danger, the fear of physical injury can manifest as a common source of anxiety among

highly competitive gymnasts and even as a possible reason for leaving the sport or losing confidence in their ability to perform successfully under difficult conditions (Weiss & Stuntz, 2004). Therefore, self-confidence is one of the main characteristics of a gymnast's personality. It plays an important role in self-knowledge and self-improvement. R.V. Cabbarov (2022) mentioned that: "Anxiety, fear and indifference do not allow us to feel self-realisation or positive changes, in contrast, self-analysis is the first step to positive change and self-awareness". It is crucial to research how self-awareness helps improve oneself and understand its benefits. In psychology, self-knowledge is the accurate information a person has about themselves. This includes information about emotional states, thoughts, beliefs, values, personality traits, relationships, behaviour patterns, needs, goals, preferences, and social identity. Self-awareness is the result of self-reflection and social processes. However, self-knowledge is not obtained only from introspection. According to A.S. Bayramov & A.A. Alizadeh (1981; 1989) and O.S. Bayramov & O.E. Olizada (2003), there are five sources that increase the potential for self-awareness. They are as follows:

1. The physical world. This category is limited to physical information such as height, weight and eye colour.

2. Social conditions. Self-identification occurs when a person compares themselves with others. Subcategories include upward and downward comparisons, where they compare themselves with someone in a better or worse situation, respectively.

3. Reflected appraisals. This self-definition depends on the values others assign to us. The term means that we reflect on ourselves through the eyes of others.

4. Introspection. This source of self-knowledge includes thoughts, feelings, motives and desires. It is obtained through self-analysis. Introspection is connected with self-knowledge and is inseparably linked to it.

5. Self-awareness. In this category of self-knowledge, self-observation and investigation of one's own behaviour are key. Truths about oneself are learned through self-examination.

Researchers included two methods of self-identification in this process:

1. Cognitive behavioural therapy (CBT)-type approaches. Approaches similar to CBT are one method of self-exploration. This involves conducting a rational analysis of negative thinking processes.

2. Intellectual techniques. Intelligence-based methods assess emotional intelligence skills and help individuals to improve and understand themselves. In summary, self-knowledge is obtained from the unity of the physical, social and psychological world (Cabbarov, 2022).

Athletes are encouraged to be patient when performing a complex activity for the first time or under pressure in a major competition. A previously injured gymnast may also endure emotions reflecting the fear

of re-injury. Regardless of their source, fear perceptions have the potential to disrupt focus and ultimately hinder an athlete's future performance (Lavallee & Robinson, 2007; Mann & Whitney, 1947). Inadequately calculated risk in gymnastics leads to physiological and psychological consequences at the psychophysiological level. These outcomes, in turn, negatively affect performance and greatly increase the risk of injury. For example, a gymnast who is afraid of performing a trick may experience an increase in body tone (muscle) and heart rate, along with a loss of concentration and confidence. Such a situation creates a self-perpetuating negative cycle in skills and abilities.

According to the literature, the formation of personality qualities in sports activities will ensure the athlete's chances of achieving more success in competitions (Kaplánová, 2018). Authors note that psychologists are constantly faced with significant inter-group differences in personality traits and qualities across various sports, as well as intra-group differences between representatives of one or another sport. Despite being the same type of sport, different sports roles appear in team sports. Such different manifestations refer to the characteristics of the athlete's personality, temperament, character, and abilities. These manifestations depend on both natural, innate initial conditions for the development of the psyche and the influence of the environment; they are formed and developed in the process of education, training, and competition.

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CONCLUSIONS

Several studies have also examined the differences in the personality characteristics of athletes performing individually and those in a team. The study showed that the personality characteristics of gymnasts have a profound effect on their competition process and success mechanism. It is possible to predict the success of a gymnasium in a specific speciality based on personality characteristics. Numerous studies have been devoted to the study of internal and external motivation, which play an important role in the success of gymnasts. It should be noted that the psychology of motivation is one of the most complex and controversial areas of modern psychology. Researches show that the main role in a child's sports education is played by their parents. They should know that not only do they place a huge physical and emotional burden on the child's shoulders, but they are also responsible for the competent organization of the child's daily routine, the psychological support of the young athlete, and the development of the child's relationships. Therefore, parents should be careful in this situation and should not withhold their moral support.

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CONFLICT OF INTEREST

None.

Дослідження питань психологічної підготовки юних гімнастів: огляд літератури

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Анотація. У статті проаналізовано та систематизовано дослідження психологічної підготовки юних гімнастів. Крім того, розглянуто та психологічно осмислено фактори, які відіграють важливу роль у психологічній підготовці гімнастів. У статті автор показав важливість індивідуально-психологічних особливостей гімнастів у підготовці їх до змагань. Зрештою, зазначається, що крім усього цього, важливий вплив на психологічну підготовку гімнастів мають стосунки гімнаст-тренер та їх взаємодія з однолітками. Це, в свою чергу, призводить до зміни психологічного клімату в колективі. Відповідно до літератури, психологічна підготовка або тренування психологічних навичок, як її ще називають, є частиною всього процесу, якого дотримується спортсмен під час його/її спортивної підготовки. Вайнберг і Вільямс згадали кілька точок зору, згідно з якими найкращий час для реалізації такої програми – міжсезоння або передсезоння. Психологічна підготовка на сьогодні є невід'ємною частиною будь-якої спортивної програми, яка спрямована на відповідну підготовку спортсменів для досягнення високих результатів. Дійсно, важливість навчання психологічних навичок у розвитку спортивних результатів широко визнається, і кількість спортсменів, які впроваджують стратегії психологічної підготовки, зростає. Домогтися успіху в психологічній підготовці спортсменів можна, правильно впливаючи на їхню психіку. Неможливо успішно тренувати спортсменів, не спираючись на психологію особистості та колективу. Це особливо важливо в області гімнастики

Ключові слова: спортсмен; гімнаст; психологічна підготовка; змагання; соціальні стосунки; міжособистісні стосунки

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