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## **The Role of Online Psychological Testing in a Learning Process: The Ukrainian Case**

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**Abstract:** The purpose of the article is to highlight the relevance of online psychological testing and determine the level of demand for psychological support of the educational process in the Ukrainian educational system. The tasks of scientific research are focused on reconciling



the request for psychological support from Ukrainian school students with the proposals of the psychological cluster in the local educational space. The research methodology involves the organisation of a case study based on interviews with students in the form of open-ended questions about their experiences and the role of psychological tests in education. The use of a homogeneous sample is due to the need to study the basic understanding of the problem of psychological support for schoolchildren in Ukraine in complex socio-cultural conditions. The results of the study can be grouped into two key positions: the demand for psychological support is quite high (92.8%); the use of online psychological testing is highly relevant among students (76.2%) and is one of the priority elements of psychological support in the educational process. The students interviewed who had undergone psychological tests testified to their positive impact on their overall psycho-emotional state and noted their important role in overcoming learning difficulties. The novelty of the study is determined by the socio-cultural conditions of the crisis caused by the martial law in Ukraine and the transformation of the usual psychological support measures for students during their studies. Conclusions. Thus, online psychological tests, which have emerged as an alternative format of psychological support for schooling, have shown satisfactory results in the context of correlation between the demand for psychological assistance and the supply of psychological support from the authorities and school administration. Online testing provides sustainable and continuous psychological support for students, even when it is difficult to communicate with specialists in the field. The role of online psychological testing is growing due to the flexibility and mobility of the organisation, which is especially important in the dynamic conditions of turbulent socio-cultural development. Prospects for the study are to expand the basic case study using a variation sample, which will add a number of important variables to the student audience of the study.

**Keywords:** case study, psychological support, school psychology, Ukrainian education, psychological online support.

## Introduction

The problem of psychological support in the Ukrainian school education system is actively covered in the scientific and pedagogical discourse. This topic has become especially relevant in the context of European integration and the correlation of educational standards in Ukraine and the European community. The psychological cluster is one of the key indicators of the high quality of the educational system.

At the same time, socio-cultural factors have had a significant impact on the organisation of psychological support for learning activities. The COVID-19 pandemic and the full-scale war in Ukraine have dramatically affected the practical and functional cluster of psychological support. The transfer of all forms of educational activity online was a response to the challenges of the times and transformed all elements of the educational system. The psychological cluster of the



educational space was no exception. At the same time, distance learning has also become a kind of mental challenge for participants in the educational process (Najmul & Yukun, 2020).

Studies in 2020-2021 identified problems related to the organisation of psychological support for students online. At that time, the level of psycho-emotional vulnerability of adolescents increased (Bondarenko et al., 2022), which was a consequence of isolation from their usual way of life (Długosz et al., 2022). After the introduction of martial law and the horrific realities of war, the level of vulnerability increased to critical levels.

The scientific and pedagogical discourse emphasises that anxiety levels have a negative impact on academic performance (Soares & Woods, 2020). Therefore, identifying the factors of psychological discomfort and attempting to eliminate them from the learning space is an important task for the educational community.

### **Research Problem**

The research problem of the study is focused on the relevance of psychological support and assistance during the educational process in Ukraine during the period of force majeure socio-cultural conditions. The martial law in Ukraine affects the educational process, in which its participants experience additional psychological pressure related to the specifics of organising education in a security environment (primarily interruptions in the educational process due to air raids). For high school students, such obstacles are particularly challenging, as they negatively affect not only their current psychological state but also their mental health in general.

The peculiarity of the study is that it is conducted directly in the conditions that cause a deterioration of the psychological microclimate in the educational institution. This increases the value of the study, which not only states the existence of the problem, but also analyses the current situation in real time with the subsequent development of proposals (at the practical level) and strategies (at the global level) to improve the effectiveness of psychological assistance in the educational institution.

It is important for society to have tools to solve psychological problems that manifest themselves in an educational institution. One such element is the use of online psychological tests among schoolchildren. The research cluster, in turn, is designed to provide these tools with a proper methodological and practical-scientific dimension. It is important for scientific analysis to understand the difference in students' perception of psychological and threatening conditions in which the initial process is carried out.

The issue of the level of psychological assistance in secondary education institutions in Ukraine is being studied quite actively, which is related to the implementation of transformations in the course of the integration of Ukrainian education into the European space. At the same time, the socio-cultural conditions of force majeure have opened up a large-scale field for research on the need for psychological support and guidance for adolescents during school.



New aspects that can potentially be updated as a result of the study are the correlation of offers of psychological support for schoolchildren from the educational system with the needs of students who are in a state of constant psycho-emotional stress.

### **Research Focus**

The focus of the study is on the feasibility of using the online format of psychological testing in the educational process. Students determine the level of availability of psychological support in the traditional model and in the alternative information and digital live mode. Given the students' awareness of the innovations in the information and digital space and the active use of various gadgets and digital environments, online psychological support fully ensures that they receive the necessary professional assistance.

### **Research Aim and Research Questions**

The purpose of the article is to analyse the results of a case study conducted among Ukrainian school students, which focuses on the relevance of the completeness of online psychological support during the educational process. The objective of the article is to determine the feasibility of using online psychological testing of school students during the period of socio-cultural turbulence associated with martial law in Ukraine.

The research question of the study is whether the format of online psychological support provides sufficient psychological support to students? The case study forms an idea of the activity of using online psychological testing in the educational process. The next step is to determine the effectiveness of this type of psychological support for students.

### **Literature Review**

The literature review of the problem of online psychological testing in the educational process in Ukraine should be analysed in two key dimensions:

- the need for psychological activity during the learning process (Zhdan et al., 2023);
- ways of organising psychological support for students in turbulent socio-cultural conditions (Romanova et al., 2022).

In the scientific discourse, the problem of psychological support of learning activities is revealed in a systematic way - comprehensive programmes for monitoring the psychological state of students are proposed (Anderson et al., 2019) or specialised algorithms for identifying the characteristics of deviant behaviour of students (Bartosh et al., 2019). Much attention has been paid to the issue of students' psychological well-being (Meshko, Meshko & Habrusieva, 2023) and ways to achieve it.

A separate cluster of studies of the psychological climate in Ukrainian schools examines the impact of martial law (Topuzov et al., 2022) on the psycho-emotional state of students (Lopatovska



et al., 2022). The main focus is on the synergy of psychological and pedagogical support of educational activities (Budnyk & Sajdak-Burska, 2023).

Researchers have argued that the educational process in times of crisis (pandemic, war) is complicated by many factors: sanitary standards (Chaaya et al., 2022), security factors (Vakaliuk et al., 2022); social tensions (Romanovska et al., 2023). At the same time, a negative field is being formed for the psycho-emotional state of adolescents, which actualises the need for psychological assistance.

Researchers pay a lot of attention to the issue of innovative and technological support for online psychological assistance. When the issue of online psychological testing is relevant, the digital potential used for such activities is of great importance. Electronic information collection tools (Malykhin et al., 2023) play an important role at the data collection stage.

## **Materials and Methods**

The study proposes to conduct a case study (McCombes, 2023), which aims to investigate the overall level of psychological support in the Ukrainian school system and the level of satisfaction of demand for psychological support and assistance among adolescent students. The qualitative study involves investigating the problem of online psychological support for students during the educational process.

## **Sample and Participants**

The basis of any case study is the sample of respondents, which should meet the research objectives. In the case of the role of online psychological testing in the educational process of Ukrainian school education, it was decided to use a homogeneous sample. This choice is explained by the desire to analyse the basic scenario of introducing online psychological support in socio-cultural conditions of high turbulence. Martial law has provoked a number of variables that directly affect the conditions of psychological assistance and support in the educational process. At the same time, the purpose of the study is not the influence of external factors on the format of psychological assistance, but the specifics of psychological support in difficult organisational conditions and the corresponding actualisation of alternative models of psychological activity. Therefore, the sample of students (Table 1) for the study was formed to describe a standard basic scenario for organising online psychological support of the educational process.



**Table 1**

*Characteristics of respondents of a homogeneous sample in the case study of the problem of online psychological support in the educational process in the Ukrainian school system*

<b>Category.</b>	<b>Keywords and terms</b>
Number of respondents	42 students
Age	16-17 years old
Year of study	Grade 10-11
Gender.	21 male / 21 female
Region.	Secondary education institutions in Chernivtsi and Zakarpattia regions
Administrative affiliation	Permanent residents of the following regions

Source: Authors' development.

It is worth explaining the parameters of the sample of respondents used in the study. The number of students (42 pupils) who took part in the interviews is usual for a case study using a homogeneous sample. An equal number of female and male students took part in the survey to ensure gender equality of views on the need for psychological support and the use of psychological activity in the educational process. The study focused on students of the final year of secondary education, as the psycho-emotional specificity of adolescence and the actualisation of the problem of self-determination in the final period of school life increases the need for psychological support.

The sample was restricted to two administrative communities (Bukovyna and Zakarpattia), which are characterised by the least impact of hostilities on the lives of civilians. This approach was chosen because of the study's objective to investigate the basic dimensions of psychological activity in the educational process. It is clear that the inclusion of additional variables - internally displaced persons; persons affected by hostilities; active hostilities in the region; social crisis caused by martial law - radically changes the research paradigm, as for these respondents psychological support becomes dominantly personal rather than focused on supporting the educational process.



Therefore, a generalised limitation is that the current study did not use a variation sample, which goes much deeper into the problem of psychological support in the educational system, while blurring the specificity of psychological activity directly in the educational process.

### **Instruments and Procedures**

The study used the interview method, during which students who agreed to the survey were asked questions about the peculiarities of psychological support of the educational process under martial law in a one-on-one conversation online (conducted using the Google Meet platform). Structure of the interview: 5 questions of a deductive-oriented vector - from a general understanding of the need for psychological support to the experience of participating in online psychological testing and the experience of the role of this psychological activity. Questions used during the interview:

1. Does martial law affect the psycho-emotional state during studies?
2. Is psychological support needed in the educational process?
3. Does your educational institution offer psychological support?
4. Did you use online psychological testing during the current academic year?
5. Does the format of online psychological testing meet the needs of the student during the educational process?

It is noted that the questions were designed to determine the attitude of students to psychological support in the educational process and not to provide respondents with an assessment of the level of psychological support. A special condition for conducting an open interview was the consent of parents to interview students, which verified their willingness to share their experience of using online psychological tests in education.

### **Results**

The study of the problem of psychological support of the educational process in Ukrainian schools has intensified due to socio-cultural factors that have led to an increase in the demand for psychological support. The events of the COVID-19 pandemic have driven the development of innovative ways to organise psychological support in the school system. The transition to distance learning was accompanied by the introduction of online psychological support. Martial law has only exacerbated the problem of organising psychological support for the educational process. If school education was prepared for the change in the format of psychological activity, the growing demand for psychological support and assistance created a certain vacuum of psychological activity.

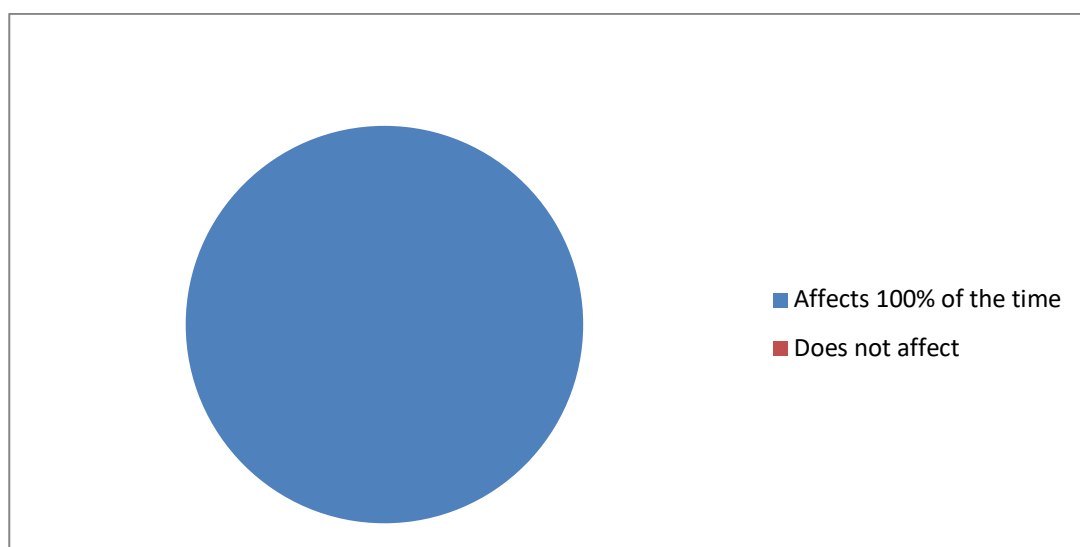
The case study, conducted in the course of the study on a step-by-step basis, identified the key characteristics of psychological activity in the educational process. The questions proposed to the respondents were based on the principles of deduction and formed the paradigm of the psychological cluster in Ukrainian education from general dimensions to specific elements.



The results of the answers to the first question of the interview indicate absolute figures, which show the impact of martial law on the psycho-emotional state of adolescents during their studies (Figure 1). 100% of respondents reported varying levels of deterioration in psychological comfort during educational activities due to external factors - from increased anxiety during air raids to panic attacks in the event of a real military threat (rocket attacks on the territories near their region of residence).

### Figure 1

*The impact of martial law on the psycho-emotional state of students during study*



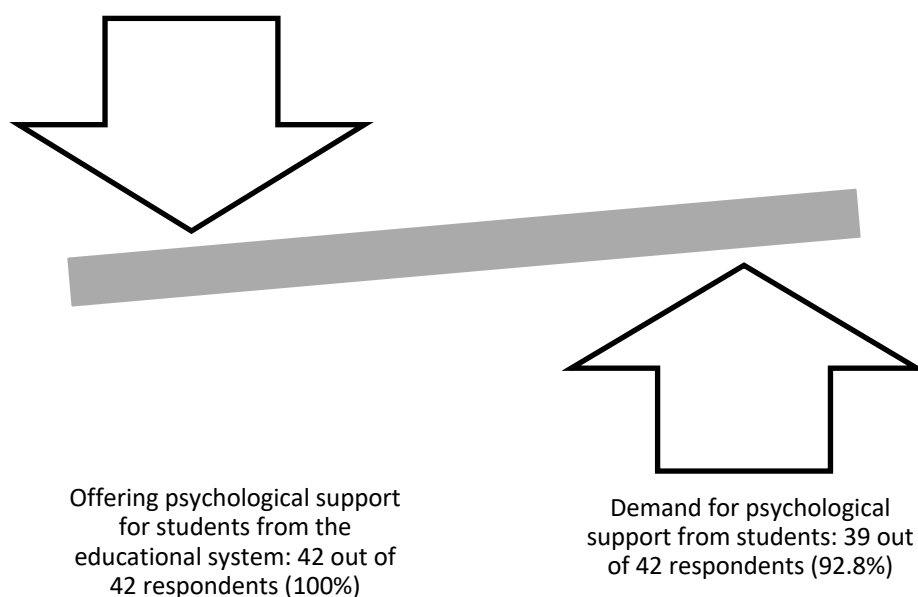
Source: Authors' development.

The absolute result of this cluster of interviews was expected, since such a force majeure socio-cultural phenomenon as martial law cannot remain without a reaction from any person, given the direct impact of psycho-traumatic factors of varying intensity. Questions 2 and 3 allowed us to correlate the demand for psychological help from students and the supply of psychological support from the educational institution or specialised psychological institutions operating in the secondary education institution.



## Figure 2

*The correlation of demand and supply of psychological support of the educational process in Ukraine under martial law*



Source: Authors' development.

According to the survey, the supply and demand for psychological support in secondary education institutions in Ukraine are actually balanced. This means that students who need psychological support receive it in a variety of formats. Answers received during the interviews: 42 out of 42 students indicate that appropriate psychological support was offered to them; at the same time, 39 of them say that they needed psychological support.

That is, the psychological institutions that operate in the secondary education system in Ukraine fully cover the needs for psychological support of students. It is worth noting that the format of psychological support is quite diverse and involves the use of different formats and activities:

- professional assistance of a full-time psychologist in an educational institution (Berezovska, 2022);
- the work of mobile psychological groups, and the functioning of professional services (De Los Reyes et al., 2019) that are involved in working with adolescents in schools;
- offers of online psychological help or open online psychological support courses (Sharov et al., 2021);



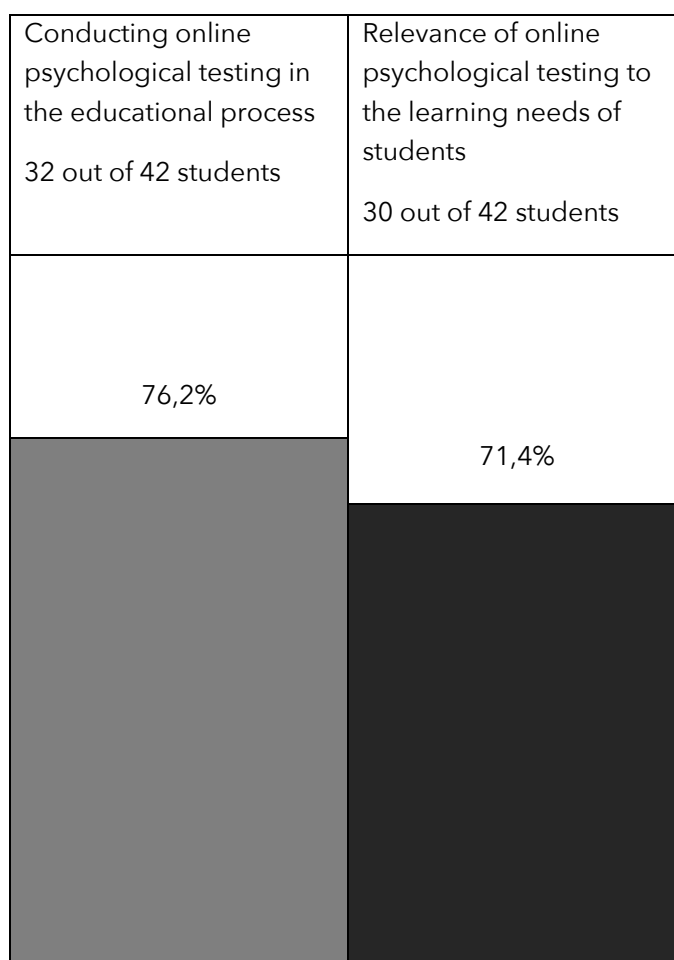
- psychological support programmes for students, teenagers and young adults;
- the use of online psychological literature (Vorotnykova, 2019), the introduction of an English-language format of psychological support according to international standards (Kostikova et al., 2023);
- teacher training courses (Zhorova et al., 2022), one of the elements of which is psychological training (Matviichuk, Ferilli & Hnedko, 2022);
- psychological trainings, locations, spaces within the school and in the online environment.

It was the context of the format that became the key dimension of the last two interview questions that were offered to students in the survey. It is obvious that in the realities of constant interruption of the educational process due to air raids or lack of infrastructure (power outages), aspects of psychological support for students are provided on a residual basis, as all attention is focused on the educational process.

Therefore, the use of online psychological testing has become a relevant tool, which is designed not only to meet individual psychological needs of students, but also to promote a quality educational process.

### Figure 3

*Realities of using online psychological testing in the educational process in Ukrainian schools*



Source: Authors' development.



Analysis of the interview data shows relatively high rates of use of the online format of psychological support. At the same time, the indicators of students' perception of this model of psychological support are more significant (71.4% of the total number of students surveyed and 93.7% of those who were involved in online psychological testing at school). An important indicator is not only the level of students' perception of innovative and alternative methods of psychological support. Special attention should be paid to the algorithms for organising online psychological testing during the educational process. Here, the training of specialists to provide psychological support plays an important role.

## **Discussion**

The martial law in Ukraine has added a number of variables that have significantly affected the characteristics of the educational process, which has actualised the aspect of psychological support for educational activities. In particular, the psychological pressure associated with military realities has become more widespread and intense. In turn, the range of psychological support has expanded, along with the loss of the ability to provide psychological support in the regular mode.

Therefore, scientific research aimed at explaining the nature of psychological support of the educational process at school should be based on multi-stage studies (Krylova-Grek & Shyshkina, 2021). This approach correlates with the rejection of a variation sample for the case study in the current study. Determining the role of online psychological testing in the educational process is possible only through the gradual coverage of the general dimensions of psychological support for educational activity with further deepening of the problem of the format of such support.

The results of the study indicate the need to use various forms of psychological support for learning activities. At the same time, there is a contradiction in the context of the effectiveness of certain formats of psychological support. In particular, Bayliak et al. (2023), analysing an online psychological support course for German youth, note the ineffectiveness of this format in the realities of Ukrainian education due to the lack of motivation to master it.

The scientific literature often describes examples that demonstrate the bias of psychological testing and the potential for unreliable data obtained in this format (Reynolds, Altmann, Allen, 2021). Another manifestation of the imperfection of psychological testing is the global nature of the questions, which may not take into account the individual position of a person (Kirschner & Hendrick, 2020). When the test participant is an adolescent, this problem is exacerbated, as it is sometimes difficult for a young person to organise thoughts and visions about certain processes or phenomena.

On the other hand, psychological activity is positively perceived by school students as part of a global trend to promote the psychological dimension (Loewenthal & Lewis, 2020). Focusing on complex things in an attempt to simplify them captivates adolescents and creates the necessary prerequisites for the productivity of psychological testing (Gallagher & Lopez, 2019).



Obviously, the learning process is a key issue in educational activity, so psychological support of learning plays an important role in improving the quality of education.

The results of the study are comparable to similar research conducted with the help of more sophisticated psychological instruments. In particular, Csapó & Molnár (2019) used an online diagnostic assessment system (eDia), which is characterised by a regular sequence of research. This algorithm is used to diagnose students' psychological resilience during their schooling at different periods. It is clear that this methodology is more informative and allows us to form a holistic picture of the development of a student's personality in the dynamics.

In general, modern psychological support of the educational process is based on the innovation and technological dimension. And it is updated not only in the context of the format of psychological activity, but also has a deep scientific basis: modern psychometric theory (Bilder & Reise, 2018), the use of neuropsychological elements (Howieson, 2019), improving the design of the interface of psychological programs (Butler-Henderson & Crawford, 2020), digital screening of the psychological state (Komanchuk et al., 2023).

It is worth noting that the results of the study are important not only in the context of the educational process, but also in view of the psychological instability associated with the age-related transformations of a young person and the important period of completion of school life and the emergence of new individual challenges (in school, work, and personal life). Therefore, psychological assistance should be multifaceted and, if possible, expand the object of influence on the adolescent.

In contrast to the current study, Velykodna et al. (2023) studied the experience of the psychological state of school students in Kryvyi Rih, a city close to the front line and often subject to shelling. The study notes that for safety reasons, the psychological assistance cluster was transferred mainly to online mode. These realities allowed us to maintain the quantitative indicators of psychological assistance to students, but there are still problems with the quality of psychological support received. Such studies show that the process of complete transfer of psychological support to the online mode has a number of negative consequences, so it is worthwhile to use alternative mechanisms of psychological support of the educational process with caution.

Bogdanov, Basenko & Zaleska (2019), with the support of the United Nations, conducted a similar study on the psychological state of students on the contact line before the full-scale invasion in the Donetsk and Luhansk regions. The results showed that students had a constant feeling of anxiety, which negatively affected their cognitive abilities, which ultimately affected their academic performance, behaviour and general well-being. Stadnik et al. (2023) conducted a similar study after the full-scale invasion in Kharkiv region, and the results of students' psycho-emotional state were at the level of threatening students' mental health. It is clear that psychological assistance in such cases is considered emergency with its own specifics and



methods. It is noted that a combination of stimuli with effective psychological support builds psychological resilience in students (Zhihaylo et al., 2022).

One of the areas that should be included in the strategy for the development of psychological support for students in the Ukrainian education system is the synergy of efforts at the level of teacher-student-parents-psychologist (if necessary) (Topuzov, Malykhin & Aristova, 2021). Such a model will create a favourable microclimate in the adolescent's environment and identify the necessary tools for psychological support - at the everyday level by parents, at the educational level by teachers, and, if necessary, at the professional level by a psychologist.

In general, online psychological testing is only one component of a strategy for developing psychological support for the school process (Malykhin, Aristova & Bondarchuk, 2022). The development of such a strategy is intended to take into account the socio-cultural factors that affect the psycho-emotional state of the student and to form a pool of psychological tools to provide psychological assistance or support during the learning process.

## **Conclusions and Implications**

Thus, the use of innovative technological and digital tools for psychological support of the educational process is in demand in the modern educational system. Crisis socio-cultural conditions necessitate the use of alternative ways of psychological support for students. Online psychological assistance has become a relevant solution for the realities of Ukrainian education in recent years. The results of the study show a synchronisation of the demand for psychological assistance among students and the offer of psychological support offered by the educational system.

Among the variety of methods of psychological assistance, the potential of online psychological testing is revealed, which provides prompt information about the needs of the student or allows preventing situations of psychological discomfort in the learning process. The case study data obtained as a result of the study shows that about  $\frac{3}{4}$  of the student body participated in online psychological testing and the dominant part of them is satisfied with the format and results of such psychological activity. The results obtained can be useful in developing strategies for the development of the psychological cluster in the educational process. Guided by the high level of demand for online psychological assistance obtained in the survey, innovative psychological tools should be included in educational programmes and plans as mandatory elements.

## **Suggestions for Future Research**

Prospects for the study are to expand the current parameters of the case study. First of all, future studies should use a variation sample, which will significantly expand the number of potential respondents. The sample of the future study should include students studying the school curriculum in regions close to the frontline, which will expand their psychological characteristics and needs. At the same time, a variation sample requires a more diverse selection



of study participants in terms of age (covering all grades), social status (including internally displaced persons and war-affected persons). In order to provide a more comprehensive psychological portrait of a Ukrainian school student, the number of case study participants and the number of schools where the study will be conducted should be expanded.

At the same time, having the basic indicators of the role of psychological support in the educational process of the current study, it is worth using them for comparative analysis in the context of adding variables. It is worth noting that the conditions of psychological support at school are constantly changing in the context of the dynamism of socio-cultural influence. Demand from students is growing in the face of psychological turbulence, to which the educational system should respond with a supply of psychological support. The variability of psychological tools and the synergy of participants in the educational process are key drivers of students' psychological resilience in individual dimensions and in the educational process. The use of innovative technologies is a promising direction of organising psychological support of the educational process due to their flexibility and mobility.

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### **Conflict of Interest**

None.

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### **References**

- Anderson, J. K., Ford, T., Sonesson, E., Coon, J. T., Humphrey, A., Rogers, M., Moore, D., Jones, P., Clarke, E., & Howarth, E. (2019). A systematic review of the effectiveness and cost-effectiveness of school-based identification of children and young people at risk of, or currently experiencing, mental health difficulties. *Psychological Medicine*, 49(1), 9-19. <https://doi.org/10.1017/S0033291718002490>
- Bartosh, O., Kozubovskiy, R., Shandor, F., & Tovkanets, O. (2019). Preventing the problem behaviour: the case with Ukrainian vocational high school students. *International Journal of Adolescence and Youth*, 25(1), 464-478. <https://doi.org/10.1080/02673843.2019.1674164>
- Bayliak, M., Abrat, O., Shmihel, H., Lushchak, V., & Shvadchak, V. (2023). Interuniversity Online Courses as Possible Approach to Improve Teaching During Crisis: A Ukrainian Case Study. *Journal of Vasyl Stefanyk Precarpathian National University*, 10(1), 49-60. <https://doi.org/10.15330/jpnu.10.1.49-60>



- Berezovska, V. (2022). Preventive work of the psychological service in the modern school environment. *Educația de calitate în contextul provocărilor societale*, 1, 387-392. Retrieved from: [https://ibn.idsi.md/sites/default/files/imag\\_file/p-387-392.pdf](https://ibn.idsi.md/sites/default/files/imag_file/p-387-392.pdf)
- Bilder, R. M., & Reise, S. P. (2018). Neuropsychological tests of the future: How do we get there from here? *The Clinical Neuropsychologist*, 33(2), 220-245. <https://doi.org/10.1080/13854046.2018.1521993>
- Bogdanov, S., Basenko, O., & Zaleska, O. (2019). Effectiveness Testing of a Multi-Layered Model of Psychosocial Support Within School in Conflict-affected Eastern Ukraine. *NORRAG Special issue*, 02, 52-55. Retrieved from: <https://ekmair.ukma.edu.ua/handle/123456789/17889>
- Bondarenko, A., Fedko, S., Volkova, O., Parasiei-Hocher, A., Kucherovska, N., Korobanova, O., & Kychkyruk, T. (2022). The problem of anxiety among Ukrainian students on remote learning during COVID-19 pandemic. *Wiadomości Lekarskie*, 8(1), 1844-1848. <https://doi.org/10.36740/WLek202208105>
- Budnyk, O., & Sajdak-Burska, A. (2023). Pedagogical Support for Ukrainian War-Affected Children: Future Teachers' Readiness to Work in Crisis. Comparative Analysis of Research Results in Ukraine and Poland. *Journal of Vasyl Stefanyk Precarpathian National University*, 10(3), 16-31. <https://doi.org/10.15330/jpnu.10.3.16-31>
- Butler-Henderson, K., & Crawford, J. (2020). A systematic review of online examinations: A pedagogical innovation for scalable authentication and integrity. *Computers & Education*, 159, 104024. <https://doi.org/10.1016/j.compedu.2020.104024>
- Chaaya, C., Thambi, V., Sabuncu, Ö., Abedi, R., Osman, A., Uwishema, O., & Onyeaka, H. (2022). Ukraine - Russia crisis and its impacts on the mental health of Ukrainian young people during the COVID-19 pandemic. *Annals of Medicine & Surgery*, 79. <https://doi.org/10.1016/j.amsu.2022.104033>
- Csapó, B., & Molnár, G. (2019). Online Diagnostic Assessment in Support of Personalised Teaching and Learning: The eDia System. *Frontiers Psychology*, 10, 1522. <https://doi.org/10.3389/fpsyg.2019.01522>
- De Los Reyes, A., Cook, C., Gresham, F., Makol, B., & Wang, M. (2019). Informant discrepancies in assessments of psychosocial functioning in school-based services and research: A review and directions for future research. *Journal of School Psychology*, 74, 74-89. <https://doi.org/10.1016/j.jsp.2019.05.005>
- Długosz, P., Liszka, D., Bastrakova, A., & Yuzva, L. (2022). Health Problems of Students during Distance Learning in Central and Eastern Europe: A Cross-Sectional Study of Poland and Ukraine. *International Journal of Environmental Research and Public Health*, 19(16), 10074. <https://doi.org/10.3390/ijerph191610074>



- Howieson, D. (2019). Current limitations of neuropsychological tests and assessment procedures. *The Clinical Neuropsychologist*, 33(2), 200-208. <https://doi.org/10.1080/13854046.2018.1552762>
- Gallagher, M., & Lopez, S. (2019). Positive Psychological Assessment: A Handbook of Models and Measures. *American Psychological Association*. 20. Retrieved from: <https://psycnet.apa.org/fulltext/2019-20160-000-FRM.pdf>
- Kirschner, P. A., & Hendrick, C. (2020). How Learning Happens: Seminal Works in Educational Psychology and What They Mean in Practice (1st ed.). Routledge. <https://doi.org/10.4324/9780429061523>
- Komanchuk, J., Cameron, J., Kurbatfinski, S., Duffett-Leger, L., & Letourneau, N. (2023). A realistic review of digitally delivered child development assessment and screening tools: Psychometrics and considerations for future use. *Early Human Development*, 183, 105818. <https://doi.org/10.1016/j.earlhumdev.2023.105818>
- Kostikova, I., Holubnycha, L., Marmaza, O., Budianska, V., Pochuieva, O., & Marykivska, H. (2023). Real Country Experiences: On-line Teaching in Wartime After Pandemic in Ukraine. *iJIM*, 17(3), 123-134. <https://doi.org/10.3991/ijim.v17i03.36419>
- Krylova-Grek, Y., & Shyshkina, M. P. (2021). Online Learning at Higher Education Institutions in Ukraine: Achievements, Challenges, and Horizons. *Information Technologies and Learning Tools*, 5(85), 163-174. <https://doi.org/10.33407/itlt.v85i5.4660>
- Loewenthal, K. M., & Lewis, C. A. (2020). An Introduction to Psychological Tests and Scales (3rd ed.). Routledge. <https://doi.org/10.4324/9781315561387>
- Lopatovska, I., Arora, K., Fernandes, F.V., Rao, A., Sivkoff-Livneh, S., & Stamm, B. (2022). Experiences of the Ukrainian adolescents during the Russia-Ukraine 2022 War. *Information and Learning Sciences*, 123(11/12), 666-704. <https://doi.org/10.1108/ILS-07-2022-0093>
- Malykhin, O., Aristova, N., & Bondarchuk, J. (2022). Providing quality education to school-age children in times of war in Ukraine: a netnographic analysis. *The New Educational Review*, 69, 180-190. <https://doi.org/10.15804/tner.2022.69.3.14>
- Malykhin, O., Kaupuzs, A., Aristova, N., Orska, R., & Kalvans, E. (2023). Anxiety among school-age children in war-affected areas in Ukraine and ways to reduce it: parents' views. Society. Integration. Education. *Proceedings of the International Scientific Conference*, 1, 553-563. <https://doi.org/10.17770/sie2023vol1.7089>
- Matviichuk, L., Ferilli, S., & Hnedko, N. (2022). Study of the Organisation and Implementation of E-Learning in Wartime Inside Ukraine. *Future Internet*, 14(10), 295. <https://doi.org/10.3390/fi14100295>



- McCombes, S. (2023). What Is a Case Study? Definition, Examples & Methods. *Scribbr*. Retrieved from: <https://www.scribbr.com/methodology/case-study/>
- Meshko, H. M., Meshko, O. I., & Habrusieva, N. V. (2023). The Impact of the War in Ukraine on the Emotional well-being of Students in the Learning Process. *Journal of Intellectual Disability - Diagnosis and Treatment*, 11(1), 55-65. <https://doi.org/10.6000/2292-2598.2023.11.01.7>
- Najmul, H., & Yukun, B. (2020). Impact of "e-Learning crack-up" perception on psychological distress among college students during COVID-19 pandemic: A mediating role of "fear of academic year loss". *Children and Youth Services Review*, 118, 105355. <https://doi.org/10.1016/j.childyouth.2020.105355>
- Reynolds, C.R., Altmann, R.A., Allen, D.N. (2021). The Problem of Bias in Psychological Assessment. In R. Altmann, D. Allen, C. Reynolds (Eds.), *Mastering Modern Psychological Testing*. Cham: Springer. [https://doi.org/10.1007/978-3-030-59455-8\\_15](https://doi.org/10.1007/978-3-030-59455-8_15)
- Romanova, I., Kudin, S., Rybak, O., Zavalevskyi, Y., & Pushkarova, T. (2022). Influence of digital technologies of distance education on the mental health of a child in the conditions of wartime realities. *Amazonia Investiga*, 11(56), 224-231. <https://doi.org/10.34069/AI/2022.56.08.22>
- Romanovska, L., Vasylenko, O., Kravchyna, T., & Filinyuk, G. (2023). Socio-psychological support in the educational process of children resettled from the warzone in Ukraine. *Form@re - Open Journal Per La Formazione in Rete*, 23(3), 36-46. <https://doi.org/10.36253/form-15076>
- Sharov, S., Pavlenko, B., Sharova, T., & Chorna, O. (2021). Analysis of Developers of Online Courses on Ukrainian Platforms of MOOCs. *Ijet*, 16(05), 201-213. <https://doi.org/10.3991/ijet.v16i05.18581>
- Soares, D., & Woods, K. (2020). An international systematic literature review of test anxiety interventions 2011-2018. *Pastoral Care in Education*, 38(4), 311-334. <https://doi.org/10.1080/02643944.2020.1725909>
- Stadnik, A. V., Melnyk, Y. B., Mykhaylyshyn, U. B., & de Matos, M. G. (2023). Peculiarities of the psychological wellbeing and social adaptation of young students and cadets in wartime conditions. *International Journal of Science Annals*, 6(1), 22-30. <https://doi.org/10.26697/ijsa.2023.1.7>
- Topuzov, O., Bibik, N., Lokshyna, O. & Onopriienko, O. (2022). Organisation of primary education at war in Ukraine: results of a survey of primary education specialists. *Education: Modern Discourses*, 5, 7-18. <https://doi.org/10.37472/2617-3107-2022-5-01>
- Topuzov, O., Malykhin, O., & Aristova, N. (2021). System of psychological and didactic tasks players in the process face in the paradigm "teachers - schoolchildren - parents" amid the



Covid-19 pandemic. *Education: Modern Discourses*, 4, 23-31.  
<https://doi.org/10.37472/2617-3107-2021-4-03>

Vakaliuk, T., Pilkevych, I., Fedorchuk, D., Osadchyi, V., Tokar, A., & Naumchak, O. (2022). Methodology of monitoring negative psychological influences in online media. *Educational Technology Quarterly*, 2, 143-151. <https://doi.org/10.55056/etq.1>.

Velykodna, M., Deputatov, V., Kolisnyk, L., Shestopalova, O., & Shylo, O. (2023). Psychological Service for Ukrainian School Students during the Russian Invasion: Experience of School Psychologists from Kryvyi Rih. *International Journal of Child Health and Nutrition*, 12(1), 11-22. <https://doi.org/10.6000/1929-4247.2023.12.01.2>

Vorotnykova, I. (2019). Organisational, Psychological and Pedagogical Conditions for the Use of E-Books and e-Textbooks at School. *Turkish Online Journal of Distance Education*, 20(3), 89-102. <https://doi.org/10.17718/tojde.598227>

Zhdan, V., Holovanova, I., Wang, S., Obrevko, N., Korneta, O., Bielikoval., Kaidashev, I., Haque, U., Khorosh, M., & Popovich, I. (2023). Analysis of behavioural factors and level of anxiety of schoolchildren in the conditions of the Russian-Ukrainian war. *The Medical and Ecological Problems*, 27(5-6), 51-58. <https://doi.org/10.31718/mep.2023.27.5-6.07>

Zhihaylo, N., Sheviakov, O., Burlakova, I., Lozynskyy, N., Karpinska, R., Slavska, Y., Ostapenko, I., & Gerasimchuk, O. (2022). Pedagogical methods of supporting psychological stability of students during the war. *Pedagogy and Education Management Review*, 4, 51-65. <https://doi.org/10.36690/2733-2039-2022-4-51>

Zhorova, I., Kokhanovska, O., Khudenko, O., Osypova, N., & Kuzminska, O. (2022). Teachers' training for the use of digital tools of the formative assessment in the implementation of the concept of the New Ukrainian School. *Educational Technology Quarterly*, 1, 56-72. <https://doi.org/10.55056/etq.11>