APPLICATION OF INTERACTIVE PSYCHOLOGICAL EXERCISES FOR PSYCHOLOGICAL REHABILITATION OF COMBATANTS

Lina Perelygina

Educational and Scientific Laboratory of Extreme and Crisis Psychology of the Research Centre, National University of Civil Defence of Ukraine vul. Chernyshevska 94, Kharkiv, 61023, Ukraine

E-mail address: linaperelyhina.psychologist@hotmail.com ORCID: https://orcid.org/0000-0003-2594-6321

Liubov Balabanova

Department of Pedagogy and Psychology, Kharkiv State Academy of Physical Culture vul. Klochkivska 99, Kharkiv, 61058, Ukraine

E-mail address: ildeineko@outlook.com ORCID: https://orcid.org/0000-0002-4112-6270

Yanina Ovsiannikova

Educational and Scientific Laboratory of Extreme and Crisis Psychology of the Research Centre, National University of Civil Defence of Ukraine vul. Chernyshevska 94, Kharkiv, 61023, Ukraine

E-mail address: dyka.ling23@gmail.com ORCID: https://orcid.org/0000-0001-6498-3454

Diana Pokhilko

Educational and Scientific Laboratory of Extreme and Crisis Psychology of the Research Centre, National University of Civil Defence of Ukraine vul. Chernyshevska 94., Kharkiv, 61023, Ukraine

E-mail address: ox.music23@gmail.com ORCID: https://orcid.org/0000-0003-3374-8771

Valentyn Kerdyvar

Educational and Scientific Laboratory of Extreme and Crisis Psychology of the Research Centre, National University of Civil Defence of Ukraine vul. Chernyshevska 94, Kharkiv, 61023, Ukraine

E-mail address: valentynatyurina@gmail.com ORCID: https://orcid.org/0000-0001-6560-6028

ABSTRACT

Aim. Military operations in Ukraine have caused signs of mental trauma in the combatants. Such individuals need active psychological rehabilitation involving effective methods. One of them is the use of interactive psychological simulators that help to rethink one's perception of reality and oneself in it, learn new types of behaviour. The aim is to identify the effectiveness of using interactive psychological simulators in improving the psycho-emotional state of combatants.

Methods. The following methods were employed during the diagnostics: Diagnosis of Psychological Safety of a Person (DPSP-88), Lemur-Tessier-Fillion Psychological Stress Measure (PSM25), Beck's Depression Inventory (BDI), Taylor Manifest Anxiety Scale (TMAS). Descriptive statistics and Student's t-test were applied for statistical processing.

Results. The study proved that the use of an interactive psychological simulator by combatants increased their Psychological Safety Index (t = 8.42; $p \le 0.001$), reduced stress (t = 4.39; $p \le 0.001$), depression (t = 5, 14; $p \le 0.001$), and anxiety (t = 5.43; $p \le 0.001$). This makes it possible to expand the range of psychological rehabilitation of combatants through the introduction of psychological simulators.

Conclusion. The obtained results are important for psychologists and rehabilitators, as they prove the effectiveness of the use of psychological simulators in the psychological rehabilitation of combatants. This can improve the process of psychological recovery of the military, contribute to their social and psychological adaptation, resocialisation. Based on the obtained results, it is planned to expand the possibilities of using psychological simulators in the rehabilitation of combatants. Their introduction into the mandatory system of providing assistance to victims of hostilities will reduce the time of their psychological recovery.

Keywords: psychological safety, negative emotional states, resocialisation, psychological simulator, psychological recovery

INTRODUCTION

The full-scale war in Ukraine, which began on February 24, 2022, became a psychological crisis for most citizens. At the same time, many people expressed a desire to defend the country by joining the Armed Forces of Ukraine (AFU). Today, there is no exact number of the military participating in hostilities, but it is clear that this is a very large number of people. According to the General Staff of the Armed Forces of Ukraine, 60,596 people received the combatant status from 12/2/2022 to 07/05/2023, (Ministerstvo Oborony Ukrainy, 2023). Most of them, being directly involved in hostilities, suffer significant mental trauma. In such conditions, the psyche of the military functions at the limit of its capabilities (Booth-Kewley et al., 2012),

and further participation in hostilities contributes to the development of chronic stress and post-traumatic stress disorder (Zhao et al., 2020). Numerous studies have already confirmed that being in a combat zone radically changes the personality (Hoopsick et al., 2018).

Primary stress received during hostilities turns into secondary stress, which occurs after returning to a peaceful social environment. The combatants face with misunderstanding among their close environment, problems with self-realisation and employment, lack of social support. They experience moral, psychological, and physical stress, which inevitably affects their mental state (Mitina & Orlovska, 2020). Against this background, they show irritability, aggressiveness, intolerance, and excessive conflict. This leads to social disorientation, loss of social contacts, alcohol abuse, and suicide attempts in some cases. Such consequences are long-lasting and can manifest themselves after many years. This proves the importance of psychological rehabilitation of the combatants as a condition for their successful reintegration into society. Psychological rehabilitation of combatants is a set of measures aimed at restoring the psychological balance of persons affected by military operations (Prykhodko, 2018).

At the same time, rehabilitation measures are constantly changing and must correspond to the real condition of patients. New techniques and methods of psychological rehabilitation of combatants have been intensively developed in recent years. The method of using interactive psychological simulators is one of the most effective today. This method consists in the use of specially created software products that contain exercises to simulate psychological situations. Such simulators enable rethinking one's worldview, establishing new forms of response to the surrounding reality, develop negative types of behaviour into more useful ones (Pelechano et al., 2005).

These simulators are especially relevant today, as they can be used anywhere at any time. This allows the military to use them as conveniently as possible for themselves, without burdening themselves with excessive visits to a psychologist. According to researchers, the widespread use of psychological simulators can help to preserve mental health and well-being of people (Albright et al., 2022). The use of such simulators in the psychological rehabilitation of combatants will contribute to their psycho-emotional recovery, reducing mental stress.

The aim of the study is to determine the effectiveness of using interactive psychological simulators in the process of psychological rehabilitation of combatants. The aim involved the fulfilment of the following research objectives:

- Identify violations of the psycho-emotional state of the combatants in Ukraine;
- Determine the level of psychological safety of the combatants;
- Involve the subjects of the experimental group in training on the psychological simulator Happy Mind;

 Measure the statistical effectiveness of training using a simulator in the psychological rehabilitation of the combatants.

Research hypothesis: the use of a psychological simulator can help reduce the negative emotional experiences of combatants and increase their Psychological Safety Index.

LITERATURE REVIEW

Participation in hostilities requires a high level of physical and psychological training from the military. Psycho-emotional stability is an equally important factor in successful participation in hostilities along with the professional competence and physical training (Milevski, 2020). It implies the ability to withstand significant loads on the body, counteract stress, and mobilise internal resources when needed. The North Atlantic Treaty Organization (NATO) obliges to take the SERE (Survival, Evasion, Resistance, Escape) course as part of basic military training. This course involves the acquisition of knowledge and skills to combat stress, emotional stability in the event of capture, as well as methods of emotional recovery after participating in hostilities (Shvets et al., 2021). But, unfortunately, there is no such training system in Ukraine, and in most cases the military, especially young conscripts, are mentally unprepared for war.

In the conditions of hostilities, the military experience great nervous tension, which exceeds the resource capabilities of the body (Köbach et al., 2017). This can later cause post-traumatic stress disorder, mental traumatisation (Markova et al., 2022). Returning to a peaceful life, the combatants often face new difficulties of adaptation, socialisation, and integration into society (Adler & Gutierrez, 2022). They still have the habit of evaluating others from the perspective of potential danger, and provocations from others can be perceived aggressively (Mitina & Orlovska, 2020). The inability to accept new conditions of reality creates feelings of anxiety and increases stress (Searle et al., 2015). These military may experience depression, anxiety, aggression, alienation (Hughes et al., 2018). Negative emotional states cause violations of the sense of psychological security, which has a destructive effect on relationships with others, causes emotional discomfort, and reduces the level of self-organisation (Zabolotna et al., 2023).

Very often, stress, anxiety, and frustration are compensated for by forms of aggressive and antisocial behaviour. Untimely psychological rehabilitation leads to alcohol or drug addiction in many cases (Hoopsick, et al., 2018). One month in a state of excessive stress exhausts the adaptation potential of the human body (Mitina & Orlovska, 2020).

The active phase of the war in Ukraine creates an urgent need for the rapid recovery of combatants after participating in hostilities. The lack of a comprehensive system

of providing psychological rehabilitation of the combatants requires psychologists to develop effective techniques and methods of providing psychological rehabilitation.

Psychological rehabilitation is a set of methods aimed at preserving or restoring the normative psycho-functional state of an individual (Zabolotna et al., 2023). Psychological rehabilitation of military personnel is a system of measures aimed at preserving and restoring their psychological safety (Makarenko, 2018), the formation of positive emotional states of the combatants who have undergone psychological trauma (Prykhodko, 2019).

Conventional methods of psychological rehabilitation are no longer sufficient for the comprehensive psychosocial recovery of combatants. They need such an approach that would ensure long-term improvement of psycho-emotional state (Murray et al., 2023), optimisation of internal resources, development of personal potential (Levi et al., 2022). Unfortunately, the psychological recovery of the military after participating in hostilities is currently based only on the provision of aid on demand. And most of the military does not apply for such help on their own. This entails emotional aggravation, stressful experiences that provoke post-traumatic stress disorder (Melnik & Mushkevych, 2020). This determines the need for the use of such technologies that would contribute to the comprehensive psychological recovery of the combatants (Penk & Little, 2013). This can be achieved using interactive psychological simulators. They make it possible to improve the psycho-emotional state, reduce negative experiences, and overcome stress.

An interactive simulator is a system of modelling certain phenomena, which enables forming action skills virtually, understanding the essence of phenomena, as well as training skills and forms of behaviour (Lee et al., 2018). Such simulators prepare a person to make high-quality and quick decisions (Pelechano et al., 2005). Psychological simulators include a set of specially designed exercises that have a preventive effect (Hastie & Stasser, 2000). They contribute to the improvement of psychological health, develop emotional stability, reduce stress and anxiety (Purdy et al., 2022). One of the important factors in the use of psychological simulators is the acquisition of the skills of restraining negative emotions (Cole et al., 2023), constructive coping strategies, maintaining internal balance and comfort (Pudane et al., 2017).

Modular Motion-assisted Memory Desensitisation and Reconsolidation (3MDR) should be noted among the existing simulators. It is a virtual reality-based simulator for effective treatment of post-traumatic stress disorder and related conditions (Jones et al., 2021). 3MDR has a unique advantage in the psychological rehabilitation of obsessive-compulsive disorder (OCD) because it helps treat post-traumatic stress disorder (PTSD) and its co-morbidities comprehensively. This simplifies the rehabilitation process and does not require military personnel to simultaneously undergo psychotherapeutic interventions (Bisson et al., 2020).

Performance Moderated Functions Server (PMFserv) is also worth noting among psychological simulators. The programme combines four blocks of models: psycho-

biological, personal-cultural, social, and cognitive. This simulator is used to simulate behaviour in various spheres of life, which optimally combines the external influence on a person and his/her reaction (Cassenti, 2009).

Psychological simulators have a number of advantages (Albright et al., 2022): lower cost compared to conducting real sessions; solving the problem of standardisation of learning experience; reduction of discomfort; round-the-clock availability.

In Ukraine, the HappyMind.Help (https://happymind.help) team has developed an online simulator with the aim of independently improving the psychological health of the military. The simulator is based on the theory of cognitive-behavioural therapy. The essence of this therapy is that the patient rethinks the perception of reality and changes negative types of thinking and behaviour on this basis. There are seventeen active windows with a list of psychological conditions and disorders on the programme website. These include fear, stress, depression, anxiety, aggressiveness, etc. Choosing one or another condition, it is possible to get a set of exercises that help overcome a certain condition. The exercises are a slide show and contain tasks for physical activity, breathing, and cognitive-behavioural therapy. The authors of the simulator recommend using it daily or twice a week for 21 days to develop a habit.

Before being put into mass use, the HappyMind.Help (https://happymind.help) psychological online simulator underwent a cycle of tests and research by practical psychologists of the National Guard of Ukraine. Therefore, it can be a reliable tool in the psychological rehabilitation of combatants.

METHODS

Research Design

The study was conducted from March 2023 to June 2023 in five stages. The first stage included theoretical and methodological substantiation of the research programme, selection of valid diagnostic tools. The second stage provided for diagnosing a sample of respondents, as well as primary processing of the results and quantitative data analysis. The third stage involved the development of a training programme for subjects in an interactive psychological simulator with the aim of improving their psycho-emotional state. At the fourth stage, the statistical effectiveness of the training and their impact on improving the emotional state of the combatants were determined. The fifth stage provided for a qualitative analysis of the conducted research taking into account limitations and prospects.

The research design included an initial diagnostics of the manifestations of negative emotional states in the subjects before using the psychological simulator, as well as the initial diagnostics after working with the simulator. The diagnostics was carried out in electronic format on the Google Forms platform. This ensured the confidentiality of the diagnostics and its convenience for the respondents.

Sampling

The study involved 240 combatants between the ages of 23 and 48 who took direct part in military operations – 29 women and 111 men. The inclusion criterion was the combatant certificate and participation in combat operations. The exclusion criterion was severe physical injuries, which are an additional psychological factor affecting the emotional state of the subjects. Next, a quasi-experiment was conducted in which the participants were divided into two groups: control (165) and experimental (75). The division was made based on research indicators. In particular, respondents with a predominance of low indicators of psychological safety and high indicators of stress, depression, and anxiety were selected for the experimental group. The control group included respondents with partially low indicators of the specified variables and a predominance of medium and high values. This distribution was carried out to maximise the effectiveness of the work, reduce negative conditions in the military, and reach a larger number of those in need of help. Participants of the experimental group were involved in working with an interactive psychological simulator. Respondents of the control group did not undergo this training.

The study was conducted on the basis of the Centre for Psychosomatic Rehabilitation of Combatants and Their Family Members (Kharkiv), Kharkiv City Centre of Social Services Dovira. The psychological simulator HappyMind.Help (https://happymind.help) was used in the study.

Methods

The Diagnosis of Psychological Safety of a Person (DPSP-88) was used to identify the psychological problems of the studied subjects in various aspects of their social and psychological life.

The stress level was measured using the Psychological Stress Measure PSM-25. Lemyr-Tessier-Fillion's PSM25 is used to detect the level of stressful feelings in subjects aged 18 to 65 years. The test can be applied to different professional groups. The methodology contains 25 statements to assess the mental state of an individual. The results are processed by counting all points and comparing them with the key. The method was tested by the authors on a sample of more than 5,000 people. Results are interpreted at three levels: low (0-99), medium (100-125), and high (126 and above).

Beck's Depression Inventory (BDI). The authors developed a questionnaire that contains 21 categories of symptoms and complaints of depressive states. Each category

consists of 4-5 statements that correspond to the symptoms of depression. Each item of the scale is rated from 0 to 3 according to the increasing severity of the symptom. The test results are interpreted according to four levels: 0-13 – standard level; 14-19 – mild depression; 20-28 – moderate depression; 29-63 – severe depression.

The Taylor Manifest Anxiety Scale (TMAS) was used to detect the anxiety level. The Scale is designed for measuring the manifestations of an individual's anxiety. The questions for the Scale were selected from the list of statements of the Minnesota Multiphasic Personality Inventory (MMPI). The selection of items for testing was based on an analysis of their ability to distinguish individuals with "chronic anxiety reactions".

Statistical Methods

Results were processed using descriptive statistics, Student's non-parametric t-test for independent samples. Student's t-test was used because it was determined that the data distribution was normal. This was verified by the Kolmogorov-Smirnov and Shapiro-Wilk tests ($p \ge 0.05$).

Ethical Criteria of Research

Before conducting the research, the respondents received full information about the purpose and tasks of the research. They were informed about the confidentiality of the received data, their non-disclosure.

RESULTS

The Alpha-Cronbach coefficient was used to check the reliability of the selected tests (Table 1).

Table 1Reliability results of the PSM-25, BDI and TMAS tests

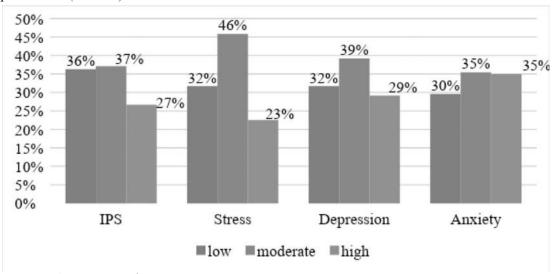
| Groups | Cronbach's alpha | | | |
|-------------------------------|------------------|------------|---------|--|
| | Stress | Depression | Anxiety | |
| Experimental group $(N = 75)$ | 0,744 | 0,814 | 0,790 | |
| Control group $(N = 165)$ | 0,832 | 0,764 | 0,871 | |

Source. Own research.

The obtained data shows that the Cronbach's alpha indicator is quite high for the control and experimental groups according to the PSM-25, BDI and TMAS tests. This proves the high internal consistency of the tests and the reliability of the obtained results.

The research revealed that there are individuals in the military who have a low level of psychological security, high anxiety, depression, and stress (Figure 1).

Figure 1Comparison of levels of psychological safety, anxiety, depression and stress of military personnel (N=240)



Source. Own research.

It has been established that a third of military personnel have a low index of psychological safety, high anxiety, depression and stress. Therefore, such respondents need psychological support and help with the use of a psychological simulator. Further, the test indicators are presented in comparison to the experimental and control groups. At the initial stage of the research, it was found that the Psychological Safety Index of the combatants was quite low (Table 2).

Table 2 *Means of the Psychological Safety Index of the combatants (N = 240)*

| | Moral and | Motivational | Value and | Internal | PSI (Mean±SD) | |
|------------------|-----------------|----------------|-----------------|-----------------|------------------|--|
| | communicative | and volitional | meaning | comfort | | |
| | (Mean±SD) | (Mean±SD) | (Mean±SD) | (Mean±SD) | (Meaning) | |
| Experimental | 71.05±34.21 | 79.28±31.18 | 87.93±30.78 | 77.25±32.95 | 308.41±124.09 | |
| group $(N = 75)$ | | | | | | |
| Control group | 82.34 ± 32.87 | 91.32±30.26 | 89.25 ± 29.63 | 93.29 ± 31.08 | 354.93±121.15 | |
| (N = 165) | | | | | | |

Source. Own research.

The obtained results indicate that quite low values of the Psychological Safety Index (PSI) and its components were found in the experimental group at the beginning of the study. This suggests that the combatants of the experimental group have a low mental security, are unable to maintain an optimal level of functioning. They have reduced sociability, morality, and communication. The members of this group are characterised by low achievement motivation and goal setting, which leads to apathy in actions and lack of willpower in achieving the goal. Their involvement in the surrounding reality and social responsibility are also low. The indicators show a low self-assessed safety of the combatants and a low assessment of interaction with the environment. So, the data indicate low communicativeness, interpersonal tolerance, activity, value and meaning sphere, low sense of well-being of the experimental group's combatants.

Medium indicators for all components of psychological safety prevail in the control group. The general level of PSI is medium. This also indicates a certain decrease in the Psychological Safety Index, but it is not critical and can be corrected under certain conditions of self-development.

The study showed that the combatants have pronounced signs of stress, depression, and anxiety (Table 3).

Table 3 *Means of emotional states of the combatants (N = 240)*

| | Stress (Mean±SD) | Depression (Mean±SD) | Anxiety (Mean±SD) |
|-------------------------------|---------------------|-------------------------|----------------------|
| Experimental group $(N = 75)$ | 126.58±23.91 | 31.29 ± 10.96 | 25.09 ± 14.24 |
| Control group $(N = 165)$ | 105.71±22.09 | 19.81±9.89 | 19.91±13.45 |

Source. Own research.

The results indicate high values of stress, depression, and anxiety in combatants of the experimental group and medium values of these conditions in the control group. These results indicate that excessive psycho-emotional stress, frustration and stress in the conditions of hostilities provoke negative emotional states in the military. This leads to their neuroticism, which disrupts the process of readaptation and resocialisation after returning to a peaceful life. Even the medium indicators of stress, anxiety, and depression in the control group are a signal to provide them with qualified psychological help. This will make it possible to prevent deterioration of the psycho-emotional state and to form an adequate sense of psychological security.

Based on the obtained results, participants of the experimental group were involved in training on the psychological simulator. Respondents of the control group did not undergo training on the simulator. Moreover, they did not undergo any psychological remedial training for the purpose of reliability of the results.

The essence of the classes consisted of systematic training. Classes were held exclusively voluntarily. Participants of the experimental group took classes on a psychological simulator for 2 months. The classes were held online on the HappyMind.Help (https://happymind.help) simulator with the soldiers independently choosing exercises according to the following sequence of sections: exercises to relieve stress, anxiety, depression, apathy, panic, muscle tightness, anger and aggression, negative thoughts, procrastination, fear, feelings of resentment, impaired concentration, insomnia—disturbed sleep, burnout, improvement of interpersonal relationships, removal of guilt, self-doubt, PTSD, emotional control training.

A repeated survey was carried out after the training completed by the members of the experimental group in training on a psychological simulator, which showed qualitative changes. A comparison of indicators of psychological safety revealed statistically significant indicators of growth of the general PSI (Table 4).

Table 4 *Means of changes in PSI of the combatants after using the psychological simulator* (N = 240)

| Components of psychological safety | Experimental group (N = 75) (Mean±SD) | | t Cohen's | Contro (N = (Mea | t Cohen's d | |
|--|---|---------------|-------------|------------------------|---------------|-----------|
| | before | after | _ | before | after | _ |
| moral and communicative | 71.05±34.21 | 103.75±16.98 | 7.27** 0,85 | 82.34±32.87 | 83.45±31.83 | 1.28*0,53 |
| motivational and volitional | 79.28±31.18 | 111.36±32.88 | 7.19** 0,77 | 91.32±30.26 | 92.38±31.12 | 0.94*0,62 |
| Value and meaning | 87.93±30.78 | 113.88±31.43 | 8.64** 0,84 | 89.25±29.63 | 89.48±28.27 | 1.76*0,51 |
| Internal comfort | 77.25±32.95 | 120.45±35.22 | 8.97** 0,91 | 93.29±31.08 | 93.44±32.01 | 2.11*0,69 |
| PSI (Mean±SD) | 308.41±124.09 | 449.44±133.56 | 8.42** 0,89 | 354.93±121.15 | 355.78±119.66 | 1.94*0,55 |

Note. *p<0.05; **p<0.01.

Source. Own research.

A repeated survey showed that the moral and communicative component of psychological safety (t = 7.27; p ≤ 0.001), motivational and volitional (t = 7.19; $p \leq 0.001$), value and meaning components (t = 8.64; p ≤ 0.001), internal comfort (t = 8.97; $p \leq 0.001$), and the general Psychological Safety Index (t = 8.42; $p \leq 0.001$) significantly increased in the combatants of the experimental group. A fairly high effect size in the experimental group indicates a qualitative shift in psychological safety indicators after classes on the psychological simulator.

This suggests that training on the psychological simulator helped to increase the level of psychological safety of the studied combatants. They began to show more activity, communicative interaction, plan their activities, develop a value sphere. No significant differences were found in the control group, which proves the effectiveness of the positive effect of the psychological simulator on the psycho-emotional state of the combatants.

After working with the simulator, the subjects of the experimental group also decreased their indicators of negative emotional states (Table 5).

Table 5 *Means of the emotional states of combatants before and after the psychological simulator* (N = 240)

| Emotional | Experime | ental group | t | Cohen's | Contro | l group | t | Cohen's |
|------------|--------------------|----------------|--------|---------|---------------------------|--------------|------|---------|
| states | (N = 75) (Mean±SD) | | | d | $(N = 165) (Mean \pm SD)$ | | | d |
| | before | after | _ | | before | after | _ | |
| Stress | 126.58±23.91 | 91.70±15.16 | 4.39** | 0,717 | 105.71±22.09 | 104.77±69.56 | 1.83 | 0,014 |
| Depression | 31.29±10.96 | 13.72 ± 6.58 | 5.14** | 0,839 | 19.81±9.89 | 19.77±8.92 | 1.65 | 0,083 |
| Anxiety | 25.09±14.24 | 10.25 ± 6.55 | 5.43** | 0,887 | 19.91±13.45 | 20.12±13.36 | 1.01 | 0,120 |

Note. *p<0.05; **p<0.01.

Source. Own research.

The study found that the indicators of stress (t = 4.39; $p \le 0.001$), depression (t = 5.14; $p \le 0.001$) and anxiety (t = 5.43; $p \le 0.001$) significantly decreased in the combatants of the experimental group. The size of the effect is quite high, which indicates the significance of the obtained changes. Such changes prove the effectiveness of the psychological simulator in reducing the negative emotional experiences of the combatants, developing the skills of positive emotional response. Improving the psycho-emotional state is a condition for the full recovery of the military after hostilities, their return to peaceful life and society. No statistical differences were found in the control group. Therefore, the training on the psychological simulator contributed to the reduction of anxiety, stress, and depression of the combatants.

The obtained results showed the effectiveness of using a psychological simulator in optimising the psycho-emotional state of the combatants. Therefore, this type of psychological help is efficient, convenient and less expensive than counselling sessions. Therefore, it is advisable to include the use of interactive psychological simulators in the general system of psychological rehabilitation.

DISCUSSION

The study found that the vast majority of the combatants have signs of a low and medium level of psychological safety. They have quite high levels of anxiety, stress, and depression. Such combatants are characterised by high mental stress, negative emotional states, impaired interaction with others, lack of activity towards self-realisation. Taking into account such indicators, the HappyMind.Help (https://happymind.

help) interactive psychological simulator was introduced into the psychological rehabilitation system. A repeated study showed that the use of the simulator contributed to significant changes in the indicators of the combatants. Their level of psychological safety increased, while anxiety, stress, and depression decreased.

The obtained results are consistent with the study of Iuliia Pavlova et al. (2022), where it was established that a significant part of the combatants have pronounced symptoms of anxiety, depression, and insomnia. Moreover, their research revealed the influence of additional factors on the mental state after participation in hostilities depending on gender, marital status, stay in occupied regions, direct participation in combat. The authors emphasise the urgent need for psychological help for the combatants and providing them with qualified psychological rehabilitation. Yuliia Rybinska et al. (2022) show that the psycho-emotional state of the military who participated in hostilities is characterised by anxiety, increased aggressiveness, maladjustment, and symptoms of stress.

Rachel A. Hoopsick et al. (2018) found that prolonged participation in hostilities leads to a decreased quality of civilian life and psychological safety in it. Pavlova et al. (2022) also found a high level of stress and depression in the military who participated in hostilities. The authors proved that the level of stress and depression in the combatants is significantly higher than in military reservists. The authors also found more acute stress disorders in combatants, which requires urgent psychological rehabilitation using the latest methods and tools (Krushynska et al., 2022).

To date, there is no comprehensive study of the effectiveness of the use of psychological simulators in the psychological rehabilitation of the combatants. For the most part, there are separate aspects of this problem, as psychological rehabilitation is carried out comprehensively in other countries. Glenn Albright et al. (2022) found the effectiveness of using interactive psychological simulators in learning the skills of emotional stability and awareness. The same data were obtained in the studies of Viacheslav Nahornyi (2023) and Adam Waytz et al. (2015), who found that mental simulation on a simulator helps to increase psychological well-being. Nuria Pelechano et al. (2005) found that the psychological simulator allows overcoming dysfunctional types of behaviour, reducing negative emotions and stress.

CONCLUSION

The military who took direct part in hostilities in Ukraine are characterised by a difficult psycho-emotional state, which can worsen against the background of received injuries. They have pronounced depressive symptoms, stress, anxiety, and low psychological safety. Against this background, they cannot fully adapt in the social environment, restore communication with relatives and friends, and return to professional activities. This reduces their adaptive capabilities, deforms personal resources.

Therefore, the issue of the effectiveness of psychological rehabilitation of the military who took part in hostilities urges the need to use interactive psychological simulators for this purpose. The obtained results proved that the psychological simulator can contribute to reducing the manifestation of negative emotions in the combatants and improving psychological safety. This is one of the main conditions for their full rehabilitation and resocialisation. The introduction of psychological simulators into the system of psychological rehabilitation of the combatants will provide this process with a comprehensive readaptation of the military, improvement of their psychological state, and a sense of psychological safety.

Limitations of the study include the lack of opportunity to conduct timely psychological diagnostics of the combatants and make the corresponding correction. Most combatants are initially treated for injuries, so the first priority is to restore their physical health. Precious time for psychological rehabilitation is lost under such conditions.

The prospects of the research involve the study of the influence of external and internal factors of the combatants on their psycho-emotional state after military operations. The introduction of psychological simulators into the system of psychological rehabilitation of combatants is not only aimed at identifying the impact on negative emotions, but also establishing their effectiveness in the development of positive emotional states.

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