

Modern Cognitive and Informational Warfare: the Role of Consciousness Manipulation of Ukrainians in Personality Transformation

Сучасна когнітивно-інформаційна війна: роль маніпуляцій свідомістю українців у трансформації особистості

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ABSTRACT

The purpose of the article is to study the psychological and neuro-psychological nature and strategies of cognitive and information warfare in the Ukrainian context in 2024, as well as the formation of a theoretical basis for individual, personal changes, transformations of personality, as a negative consequence of destructive influence of the methods of propaganda, misinformation and methods of manipulation on the individual's self-consciousness, brain, cognitive functions, emotional and volitional sphere of a personality during extreme and risky combat operations.

Methods of the research. The theoretical and methodological base of the research consists of a set of theoretical and empirical methods: theoretical-methodological analysis, generalization, systematization, surveys, interviews, test methods, project method, Rorschach projective technique, genetic-creative approach (S.D. Maksymenko) and principles of its construction: development; experiencing freedom; technologies, methods of disinformation and propaganda; self-regulation of behavior; interactions; uncertainty and indeterminism; therapeutic action through the prism of digital technologies; basic philosophical, psychological, sociological principles of understanding the problem of cognitive and information warfare.

The results of the research. For Ukraine, countermeasures against cognitive and informational warfare are of crucial importance for ensuring national security and protecting democratic values. Effective countermeasures require cooperation between government structures, civil society and international partners.

Conclusions. The cognitive-informational war (CIW) in 2023-2024 is an important aspect of the modern world order, especially in the context of the Russian-Ukrainian war. This is a complex mechanism of manipulating the consciousness of Ukrainians, which uses various methods and tools to achieve its

invasive goals, leading to the transformation of cognitive and behavioral transformations of a personality.

It has been established that the influence of the cognitive and informational warfare on Ukrainian society is manifested through the division and polarization, undermining trust in the authorities, destabilizing the political situation, and reducing the fighting spirit of the Ukrainian army. However, according to the mentioned plan, there are measures that can reduce the negative impact of CIW, such as the development of critical thinking and media literacy, detection and countering of disinformation, protection of cyber security and support of freedom of speech and pluralism of opinion.

The future prospects of the development of cognitive and informational warfare will be reflected in the constant growth of technologies and changes in the strategies of conducting information warfare. Therefore, it is important to constantly update and adapt countermeasures to new challenges. It has been found in order to counteract effectively against CIW, it is necessary to combine technological and psychological approaches, develop critical thinking and media literacy of population, and create effective mechanisms to counter disinformation and manipulation.

Key words: *cognitive and informational warfare, disinformation, manipulation, critical thinking, media literacy, personality transformation, consciousness.*

Introduction

The problem of modern cognitive warfare in Ukraine in 2022-2024 is closely related with various discourses of psychological science, in particular, cognitive psychology, psychology of decision-making under conditions of uncertainty, psychology of risk, neuropsychology, and psychology of personality operating in extreme conditions.

The evolution and transformation of cognitive warfare in the Ukrainian context is directly related to the scientific understanding of the mechanisms and regularities of the cognitive functioning of an individual as a subject-participant in hostilities or civilian representatives of the population of Ukraine. The psychological essence of the cognitive and informational warfare in 2024, the war in the global dimension, and its psychological and neuro-psychological impact on the personality of Ukrainians, under the influence of propaganda and manipulation of the con-

consciousness during intensive military operations in Ukraine, is an understudied theoretical and methodological problem, despite the intensive growth of research devoted to the studied phenomenon (Bizik, Kosarova, Potochnak, & Stojar, 2022).

The individual psychological characteristics of the manifestation of stress, panic, irrational statements, resources of stress resistance as a result of manipulation of the consciousness of military personnel and the civilian population of the country, which protects its national identity, dignity and borders as a Ukrainian nation, remain undefined.

The purpose of the research is to study and define the cognitive and information warfare at the current stage of its evolution in Ukraine, its historical context of transformation in our time, the general methodology of researching the phenomenon of Russian propaganda, methods and techniques of manipulating the consciousness of Ukrainians by means of propaganda .

Methods of the research

The theoretical-methodological base of the research consists of a set of theoretical-empirical methods: theoretical-methodological analysis, generalization, systematization, surveys, interviews, test methods, project method, projective Rorschach technique, Genetic-Creative Approach (S.D. Maksymenko) and principles of its construction: development; the experience of freedom; technologies, methods and methods of disinformation and propaganda; self-regulation of behavior; interactions; uncertainty and indeterminism; therapeutic action through the prism of digital technologies; basic philosophical, psychological, sociological principles of understanding the problem of cognitive and information warfare.

Results and their discussion

The problematic horizon of the psychological dimension of the cognitive-informational war regarding the influence of Russian propaganda and technologies, means, methods of manipulating the consciousness of Ukrainians in the domestic literature

is very extensive. This indicates, in our opinion, the preservation of the relevance of the problem field of the understudied problem of both cognitive and military psychology. Therefore, different approaches since 2014 emphasize different conditions, determinants, propaganda and manipulation technologies used by the enemy.

In the literature analyzing the Russian-Ukrainian warfare, the scientific Western and domestic communities define it differently: cognitive (Pradhan, 2022; Reczkowski, 2022; Maksymenko, Derkach, & Kirichevska, 2022), hybrid war (Bizik, Kosarova, Potochnak, & Stojar, 2022), conflict (Waltzman, 2022), cyber warfare (Shapiro, & Spaulding, 2021; Feiner, 2022), informational (Kalakoski, Selinheimo, & Valtonen, 2020). Such specificity of analysis and its evolution since 2022, by researchers of different paradigmatic schools and directions, suggests, from our position, the need to use a systemic, genetic-creative approach – the author – S.D. Maksymenko (Maksymenko, & Derkach, 2023; Maksymenko, & Derkach, 2024). Therefore, in our scientific research, we define the Russian-Ukrainian warfare as cognitive-informational, taking into account how Russian propaganda distorts the facts about the war (Sivak, 2023).

The war in Ukraine changed not only history in the global dimension, but also in the Ukrainian context. According to experts of the State Service of Special Communications and Information Protection of Ukraine (*State Service of Special Communications and Information Protection of Ukraine*. 17.01.2023), “Only understanding the interaction of these dimensions allows us to adequately assess the actions of the aggressor state.”

Having endured the first three days, the Ukrainian people are hardened, and this leads to significant personal changes, transformations, as well as transformations in society, etc. related to *the cognitive functioning* of an individual, that is, the mental processes of those involved in processing information and making operational decisions in the modern digital environment.

From the position of the famous military expert Rand Waltzman (Waltzman, 2022) “Patterns of changes in Ukrainian society during the cognitive war had a significant impact on the development and transformation of national identity, in particular military identity. This problem is extremely important from the theoretical and methodological issues of the Russian-Ukrainian lessons of cognitive and information warfare, as it concerns cognitive science and the cognitive processes of waging modern warfare aimed at manipulating and destroying human consciousness and the human brain” (Zaika, 2014).

The psychology of warfare as a phenomenon, its conceptual and paradigmatic diversity in the study of the specifics of cognitive and information warfare at the current stage of its evolution is of vital importance both for our country, as well as for the world community.

An important role in our research was attached to the experimental results obtained by the authors, which we rely on in the current work. As well as innovative research and project activities of Ukrainian scientific youth – students of 3-4 years of Bachelor’s, Master’s and Postgraduate studies of the University of Customs and Finance of Dnipro (320 people) in a longitudinal study of changes in behavioral reactions and behavioral strategies in the minds of young people aged 18 to 20 years using the neuro-psychological interface (Maksymenko, Derkach, Kirichevska, 2022), surveys, questionnaires and analysis of case situations.

In this work, we limit ourselves to the analysis and understanding of the tools of cognitive and information warfare in Ukraine in 2022-2024.

Our working definition of cognitive and information warfare at the current stage of its development, in accordance with the topic and general methodology of our research, has the following content. Cognitive-informational warfare is a concept of the systematic use of information media, such as: mass communication media, social networks, and the Internet to manipulate

opinions, distort facts, and influence the beliefs and behavior of groups of individuals or nations in order to achieve political, economic, or military goals.

The historical context of the cognitive and information warfare. Based on the classic military theories of war of the influential military strategists Sun Tzu (Sun Tzu, 1963) and Karl von Clausewitz (Clausewitz, 1976), comparing their military-psychological heritage with the Ukrainian realities of today, we singled out eight criteria for a methodological analysis of the psychology of modern cognitive and informational warfare in Ukraine, in particular :

- 1) the fundamental goal of cognitive warfare;
- 2) logic (in the terminology of Clausewitz – principles) of war;
- 3) the potential of cognitive warfare;
- 4) indicators of cognitive warfare;
- 5) factors of cognitive dominance;
- 6) means (proven and innovative strategies) of military actions in multi-domain military operations of cognitive warfare;
- 7) correspondence of generalizations and conclusions of foreign and domestic military experts to the psychological context of cognitive warfare at its strategic and operational levels;
- 8) the negative impact of the consequences of the cognitive war on the psychological and neuro-psychological state of personality functioning, typical transformations.

Conceptualization of the concept of «cognitive warfare» took place in 2021-2023 , during the discussion of scientific reports presented at the First Symposium on cognitive warfare in France in June 2021 and psychological warfare (Claveri, Prebot, Buechler, & Kluzel, 2021). Psychological warfare is abbreviated as (PSYWAR) – and is a commonly used term to describe the main aspects of modern psychological operations (PsyOp) accompanied by military information support operations (MISO).

The logic (principles) of psychological warfare are:

- Target audiences

- Messages (fake , false)
- Means of delivery (Howard, 2001).

The well-known military expert S. Pradhan convincingly substantiated the thesis that «the Russian-Ukrainian conflict is a witness to the intensive use of influence operations that form a cognitive war. Although the use of propaganda and influence operations were common in warfare, they have now assumed the form of warfare with their strategic use on a scale never seen before. Increasingly wide and well-planned use of social media, digital and other means of communication made it possible to quickly reach a larger audience with individual and targeted content» (Pradhan, 2022).

Such a definition of cognitive war acquires special importance in the modern conditions of the escalation of cognitive war regarding *cognitive attacks on the human mind, which becomes a BATTLEFIELD. The use of manipulations in the cognitive sphere of the individual is aimed at changing the perception of goals.*

In addition to the above, according to S. Pradhan, «Cognitive warfare *is* more than the sum of different dimensions of information warfare (IW), because it integrates all elements available in the information, cyber and psychological spheres, and takes them to a new level not only by manipulating perception of the target population, but also ensuring that the desired response is achieved. And that is why the war was called “cognitive”, knowledge, which includes the acquisition, comparison, interpretation, analysis of information. They make up the “inner part of the action” (Pradhan, 2022).

The mind of an individual in a cognitive warfare (as its own essence), in contrast to mentality (the ability to be brought under a rule), is destroyed thanks to three strategies of psychological influence, in particular:

- Well-planned and conducted psychological operations
- Engaging Neuroscience (Brain Armament)
- Implementation of social engineering

What is, then, the potential of cognitive and information warfare in 2024?

Based on the above, and based on the professional considerations of the influential military strategist S. Pradhan, preliminary conclusions can be drawn regarding the probable potential of cognitive warfare to:

1. Split society in the perception, analysis and evaluation of vital information;

2. Split in opinions, ideas, evaluation of fake information is oriented towards the main goal of the war:

a) loss of collective will to resist the enemy;

b) to protect its independence, Freedom.

3. Split in the thoughts and cognitive processes of the representatives of society creates disagreements in probable behavioral strategies, decisions made or decisions that are predicted to be correct, true in a situation of uncertainty and risk. The combination of these factors pushes the weaker side *to CONTINUE* to face a stronger opponent in terms of weapons, but much weaker in terms of personal characteristics of will, national and military identity, psychological elasticity (resilience), morale of soldiers (Ivanov, 2023; Semenov, 2022).

In this context, it is worth noting that the modernization of the Armed Forces of Ukraine, which began in 2014, provided the Ukrainian Army and Ukrainian society with a number of advantages in terms of means of cognitive warfare:

- The military-technical assistance of NATO, the United States, and partner countries, information from intelligence services regarding the timing of the Russian large-scale invasion of Ukraine, Turkish drones (UAVs), as well as military training and training of operators of complex anti-missile systems of the Armed Forces made it possible to highlight real, not manipulated, events in international media channels, social networks: Facebook, Twitter, Microsoft and others;

- Well-known NATO diplomats, analysts, military strategists, Analytical Centers, journalists, thanks to the Internet,

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quickly amplify the true information about the escalation of the cognitive warfare in Ukraine, the courage and determination of Ukrainians to resist the Russians, the world treats them as heroes;

- The extremely high internet literacy of ordinary Ukrainians who use the social media platform (“Minister Fedorov’s 400,000-strong Army”) helped and continues to help the soldiers of the Armed Forces of Ukraine to quickly receive information about the deployment of enemy units, to enter corrective information about changes on the battlefield, quickly and efficiently, which deprived of the enemy’s troops.

- Volunteer movement, National Defense, crowdfunding, i.e., collection of material funds for the purchase, for example, of drones for operational units of the Armed Forces, for the purpose of mapping the area and deploying the enemy’s troops.

Thus, the above factors were decisive in the provision of military assistance by NATO and the USA to Ukraine and its Armed Forces at various stages of the escalation of hostilities.

The historical context of wars and new forms of conducting cognitive and informational warfare (for example, land, sea, air drones and drones with artificial intelligence) include in itself various events that demonstrate the use of innovative informational and cognitive means to achieve political or military goals. We will supply the following examples that directly took place during the two most recent wars: the Second World War and the Cold War in relation to propaganda methods and information campaigns that have proven to be highly effective, in particular :

1. Wartime Propaganda: during both wars, information campaigns and propaganda played a key role in shaping opinion and sustaining national mobilization. In these cases, governments used a variety of mass media to manipulate public sentiment and attract support (Propaganda used during World War II.).

2. Cold War: the period of competition between the United States and the Soviet Union was accompanied by intense infor-

mation warfare. Both rivals used propaganda, disinformation and psychological operations to undermine trust and influence the opinion of the international community and their own citizens (Cultural diplomacy and propaganda during the Cold War).

3. Modern conflicts and geopolitical confrontations: In the modern world, cognitive and information warfare has become even more important due to the development of the Internet, social networks and digital technologies. States and non-territorial groups use these means to spread propaganda, conduct cyberattacks, manipulate public opinion, and influence political processes in other countries (Petrov, 2019; Kovalenko, 2020).

Thus, the given above historical context shows that cognitive and informational warfare has always been an integral part of military conflicts and geopolitical confrontations, but its meaning and methods have changed over time in accordance with the development of technologies.

In the aspect of the problem being analyzed, we will consider in greater detail the specifics and methods, tools of cognitive and informational warfare (CIW).

Methods and tools of CIW.

1. Disinformation and propaganda. Disinformation and propaganda are among the most common methods of cognitive information warfare (CIW) used to manipulate public opinion, sow discord, and destabilize society. Disinformation is the dissemination of false or misleading information with the purpose of misleading people.

2. Undermining trust in institutions. Disinformation can be used to undermine trust in governments, media and other institutions. This can lead to people losing trust in official information and becoming more susceptible to propaganda. *For example: «Russia is ready for peace talks, but Ukraine is not».*

3. Inflaming discord. Misinformation can be used to incite discord between different ethnic groups of people. And this, in turn, can lead to social unrest, violence and even armed conflicts. *For example: "To sow discord between Ukrainians of Wes-*

tern and Eastern Ukraine, proclaiming that some Ukrainians remained and some left the state in trouble”.

4. Influencing elections. Disinformation can be used to influence election results. This may include spreading fake news about candidates or manipulating voting results. Let us turn to the analysis of examples of case situations that illustrate Russian propaganda methods of manipulating the consciousness of ordinary Ukrainians.

CASE SITUATION #1

Allegation that the Ukrainian government is Nazi. This is a common Russian propaganda claim used to justify the invasion of Ukraine. There is no evidence to support this claim, and it has been refuted by numerous independent sources.

CASE SITUATION #2

Allegations that the Ukrainian military is shelling civilians. Russia accuses the Ukrainian military of shelling civilians in cities such as Mariupol. These allegations have been widely denied, and there is evidence that Russian forces are responsible for these crimes.

CASE SITUATION #3

Alleging that there are NATO bases or their specialists, bio-laboratories at every step in Ukraine. This is another common conspiracy theory that Russia uses to justify its invasion. There is no evidence to support this claim, and it has been debunked by experts in various fields.

So, propaganda is a form of communication aimed at spreading among society of certain ideas, beliefs, or attitudes, often with the goal of manipulating people’s thoughts and behavior. As we noted above, it is used by both governments and non-state actors, and can be disseminated through sources such as the media, social media, education systems, and even the arts.

Propaganda is usually repeated and disseminated through various mass media to shape a chosen outcome of public opinion (Kovalevich, 2014). The importance of the propaganda of various parties increases especially during the election campaign.

In contrast to the objective presentation of information, malicious propaganda presents information selectively to encourage certain generalizations, or uses an emotional coloring of the message to provoke an emotional rather than a rational reaction to what is said. The end result of propaganda is a change in attitude towards its subject. Propaganda and its malicious version can be used as a form of political struggle (Smith, 2020; Petrov, 2019). It is worth noting that the term «propaganda» acquired a vividly negative emotional color only thanks to the unprofessional activities of some journalists. Propaganda in its initial emotional meaning had a neutral color. So, the following are examples of the types of Russian propaganda that are accompanied by tantrums and blackmail: nuclear, cold, hunger, terrorist attacks on civilian infrastructure, massive missile attacks aimed at making the lives of Ukrainians unbearable.

Let's move on to consider another Russian propaganda tool of negative influence on the consciousness of the individual, first of all, young people – cyber attacks and hacking as the most powerful modern means of disinformation and manipulation.

Cyberattacks and hacking as a propaganda tool for accessing electronic resources. The legislation of Ukraine defines: **Cyberattack** is directed (intentional) actions in cyberspace, which are carried out using electronic communications (including information and communication technologies, software, software and hardware, other technical and technological means and equipment) and are aimed at achieving one or a combination of the following goals: breach of privacy, integrity, availability of electronic information resources processed (transmitted, stored) in communication and/or technological systems, obtaining unauthorized access to such resources; violation of the security, stable, reliable and regular mode of functioning of communication and/or technological systems; use of the communication system, its resources and means of electronic communications to carry out cyber attacks on other objects of cyber protection. Therefore, various types of cyberattacks used by the enemy in

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Ukraine can have serious consequences for individuals, organizations, and even entire countries.

Hacking is the process of breaking into a specific system using methods not intended by the person who created that system. The term «system» refers to any website, database, computer network – anything with a clear structure and specific protection mechanisms. Hackers try to gain access to this network or database – to get valuable information, sabotage or just for fun.

Hacking tools are software and hardware devices used by hackers to gain access to computer systems, networks, and data. They can be used for both legitimate and illegitimate purposes.

Types of hacking tools in the Russian-Ukrainian cognitive and information war :

Scanners: used to detect vulnerabilities in computer systems and networks.

Exploits: used to exploit vulnerabilities in computer systems and networks to gain access to them.

Sniffers: used to intercept network traffic such as emails, passwords and other data.

Malware: used to infect computer systems with malicious software that can steal data, spy on user activity, or cause other harm.

Social engineering tools: used to manipulate people into revealing personal information or taking actions that could harm them or their organizations.

The use of social networks as a powerful tool of CIW.

Social networks have become one of the most important tools of KIV, because they make it possible to quickly and easily spread information to millions of people around the world. Social networks are unprecedented opportunities for:

1. Rapid and mass dissemination of information: posts and visual content on social media can reach millions of people in seconds.

2. Targeted impact on the audience: thanks to algorithms and targeting tools can clearly define and reach exactly the audience that is most receptive to certain content.

3. Creation and manipulation of public opinion: using fake news, propaganda and disinformation, you can influence people's thoughts and beliefs, sow discord and destabilize society.

4. Recruitment and coordination of actions: social networks give the ability to mobilize people, organize protests and other actions, and coordinate actions between different groups.

A wide range of tools, both free and paid, are used to conduct CIW in social networks. The main tool among which are social networks. The most popular social networks at the moment are Facebook, Twitter, Instagram, YouTube, TikTok and Telegram.

In addition to the tools of social networks, it is also necessary to note **the methods** used for cognitive and information warfare in social networks. The most common of them include:

1. Fake news and propaganda.
2. Creation and dissemination of fake news, which is often based on fabricated facts or distorted data, with the aim of misleading people and manipulating their opinion.
3. Misinformation: spreading false or misleading information to mislead people or hide the truth.
4. Hate speech and hate speech: use of offensive and provocative language with the aim of inciting enmity and hatred between different groups of people.

So, the specifics of using social networks in the cognitive and information war in Ukraine in 2022-2024 indicates that social networks have become one of the most important tools of CIW, because they allow quick and easy dissemination of information to millions of people around the world. Using fake news, propaganda and disinformation, you can influence people's thoughts and beliefs, sow discord and destabilize society.

Thus, cognitive and information warfare (CIW) is a new type of warfare that uses information and propaganda to manipulate people's thoughts and behavior. There are various tools and methods used to spread misinformation and propaganda such as social media, news sites, television and radio. These tools can be very effective in influencing people's thoughts and behavior, so

it's important to be aware of the latest IP threats and take steps to protect against them.

The impact of the cognitive and informational war on the Ukrainian language society.

Cognitive information warfare, which consists of manipulation, misinformation and the use of information technology to achieve political, economic or social goals, can make society vulnerable to manipulation and contribute to the growth of conflicts.

Ukraine as a country is experiencing a difficult political and social situation, faces an intense informational struggle both internally and externally. This can lead to the separation of society into different ideological and political camps, increasing conflicts and mistrust between groups of people.

Disinformation and propaganda are spread on the Internet and social networks to undermine trust in the authorities and sow discord among Ukrainians. This can lead to social unrest, violence and even civil war.

Since the beginning of Russia's full-scale invasion of Ukraine, cognitive and information warfare has become an integral part of the conflict. Russia is conducting a large-scale disinformation and propaganda campaign aimed at undermining confidence in the Ukrainian authorities both inside the country and abroad.

Methods used to undermine trust in authorities and institutions, such as propaganda, manipulation, cyber attacks, etc., can have serious consequences for Ukraine. This can lead to: political instability, decrease in economic growth, increased vulnerability to Russian aggression. This could make Ukraine more vulnerable to further attacks by Russia.

How to resist undermining trust? The Ukrainian government is taking a number of measures to counter this. These measures include:

- **Fact-checking:** identifying and disproving disinformation spread by Russia.

- **Increasing transparency:** the government is trying to be more transparent in its work to increase trust in itself.
- **Combating cybercrime:** taking measures to protect websites and infrastructure from cyberattacks.
- **Citizen involvement:** the government works to involve citizens in the decision-making process so that they feel more involved in their government.

Therefore, cognitive and informational warfare is a serious threat to Ukrainian society. It is important that people are aware of this threat and take steps to counter it. It is also important to maintain openness and transparency in governance in order to increase trust in authorities and institutions.

The destabilization of the political situation in Ukraine in the context of cognitive and information warfare is a complex and multifaceted phenomenon that manifests itself through various dimensions and aspects. One of the most important aspects is the use of disinformation and fake news to cause confusion and confusion among citizens. This happens due to the spread of denial of facts, manipulative distortion of events and general mixing of true and false information flows.

It is important to note that the cognitive and information warfare in Ukraine not only causes political instability, but also has serious social and economic consequences. For example, it can lead to an increase in economic instability due to the loss of investments and a general decrease in confidence in economic processes in the country (Yaroslav, 2023).

That is why, the destabilization of the political situation in Ukraine due to cognitive and information warfare has a wide range of consequences that affect the level of trust of citizens in their own state, the effectiveness of state institutions, and the overall stability of the country. To overcome this war, it is necessary to strengthen cyber security measures, increase media education and critical thinking among the population, as well as joint efforts of the state and the public to identify and counter disinformation and manipulation. Only through joint efforts

can the stability and security of the country be preserved in the conditions of cognitive and information warfare.

The decrease in the morale of the Ukrainian army in the context of cognitive and informational warfare (CIW) in Ukraine is a serious challenge to the country's defense capability and national security. This process can be caused by various factors, which include the level of stress resistance, types of stress, fatigue from a long war, underestimation of risks and threats, lack of feeling of support from the authorities. One of the main factors leading to a decrease in morale is fatigue from the long war with the Russian aggressor. Constant tension and danger on the front line can deplete the morale and mental state of military personnel, which can affect their combat readiness and effectiveness.

The main tasks of protection against cognitive and information warfare include:

1. Media literacy and critical thinking. It involves developing the skills of analysis and critical perception of information. People must be able to distinguish true information from fake news, manipulative messages and propaganda.

2. Technical protection of information systems, networks, data and communications is an important task. This includes the use of anti-virus programs, data encryption, protection against phishing and other attacks.

3. Cooperation between state institutions, mass media and the public.

4. Raising awareness: informing the public about the methods of cognitive and information warfare, its consequences and methods of protection is an important task.

In general, protection against cognitive and information warfare is a necessary element of modern security. It helps preserve the independence, democracy and stability of society. It is necessary to constantly improve our knowledge and skills in order to be confident in the information we perceive.

Conclusions

The cognitive-informational war (CIW) of 2023-2024 is an important aspect of the modern world order, especially in the context of the Russian-Ukrainian warfare. This is a complex mechanism of manipulating the consciousness of Ukrainians, which uses various methods and tools to achieve its aggressive goals, which leads to the cognitive and behavioral transformations of the individual.

The influence of the CIW on Ukrainian society is manifested through psychological and neuro-psychological negative impact on brain and cognitive functions of a person attributed to the division and polarization, undermining trust in the authorities, destabilizing the political situation, and reducing the fighting spirit of the Ukrainian army.

For Ukraine, the counteraction of CIW is of crucial importance for ensuring national security and protecting democratic values. Effective countermeasures require cooperation between government structures, civil society and international partners.

The future prospects of the development of information technology will be reflected in the constant growth of technologies and changes in the strategies of conducting information warfare. Therefore, it is important to constantly update and adapt countermeasures to new challenges.

In general, for effective countermeasures against CIW, it is necessary to combine technological and psychological approaches, develop critical thinking and media literacy of the population, and create effective mechanisms to counter disinformation and manipulation.

Literature

- Bizik V., Kosarova D., Potochnak A., Stojar, R. Hybrid Interference: From the Particular to a Continuum. Empirical Test of the Multi-Dimensional Concept of "Hybrid". *Obrana A Strategije*. 2022. No.1. Doi:10.3849/1802-7199.22.01.075-088
- Clausewitz Carl von. *About the war*. Edited and translated by Michael Howard and Peter Paret. 1976. Princeton, New Jersey, Princeton University Press.

- Claveri B., Prebot B., Buechler N., Du Kluzel F. Cognitive Warfare: The Future of Cognitive Dominance, First NATO Scientific Meeting on Cognitive Warfare (France). *Innovation Hub - Act* [online]. 2021. URL: <https://tinyurl.com/yckwjt5n>.
- Cultural diplomacy and propaganda during the Cold War. DOCSTeach. Weighing the evidence. Created by the National Archives. URL: <https://www.docsteach.org/activities/teacher/cultural-diplomacy-and-propaganda>.
- Cyber attacks, artillery, propaganda. General overview of dimensions of Russian aggression. *State Service of Special Communications and Information Protection of Ukraine*. 17.01.2023. URL: <https://cip.gov.ua>.
- Feiner L. Ukraine Is Winning the Information War Against Russia, *CNBC*, March 1, 2022. URL: <https://www.cnb.com/2022/03/01/ukraine-is-winning-the-information-war-against-russia.html>.
- Howard M. Grand Strategy in the Twentieth Century. *Defense Studies*. 2001. Vol.1, Issue 1. URL: <https://doi.org/10.1080/714000007>.
- Ivanov O. "Psychological aspects of lowering the morale of the Ukrainian army." *Military psychological research*. 2023. Vol. 10, No. 2. P. 45-58.
- Kalakovski V., Selinheimo S., Valtonen T. Effects of a Cognitive Ergonomics Workplace Intervention (COGErg) on Cognitive Strain and Well-Being: A Cluster Randomized Controlled Trial. A Study Protocol. *BMC Psychology*. 2020. Vol. 8, No. 1. P. 1-54.
- Kovalevich B.V. Social networks as a new tool of information warfare in the modern world. *Sociology*. 2014. No. 4(108).
- Maksymenko Serhiy, Derkach Lidiya. Understanding modern cognitive warfare in a global dimension, its genesis in the Ukrainian context: Overview and directions for further research. Cognitive warfare and operations of social influence. *Obrana a strategie*. 2023. Vol. 22, No. 1. P. 126-148.
- Maksymenko Serhiy, Derkach Lidiya. Modern informational-cognitive-hybrid warfare in global extinction in Ukrainian context: scientific research. 2024, 75 p. ISBN 978-617-555-196-7.
- Maksymenko S., Derkach L., Kirichevska E. Psychology of Cognitive Processes. Scientific Textbook. 2022. Kyiv: National Academy of Pedagogical Sciences of Ukraine, G.S. Kostyuk Institute of Psychology of the National Academy of Educational Sciences of Ukraine. 420 pp.
- NATO. NATO's Response to Hybrid Threats. *NATO* [online]2021 [cit. 2022-03-14]. URL: https://www.nato.int/cps/en/natohq/topics_156338.htm.

- Petrov K. Information Warfare Strategies in Ukraine: Manipulation, Disinformation, and Societal Division. *Ukrainian Journal of Political Science*. 2019. Vol. 12, No. 2. P. 78-94.
- Pradhan S.D. Role of Cognitive Warfare in Russia - Ukraine Conflict: Potential for Achieving Strategic Victory Bypassing Traditional Battlefield. *Times of India* . May 8, 2022. URL: <https://timesofindia.indiatimes.com>.
- Propaganda used during World War II. Florida Atlantic University Libraries. URL: <https://libguides.fau.edu/primary-sources-ww2/propaganda>.
- Reczkowski R., Lis A. Cognitive Warfare: What is Our Actual Knowledge and How to Build Resilience. *Security Theory and Practice* [online]. 2022. No. 3 (XLVIII). URL: <https://tinyurt.com/bdh2269z>.
- Semenov V. Strategies of destabilization and their impact on the morale of the military. *Ukrainian Military Journal*. 2022. Vol. 5, No. 3. P. 112-125.
- Shapiro L., Spaulding S. Embodied Cognition. The Stanford Encyclopedia of Philosophy (Winter, 2021 Edition), Edward N. Zalta (ed.). URL: <https://plato.stanford.edu/archives/win2021/entries/embodied-ognition>.
- Sivak R. How Russian propaganda distorts the facts about the war. May 19, 2023. URL: <https://i-vin.info/news/yak-rosiyska-propaganda-spotvoryut-fakti-pro-viynu-5504>.
- Smith J. Cognitive Warfare and Political Destabilization: The Case of Ukraine. *Journal of Political Psychology*. 2020. Vol. 25, No. 3. P. 345-361.
- Sun Tzu. The art of war. Translated by Samuel Griffith. 1963. Oxford: Oxford University Press.
- Waltzman R. The Role of Today's VRE and Considerations for Cognitive Warfare. Nov.18, 2022. *NATO OTAN Allied Command Transformation (ACT)*, pp.1-3. URL: <https://www.act.nato.int/articles>.
- Yaroslav V. The Socio-Economic Consequences of Cognitive-Information Warfare: Case Study of Ukraine. *Journal of Economic and Social Research*. 2023. Vol. 18, No. 2. P. 213-230.
- Zaika V. What does the code of the Ukrainian nation hide? From September 16, 2014. URL: <https://www.0532> .

References

- Bizik, V., Kosarova, D., Potochnak, A., & Stojar, R. (2022). Hybrid Interference: From the Particular to a Continuum. Empirical Test of the Multi-Dimensional Concept of „Hybrid”. *Obrana A Strategie*, 1. Doi:10.3849/1802-7199.22.01.075-088.

- Clausewitz, Carl von. (1976). *About the war*. Edited and translated by Michael Howard and Peter Paret. Princeton, New Jersey, Princeton University Press.
- Claveri, B., Prebot, B., Buechler, N., & Du Kluzel, F. (2021). Cognitive Warfare: The Future of Cognitive Dominance, First NATO Scientific Meeting on Cognitive Warfare (France). *InnovationHub - Act* [online]. [cited 2021-06-21. Retrieved from <https://tinyurl.com/yckwjt5n>.
- Cultural diplomacy and propaganda during the Cold War. DOCSTeach*. Weighing the evidence. Created by the National Archives. Retrieved from <https://www.docsteach.org/activities/teacher/cultural-diplomacy-and-propaganda>.
- Cyber attacks, artillery, propaganda. General overview of dimensions of Russian aggression. *State Service of Special Communications and Information Protection of Ukraine*. 17.01.2023. Retrieved from <https://cip.gov.ua>.
- Feiner, L. (2022). Ukraine Is Winning the Information War Against Russia, *CNBC*, March 1. Retrieved from <https://www.cNBC.com/2022/03/01/ukraine-is-winning-the-information-war-against-russia.html>.
- Howard, M. (2001). Grand Strategy in the Twentieth Century. *Defense Studies*, 1, 1. Retrieved from <https://doi.org/10.1080/714000007>.
- Ivanov, O. (2023). Psychological aspects of lowering the morale of the Ukrainian army. **Military psychological research**, 10(2), 45-58.
- Kalakovski, V., Selinheimo, S., & Valtonen, T. (2020). Effects of a Cognitive Ergonomics Workplace Intervention (COErg) on Cognitive Strain and Well-Being: A Cluster Randomized Controlled Trial. A Study Protocol. *BMC Psychology*, 8, 1, 1-54.
- Kovalevich B.V. (2014). Social networks as a new tool of information warfare in the modern world. *Sociology*, 4(108), 118-121.
- Maksymenko, Serhiy, Derkach, Lidiya (2023). Understanding modern cognitive warfare in a global dimension, its genesis in the Ukrainian context: Overview and directions for further research. Cognitive warfare and operations of social influence. *Obrana a strategije*, 22(1), 126-148.
- Maksymenko, Serhiy, Derkach, Lidiya (2024). *Modern informational-cognitive-hybrid warfare in global extinction in Ukrainian context: scientific research*. ISBN 978-617-555-196-7.
- Maksymenko, S., Derkach, L., & Kirichevska, E. (2022). *Psychology of Cognitive Processes*. Kyiv: National Academy of Pedagogical Sciences of Ukraine, GSKostiuk Institute of Psychology of the National Academy of Educational Sciences of Ukraine.

- NATO. NATO's Response to Hybrid Threats. *NATO* [online]. (2021) [cit. 2022-03-14]. Retrieved from https://www.nato.int/cps/en/natohq/topics_156338.htm.
- Petrov, K. (2019). Information Warfare Strategies in Ukraine: Manipulation, Disinformation, and Societal Division. *Ukrainian Journal of Political Science*, 12(2), 78-94.
- Pradhan, S.D. (2022). Role of Cognitive Warfare in Russia - Ukraine Conflict: Potential for Achieving Strategic Victory Bypassing Traditional Battlefield. *Times of India*. Retrieved from <https://timesofindia.india-times.com>.
- Propaganda used during World War II*. Florida Atlantic University Libraries. Retrieved from <https://libguides.fau.edu/primary-sources-ww2/propaganda>.
- Reczkowski, R., & Lis, A. (2022). Cognitive Warfare: What is Our Actual Knowledge and How to Build Resilience. *Security Theory and Practice*, 3 (XLVIII). Retrieved from <https://tinyurt.com/bdh2269z>.
- Semenov, V. (2022). Strategies of destabilization and their impact on the morale of the military. *Ukrainian Military Journal*, 5(3), 112-125.
- Shapiro, L., Spaulding, S. (2021). Embodied Cognition. *The Stanford Encyclopedia of Philosophy*, Edward N. Zalta (ed.). Retrieved from <https://plato.stanford.edu/archives/win2021/entries/embodied-ognition>.
- Sivak, R. (2023). How Russian propaganda distorts the facts about the war. May 19. Retrieved from <https://i-vin.info/news/yak-rosiyska-propaganda-spotvoryut-fakti-pro-vyynu-5504>.
- Smith, J. (2020). Cognitive Warfare and Political Destabilization: The Case of Ukraine. *Journal of Political Psychology*, 25(3), 345-361.
- Sun, Tzu (1963). *The art of war*. Translated by Samuel Griffith. Oxford: Oxford University Press.
- Waltzman, R. (2022). The Role of Today's VRE and Considerations for Cognitive Warfare. *NATO OTAN Allied Command Transformation (ACT)*, pp.1-3. Retrieved from <https://www.act.nato.int/articles>.
- Yaroslav, V. (2023). The Socio-Economic Consequences of Cognitive-Information Warfare: Case Study of Ukraine. *Journal of Economic and Social Research*, 18(2), 213-230.
- Zaika, V. (2014). What does the code of the Ukrainian nation hide? Retrieved from <https://www.0532>.

Максименко Сергій, Деркач Лідія. Сучасна когнітивно-інформаційна війна: роль маніпуляцій свідомістю українців у трансформації особистості.

Мета нашого логічного, міждисциплінарного дослідження є розуміння і вивчення психологічної та нейро-психологічної природи і стратегій когнітивно-інформаційної війни в Українському контексті у 2024 році, а також формування теоретичної бази індивідуальних, особистісних змін, трансформацій і перетворень особистості як негативний наслідок руйнівного впливу методів пропаганди, дезінформації та прийомів маніпуляції на самосвідомість індивіда, мозок, когнітивні функції, емоційно-вольову сферу особистості під час екстремальних та ризикованих бойових дій.

Методи дослідження. Теоретико-методологічну базу дослідження складають комплекс теоретико-емпіричних методів: теоретико-методологічний аналіз, узагальнення, систематизація, опитування, інтерв'ю, тестові методики, метод проєктів, проєктивна методика Роршаха, генетико-креативний підхід (С.Д. Максименко) та принципи його побудови: розвитку; переживання свободи; технології, методи та прийоми дезінформації та пропаганди; саморегуляції поведінки; взаємодії; невизначеності і індетермінізму; терапевтичної дії через призму діджитал технологій; базові філософські, психологічні, соціологічні принципи осягнення проблеми когнітивно-інформаційної війни.

Результати дослідження. Протидія КІВ для України має вирішальне значення для забезпечення національної безпеки та захисту демократичних цінностей. Для ефективного протидії необхідна співпраця між владними структурами, громадським суспільством та міжнародними партнерами.

Висновки. Когнітивно-інформаційна війна (КІВ) 2023-2024 років є важливим аспектом сучасного світового порядку, особливо в контексті російсько-української війни. Це складний механізм маніпуляції свідомістю українців, що використовує різні методи та інструменти для досягнення своїх загарбницьких цілей, що призводить до трансформації когнітивних та поведінкових трансформацій особистості.

Встановлено, що вплив КІВ на українське суспільство виявляється через розкол та поляризацію, підрив довіри до влади, дестабілізацію політичної ситуації та зниження бойового духу української армії. Проте, відповідно до зазначеного плану, є заходи, які можуть зменшити

негативний вплив КІВ, такі як розвиток критичного мислення та медіаграмотності, виявлення та протидія дезінформації, захист кібербезпеки та підтримка свободи слова та плюралізму думок.

Майбутні перспективи розвитку КІВ відображатимуться в постійному зростанні технологій та зміні стратегій ведення інформаційної війни. Тому важливо постійно оновлювати та адаптувати заходи протидії до нових викликів. З'ясовано, що для ефективної протидії КІВ необхідно поєднувати технологічні та психологічні підходи, розвивати критичне мислення і медіаграмотність населення та створювати ефективні механізми протидії дезінформації і маніпуляціям.

Ключові слова: *когнітивно-інформаційна війна, дезінформація, маніпуляція, критичне мислення, медіаграмотність, трансформації особистості, свідомість.*

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