

THE EVOLUTION OF COGNITIVE WARFARE STRATEGIES IN THE FACE OF TECHNOLOGICAL PROGRESS

ТРАНСФОРМАЦІЯ СТРАТЕГІЙ КОГНІТИВНОЇ ВІЙНИ ПІД ВПЛИВОМ ТЕХНОЛОГІЧНОГО ПРОГРЕСУ

Oksana Frolova

Ph.D., Political Science, Associated professor of the Department of International Information, Educational and Scientific Institute of International Relations, Taras Shevchenko National University of Kyiv,

e-mail: sancha279@gmail.com

ORCID ID: <https://orcid.org/0000-0001-7105-2762>

Olena Kuchmii

Ph.D., Political Science, Associated professor of the Department of International Information, Educational and Scientific Institute of International Relations, Taras Shevchenko National University of Kyiv,

e-mail: kuchmiy.olena@gmail.com

ORCID ID: <https://orcid.org/0000-0002-2634-4114>

Оксана Фролова

кандидат політичних наук, доцент кафедри міжнародної інформації Навчально-наукового інституту міжнародних відносин Київського національного університету імені Тараса Шевченка,

e-mail: sancha279@gmail.com

ORCID ID: <https://orcid.org/0000-0001-7105-2762>

Олена Кучмій

кандидат політичних наук, доцент кафедри міжнародної інформації Навчально-наукового інституту міжнародних відносин Київського національного університету імені Тараса Шевченка,

e-mail: kuchmiy.olena@gmail.com

ORCID ID: <https://orcid.org/0000-0002-2634-4114>

Abstract. *Information and psychological influence have long been effective means of exerting non-traditional forms of foreign policy pressure in contemporary international relations. The latest technologies of influence are increasingly being integrated into state strategies as key instruments for advancing national interests. They are becoming high-precision weapons that paralyze the ability of democracies to mount effective resistance. Information and psychological influence operate in the intangible, cognitive dimension and are not constrained by territorial borders. World leaders have identified information and psychological warfare as a distinct pillar of foreign policy, in which information security has become a critical component of national security. The latest influence technologies are being actively integrated into state strategies as key tools for advancing national interests. Rapid technological development enables information operations on an unprecedented scale, with unprecedented speed and stealth. Due to technological progress, societies around the world have become more vulnerable to attempts at hostile influence.*

This article examines international information warfare through the lens of the concept of “cognitive warfare.” It explores the conceptual foundations of cognitive warfare. The authors focus on examining the key differences between the mechanisms of information warfare and cognitive warfare. Particular attention is paid to examining the evolution of cognitive warfare due to the development of the latest information and communication technologies and technological progress. The article analyzes the key aspects of NATO’s current concept of cognitive warfare and measures to counteract the negative, often unpredictable, consequences of cognitive warfare.

Key words: *cognitive warfare, information and psychological operations, propaganda, slopaganда, disinformation, cutting-edge technologies, information security, NATO.*

Анотація. *Інформаційно-психологічні впливи вже давно є ефективними засобами нетрадиційних форм зовнішньополітичного тиску у сучасних міжнародних відносинах. Новітні технології впливу дедалі активніше інтегруються у державні стратегії як ключові*

інструменти реалізації національних інтересів. Вони перетворюються на високоточну зброю, котра паралізує здатність демократій до ефективного опору. Інформаційно-психологічні впливи діють у нематеріальному, когнітивному вимірі та не потребують обмежень територіальних кордонів. Світові лідери виокремили інформаційно-психологічне протиборство у самостійний вектор зовнішньої політики, де інформаційна безпека стає вагомим елементом національної безпеки. Новітні технології впливу активно інтегруються у державні стратегії як ключові інструменти реалізації національних інтересів. Стрімкий технологічний розвиток забезпечує безпрецедентну масштабність, швидкість та прихованість інформаційних операцій. Завдяки технологічному прогресу суспільства у всьому світі стали більш вразливими до спроб ворожого впливу.

У статті розглядається міжнародне інформаційне протиборство через призму концепції «когнітивної війни». Розкриваються концептуальні основи когнітивної війни. Автори зосереджуються на дослідженні ключових відмінностей між механізмами інформаційної та когнітивної війни. Особлива увага приділяється дослідженню еволюції ведення когнітивної війни завдяки розвитку новітніх інформаційно-комунікаційних технологій та технологічному прогресу. Аналізуються акценти сучасної концепції когнітивної війни НАТО та заходи протидії негативним, часто непередбачуваним наслідкам когнітивної війни.

Ключові слова: когнітивна війна, інформаційно-психологічні впливи, пропаганда, слопанда, дезінформація, новітні технології, інформаційна безпека, НАТО.

Introduction. In today's information-driven world, virtual and psychological factors of influence are gaining momentum, often pushing the traditional military component into the background. Dominance in the information environment allows an aggressor to manipulate decision-making processes while avoiding direct intervention until the target is completely disorganized. Although cognitive warfare techniques are not a new phenomenon, modern technologies have enabled an unprecedented level of ease, speed, stealth, and low cost in the dissemination of manipulative content. This makes it possible to effectively manipulate the political sentiments of the masses, making it virtually impossible to control access to these tools of influence. Modern interstate conflicts have evolved from struggles over territory to struggles over consciousness. Cognitive warfare creates the conditions for armed conflict by disorienting society and undermining the will to resist, and thanks to technological progress, societies around the world have become more vulnerable to attempts at hostile influence.

Humanity's technological advances are transforming cognitive warfare into a science aimed at undermining people's perceptions, beliefs, and views. While propaganda used to target what we think, new technologies make it possible to influence how we think, perceive reality, and respond to various influences and threats.

This requires states to move beyond simply debunking misinformation to creating technological and educational systems of cognitive defense.

The purpose of this article is to conduct a comprehensive study of the transformation of cognitive warfare strategies under the influence of rapid technological progress, particularly artificial intelligence, big data, and modern means of communication. The authors aim to analyze the paradigm shift in modern conflicts, where the human mind becomes the primary theater of operations, and to justify the need to transition to a model of societal responsibility to strengthen the national resilience of democratic states. Based on an analysis of NATO's concept of cognitive warfare and contemporary security challenges, approaches to building systemic resilience in a democratic society are proposed.

Literature review. The theoretical foundation of this work is based on the writings of domestic and foreign scholars who laid the groundwork for the study of cognitive warfare and cognitive transformations. In particular, the conceptual frameworks developed by C. Walker and J. Ludwig enable the identification of methods used by authoritarian regimes to infiltrate democratic societies through the manipulation of the information space (Walker & Ludwig, 2017).

The works of M. Castells are essential for understanding the nature of the "information age"; he noted that virtual reality acts as an intermediary between the mass media and the masses, constructing a self-referential reality that is perceived by the individual as primary reality (Kastels,

2006).

A detailed study by Claverie D. and Cluzel F. has made it possible to view the human brain as a new battlefield, where digital technologies are being used to undermine a nation's cognitive sovereignty. The researchers also emphasize that the development of NBIC technologies (nano-, bio-, info-, and cognitive technologies) opens up opportunities for creating "enhanced soldier," turning the human mind into the ultimate battlefield. Since cognitive attacks are often invisible and global in scope, the authors stress the critical importance of building cognitive resilience and shifting from a reactive to a proactive defensive posture (Claverie & Cluzel, 2021).

Dean Hartley and Kenneth Jobson examine cognitive warfare through the lens of achieving strategic advantage through technology. They introduce the concept of "cognitive superiority." In their work, they analyze how the integration of artificial intelligence, big data, and neuropsychology enables the management of collective intelligence and allows one to outpace the adversary in the speed and quality of decision-making (Hartley & Jobson, 2021).

Among Ukrainian scholars, Georgy Pocheptsov is considered the founder of communication theory in Ukraine. His research focuses on the transition from information wars to meaning-based (cognitive) wars. Georgy Pocheptsov argues that cognitive warfare aims to change an individual's worldview, and that victory is achieved not through physical destruction, but through the erosion of identity and the imposition of foreign narratives that are perceived as one's own (Pocheptsov, 2019; Pocheptsov, 2021).

Dmytro Dubov is one of Ukraine's leading researchers who examines cognitive warfare through the lens of national security and strategic communications. He defines the primary goal of cognitive aggression as "paralysis of the will" to resist, where, through manipulation of consciousness, an entire society or a state's leadership becomes incapable of responding adequately to challenges. The researcher also emphasizes that modern technologies (social media, AI algorithms) enable cognitive influence with unprecedented precision and scale, creating "information bubbles" and exacerbating internal social divisions (Dubov, 2014; Dubov, 2015; Dubov, 2014;).

O. Moroz examines in detail the issue of "information bubbles" and changes in Ukrainians' behavior under the influence of manipulation. The author notes that an individual's immersion in closed digital ecosystems leads to the atrophy of critical thinking, which creates fertile ground for the transmission of hostile narratives through products of mass culture (Moroz, 2020).

The practical aspects of the struggle for truth and methods for countering misinformation in the digital environment are outlined in the works of D. Kuleba, who views media tools as instruments for long-term change in public consciousness (Kuleba, 2019).

O. Zaporozhets analyzes the phenomenon of hybrid warfare and defines it as a complex form of conflict in the 21st century. The researcher argues that hybrid conflicts exhibit characteristics of nonlinearity and asymmetry, and their primary effect is the creation of a parallel reality that disorients the target and undermines its ability to mount a timely counterattack (Zaporozhets, 2017).

Main results of the research. "Cognitive warfare" refers to the transformation of war into a phenomenon that is more difficult to define, study, and analyze than conventional warfare. And it is not a means or method of waging war—it is war itself (Kaarkoski, 2026).

Cognitive warfare makes it possible to avoid physical confrontation on the battlefield or the seizure of territory. It is believed that the enemy's primary objective is to wage cognitive warfare without direct armed conflict, to exert influence, and to remain in a relatively safe "gray zone" (NATO ACT, 2023).

Modern wars are no longer confined to traditional theaters of military conflict. Human consciousness and perception are becoming a new battlefield, on par with land, sea, air, space, and cyberspace. And the struggle for cognitive superiority is emerging as a new form of conflict (Hartley & Jobson, 2021). Cognitive warfare aims to shape people's intentions, beliefs, and actions in a way that benefits the manipulator. Alongside disinformation, which is a fundamental element of cognitive warfare, propaganda, political rhetoric, information and psychological operations, and technologies designed to influence individual or societal identity play an active role.

In general, several components of influence on consciousness and the perception of objects of influence can be identified: the cognitive sphere—influence on changes in knowledge and beliefs; the emotional sphere—changes in the emotional state of an individual or society; the motivational sphere—

changes in motivation and behavior (Anisimovych-Shevchuk, 2022).

The aim of influencing the cognitive sphere is to deeply interfere with decision-making and information-processing processes. Cognitive warfare differs from traditional information warfare in that it seeks to control not only the information environment but also mental processes—that is, how the target audience reacts to information. Cognitive warfare is based on an understanding of psychological and neurobiological processes, whereas information warfare takes place primarily at the level of communication and information transmission (Kaarkoski, 2026).

Unlike information warfare, which seeks to control the information environment and the media landscape, the goal of cognitive warfare is to control the mental processes and reactions of the target audience to the information presented (Bernal, Carter, Singh, Cao & Madreperla, 2020). The enemy is undermining the traditional mechanisms of national self-identification by imposing a deliberately constructed framework of values and behavioral norms, thereby eroding the agency of entire societies and elites (Anisimovych-Shevchuk, 2022).

The key distinction of cognitive warfare lies in its latent nature: it persists for years in peacetime, remaining unnoticed. Its cumulative effect becomes apparent only during a crisis, when it becomes clear that society has lost its ability to unite and resist collectively (Pocheptsov, 2019). There are many examples from around the world where cognitive warfare has lasted not for years, but for decades. The particular danger lies in the fact that, under such prolonged manipulation, those being targeted are unaware of the threat and are in no way able to defend themselves or resist these dangerous and destructive influences.

It is also important to pay attention to the targets of influence in cognitive warfare. In the system of international relations, the targets of influence may include not only decision-makers—heads of state, diplomats, political leaders, and military officials—but also entire societies or nations. Cognitive warfare is characterized by its scale, which pertains to both the prolonged duration of the timeframe and the unlimited number of targets of influence.

In addition to the effects of concealment and invisibility, cognitive warfare has an extremely dangerous objective, which consists of replacing the target's value system, penetrating their worldview, and imposing a worldview that will ensure the desired type of social and political behavior (Anisimovych-Shevchuk, 2022).

The emotional sphere is the most vulnerable target. The psychological mechanism of informational and psychological influence is based on the fact that, when a person is in an emotionally unstable state, only perception and memory function, while critical thinking is sharply reduced (Saienko, 2015). The manipulation of emotions—such as fear, anger, or outrage—is designed to suppress logic: a person overcome by strong emotions loses the ability to think critically. The main tactic here is to saturate the information environment with narratives that blur the line between reality and fiction, creating a state of cognitive overload and uncertainty (Kaarkoski, 2026). A society that has been intimidated, succumbing to the influence of misinformation and frightening facts, becomes helpless and apathetic, and its will to resist is paralyzed (Saienko, 2015). The ultimate goal of these informational and psychological influences is to systematically change the behavior of the targets. At the level of state institutions and elites, this leads to a decline in governance effectiveness, the instigation of flawed decisions, and the discrediting of the government in the eyes of the public and on the international stage. Targeted information attacks provoke an erosion of trust in democratic institutions and science (Kaarkoski, 2026). At the societal level, informational and psychological influence fosters internal fragmentation, polarization, and social divisions. Using reflective governance techniques, the aggressor state implants artificial conflicts into the public consciousness, stokes hostility, and instigates acts of civil disobedience (Anisimovych-Shevchuk, 2022). As a result of prolonged cognitive pressure, widespread demoralization, disorientation, and neurotization of society occur, leading to the paralysis of its defensive functions, a decline in its mobilization potential, and, consequently, the erosion of its identity (Semenenko, 2025).

The mechanism of spiritual and psychological abuse is designed to distort the perception of reality in such a way that the victim perceives the distorted information as their own beliefs and acts accordingly. To achieve this goal, a comprehensive approach is used, aimed at triggering cognitive biases, stereotypes, and deep emotional reactions (Saienko, 2015).

Stereotyping is no less important. Information conveyed through the mass media always

undergoes a process of categorization, simplifying complex phenomena into simplistic narratives. Stereotypes are viewed as a kind of social reflex: trigger words such as “fascists,” “threat to the West,” and so on automatically evoke a predetermined behavioral and emotional response in the public consciousness without critical reflection (Saienko, 2015).

The rapid development of information and communication technologies, which has led to sweeping transformations in all spheres of human life, has also fundamentally altered the nature of international conflicts and turned the information space into a full-fledged theater of operations. In the modern system of international relations, the effectiveness of information and psychological influence directly depends on the technological means of its dissemination. The technological dimension provides an unprecedented scale, speed, and stealth to information operations, allowing aggressor states to manipulate the cognitive sphere of the populations of other countries without crossing their physical borders (Kuchmii & Frolova, 2023).

Due to technological advances, societies around the world have become more vulnerable to attempts at hostile influence (NATO ACT, 2023). From a historical perspective, information warfare has undergone dramatic changes: from the spread of rumors and leaflets to the use of AI technologies. Cognitive warfare actively employs cutting-edge technologies to saturate the information environment with streams of narratives that undermine emotional stability or impair the ability to critically perceive reality. It is precisely humanity’s technological development that is radically changing the possibilities for influence and significantly increasing their effectiveness. In light of the development of information and communication technologies in the context of cognitive warfare, it is worth highlighting a new strategy for influencing the decision-making ability of individuals or society—“slopaganda.” This term is a neologism, but the scientific community is actively developing a conceptual analysis of this phenomenon.

“Slopaganda” refers to a combination of traditional propaganda and AI-generated slop. The term “slop” was coined as recently as 2024 to describe unwanted content generated by AI—junk news. By combining these concepts, researchers define “slopaganda” as unwanted AI-generated content disseminated with the aim of manipulating beliefs to achieve specific goals. Thanks to the development of AI, the ability to manipulate people’s minds has increased exponentially (Klincewicz, Alfano & Fard, 2025).

Despite significant similarities with propaganda in terms of their shared goal of influencing views or ideology, “slopaganda” does have certain differences. “Slopaganda” opens up new possibilities, such as targeting specific audiences and taking a personalized approach, whereas traditional media are by nature universal. (Saul, 2024). “Slopaganda” differs from traditional propaganda in terms of scale, reach, and speed of dissemination through the use of social bots and algorithmic mechanisms.

Slopaganda opens up new possibilities because it has more subtle ways of penetrating the brain. Thanks to the use of artificial intelligence, the ability to control people’s minds has increased many times over (Pochepstov, 2026). The nearly limitless possibilities offered by AI technologies—such as the repeated dissemination of manipulative narratives, disinformation, the reinforcement of stereotypes, and the manipulation of perceptions—have significantly amplified the effectiveness of cognitive warfare. We are already seeing this effect today, in contemporary examples and in modern international relations, but we do not yet fully grasp the long-term consequences, as cognitive warfare is particularly dangerous in shaping future scenarios that are difficult to predict.

The characteristics of the concept of “cognitive warfare,” its mechanisms, tools, methods, and consequences have been thoroughly researched and substantiated by scholars. Theorists often serve as the driving force, which other actors in international relations eventually join, adopting the ideas and initiatives put forward. As a result, effective collaboration takes place between theorists and practitioners at various levels, leading to effective solutions and countermeasures. Cognitive warfare as a phenomenon has existed for a very long time; research on the concept has also generated a substantial body of analytical material. At the national level, there are agencies or departments whose functional responsibilities include issues related to information and cognitive warfare. However, at the international level, within international organizations, there is a certain delay or pause in observing the realities on the ground. For example, NATO began developing the concept of cognitive warfare in 2021, and it was finalized in 2025. The aim of this concept was to establish a common

understanding of the paradigm of cognitive warfare and to identify ways to enhance NATO's resilience and capabilities in countering the dangerous consequences of cognitive influence. The North Atlantic Treaty Organization considers international conflicts from the perspective of the concept of "cognitive warfare."

NATO defines the concept of cognitive warfare as an issue that affects every individual and society as a whole, not just the military (Deppe & Schaal, 2024).

NATO's concept of cognitive warfare places particular emphasis on the impact of new technologies and technological changes, which have provided the adversary with new and more effective tools that can be combined with scientific knowledge about how individuals, groups, and societies function, as well as how their behavior can be manipulated.

The Chief Scientist Research Reports (CSRRs) on cognitive warfare, in addition to analyzing the concept's essence, objectives, and targets, explore how cognitive warfare differs from traditional tools (PSYOPs, propaganda). The report states that although cognitive warfare employs elements of psychological operations, information operations, and strategic communications, it is significantly broader in scope than these. One of the key differences is its focus on fundamentally changing human behavior through advanced technologies, even without precise knowledge of the ultimate outcome of that change. Furthermore, cognitive warfare may not have a clearly defined target audience or a specific mission, but may be designed to create chaos and disruption below the threshold of open armed conflict (in peacetime). Such warfare creates a cognitive battlefield through massive interference and manipulation. The report highlights the significant role of cutting-edge technologies and acknowledges the rapid development of AI, machine learning, neurobiology, biotechnology, and social media, which act as a force multiplier (Blatny & Søndergaard, 2025).

The most important aspect of The Chief Scientist Research Reports is the identification of three main defense functions. However, it should be noted that NATO approaches cognitive warfare exclusively from a defensive standpoint and identifies the following key countermeasures:

- Weakening the adversary's capabilities. Reducing the enemy's ability to influence the behavior of allies, thereby ensuring NATO's freedom of decision-making and cognitive advantage.

- Enhancing human and technological understanding. Raising one's own cognitive capabilities (of both military leaders and data analysis systems) above the current baseline.

- Ensuring resilience. The ability of societies and armies to withstand cognitive attacks, recover quickly, and remain operational under the pressure of threats (Blatny & Søndergaard, 2025).

Countering cognitive warfare cannot be the sole responsibility of the armed forces, as cognitive warfare poses a threat to both military personnel and civilians. NATO emphasizes the need for a whole-of-government and whole-of-society approach. This requires the combined efforts of the government, civil society, academia, industry, and other stakeholders to protect democratic values. The concept emphasizes the need for a whole-of-society approach, where responsibility for safeguarding citizens' worldviews and behavior is shared among all state and civil society institutions (Kaarkoski, 2026).

Conclusions. The current framework of information policy is undergoing fundamental changes driven by rapid scientific and technological progress and the active integration of the latest ICTs. This digital transformation is bringing about global shifts across all sectors of society, requiring a critical reassessment of current challenges and security threats. Large-scale digitalization not only transforms social processes but also creates a new risk environment, forcing state institutions to rethink traditional approaches to protecting society (Kuchmii & Frolova, 2025).

Based on an analysis of expert opinions and reports from national and international institutions, it can be concluded that countermeasures can vary significantly depending on the perspectives and worldviews of the parties involved: ranging from soft countermeasures to moderate and radical ones. Alternatively, countermeasures can be categorized by sphere: regulatory, technical, and humanitarian.

When developing recommendations to counter the negative, often unpredictable consequences of cognitive warfare, one must take into account its modernization through the use of the latest information and communication technologies, artificial intelligence, and social media. The authors offer their perspective on the implementation of priority countermeasures.

First, countering cognitive warfare requires a systematic, comprehensive approach. One-off, ad hoc measures or a focus on individual components—such as countering only fake news or

disinformation—will be ineffective.

Second, although the key word in the phrase is “war,” the development of strategies, measures, and countermeasures cannot be limited solely to the responsibility of the armed forces, since an armed conflict may not actually occur. Society as a whole must be involved in countermeasures.

Third, the overall level of public literacy is critically important; this can be achieved through public awareness campaigns, media literacy and digital literacy, and the development of critical thinking and emotional intelligence skills. Such efforts should begin at the national level as early as middle school; higher education institutions should review the list of required courses for graduation, promote and ensure access to specialized courses, seminars, professional development programs, etc. Particular attention must be paid to the qualifications and level of training of individuals working in the fields of information policy, information security policy, countering information influence, strategic communications, and so on.

Fourth, fostering social cohesion is a key, yet often overlooked and underestimated, task. Social cohesion is a state in which every member of society feels a shared sense of responsibility, trust, and belonging to a single community. Social unity should not be formed situationally, reactively, or spontaneously—for example, in the face of a common threat or danger. Social unity must be achieved and shaped through a combination of shared values, civic culture, justice, and trust in institutions, as well as through mutual cooperation and the pursuit of social justice.

Information and psychological influences have gradually evolved into the most comprehensive tool of foreign policy and global confrontation, whose paradigm has shifted from the physical destruction of the enemy to influencing the enemy’s consciousness. Cognitive warfare has become a specific and dangerous weapon that operates in the intangible cognitive dimension. Its success is based on a deep understanding of the mechanisms of the human psyche, while the development of information and communication technologies, artificial intelligence, and social media has, in turn, radically changed the architecture of cognitive warfare. It is precisely rapid technological development that ensures the unprecedented scale, speed, and stealth of information operations. Thanks to technological progress, societies around the world have become more vulnerable to attempts at hostile influence. The consciousness of society and individual decision-makers has become the primary theater of operations, which accordingly requires democratic states to radically rethink their approaches to national security, build a resilient digital infrastructure, and ensure a high level of informational, emotional, and cognitive resilience among their own populations.

Funding: *no external funding*

Conflict of Interest: *the authors declare no conflict of interest regarding the publication of this article*

Data Availability Statement: *not applicable*

References:

Anisimovych-Shevchuk, O. Z. (2022). Current informational and psychological influences in the system of international relations in the context of Russian-Ukrainian war 2014–2022. *Humanistic Expertise As A Strategy For Developing The Future Culture*, 99–119. <https://doi.org/10.30525/978-9934-26-262-3-6>

Bernal, A., Carter, C., Singh, I., Cao, K., & Madreperla, O. (2020). *Cognitive warfare: An attack on thought and truth*. Johns Hopkins University. <https://innovationhub-act.org/wp-content/uploads/2023/12/Cognitive-Warfare.pdf>

Blatny, J. M., & Søndergaard, S. (2025). *Cognitive warfare: NATO Chief Scientist research report*. NATO Science and Technology Organization. <https://www.sto.nato.int/wp-content/uploads/chief-scientist-report-cognitive-warfare-4.pdf>

Claverie, B., & Cluzel, F. (2021). *Cognitive warfare concept*. NATO Innovation Hub. <https://www.innovationhub-act.org/sites/default/files/2021-01/Cognitive%20Warfare.pdf>

Deppe, C., & Schaal, G. S. (2024). Cognitive warfare: A conceptual analysis of the NATO ACT cognitive warfare exploratory concept. *Frontiers in Big Data*, 7, Article 1452129. <https://doi.org/10.3389/fdata.2024.1452129>

Dubov, D. V. (2014). *Kiberprostir yak novyi vymir heopolitychnoho supernytstva* [Cyberspace

as a new dimension of geopolitical rivalry]. NISD.

Dubov, D. V. (2015). *Stratehichni komunikatsii v umovakh hibrydnoi viiny: pohliad Ukrainy* [Strategic communications in hybrid warfare: Ukraine's view]. NISD.

Hartley, D. S., III, & Jobson, K. O. (2021). *Cognitive superiority*. Springer International Publishing. <https://doi.org/10.1007/978-3-030-60184-3>

Kaarkoski, M. (2026). NATO's concept of cognitive warfare. *Finnish Defence Research Agency*, (2), 1–5. https://puolustusvoimat.fi/documents/1951253/2815786/PVTUTKL_Tutkimuskatsaus_2026-2_Kaarkoski_en.pdf

Kastels, M. (2006). *Informatsiina epokha: ekonomika, suspilstvo ta kultura* [The information age: Economy, society and culture]. Nika-Tsentr.

Klincewicz, M., Alfano, M., & Fard, A. (2025). Slopaganda: The interaction between propaganda and generative AI. *Filosofiska Notiser*, 12(1), 135–162. <https://doi.org/10.48550/arXiv.2503.01560>

Kuchmii, O., & Frolova, O. (2023). Vykorystannia sotsialnykh media yak instrumentu suchasnoi hibrydnoi viiny [Use of social media as a tool of modern hybrid warfare]. *Acta de Historia & Politica: Saeculum XXI*, 93–104. <https://doi.org/10.26693/ahpsxxi2023.si.093>

Kuchmii, O., & Frolova, O. (2025). Suchasni priorytety informatsiinoi polityky v diialnosti Yevropeiskoho Soiuzu [Modern priorities of information policy in the activities of the European Union]. *International Relations, Social Communications and Regional Studies*, 1(21), 66–81. <https://doi.org/10.29038/2524-2679-2025-01-66-81>

Kuleba, D. (2019). *Viina za realnist. Yak peremahaty u sviti feikiv, pravd i spilnot* [War for reality. How to win in the world of fakes, truths and communities]. Knyholav.

Moroz, O. (2020). *Natsiia ovochiv? Yak informatsiia zminiue myslennia i povedinku ukrainsiv* [A nation of vegetables? How information changes the thinking and behavior of Ukrainians]. Yakaboo Publishing.

NATO ACT. (2023). *Cognitive warfare: Strengthening and defending the mind*. <https://www.act.nato.int/article/cognitive-warfare-strengthening-and-defending-the-mind/>

Pocheptsov, H. (2019). *Cognitive wars in social media, mass culture, and mass communications*. Folio.

Pocheptsov, H. (2021). *Propahanda 2.0* [Propaganda 2.0]. Publishing House "Kyiv-Mohyla Academy".

Pocheptsov, H. (2026, May 7). "Slopahanda" pryishla, informatsiiu prynesla ["Slopaganda" has arrived, bringing information]. *Detektor media*. <https://detector.media/infospace/article/249577/2026-05-07-slopaganda-pryshla-informatsiyu-prynesla/>

Saenko, O. H. (2015). Mekhanizm informatsiino-psykholohichnoho vplyvu v umovakh hibrydnoi viiny [The mechanism of information and psychological influence in hybrid warfare]. *Visnyk Natsionalnoi akademii Derzhavnoi prykordonnoi sluzhby Ukrainy. Seriya: Psykholohiia*, (1), 106–120. http://nbuv.gov.ua/UJRN/Vnadpn_2015_1_11

Saul, J. M. (2024). *Dogwhistles and figleaves: How manipulative language spreads racism and falsehood*. Oxford University Press.

Semenenko, O., et al. (2025). Kliuchovi kroky Ukrainy v systemi voiennoi ta natsionalnoi bezpeky shchodo pidvyshchennia kohnityvnoi stiikosti (2025-2028 rr.) [Key steps of Ukraine in the system of military and national security regarding the increase of cognitive resilience (2025-2028)]. *Social Development and Security*, 15(4), 36–49. <https://doi.org/10.33445/sds.2025.15.4.4>

Walker, C., & Ludwig, J. (2017). *Sharp power: Rising authoritarian influence*. National Endowment for Democracy.

Zaporozhets, O. Yu. (2017). *Fenomen hibrydnoi viiny u suchasnykh mizhnarodnykh vidnosynakh* [The phenomenon of hybrid warfare in modern international relations]. http://journals.iir.kiev.ua/index.php/pol_n/article/view/2951

