

# Fostering Media and Information Literacy Among Youth as a Means of Countering Information and Psychological Operations

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## ARTICLE INFO

## ABSTRACT

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**Introduction:** The topic's relevance is driven by the need to increase society's resilience to disinformation and manipulative content in the digital information environment.

**Objectives:** The article examines the role of media literacy in countering information and psychological operations. They are actively used in modern geopolitical conflicts, especially after the outbreak of a full-scale war in Ukraine in 2022.

**Methods:** The study was based on synthesis, generalisation, deduction, induction, and statistical analysis, which allowed us to analyse media literacy dynamics in Europe and Ukraine.

**Results:** The article outlines the need for further development and improvement of educational programmes to reduce the impact of PSYOP.

**Conclusions:** In the future, the study envisages a detailed analysis of the effectiveness of integrating media education at all levels of education and the development of new methods to increase the level of critical thinking and resistance to manipulation among different social and age groups.

**Keywords:** media literacy, information and psychological operations, disinformation, digital technologies, critical thinking, information security, geopolitical conflict.

## INTRODUCTION

Media literacy plays a crucial role in modern society, especially in the context of information security and the development of democratic institutions. This concept encompasses the knowledge and skills necessary to analyse and critically evaluate media content, recognise disinformation and fake news, and protect against manipulative influences.

In today's globalised environment, digital communications permeate almost every aspect of life. High-quality media literacy allows people to evaluate information critically, understand media influence, and independently check facts and sources. Disinformation campaigns and manipulation of information sources increasingly challenge social stability. In countries with vital critical thinking programs, there is a marked increase in public trust in the political establishment. Conversely, a low level of information perception is associated with increased susceptibility to misinformation, which leads to social destabilisation and undermines trust in official sources of information.

Access to media education and the development of media literacy are essential pillars in strengthening national information security and preserving social unity. In this regard, meticulous analysis is a strategic asset of any nation seeking to protect its information space and citizens from outside influence. As the most adapted and digital demographic group, youth have unique opportunities to influence social and political processes [1, 2]. Preparing them to navigate the complexities of the modern information environment is essential for raising a generation capable of distinguishing between reliable information and manipulation.

According to the concepts of human capital development, investments in media education and digital skills increase the economic and social potential of the nation and reduce vulnerability to hostile information campaigns. Digital literacy is becoming an integral part of professional competences. It necessitates the creation of conditions for the development of media literacy through the integration of relevant programmes into educational institutions.

Information and psychological operations have become one of the main tools of modern conflicts and are used to destabilise the political situation and influence public opinion. Hostile countries use deepfake technologies, botnets and generative neural networks, with the primary goal of automatically creating highly accurate manipulative content. Innovative methods allow fake news to be spread through social media and mass media, ensuring its mass distribution and targeting of vulnerable groups. The use of NLP technologies to automate the creation of textual materials and manipulation of audio and video content through real-time voice synthesis and image editing tools makes it difficult to identify fake information. It increases the level of threats to the population. Cloud-based technologies provide the computing power to create and distribute manipulative content on a large scale. PSYOPs have gained a global reach worldwide thanks to technological advances and innovations. They create a development need for states to protect the information space, effectively regulate the media and form a conscious attitude to information consumption among citizens.

## LITERATURE REVIEW

Media literacy and its development among young people is an essential contemporary research topic. Various authors analyse the effectiveness of media literacy, critical thinking, and digital awareness programmes and their impact on resilience to manipulative content [3, 4, 5, 6].

A large body of research on information recognition reveals several strategies to prepare younger generations to navigate today's multifaceted digital landscape skillfully. In collaboration with their colleagues, Bhati and Dubey [7] emphasise the importance of implementing information literacy in education systems in India. Their research shows that such integration significantly increases student awareness and resistance to misinformation—an essential defence in an era filled with misleading content.

Building on this foundation, Tiernan et al. [8] explore the transformative role of artificial intelligence in media education, demonstrating how programs facilitate the identification of misleading news stories. In the field of virtual education, Tran-Duong [9] provides strong evidence linking increased literacy to higher academic performance in online learning environments. At the same time, Sádaba and Salaverría [10] redirect attention to the European Union's initiatives to mitigate the spread of disinformation, suggesting that literacy serves as a critical “information fuse”. Ford et al. [11] extend the scientific discourse in their research in Indonesia, where particular educational interventions markedly reduced the tendency to spread misinformation. Their research highlights the tangible impact of targeted education on digital behaviour, demonstrating the powerful effect of intentional digital education initiatives.

Similarly, Orhan [12] emphasises the indispensable role of analytical thinking within the framework of cognitive skills. It is these abilities, they argue, that are critical to identifying misleading narratives. Global trends are explored by Kutlu-Abu and Arslan [13], who, through an in-depth bibliometric assessment, record a marked increase in academic attention to youth-oriented programs. The authors' thesis reflects the growing recognition of young people's susceptibility to digital manipulation, a reality echoed by Kerrigan et al. [14] in their analysis of library staff training in Ireland. Their research emphasises the role of librarians as “custodians” of information, emphasising the need for well-rounded training to support a healthy community.

Qerimi et al. [15] contributed with their findings on digital competence, finding a clear relationship between increased digital awareness and resistance to online manipulation. Expanding on this theme, Erdem et al. [16] explore how digital fluency cultivates digital citizenship, ultimately curbing the spread of false texts. Similarly, Putri

et al. [17] again highlight Indonesia, illustrating how literacy initiatives change public perceptions of digital media and reduce susceptibility to misleading content.

Examining the impact of populist rhetoric, Tomšič [18] highlights the relevance of critical literacy as a defence mechanism against manipulation, suggesting that critical analysis is crucial for young people to counter populist messages. Broadening the context to encompass political dynamics, Bulger et al. [19] emphasise media education's vital role in political controversy. In light of the ongoing geopolitical conflicts, Rzhenska and Kuzmenko [20] and Radchenko et al. [21] examine the effects of media influence in the context of the Russian-Ukrainian war, identifying a significant decline in trust due to increased information warfare.

Cheng and Bao [22] corroborate these observations from a Chinese perspective, noting changes in news perception among Chinese students exposed to conflicting narratives about the Ukraine crisis. Monsees [23] presents a compelling view of the democratic necessity of media awareness, arguing that it acts as a bulwark of democratic integrity in an era marked by rampant misinformation. Similarly, Muñoz-Velázquez [24] supports the legibility of information as a democratic privilege and civic duty, emphasising the responsibility of citizens to engage in analytical thinking. From an educational perspective, Korona and Hutchison [25] advocate the integration of optimal perception into curricula to improve academic performance, encouraging its widespread implementation in school systems.

Glas et al. [26] offer an innovative perspective by examining the effectiveness of literacy instruction through games, providing evidence that interactive methods can promote deeper engagement and learning. Despite the wide range of research available, specific gaps in knowledge remain, especially regarding the long-term effects of analytical thinking and media literacy training programs in different socio-political contexts. Continued research is vital, given that digital media continues to evolve and significantly shape public perspectives worldwide.

Glas et al. [26] studied the use of games to develop media literacy, showing their effectiveness in improving media skills. The literature review confirms that media literacy is essential in countering PSYOP, especially among young people. Media education and digital skills programmes have proven effective in reducing the spread of disinformation and manipulation.

The study aimed to examine the level of media literacy in European countries and Ukraine in the context of countering information and psychological operations. The study seeks to identify the relationship between state media education programmes, the level of digital competence and the ability of the population to resist manipulative content. The study's practical significance is developing recommendations for improving educational programmes. They increase critical thinking and information awareness and play a significant role in creating a scientific basis for further research to increase society's resilience to PSYOP among potential information threats.

## **MATERIALS AND RESEARCH METHODS**

The study is based on the synergy of research methods, including synthesis, generalisation, deduction, induction and statistical analysis. The main goal was determining the media literacy level and its impact on resilience to information and psychological operations in European countries and Ukraine. The regions were chosen due to the active hostilities since 24 February 2022, which led to the intensification of information attacks to destabilise European society. Countries with different levels of media literacy and free media space were selected for the study, which allowed us to identify correlations between the development of these indicators and resistance to PSYOP. The analysis includes the following countries: Norway, Denmark, Sweden, Finland, Estonia, and Ukraine. The choice was made due to the active use of PSYOP in these countries, especially after the outbreak of a full-scale conflict in Ukraine.

To summarise the results, we used analytical reports and statistics on the media literacy level in the selected countries for 2022 and 2023. The synthesis of information allowed us to assess the dynamics of indicators and compare the level of media literacy among different age and social groups. Applying the synthesis method ensured the creation of a single model for assessing media literacy, adapted to the conditions developed due to active geopolitical confrontations. The methods of deduction and induction were used to identify patterns and factors influencing the media literacy level. Based on statistical data, conclusions were drawn about the reasons for fluctuations in media literacy in different countries. It was found that high rates of freedom of speech in the Nordic countries correlate with state programmes of media education and support for independent media. Despite the

stable level among young people, active PSYOP in Ukraine has negatively affected the population's overall media literacy level since 2014.

To quantify the data, a statistical analysis was conducted to compare the dynamics of media literacy indicators in different countries in recent years. Thus, the methodology combines various research methods that allow for a thorough analysis of media literacy to counter PSYOP and provide recommendations for improving information security at the state level.

## RESULTS

Media literacy has become an essential toolkit for today's citizens, equipping them with the critical skills to evaluate, interpret, and interact with information from an ever-growing array. At its core, it covers a spectrum of skills, from discerning facts to identifying opinions to spotting manipulation or “fake news”. However, it goes further, requiring the ability to assess the reliability and validity of various sources.

One of the fundamental pillars of critical thinking is cognitive literacy, which focuses on the analytical and interpretive processes by which people evaluate content for accuracy and reliability. The social and communicative dimension allows people to actively participate in digital discussions, engage in meaningful exchange of ideas, and engage in social dialogue. Emotional literacy refers to managing the emotional responses the media elicits, helping people identify manipulative tactics that play on feelings. In today's interconnected world, media literacy goes beyond personal competence – it has become the backbone of national security and the stability of democratic societies [27, 28].

As globalisation and technological innovation accelerate, information battles are increasingly being fought digitally. Countries are facing a new conflict: “information wars”, where public perception becomes a powerful weapon. In this environment, an informed population can be a powerful shield against outside influence and misinformation.

For example, the escalation of geopolitical tensions in 2022 highlighted the validity of digital reality, as the information war surrounding the conflict in Ukraine is equipped with propaganda tools. These events showed how important media literacy is for countering PSYOP and maintaining society's information resilience. According to Detector Media, in 2022 and 2023, media literacy had heterogeneous indicators, as shown in Table 1.

Table 1: Results of the Media Literacy Survey in Ukraine

Indicator	2022	2023
Share of the audience with an above-average overall media literacy index	81%	76%
Share of the audience with an above-average score in understanding the role of media in society	65%	70%
Share of audience with a high level of digital competence	64%	55%
Level of media literacy among young people (18-25 years old)	High	High
Level of media literacy among the older age group (56-65 years)	Low	Low
Share of respondents with low/lower than average level of general secondary education	29%	29%
Share of respondents with complete/incomplete higher education with low/lower than average level of education	13%	13%
Share of the audience who believe that the media work in the interests of the state (decrease over the last year)	31%	25%

Source: Detector Media [29]

The results of the media literacy survey in Ukraine for 2022 and 2023 show some significant trends. The proportion of the audience with an above-average overall media literacy index decreased from 81% to 76%, indicating an increase in the impact of negative factors on the population's information awareness. However, the share of those who have a good understanding of the role of media in society increased from 65% to 70%. This is a result of efforts to improve media literacy. Interestingly, digital competence, an essential component of media literacy, has decreased from 64% to 55%, possibly due to stress factors or changing priorities during the war. Among young people (18–25 years old), the level of media literacy remains high, while among older age groups (56–65 years old), it is low, which requires additional educational programmes for this population. It is also important to note that the

share of those who believe that the media works in the state's interests has decreased from 31% to 25%, which indicates a decline in trust in the media due to the deteriorating situation in the country.

With the emergence of the latest deepfake technologies and AI models, the possibilities of conducting information and psychological operations have increased. Deepfake uses neural networks such as GAN (Generative Adversarial Networks), which generate synthetic content using image and video data sets. This technology creates highly accurate manipulative videos to influence public opinion. Media content neural networks and text generators based on NLP (Natural Language Processing) automatically generate fake news and comments by imitating real users. Using botnets allows this content to be distributed on a large scale through social networks, targeting vulnerable users.

Real-time voice synthesis technologies fake voices, making it challenging to recognise audio authenticity. Cloud services like AWS and Microsoft Azure provide computing power for large data sets and algorithm training. AI-enhanced image editing edits images with such precision that identifying a fake becomes possible only through blockchain authentication or digital watermarks. All of this leads to the creation of new strategies for developing media literacy to counter hostile PSYOP, as detailed in Table 2.

Table 2: Media Literacy Strategies to Counter PSYOP in 2024

Strategy	Contents	Countering PSYOP
Media literacy education programmes	Educating the public to recognise fakes and check sources	Reduces the risk of spreading disinformation
Development of critical thinking	Training and exercises in information analysis	Increases resistance to manipulative influences
Awareness of PSYOP techniques	Explaining how fake news and propaganda work	Helps to understand and counter destabilisation efforts
Improving digital literacy	Training in the safe use of technology and social media	Protects against account hacking and false information
Support for independent media	Dissemination of reliable information and development of public media	Reduces the impact of propaganda and manipulation
Public campaigns	Encourage independent fact-checking through social media and other channels	Increases overall media literacy in society

In the context of the military aggression of the Russian Federation, Ukraine is actively developing strategies to improve media literacy among young people to counteract information and psychological operations. An important initiative is the introduction of media education in school and university curricula, which includes the basics of media literacy, critical thinking and the ability to distinguish disinformation. The involvement of young people in specialised training and seminars on media safety, organised jointly with NGOs and international partners, also plays a significant role. In addition, the state promotes the development of online platforms and educational materials based on Moodle. They support digital literacy and help young people protect themselves from destructive content aimed at weakening public morale and the psychological state of the population.

Ukraine is actively countering Russian information and psychological operations at the state level, developing various strategies and approaches to protect the information space. The high level of perceived media literacy among young people (18–25 years old) is a significant achievement in this process, as this age group is the most vulnerable to the impact of digital media. The state's efforts aim to create media literacy programmes that include training on critical thinking, fact-checking and the safe use of Internet resources. The state launches information campaigns to disseminate knowledge about detecting fakes, propaganda and manipulation methods. Digital platforms are used to teach the audience new media skills, and partnership programmes with international organisations are being created. European countries provide resources and expertise to strengthen the effectiveness of these strategies in Ukraine.

Countering PSYOP is a key element of information security policy in European countries. Many countries demonstrate stable media literacy rates and high media freedom. Norway, Denmark, and Finland are leading the ranking with scores of 32.6, 30.8, and 30, respectively.

According to the Media Freedom Index for 2023, Ukraine ranks 46th out of 180 countries with a media freedom score of only 8.2, which indicates significant challenges in ensuring a free information space. Sweden and Estonia, with a high score of 71, pay great attention to the development of public media and support for journalists specialising in exposing fake news [30]. Countries with lower scores, such as Portugal at 60 or Lithuania at 54, face internal challenges affecting media freedom and literacy. Their regulations may be less effective due to insufficient support from state institutions or weak mechanisms to protect journalists from pressure. More detailed statistics on media literacy are shown in Table 3.

Table 3: Index of Media Literacy and Media Freedom in Different Countries, 2023

Media Freedom Ranking	Media Freedom Score	Country	Overall Ranking	Overall Score	Cluster
1	32.6	Norway	3	72	1
2	30.8	Denmark	2	73	1
3	30.4	Sweden	5	71	1
4	30.0	Finland	1	74	1
5	29.2	Estonia	4	71	1
6	28.4	Netherlands	6	70	1
7	28.2	Portugal	14	60	2
8	27.8	Switzerland	8	67	1
9	27.2	Iceland	11	62	2
10	26.8	Belgium	12	61	2
11	26.6	Netherlands	9	64	2
12	26.4	Luxembourg	26	53	2
13	26.2	Canada	7	68	1
14	26.2	Lithuania	25	54	2
15	25.8	Germany	13	61	2
46	8.2	Ukraine	36	38	3

Source: European Policies Initiative [31]

Educational policy strategies to increase media literacy among young people are essential to countering PSYOP. Educational institutions in Ukraine are integrating media literacy courses developed in cooperation with international organisations. These programmes focus on developing critical thinking skills, analysing information and recognising manipulative content. They extensively use teacher training to ensure a high level of knowledge among educators.

Educational platforms enable young people to access quality content and materials regardless of residence. The modern pedagogical approach to the youth audience includes interactive elements that make the learning process more engaging. That is why Ukraine is introducing additional measures to improve media literacy among young people. The government initiates nationwide information campaigns to promote fact-checking and safe use of social media.

In cooperation with civil society organisations, seminars and trainings are held for young activists who teach their peers to recognise disinformation. Youth media centres are being developed in the Central and Western regions, where young people can participate in content creation and gain practical skills and experience in journalism. Thus,



a comprehensive approach to educating and supporting media initiatives among young people helps to increase their resilience to the impact of European-style information and psychological operations.

## DISCUSSION

The findings of our study on youth media literacy and its impact on countering PSYOP are supported by the findings of Zhang et al. [32], who demonstrated the effectiveness of media education in increasing digital skills and resilience to manipulation among schoolchildren. Stamps [33] also found that the development of critical thinking and media skills has a positive impact on the psychological well-being of young people, which is consistent with findings on the importance of preparing young people to counter information attacks. Voitovych and Imbirovskaya-Syvakiivska [34] highlighted the scale of Russian disinformation campaigns, especially in Ukraine, which supports the need to increase media literacy among Ukrainian youth. Shulska et al. [35] focused on identifying false narratives during military conflicts, which also aligns with the study, which shows the importance of countering PSYOP through developing media skills.

Ziapour et al. [36] proved the importance of social media literacy in the fight against infodemics, emphasising the importance of training young people to resist manipulation effectively. Van der Weel [37] analysed modern media education and emphasised the need for changes in teaching approaches. This supports the above thesis on modernising educational programmes to increase young people's resilience to information attacks. Duarte and Magallón-Rosa [38] highlighted the spread of disinformation, focusing on the need for active educational initiatives, which aligns with recommendations to integrate media literacy into school curricula. Von Gillern et al. [39] showed the connection between digital citizenship and media literacy, confirming our assumptions about the importance of a comprehensive approach to youth training.

Wang et al. [40] examined the use of technology to protect networks from information attacks. However, this study focuses on technical aspects, which do not always cover the human factor. Zheng et al. [41] investigated prediction technologies optimised for PSYOP, which shows the technical capabilities of counteraction but confirms the need to complement these approaches by developing media literacy among the population.

The study's limitations include the lack of long-term data on the effectiveness of media literacy in different social groups. Further research should focus on studying the impact of media education programmes on the adult population and assessing the long-term effect of educational initiatives during military conflicts. The proposed methodology will allow us to understand better how supporting media literacy can contribute to society's information resilience in the face of modern threats.

## CONCLUSION

Thus, media literacy is the primary defence against information and psychological operations, especially in active geopolitical conflicts. Deepfake technologies, botnets and generative neural networks can create large-scale disinformation with a high level of detail. This increases the population's need to develop critical thinking and digital skills. Effective educational programmes focusing on fact-checking, fake news recognition, and media content analysis significantly build resilience to manipulation. Developed countries that integrate educational initiatives at the state level show consistent results in increasing media literacy and countering information threats.

An analysis of freedom of speech and media literacy indicators in high-performing countries such as Norway and Finland shows the effectiveness of systemic policies. In countries where media education is an integral part of the school curriculum, citizens demonstrate increased awareness, contributing to societal stability and resilience to information threats. For example, the Ministry of Education and Science of Ukraine actively promotes and implements critical thinking modules in educational institutions, significantly strengthening young people's ability to perceive information qualitatively. One of the prominent examples of such an initiative is IREX's "Learn to Discern" program adapted to the Ukrainian context to provide young people with the skills needed to identify disinformation and detect "fake news". Maintaining resistance to psychological operations in the long term requires the continuous implementation of comprehensive educational measures. Unfortunately, such efforts are indispensable for protecting the informational integrity of the country in the conditions of war to strengthen countermeasures against the information campaigns of the aggressor.

## REFERENCES

- [1] Mitchuk, O.; PENCHUK, I.; Podluzhna, N.; Malovichko, O.; Shirobokova, O.; Tregub, A. Changes in social communication as a tool of social work under the influence of digitalization. *Estudios de Economia Aplicada*, 2021, 39(3), 4717. <https://doi.org/10.25115/eea.v39i3.4717>
- [2] Tkachenko, O.; Zhylenko, I.; Poplavska, N.; Mitchuk, O.; Kuzmenko, H.; Zolyak, V. Personnel behaviour management through social communications. *Estudios de Economia Aplicada*, 2021, 39(5). <https://doi.org/10.25115/eea.v39i5.4837>
- [3] Butyrina, M.; Hyrina, T.; PENCHUK, I.; Bondarenko, I.; Skurtul, G.; Tiapkina, N. The Development of Innovative Media Education Styles in the Era of Information and Communication Technologies. *Journal of Curriculum and Teaching*, 2022, 11(1), 195–207. <https://doi.org/10.5430/jct.v11n1p195>
- [4] Robinson, B.; Fassbender, W. J. Homo medialiteratus and the media literacy proxy war: mapping the U.S. response to digital disinformation. *Learning, Media and Technology*, 2023, pp. 1–16. <https://doi.org/10.1080/17439884.2023.2234286>
- [5] Bidzilya, Y.; Haladzhun, Z.; Solomin, Ye.; Georgiievska, V.; Sydorenko, N. Ukrainian journalism and media security in conditions of full-scale Russian aggression. *Salud, Ciencia y Tecnología – Serie de Conferencias*, 2024, 31, 769. <https://doi.org/10.56294/sctconf2024.769>
- [6] Krupskyy, I.; Zykun, N.; Mitchuk, O.; Sushkova, O.; Sypchenko, I. The role of mass media in the social orientation of the masses and social management. *Scientific Herald of Uzhhorod University. Series Physics*, 2024, 55, 2988–3001. <https://doi.org/10.54919/physics/55.2024.298wt8>
- [7] Bhati, S.; Dubey, J. P. Media Literacy Among Students in India. *Journal of Positive School Psychology*, 2022, 6(4), 12021–12031. <https://www.journalppw.com/index.php/jpsp/article/view/13640/8827>
- [8] Tiernan, P.; Costello, E.; Donlon, E.; Parysz, M.; Scriney, M. Information and Media Literacy in the Age of AI: Options for the Future. *Education Sciences*, 2023, 13(9). <https://doi.org/10.3390/educsci13090906>
- [9] Tran-Duong, Q. H. The effect of media literacy on effective learning outcomes in online learning. *Education and Information Technologies*, 2023, 28(3), 3605–3624. <https://doi.org/10.1007/s10639-022-11313-z>
- [10] Sádaba, C.; Salaverriá, R. Tackling disinformation with media literacy: analysis of trends in the European Union. *Revista Latina de Comunicacion Social*, 2023, 81, 17–33. <https://doi.org/10.4185/RLCS-2023-1552>
- [11] Ford, T. W.; Yankoski, M.; Facciani, M.; Weninger, T. Online media literacy intervention in Indonesia reduces misinformation sharing intention. *Journal of Media Literacy Education*, 2023, 15(2), 99–123. <https://doi.org/10.23860/JMLE-2023-15-2-8>
- [12] Orhan, A. Fake news detection on social media: the predictive role of university students' critical thinking dispositions and new media literacy. *Smart Learning Environments*, 2023, 10(1), 29. <https://doi.org/10.1186/s40561-023-00248-8>
- [13] Kutlu-Abu, N.; Arslan, R. Evolving trend of media literacy research: A bibliometric analysis. *Journal of Media Literacy Education*, 2023, 15(1), 85–98. <https://doi.org/10.23860/JMLE-2023-15-1-7>
- [14] Kerrigan, P.; McGuinness, C.; Fulton, C.; Siapera, E.; Carrie, D.; Pope, P. Designing a Media Literacy Training Programme for Public Library Staff in Ireland: Preliminary Results and Observations of a University-Public Library Collaboration. *Public Library Quarterly*, 2023, 42(2), 168–189. <https://doi.org/10.1080/01616846.2022.2062200>
- [15] Qerimi, G.; Jahiri, M.; Ujkani, B.; Zeneli, A. Media Literacy and Young People's Digital Skills. *International Journal of Emerging Technologies in Learning*, 2023, 18(7), 50–61. <https://doi.org/10.3991/ijet.v18i07.37081>
- [16] Erdem, C.; Oruç, E.; Atar, C.; Bağcı, H. The mediating effect of digital literacy in the relationship between media literacy and digital citizenship. *Education and Information Technologies*, 2023, 28(5), 4875–4891. <https://doi.org/10.1007/s10639-022-11354-4>



- [17] Putri, K. Y. S.; Istiyanto, S. B.; Prihantoro, E.; Setiawan, B. The Effect of Health Communication on Reader Attitudes with Digital Media Literacy Antecedents. *Studies in Media and Communication*, 2023, 11(4), 1–9. <https://doi.org/10.11114/smc.v11i4.5768>
- [18] Tomšič, M. Populism, Media Messaging, and Media Literacy. *Politics in Central Europe*, 2023, 19(s1), 455–470. <https://doi.org/10.2478/pce-2023-0022>
- [19] Bulger, M.; Baleria, G.; Hobbs, R.; Moffitt, K. R. The promise of media literacy education when “everything is at stake” and “everything is expected”. *Journal of Media Literacy Education*, 2023, 15(1), 99–108. <https://doi.org/10.23860/JMLE-2023-15-1-8>
- [20] Rzhenska, D.; Kuzmenko, V. Media Literacy in the Context of Russia's War. *Language Culture Politics International Journal*, 2023, 1(1/2023), 205–225. <https://doi.org/10.54515/lcp.2023.1.205-225>
- [21] Radchenko, O.; Kriukov, O.; Kovach, V.; Semenets-Orlova, I.; Zaporozhets, A.; Kostenko, V. Mental and Value Features of Ukrainian Society in the Context of “Civilizations Clash” as the Main Object of Information War in Ukraine. In: Radchenko, O., Kovach, V., Semenets-Orlova, I., Zaporozhets, A. (Eds.), *National Security Drivers of Ukraine. Contributions to Political Science*, pp. 301–316. Springer, Cham, 2023. [https://doi.org/10.1007/978-3-031-33724-6\\_18](https://doi.org/10.1007/978-3-031-33724-6_18)
- [22] Cheng, L.; Bao, R. Media literacy and national security awareness: The formation of Chinese higher education groups' attitude to the Russia-Ukraine war. *Social Sciences and Humanities Open*, 2022, 6(1). <https://doi.org/10.1016/j.ssaho.2022.100373>
- [23] Monsees, L. Information disorder, fake news and the future of democracy. *Globalisations*, 2023, 20(1), 153–168. <https://doi.org/10.1080/14747731.2021.1927470>
- [24] Muñoz-Velázquez, J. A. (Dis)Information Literacy: A Democratic Right and Duty of All Citizens. *Media and Communication. Cogitatio Press*, 2023, 11(2), 1–4. <https://doi.org/10.17645/mac.v11i2.7029>
- [25] Korona, M.; Hutchison, A. Integrating Media Literacy Across the Content Areas. *Reading Research Quarterly*, 2023, 58(4), 601–623. <https://doi.org/10.1002/rrq.517>
- [26] Glas, R.; van Vught, J.; Fluitsma, T.; De La Hera, T.; Gómez-García, S. Literacy at play: an analysis of media literacy games used to foster media literacy competencies. *Frontiers in Communication*, 2023, 8. <https://doi.org/10.3389/fcomm.2023.1155840>
- [27] Byrkovych, T.; Denysiuk, Z.; Gaievskaya, L.; Akimova, L.; Prokopenko, L.; Akimov, O. State policy of cultural and art projects funding as a factor in the stability of state development in the conditions of globalization. *Economic Affairs (New Delhi)*, 2023, 68(1), 199–211. <https://doi.org/10.46852/0424-2513.1s.2023.23>
- [28] Chmyr, Y.; Moshnin, A.; Tsymbal, B.; Shchokin, R.; Balashov, A. Societal Content and Main Determinants of “National Security” Phenomenon in the Information and Communication Context. In: Radchenko, O., Kovach, V., Semenets-Orlova, I., Zaporozhets, A. (Eds.), *National Security Drivers of Ukraine. Contributions to Political Science*. (pp. 25–41). Springer, Cham, 2023. [https://doi.org/10.1007/978-3-031-33724-6\\_2](https://doi.org/10.1007/978-3-031-33724-6_2)
- [29] Media literacy index of Ukrainians: 2020–2023 Fourth Wave. Detector Media, 2024. <https://en.detector.media/post/media-literacy-index-of-ukrainians-2020-2023-fourth-wave>
- [30] Poplavska, N.; Synorub, H.; Yordan, H.; Medynska, O.; Kushnir, O.; Dragan-Ivanets, N. The Use of Binary Online Lessons in the Context of Forming Critical Thinking in Future Journalists. *Journal of Curriculum and Teaching*, 2022, 11(1), 273–285. <https://doi.org/10.5430/jct.v11n1p273>
- [31] The Media Literacy Index. European Policies Initiative, 2023. <https://osis.bg/wp-content/uploads/2023/06/MLI-report-in-English-22.06.pdf>
- [32] Zhang, H.; Zhu, C.; Sang, G.; Questier, F. Effects of digital media literacy course on primary school students' digital media literacy: an experimental study. *International Journal of Technology and Design Education*, 2024, 34(1), 1–17. <https://doi.org/10.1007/s10798-023-09824-y>
- [33] Stamps, D. L. The nexus between Black media consumers' racial identity, critical and digital media literacy skills, and psychological well-being. *Information Communication and Society*, 2024, 27(1), 56–72. <https://doi.org/10.1080/1369118X.2023.2174789>

- 
- [34] Voitovych, N.; Imbirovska-Syvakijska, L. The spread of Russian disinformation within the Ukrainian information field. *Rocznik Instytutu Europy Środkowo-Wschodniej*, 2023, 21(2), 197–211. <https://doi.org/10.36874/riesw.2023.2.10>
- [35] Shulska, N.; Kostusiak, N.; Mitlosh, A.; Pavlyuk, I.; Polyvach, M.; Mudryk, A.; Sushkova, O. Information and psychological operations (IPSO) as a discovery of false narratives in the conditions of military conflict in the media. *Journal of Interdisciplinary Research*, 2023, 13(1), 156–162. <https://evnuir.vnu.edu.ua/handle/123456789/22192>
- [36] Ziapour, A.; Malekzadeh, R.; Darabi, F.; Yıldırım, M.; Montazeri, N.; Kianipour, N.; Nejhadadgar, N. The role of social media literacy in infodemic management: a systematic review. *Frontiers in Digital Health*, 2024, 6, 1277499. <https://doi.org/10.3389/fdgth.2024.1277499>
- [37] Van der Weel, A. The Literacy We Teach Today. *Book. Reading. Media*, 2024, 1(1), 47–51. <https://doi.org/10.20913/brm-1-1-6>
- [38] Duarte, J. M. S.; Magallón-Rosa, R. Disinformation. *Eunomia. Revista En Cultura de La Legalidad*, 2023, (24), 236–249. <https://doi.org/10.20318/eunomia.2023.7663>
- [39] von Gillern, S.; Korona, M.; Wright, W.; Gould, H.; Haskey-Valerius, B. Media literacy, digital citizenship and their relationship: Perspectives of preservice teachers. *Teaching and Teacher Education*, 2024, 138. <https://doi.org/10.1016/j.tate.2023.104404>
- [40] Wang, Z.; Wei, J.; Rong, H. An IPSO-assisted DNN operation scheme in UAV-mounted MEC networks. *Ad Hoc Networks*, 2023, 149. <https://doi.org/10.1016/j.adhoc.2023.103258>
- [41] Zheng, Y.; Diao, S.; Qian, L.; Zhang, Y.; Li, M.; Liu, X. An IPSO-optimised ELM-based Method for Inland Vessel Trajectory Prediction. *Wuhan Ligong Daxue Xuebao (Jiaotong Kexue Yu Gongcheng Ban). Journal of Wuhan University of Technology (Transportation Science and Engineering)*, 2023, 47(4), 764–769. <https://doi.org/10.3963/j.issn.2095-3844.2023.04.034>