

THE ROLE OF THE COVID-19 CRISIS IN THE EMERGENCE OF NEW DIMENSIONS OF WEAPON-GRADE COMMUNICATION

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Abstract

The article conceptualises the COVID–19 pandemic as a cognitive battlespace where new dimensions of weapon-grade communication became observable. Using structured case analysis, it reconstructs the domestic and international infodemic ecosystem, its

psychological impacts and resilience factors. The paper shows how these experiences paved the way for the cognitive operations of the post-2022 Russian–Ukrainian narrative warfare.

Keywords: weapon-grade communication; COVID–19; infodemic; cognitive warfare

Disciplines: psychology, military science, communication and media studies

Absztrakt

A COVID-19-VÁLSÁG SZEREPE A FEGYVERMINŐSÉGŰ KOMMUNIKÁCIÓ ÚJ DIMENZIÓINAK MEGJELENÉSÉBEN

A tanulmány a COVID–19-világjárványt olyan kognitív hadszíntérként értelmezi, ahol a fegyvernek minősülő kommunikáció új dimenziói váltak láthatóvá. Strukturált esettanulmányokon keresztül bemutatja a járvány alatti infodémia hazai és nemzetközi ökoszisztémáját, pszichológiai következményeit és rezilienciafaktorait. Rámutat, miként ágyazta meg ez a tapasztalat a 2022 utáni orosz–ukrán narratívaháború kognitív műveleteit.

Kulcsszavak: fegyvernek minősülő kommunikáció; COVID–19; infodémia; kognitív hadviselés

Diszciplínák: pszichológia, hadtudomány, kommunikáció- és médiatudomány

In the security environment of the 21st century, it is becoming increasingly clear that the cognitive sphere has become one of the key areas of warfare: the world of perception, interpretation, and decision-making. Communication as a weapon—that is, deliberately organized, strategic influence—no longer merely accompanies military, diplomatic, and domestic political processes, but shapes them as an independent operational dimension. In this respect, the COVID-19 crisis has proved to be a unique, simultaneously global and personal "experimental space": the biological spread of the infection worldwide was accompanied by an information overload that the World Health Organization (WHO) identified as an infodemic early on in the pandemic.

The management of the pandemic thus became not only a health challenge, but also a cognitive and socio-psychological one (Bányász, 2016).

The topics of communication as a weapon, information warfare, and fake news have generated extensive international literature over the past decade. Vian Bakir and his colleagues used the concept of Organized Persuasive Communication to describe how persuasion can become a tool for deception, incitement, and coercion. Bruno Latour and proponents of actor-network theory have pointed out that states, platforms, algorithms, and media companies form a single, intertwined information ecosystem. NATO and European Union documents dealing with hybrid threats treat com-

munication as an independent operational dimension, while think tanks such as the Atlantic Council Digital Forensic Research Lab explicitly describe debates related to COVID-19 as a "narrative arms race." Domestic authors—including media researchers, military scientists, and security policy experts—have drawn attention to the connections between fake news, infodemics, and hybrid warfare, with a particular focus on the specific characteristics of the Hungarian information space.

Recent international literature increasingly treats the COVID-19 information space not as a mere set of isolated falsehoods, but as an infodemic ecosystem with measurable dynamics and identifiable intervention points. The World Health Organization (WHO) operationalises "infodemic management" as a system-level framework that links social listening, evidence-based communication, and trust-building into a single governance logic (Tangcharoensathien et al., 2020). In parallel, resilience research has provided robust evidence for prebunking and inoculation-based interventions: even short, technique-based exposure can measurably reduce susceptibility to common manipulation strategies (Roozenbeek et al., 2022; Neylan et al., 2023). At the platform layer, transparency reporting by major providers offers empirical anchors: takedowns of Coordinated Inauthentic Behavior (CIB) and the documented patterns of networked amplification help describe dissemination infrastructure comparatively (Meta, 2024). Finally, recent security discourse explicitly identifies AI-enabled

synthetic media (deepfakes) as a trust-eroding risk, which fits directly into the technical tier of weapon-grade communication (NATO, 2025; NATO StratCom COE, 2023).

This study approaches the COVID-19 period in relation to these works, but differs from them in several respects. On the one hand, it organizes the different levels of weapon-grade communication—from the ecosystem to operations and tactics to individual techniques—into a unified conceptual hierarchy and interprets the infodemic during the pandemic within this framework. On the other hand, it focuses specifically on the psychological and social consequences—loss of trust, polarization, indecision, and resilience—which are decisive from the perspective of the Psychology and Warfare profile (mező and Mező, 2019). Thirdly, it presents the COVID-19 crisis as a transitional phase, the experiences of which directly informed the communication operations that became weapons in the Russian-Ukrainian narrative war that unfolded from 2022 onwards.

In the rest of this paper, I will first outline the conceptual framework and hierarchy of weapon-grade communication, then present the domestic and international characteristics of the fake news and infodemic ecosystem during COVID-19 (Table 1). Next, I will focus on the psychological and social consequences—loss of trust, polarization, indecision ("paralysis effect"), and different levels of resilience. Finally, I will extend the analysis to the Russian-Ukrainian narrative war after 2022

Table 1. Levels of weapon-grade communication (WGC) and examples of COVID-19 infodemics. Source: compiled by the author

Level	Brief definition	Typical goal/output	Example during the COVID-19 crisis
WGC ECOSYSTEM	The entire communication environment (state, corporate, proxy, media, platform, civil, algorithmic) in which communication classified as a weapon operates in an organized manner.	Structural rearrangement of the perceptual space: who is considered "authentic," which narratives become "default," where does the loss of trust occur.	The "narrative arms race" over the origins of COVID-19 between China, the United States and its allies, and Russian and Iranian ecosystems; a layered network of state media, diplomatic accounts, alternative portals, and social media platforms. (Atlantic Council)
WGC OPERATION	A planned, time- and space-bound influence campaign with a clear operational goal, target group, and set of indicators.	Achieving a specific perception or behavioral outcome (e.g., shifting responsibility away from a state, reducing international pressure, weakening federal cohesion).	China's "wolf warrior diplomacy" offensive social media campaigns during COVID, which sought to relativize responsibility for the origin of the pandemic and emphasize Western incompetence with multilingual, coordinated message packages. (nbr.org)
WGC TACTICS	A repetitive, recognizable influence solution (pattern) within an operation that can be applied across multiple channels and formats.	Directing or diverting attention; reframing the agenda; shifting anchors of trust (who the target group believes).	Narrative export and information laundering: playing out COVID-19 origin narratives through third-country media in English, Spanish, Arabic, etc.; feeding back into the Western media space through "independent" commentators, think tank articles, and local influencers. (stratcomcoe.org)
WGC TECHNIQUE	A specific communication tool or technique (format, micro-level implementation) used to implement a tactic.	Delivering, amplifying, or authenticating a specific message in the cognitive system of the target group; generating interactions, shares, and quotes.	Coordinated inauthentic behavior: coordinated posting by diplomatic accounts and fake profiles, retweet storms, hashtag trending, comment spam, bot networks; operations that have become subject to takedown procedures at the platform level. (Facebook)

highlighting the techniques and lessons that have crystallized in the cognitive battlefield of the COVID-19 crisis.

**Conceptual framework
– the hierarchy of communication
classified as weapons**

*Communication classified
as a weapon, as an umbrella term*

Vian Bakir, a researcher at Bangor University in Wales who studies political communication, propaganda, and media concentration, provides an important basis for the scientific understanding of manipulative, organized influence. As a co-author, he developed the conceptual framework of "Organized Persuasive Communication" (OPC). Bakir and his colleagues point out that there is a realm of persuasion where deception, inducement, and coercion appear in a consciously organized manner, reinforcing each other (Bakir, Herring, Miller, & Robinson, 2018). In this zone, communication is not a neutral mediator, but an instrument of power that directly intervenes in social processes.

Weapon-grade communication (WGC) is an umbrella term for all communication tools and operations that are systematically aimed at modifying perception, decision-making, and behavior for operational purposes. In line with this framework, the study defines weapon-grade communication as any organized, consciously constructed process of influence whose primary goal is to modify the target group's perceptions, cognitive frameworks, emotional state, or decisions in a way that

directly serves military, security policy, or strategic objectives. In WGC, communication not only informs or persuades, but can also undermine morale, weaken resilience, and cause indecision (the "paralysis effect").

The WGC umbrella term encompasses traditional terms: within this framework, propaganda is primarily a content component, information operations (IO) and psychological operations (PSYOPS – see: Mező, 2014) are operational frameworks, while strategic communications (STRATCOM) is a toolkit for response strategies and resistance. The conceptual clarification does not "replace" the previous terms, but rather organizes them into a strategic context: the essence is the intention and operational goal of communication.

*Communication ecosystem classified
as a weapon – the system level*

WGC is not a series of isolated actions, but takes place in a complex, multi-level ecosystem. This approach is reinforced by Actor-Network Theory (ANT), one of whose best-known proponents is French sociologist Bruno Latour. According to ANT, social action always takes place in networks, where human and non-human actors—institutions, technologies, algorithms, documents—jointly shape the results.

By communication ecosystem classified as a weapon, I mean the entire structure in which WGC takes place. This includes: state and non-state actors (governments, armies, foreign ministries, media com-

panies, civil society organizations, troll farms, influencers); communication infrastructures (national television networks, news portals, social media platforms, closed messaging systems); regulatory and supervisory bodies (national media regulators, the European Union's Digital Services Act, platform moderation policies); and historically accumulated narrative sets and collective memory, which determine which audiences a message will find "fertile ground" with.

During COVID-19, this ecosystem became particularly visible: WHO health recommendations, national government press conferences, commercial media interpretations, Chinese and Russian state channel messages, and social platform algorithmic decisions competed with each other in the same digital space. The triple convergence of "narrative–time–ecology" – who speaks first, in what context, and through which channels the message is recorded – created a structural advantage for those who acted quickly and in a coordinated manner.

*Communication operations classified
as weapons – the campaign level*

At the operational logic level, any action that can be clearly defined in terms of time and purpose and that combines multiple tactics within the WGC ecosystem to achieve a security policy or military end state can be considered a communication operation that qualifies as a weapon. Examples include a campaign tailored to a foreign audience that questions the credibility of a given country's epidemic

management; a series of disinformation campaigns aimed at weakening the internal unity of a federal system, such as NATO or the European Union; or the construction of a legitimizing narrative to prepare for military action.

Finnish investigative journalist Jessikka Aro provides a useful guide to understanding the operational level empirically. During the Crimean crisis, she examined pro-Russian troll networks and showed that online harassment, mass commenting, and smear campaigns are state-sponsored tools organized according to operational logic (Aro, 2016). Based on Aro's findings, online influence is often not an individual abuse, but part of a consciously planned WGC operation.

*Communication tactics classified
as weapons – procedural model*

Communication operations become patterns at the tactical level. Communication tactics classified as weapons are understood to be repetitive patterns of behavior that combine multiple techniques to influence a given situation or target group. During the COVID-19 pandemic, an analysis by the Atlantic Council Digital Forensic Research Lab introduced the concept of a "narrative arms race": according to which states and state-affiliated actors deliberately create and reinforce alternative narratives on the same topic in rapid succession in order to hinder the formation of a stable interpretative framework (Brookie et al., 2021). In such an environment, counter-narratives that arrive late often lead to narrative fixation and

perceptual inertia: the audience is already too overwhelmed to substantially rewrite its previous mental model.

The new style of Chinese foreign policy, referred to in the literature as "wolf warrior diplomacy," is analyzed by experts at the National Bureau of Asian Research and foreign policy journalist Peter Martin, among others. They point out that the previous restrained, technocratic tone has been replaced by openly confrontational, often personal social media rhetoric that addresses both the domestic audience and foreign critics (Martin, 2021; Zhao, 2021). This communication style can be interpreted as an WGC tactic: it demonstrates strength and national pride for internal consumption, while generating uncertainty, fear, or anger externally, thus attempting to gain an advantage in the cognitive space.

*Communication techniques classified
as weapons – specific tactics*

Below the tactical level are communication techniques classified as weapons, i.e., specific methods and uses of tools that "fill" a tactic with content. Jarred J. Prier, an officer in the United States Air Force, examines how social media trend mechanisms can be used for information warfare purposes in his study "Commanding the Trend: Social Media as Information Warfare" published in the journal *Strategic Studies Quarterly* (Prier, 2017). According to Prier, organized account networks and

automated bots are capable of "commanding the trend": artificially hyping up a topic, creating seemingly spontaneous social interest. This is a classic WGC technique that serves as the basis for several tactical constructs, such as saturation or false consensus.

The NATO Strategic Communications Centre of Excellence (NATO StratCom COE) refers to another key technique as "information laundering." According to the center's analysis, in this model, an originally marginal or openly propagandistic statement passes through several intermediaries—clone portals, foreign media, "independent" experts, opinion leaders—until it finally returns to the mainstream as a seemingly credible source. At this point, the audience no longer identifies the original source, but rather the last link in the chain, and thus the content has an impact as a weapon-grade communication tool.

Large social media companies, such as Meta Platforms, Inc., define networks where multiple accounts covertly and systematically spread misleading or manipulative content as "coordinated inauthentic behavior" (CIB) in their own transparency reports. Hundreds of takedown operations have been carried out worldwide to eliminate these networks, including those related to COVID-19 that were linked to state-affiliated actors. CIB is typically an WGC technique that relies on bots, fake profiles, and fake likes to generate artificial consensus, outrage, or polarization.

Methodological framework **– structured comparison** **and ecosystem-based analysis**

An empirical examination of the hierarchy of weapon-grade communication required a methodological framework capable of revealing ecosystem-level causal mechanisms even with a small number of cases. Accordingly, the study relies on Alexander L. George and Andrew Bennett's Structured-Focused Comparison (SFC), which compares cases from the COVID-19 period and the Russian-Ukrainian narrative space after 2022 using the same set of questions. The qualitative analysis is complemented by a self-designed Situation–Forecast–Control (S–F–C) analytical grid, which organizes the information situation created by the WGC ecosystem, possible narrative futures, and available control mechanisms into a system. The abbreviation S–F–C is not a commonly used, standardized term; therefore, in the manuscript, it appears in its expanded form and with a hyphen (S–F–C) in all instances to avoid confusion with the abbreviation SFC.

The S–F–C (Situation–Forecast–Control) analytical grid is applied as a qualitative coding device for the document corpus. Its purpose is to make the cases comparable by organizing (i) the current information environment, (ii) plausible narrative trajectories, and (iii) available intervention points in an identical logic across cases. The unit of analysis is the case-specific source package (strategic/policy documents, think-tank case studies, platform reports, and domestic analyses) and

the dominant narrative package that can be reconstructed from these sources.

The grid structures the analysis along three dimensions. (1) Situation: mapping actors, channels, amplification mechanisms, and “credibility anchors” (what becomes default/authoritative), including ecosystem-level coherence and the architecture of diffusion. (2) Forecast: identifying likely narrative branches, target audiences, and plausible cognitive consequences (trust, polarization, compliance, uncertainty), i.e., how the observed situation is expected to evolve in the narrative space. (3) Control: systematizing mitigation and resilience mechanisms (platform policy and enforcement, transparency measures, institutional risk communication, and pre-/de-/counter-bunking-type interventions).

The output of S–F–C is a case-level S–F–C profile with a fixed structure: (i) a concise situation snapshot, (ii) traceable forecast pathways, and (iii) a control inventory of relevant intervention options. When placed alongside the SFC (Structured-Focused Comparison) question set, this profile ensures that the key mechanisms are presented not only descriptively but also in a comparable, decision-support logic.

A detailed description of the method, including the sample, tools, and procedure, can be found in the Method chapter.

Method

Sample

This study does not conduct empirical research in the classical sense, but rather qualitative, case study-based document

analysis. The "sample" of the study consists of international and domestic text sources directly related to the management of information on the COVID-19 pandemic, the phenomenon of infodemic, and the functioning of weapon-grade communication (WGC).

The units of the sample can be divided into four main groups:

- strategic and policy documents of international organizations (e.g., the World Health Organization, the European Union, the North Atlantic Treaty Organization);
- case studies by security policy and communication think tanks (e.g., the Atlantic Council Digital Forensic Research Lab, the NATO Strategic Communications Centre of Excellence);
- transparency reports and COVID-19 moderation reports by large social media companies (e.g., Meta Platforms, Inc.);
- analyses published by domestic research institutions, media regulators, and fact-checking workshops.

The sources were selected using purposive sampling: the selection criteria were that the documents should simultaneously represent the perspectives of decision-makers, experts, and platforms, and contain specific examples of the infodemic during COVID-19, as well as narrative operations linked to China, Russia, and other actors. Although the sample is not representative of the entire global COVID-19 discourse, it is suitable for revealing ecosystem-level patterns relevant to WGC.

Tools

The primary "tools" of the study are qualitative analytical frameworks and conceptual models. The approach of Vian Bakir, a researcher in political communication and propaganda at Bangor University, serves as a reference point for describing communication as a weapon, an umbrella term that draws attention to the connection between organized persuasion, deception, and pressure.

The works of Bruno Latour and proponents of actor-network theory provide a framework for understanding the information ecosystem, emphasizing the intertwined networks of state actors, platforms, algorithms, and media companies. The case studies of the Atlantic Council DFRLab, the analyses of NATO StratCom COE, and Jarred J. Prier's study on social media and information warfare provide a conceptual framework for examining narrative and social media processes (Media–(Dis)information–Security, 2020).

The Hungarian dimension is interpreted on the basis of Hungarian-language literature, including works by media researchers, military scientists, and security policy analysts, which discuss the connections between fake news, hybrid warfare, and pandemic communication. I developed my own conceptual hierarchy of weapon-grade communication and the theoretical framework of 'weapon-grade communication' based on a synthesis of previous studies dealing with hybrid warfare and the phenomenon of fake news.

Procedure

The analysis consisted of several steps. The first step was to collect thematic literature from domestic and international databases, specifically based on the keywords COVID-19, infodemic, cognitive warfare, and social media-based influence. I then conducted a content analysis of the selected documents, using coding aligned with the hierarchy of weapon-grade communication.

The coding scheme covered the following main dimensions: communication ecosystem (actors, channels, regulatory environment), communication operation (goal, target group, timing), tactics (narrative tools, confrontational or covert approach), and technique (e.g., bot and account networks, information laundering, coordinated inauthentic behavior). I adapted the qualitative coding to the Structured-Focused Comparison (SFC) methodology: the same set of questions was applied to each case, thus making the COVID-19 period and the Russian-Ukrainian narrative space after 2022 analytically comparable.

Finally, I organized the resulting patterns into a self-designed Situation–Forecast–Control (S-F-C) grid, which allows us to examine how the communication tools and experiences that were considered weapons during COVID-19 became embedded in the practice of later narrative warfare. Mathematical statistical analysis does not play a role in this study, as the goal was to explore qualitative causal mechanisms.

Results

The qualitative analysis revealed three main sets of results. First, during the COVID-19 period, the elements of the ecosystem-level functioning of weapon-grade communication became clearly identifiable in the communication space: the overlapping messages of international organizations, states, platforms, and media companies simultaneously shaped risk perception and geopolitical positions.

Second, the documents revealed the operational and tactical patterns that characterized China's narrative offensive during COVID-19, the "narrative arms race" that caused the laboratory origin debate, and the conflicts of trust surrounding Eastern and Western vaccines. These patterns fit well with the levels of communication operations, tactics, and techniques that qualify as weapons.

Third, the study highlighted forms of psychological and social consequences—particularly loss of trust, polarization, and decision paralysis ("paralysis effect")—that later appeared in the Russian-Ukrainian narrative war after 2022. The COVID-19 crisis thus became not merely a prehistory, but an active precursor to new dimensions of weapon-grade communication.

From a psychological perspective, the COVID-19 infodemic was not merely "more false information" but a sustained weakening of the conditions of certainty-making: competing explanations and rapidly overwriting narratives increased uncertainty and, in parallel, eroded trust in

competent institutional action. Information oversupply (cognitive overload) raises processing costs: recipients eventually rely on heuristics (“who says it?”, “which community says it?”), which activates identity and group dynamics and can readily escalate into polarization. In this logic, persuasion is often secondary; the operational payoff is the reduction of decision-making capacity, the strengthening of a “everyone lies” attitude, and the apathy that follows from it. This decision-fatigue-like condition connects directly to the “paralysis effect” identified in the study: the critical variable is not only whether a claim is true, but whether the information environment enables fast, cooperative, and legitimacy-preserving decisions. From the perspective of weapon-grade communication, psychological consequences (loss of trust, polarization, cognitive exhaustion) are therefore not side effects but meaningful target variables that also provide a practical yardstick for assessing resilience and risk communication measures.

Discussion

When interpreting the results, it is important to emphasize that the hierarchy of weapon-grade communication proved suitable for systematizing events during COVID-19. The conceptual framework has made it possible to link phenomena that are sometimes discussed separately in the literature—such as fake news, propaganda campaigns, social media trends, and platform moderation—but are in

practice part of a single integrated communication ecosystem.

Analysis of the COVID-19 infodemic also showed that the field of cognitive warfare is not primarily decided at the level of “grand narratives,” but in the micro-processes of everyday information consumption (Bányász, 2016): in how individuals encounter their news feed, what sources they trust, and to what extent they feel able to respond actively to uncertain situations. The patterns of trust and resilience that emerge from the documents are therefore key to understanding the narrative dynamics of subsequent conflicts, especially the Russian-Ukrainian war.

The qualitative approach allowed us to examine not only individual statements or campaigns, but also to interpret communication as a weapon where the goal is not merely persuasion, but the shaping of decision-making and social self-defense capabilities.

Limitations

The study has several limitations that are important to reflect on. First and foremost, the study is based on secondary sources: it does not include its own questionnaire or experimental data collection, so findings on individual psychological effects can only be presented indirectly, by synthesizing the referenced research.

A further limitation is that the sample is not representative of the entire international COVID-19 discourse or the global social media ecosystem. The sour-

ces are predominantly linked to Euro-pean and North American institutions, as well as a few prominent Asian actors (primarily China), so the communication experiences of other regions, such as Africa or South Asia, are only represented to a limited extent.

Finally, the conceptual apparatus of communication as a weapon is itself an evolving framework: the hierarchy and S–F–C-based methodological approach in this study is an attempt to systematize the phenomena. Future research will need to further refine this framework, supplement it with quantitative studies, and extend it to other conflicts.

Conclusions

The study showed that the COVID-19 pandemic can be interpreted not only as a health crisis, but also as a cognitive battlefield, where new dimensions of communication used as weapons have become apparent. The hierarchy of communication as a weapon—from the ecosystem to operations and tactics to individual techniques—proved to be suitable for systematizing the key phenomena of the infodemic during the pandemic and highlighting that communication does not accompany but shapes the reality of security policy.

Based on the results, the functioning of the communication ecosystem classified as a weapon became clear during the COVID-19 period: messages generated by international organizations, states, platforms, and media companies formed risk perception, trust relationships, and geo-

political positions in layers. China's "wolf warrior" diplomacy, the "narrative arms race" surrounding the lab origin debate, and the conflicts of trust surrounding vaccines all drew operational and tactical patterns that fit organically into the conceptual framework of weapon-grade communication.

The psychological and social consequences—in particular, loss of trust, polarization, indecision ("paralysis effect"), and varying levels of resilience—indicate that the field of cognitive warfare is not primarily decided at the level of "grand narratives," but in the micro-processes of everyday information consumption. The experiences of COVID-19 offer direct lessons for understanding the Russian-Ukrainian narrative war that will unfold from 2022 onwards: many techniques and tactics – bot and troll networks, information laundering, coordinated inauthentic behavior – were already tested "in the field" during the pandemic and then transferred to the context of war.

Several directions are emerging for future research. On the one hand, empirical studies—using questionnaires, experiments, or network analysis—are needed to quantify the psychological effects of communication as a weapon (e.g., the strength of indecision, trust dynamics, resilience factors). On the other hand, it is justified to extend the hierarchy of weapon-grade communication to other crisis situations (e.g., energy crises, migration crises, attacks on critical infrastructure). Thirdly, it is also important for practice to determine the combination of pre-bunking, de-bunking,

and counter-bunking, as well as platform transparency and media literacy programs, that can significantly increase individual, institutional, and societal resilience.

Overall, the COVID-19 crisis was a "waiting room" in which the cognitive battlefield of communication as a weapon was spectacularly revealed. The aim of the study was to conceptually organize this field, explore the psychological and social consequences, and show how the experiences during the pandemic are linked to the Russian-Ukrainian narrative war after 2022. The practical implication is clear: preparing for future conflicts is inconceivable without a systemic understanding of communication as a weapon and the conscious strengthening of cognitive resilience.

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