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Screens as Battlefields: Fact-Checkers' Multidimensional Challenges in Debunking Russian-Ukrainian War Propaganda

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Abstract

This study examines the challenges fact-checkers face when dealing with war propaganda and how their socio-professional contexts influence these obstacles. Using a mixed-methods approach, the research identifies common difficulties such as time constraints, resource limitations, and the struggle to find reliable information amidst language barriers and geographical distances. The findings highlight the impact of socio-professional contexts on investigative methods, ranging from traditional journalism to advanced open-source intelligence methods. The study underscores the importance of international cooperation and support networks in addressing these challenges and also in mitigating the impact that exposure to violent content and harassment has on well-being and professional integrity.

Keywords

fact-checking; information warfare; professional practices; Russia–Ukraine war; war propaganda

1. Introduction

Twenty-four February, 2022. Russia has invaded Ukraine. Since the war began, more than 3,000 fact-checks have been published by professional fact-checking organisations worldwide, according to the #UkraineFacts database (www.ukrainefacts.org), which brings together signatories of the International Fact-Checking Network (IFCN). Outside the armed conflict, social media platforms have become a battleground for propaganda campaigns supporting the Kremlin's narrative, which is not new in a conflict that traces its origins back to the annexation of Crimea eight years ago (Khaldarova & Pantti, 2016; Mejias & Vokuev, 2017).

One definition of *propaganda* is the dissemination of messages designed by powerful actors to target audiences through mass media and various communication channels (Oleinik & Paniotto, 2023). As such, it is a strategic tool to advance political goals by selectively highlighting or omitting information, privileging certain sources and perspectives, and using textual and visual elements to construct compelling narratives (Boyd-Barrett, 2017). A hallmark of propaganda is its ability to blur the lines between fact and fiction, confusing the distinction between truth and falsehood. Its purpose is not to inform but to persuade by manipulating public perceptions and distorting truths (Arendt, 1951; Sarmina, 2018).

For fact-checkers, the challenges go beyond disentangling the truth. They must navigate a conflict deeply rooted in a complex historical and geopolitical context in which propaganda has always played a central role, and is now exacerbated by the spread of propaganda on social media. The recent development of AI technologies has added layers to this abundant availability of textual and audiovisual disinformation, enabling the rapid creation of persuasive propaganda (Goldstein et al., 2024) or sophisticated deepfake videos that are increasingly difficult to debunk (Twomey et al., 2023).

With social media, war propaganda travels from one country to another, as demonstrated by the collaborative efforts of the IFCN network or the European Digital Media Observatory (EDMO) network, which brings together fact-checking organisations, academics, and experts to combat information disorder in Europe. Both organisations highlight fact-checking as an international movement, where fact-checkers may have different backgrounds and motivations (Graves, 2018). For example, over a third of IFCN-certified fact-checkers worldwide rely on media and news agencies for their work, suggesting that this role is likely to be undertaken by any organisation, whether public, private, or not-for-profit (Dafonte-Gómez et al., 2022). The global growth of fact-checking can also be seen as driven by a convergence of factors, including declining journalistic standards, public disempowerment, technological advances, and socio-political tensions (Amazeen, 2019).

The study of fact-checking practices in the context of Russian propaganda and information warfare is a relatively under-explored area, particularly given the global reach and speed of information dissemination on social media. This research aims to address this knowledge gap by comprehensively examining fact-checking practices during the Russia–Ukraine war from a global perspective. Therefore, it seeks to identify common patterns in fact-checking practices, including the (re)sources and digital tools used and how social and professional contexts influence these patterns. Particularly, the study focuses on two key research questions:

RQ1: What are the common difficulties that fact-checkers face when dealing with war propaganda?

RQ2: To what extent do their social and professional contexts influence these challenges?

Using a robust mixed-methods approach involving fact-checkers working mainly in Europe but also in Asia, Africa, and the Americas, this article explores how social dynamics and professional environments influence fact-checkers. Social dynamics include political and societal attitudes, perceptions, and cultural norms related to the conflict that shape how fact-checkers counter propaganda. The professional environment includes organisational structures and resources that influence or support fact-checkers in their practices. This comprehensive exploration aims to highlight the diverse challenges and contexts that fact-checkers navigate to address the complexities inherent in information warfare.

2. Literature Review

Russia has a well-documented history of employing sophisticated propaganda strategies, using social media platforms on a massive scale to polarise public discourse, destabilise democracies, and incite hostility towards the West (Geissler et al., 2023; Soares et al., 2023). Russian propaganda is part of information warfare as a military strategy, where the mechanisms of information and emotional appeals are used to influence public opinion, manipulate the masses, and disrupt reliable information exchange (Konstankevych et al., 2022; Sarmina, 2018). Paid bloggers, trolls, and social bots are integral to the Kremlin's social media plan (Helmus et al., 2018; Hodgson, 2021). Moreover, while the Kremlin can count on its supporters, disinformation about Russia and Ukraine is also spread by citizens who actively promote their individual opinions to gain authority (Mejias & Vokuev, 2017). Spreaders of disinformation can also be found among "useful idiots," a term used to describe naive and credulous people who spread fake news (Gotiu, 2023; Munteniță, 2021).

In the context of the war, pro-Kremlin disinformation portrays Russia as the protector of Russians in Ukraine against an alleged "Nazi" regime, while the West is portrayed as conspiring to dismantle the Russian state (Mick, 2023). Conversely, Ukrainian authorities have made use of propaganda to garner sympathy or promote war heroes such as the Ghost of Kyiv, a pilot credited with shooting down Russian planes (Baptista et al., 2023). These narratives transcend borders and show how propagandists take advantage of the globalised world of information. Russian propaganda started with a strategy to destabilise Ukraine (Sarmina, 2018). It then evolved to create panic, discredit Ukrainian officials, and threaten the country's independence and democracy (Konstankevych et al., 2022).

Russian propaganda uses various techniques to shape public opinion and influence perceptions. These tactics include the use of euphemisms, negative labelling, and the creation of a media vacuum, which can leave audiences without access to accurate information (Sarmina, 2018). Furthermore, media manipulation strategies can include using influential figures to promote a particular agenda and rewriting history by highlighting inconsequential issues and creating a sense of urgency. In addition, sensationalism and psychological shock are often used to undermine people's psychological stability, while the creation of a virtual reality in which myths, images, and stereotypes are constructed can also be used to manipulate perceptions. By combining these techniques, Russian propaganda can create a powerful and effective manipulation strategy (Konstankevych et al., 2022).

Fact-checking political information involves verifying claims against authoritative sources using various channels, including government statements, media reports, and social media content. Fact-checkers evaluate claims based on criteria such as verifiability and plausibility (Savolainen, 2024). A study conducted in the fact-checking service of the French newspaper *Le Monde* showed that disinformation about the war in Ukraine is primarily multimodal, combining text and images (Zecchinon & Standaert, 2024). Similarly, research in Iberian countries highlighted that videos are the main format subject to fact-checking and that fact-checking focuses mainly on pro-Ukrainian content, as disinformation is also used on the Ukrainian side as a defensive strategy against Russian propaganda (Baptista et al., 2023).

Similar to the Covid-19 pandemic, social media platforms play a crucial role in amplifying and disseminating disinformation, which spreads in response to current events and often leads to polarisation of opinion (Sánchez

del Vas & Tuñón Navarro, 2024). A study of six Spanish fact-checking organisations during the first year of the war showed a shift in Russian disinformation tactics from using bots to spreading credible stories through real social media profiles. The study found that Russian propaganda initially targeted countries supporting Ukraine but later shifted to polarising public debate on NATO enlargement, demonstrating its adaptability to real news information (Magallón-Rosa et al., 2023). Research conducted in Poland during the first months of the war in Ukraine also demonstrated the potential of fact-checking organisations to contribute to the development of a more informed and engaged society (Urbaś, 2023).

Despite well-documented research on the development of Russian propaganda and information warfare, the role of socio-professional context in shaping fact-checking practices in the specific context of war remains relatively unexplored. A limited amount of research provides empirical material on how fact-checkers approach their professional practices or standards outside the US, where most research is concentrated (Lelo, 2022a; Nieminen & Rapeli, 2019). For example, research has shown that in sub-Saharan Africa, the role of non-journalistic actors in fact-checking and data-driven journalism is helping to redefine how news is produced and consumed (Cheruiyot & Ferrer-Conill, 2018). Studies of fact-checking activities from a national or regional perspective in Brazil have highlighted the influence of the socio-political context in explaining the growth of the movement and the effectiveness of fact-checking (Lelo, 2022a, 2022b).

The influence of the socio-political context was also addressed in Bangladesh, where political pressures and scarce resources put a strain on fact-checkers (Haque et al., 2020). In Colombia, the benefits of fact-checking were highlighted in terms of civic empowerment in a silenced and polarised environment (Rodríguez-Pérez et al., 2021). Fact-checking initiatives can also emerge despite corruption and political instability, albeit with varying degrees of difficulty (Amazeen, 2020). This complexity highlights the need to consider additional factors, such as press freedom, internet accessibility, and a country's overall democratic governance, in order to understand the dynamics at play.

From a professional practice perspective, depending on the context in which they operate, fact-checkers are likely to face difficulties accessing public data, limited resources, limited financial support, a need for training, and a need to reach a wider audience, as observed in Latin America and Spain (Moreno-Gil et al., 2021; Rodríguez-Pérez et al., 2023). Transparent methodologies and consistent processes were highlighted in Mediterranean countries, where fact-checkers made extensive use of open-access digital tools (Moreno-Gil et al., 2022). These observations are echoed in a study of the user needs of fact-checkers in Western and Nordic European countries, where professional fact-checking practices showed a solid adherence to international standards that prioritise the transparency and accountability of the fact-checking process, in line with core journalistic principles (Dierickx & Lindén, 2023).

As a sub-genre of journalism, fact-checking is deeply rooted in shared values and professional norms. Journalists and fact-checkers alike seek to play a normative role in society, holding public figures to account while prioritising accuracy and transparency (Singer, 2021). Fact-checkers and journalists share a commitment to respecting the truth and adhering to a professional ideology centred on values such as impartiality, objectivity, and accuracy (Deuze, 2005, 2019; Zelizer, 2019).

The inherently investigative nature of fact-checking and the digital environment that favours the spread of information disorders explain why digital technologies are part of fact-checkers' apparatus to solve problems

such as verifying images or locating events (Westlund et al., 2022). Fact-checkers can combine traditional journalistic skills with data or computational skills, recognising that their experience with technology may also depend on their educational, professional, or even organisational background (Himma-Kadakas & Ojamets, 2022; Micallef et al., 2022; Samuelsen et al., 2023). However, from the perspective of a global movement, fact-checking practices can be defined by four core components: an unwavering commitment to accuracy, the strategic use of technology, collaborative verification and information sharing, and contributions to public education (Amazeen, 2020).

3. Methodology

This study adopted a mixed methods approach, integrating qualitative and quantitative methods to gain a comprehensive understanding of the phenomenon. This approach was chosen because it allows for triangulation across different perspectives and data types, enabling a nuanced and robust understanding of the research topic (Graff, 2016; Whitehead & Day, 2016). The iterative research design draws on the strengths of both qualitative and quantitative methods while addressing their respective limitations and analytical challenges. The design of this research was inspired by the method used by Singer (2021) in research examining the role of fact-checkers in relation to other journalistic enterprises, which consisted of interviews with fact-checkers followed by the distribution of an online questionnaire via the IFCN. Of the 161 questionnaire recipients, 34 responded, with 26 completing all questions, yielding a response rate of between 16% and 21%. The sample included fact-checkers from four continents, with all responses collected anonymously.

This research started with exploratory interviews conducted in March and April 2022 with seven fact-checkers from Belgium, Denmark, Norway, and Sweden as part of a broader research project on fact-checkers' user needs. The goal was to understand the potential challenges in resources and tools they faced soon after the beginning of the war. Based on our initial findings, which highlighted difficulties related to language barriers and access to reliable sources from both sides of the war, we created an online questionnaire. This was distributed during the Global Fact 9 Conference, held in Oslo, Norway, from 22–25 June 2022. Global Fact is an annual fact-checking conference organised by the US-based Poynter Institute for Media Studies, which coordinates the IFCN. It is considered a key event within the fact-checking community, bringing together different organisations and stakeholders from around the world to share and discuss their practices (Graves & Lauer, 2020; Lauer & Graves, 2024).

The survey included 12 questions aimed at understanding the experiences and challenges faced by professionals when fact-checking the Russian-Ukrainian war. It was structured with a combination of open and closed questions to gather both quantitative and qualitative data. Specifically, there were five closed questions focusing on demographic and organisational information, four closed questions to explore difficulties encountered in terms of resource sufficiency and accessibility (results collected through a score from 1 to 5 on a Likert scale or through a Boolean yes or no), and three open questions to elaborate on the answers. The average time to complete the survey was estimated to be between 10 and 15 minutes.

We received 85 responses from fact-checkers based in 46 countries, with the majority from Europe (39 respondents), followed by Asia (31), Africa (8), North America (5), and South America (2). Based on the data available on the event website, the estimated response rate is between 17.5%, which can be considered

an acceptable response rate compared to the Singer study. Regarding the type of organisation, 68 respondents indicated that they work for a fact-checking organisation, 33 for a news media organisation, and 6 for an open-source intelligence (OSINT) organisation. As multiple answers were possible, two respondents reported working for all three types of organisations and 18 for both news media and fact-checking organisations. The way respondents described themselves also reflected the diversity of respondents: 35 journalists and fact-checkers, 29 journalists, 18 fact-checkers, one disinformation expert, one researcher, and one editorial manager. Respondents ranged in age from early 20s to mid-60s, with the majority aged between 20 and 29 (37) and 30 and 39 (28). They reported working for large organisations (44%), with an equal proportion working for medium and large organisations (28%).

Respondents were given the option to provide their email addresses. The 19 people who did so were contacted for a qualitative interview, of which six agreed. We also contacted European fact-checkers through the EDMO network. Through this network, we successfully contacted 14 fact-checkers. The final phase of our research involved conducting 20 semi-structured interviews with fact-checkers from 20 countries, including Afghanistan, Azerbaijan, Denmark, Estonia, Finland, France, Georgia, Germany, Ghana, Greece, Hungary, India, Italy, Latvia, Norway, Poland, Serbia/Croatia, Slovenia, Spain, and Sweden. These interviews were conducted online between September 2022 and August 2023, with a similar mean and median duration of 33 minutes.

The interview guide explored various aspects, including fact-checkers' profiles, sources of information, tools used for verification, specific skills required, types of content typically fact-checked, challenges faced, and networking practices. All interviews were conducted in English, with the exception of the interview with the French fact-checker, which was conducted in French and subsequently translated. The audio-recorded interviews were transcribed and coded using Taguette, an open-source qualitative data analysis software designed for tagging and analysing textual data (Rampin & Rampin, 2021).

Eight respondents were aged between 20 and 29, seven were between 30 and 39, four were between 40 and 49, and one was over 50, including 10 women and 10 men. Gender was not considered in this research on the assumption that professional activities related to this topic are likely to present similar challenges and issues for individuals regardless of gender. The responses on the psychological aspects of war reporting supported this assumption, as there was no evidence to suggest that one gender was more exposed to harassment or violent content than the other. The results presented in this article are anonymised, i.e., all identifying information has been removed except for the name of the country, which is disclosed only to identify the fact-checker. Such a level of anonymity is common in social science research for privacy and ethical reasons (Crow & Wiles, 2008; Wiles et al., 2008), and it is particularly useful when the goal is to capture diverse perspectives, not to essentialise. Although fact-checking organisations are anonymised, they can be identified because of their affiliation with well-established networks such as the IFCN or EDMO, especially in countries with a very limited number of organisations.

4. Results

Preliminary interviews aimed at identifying the challenges associated with fact-checking in wartime informed the subsequent phases of this research. As detailed in the methodology section, this process included the development of an online survey distributed during the Global Fact 9 Conference, which

focused on the difficulties faced by fact-checkers in dealing with war propaganda. Qualitative interviews further explored the socio-professional factors influencing these challenges. This section presents a comprehensive analysis of the findings, structured across the three stages of this research to reflect its iterative nature. It provides a nuanced analysis of the multiple challenges that underpin the practice of fact-checking in wartime.

4.1. From Pandemic to War

As the preliminary interviews were conducted shortly after the start of the war, the fact-checkers mainly emphasised the differences between fact-checking the pandemic and fact-checking the war. The Covid-19 pandemic corresponded to a period when fact-checkers relied heavily on scientific and expert sources to verify information (Denmark, Norway). The outbreak of war prompted them to adopt alternative methods, including the use of OSINT tools for geolocation and satellite imagery and international collaboration through initiatives such as the #UkraineFacts platform (Belgium, Denmark, Norway, and Sweden), ensuring a continuity in the collaborative efforts deployed during the pandemic.

Fact-checkers acknowledged the challenge of finding reliable information without compromising the integrity of reporting. One participant noted, "You can still report what's out there and explain the steps you've taken to verify the images or stories" (Norway). They highlighted the increasing difficulty in identifying trustworthy sources, with the observation that "It seems to be getting harder and harder to find out who is trustworthy and who is not" (Denmark). Respondents also underscored challenges to presenting truthful content in misleading contexts (Norway) and language barriers (Denmark). Given these complexities, one Danish fact-checker admitted: "It was easier to work on misinformation about the pandemic than the war." In addition, interviews revealed the resurgence of Russian troll factories and the shift of disinformation disseminators from pandemic to war-related issues (Sweden, Norway).

4.2. The Challenge of Resources and Tools

The survey results showed that fact-checkers focused mainly on checking videos (41.2%), followed by images (37.6%), and text (20%). In addition, one-third of the respondents found that fact-checking the war was more difficult than fact-checking the pandemic (29.4%), while one-third found that both presented the same difficulty level (30.6%). Furthermore, 23.5% considered it not much more complex, and 16.5% could not make a comparison.

The survey included a comprehensive set of statements that participants answered on a five-point Likert scale (from *strongly disagree* to *strongly agree*). The statements related to the challenges they face in providing context, accessing reliable sources, having relevant tools, understanding the languages, finding experts, identifying trolls or provocateurs, and stating *true* or *false*. Access to reliable sources emerged as the biggest challenge for fact-checkers, with 75% of respondents rating it as difficult. This difficulty was closely followed by language barriers and the experts' availability (72% and 66%, respectively). Conversely, the availability of relevant tools received the lowest score, with 57% of respondents finding it challenging. This finding is noteworthy as it represents a 5% increase in the number of respondents who explicitly cited insufficient access to resources for effective fact-checking.

Linear regression analysis was used to explore relationships with the Statement variable (related to stating *true* or *false*), and significant patterns emerged. The variables Sources, Languages, Expertise, and Context showed positive relationships ($p < 0.001$), indicating that higher scores in these areas correlated with a more remarkable ability to determine the truth of a claim. Conversely, Trolls and Tools showed negative associations, suggesting that these two variables did not significantly affect the ability to determine the veracity of claims.

Looking at the correlation matrix used to examine the relationships between multiple variables (Figure 1), we found that Context and Sources were most highly correlated with Statement. The variables Tools and Trolls showed weaker positive correlations. These findings are consistent with the results of the linear regression analysis and highlight the challenges associated with the accessibility of sources, language barriers, and the provision of context in determining the veracity of claims.

Our analysis found no significant differences between continents, except for the eight African respondents who reported more significant challenges in providing context, finding reliable sources, and accessing appropriate tools. In Europe, we found that countries closer to Ukraine generally faced fewer difficulties, particularly in terms of language barriers and access to reliable sources and expertise.

Forty-one respondents used the open-ended section to highlight additional challenges. They emphasised the complex political dynamics of the war, which led to controversial positions among actors, the complicated use of authentic content in manipulated contexts, and the significant influence of Kremlin propaganda. Distance from the front line emerged as a practical obstacle. In Africa, one participant noted that this often leads to encountering disinformation that has already been verified. Beyond geographical and language barriers, fact-checkers stressed the need for deep contextual understanding, as a South American fact-checker noted: "[The war] requires knowledge of the socio-cultural context and guidance from specialists who are often hard to find." European respondents echoed this sentiment, with an Albanian fact-checker citing the lack of expertise on Russia and Ukraine as a notable obstacle. A Ukrainian

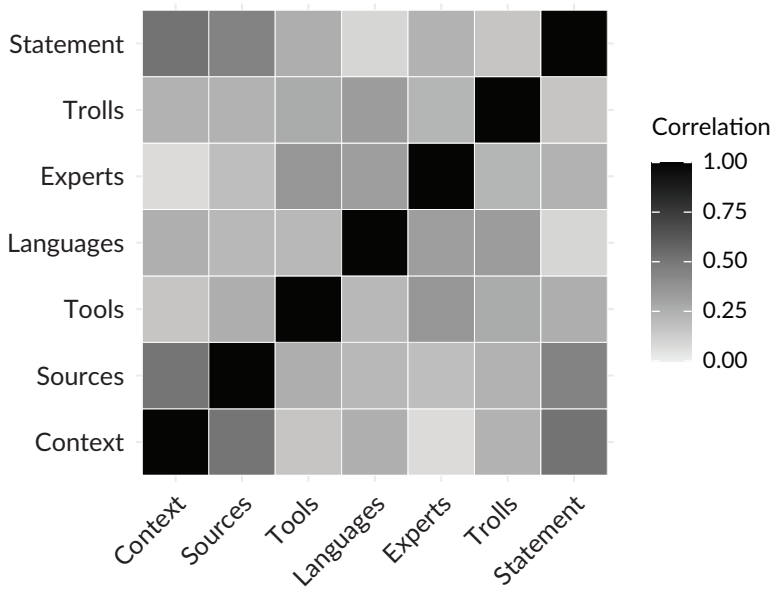

Figure 1. Correlation heatmap of the challenges identified by the fact-checkers.

fact-checker stressed the importance of understanding the context and the history of relations between Ukraine and Russia.

The lack of reliable and independent sources in Ukraine and Russia was widely recognised as a significant challenge, particularly distinguishing between selective information from Ukrainian officials and the flood of disinformation. Telegram channels posed additional difficulties, as a respondent from the Czech Republic articulated: "Since a lot of Russian dis/misinformation comes from Telegram, it is often difficult to trace the source of the information." A Turkish fact-checker highlighted the media monitoring challenge: "Because it is difficult to find reliable sources due to military pressure on the media." Similarly, in India, the difficulty of obtaining reliable information is compounded by unresponsive sources.

Language barriers were a recurring concern in the comments of fact-checkers from Europe and Asia, affecting their ability to communicate effectively with Ukrainian sources and challenging the accurate translation of claims. Fact-checkers who relied on machine translation tools stressed the critical need for confidence in the accuracy of the results they provided. Respondents also highlighted the need for more robust technological tools to support fact-checking efforts, including access to satellite imagery and advanced social media monitoring platforms. Moreover, as one German fact-checker pointed out, addressing the multifaceted challenges of disinformation goes beyond the context of war, as it requires additional human resources, not just tools.

4.3. The Influence of Professional and Social Factors

The third stage of the research process involved 20 semi-structured qualitative interviews with 20 fact-checkers from 20 different countries to understand the interplay between socio-professional factors and the complexities of fact-checking the Russia–Ukraine war. To facilitate understanding of these interactions, the analysis is divided into three complementary parts: the technological limitations and dependencies, the complexities of fact-checking war propaganda, and the psychological aspects associated with harassment and exposure to violent content.

4.3.1. Technological Constraints and Dependencies

The professional context encompasses the expertise, skills, and specialised knowledge that fact-checkers bring to their work, which significantly influences their investigative methods and use of technology. In this regard, fact-checkers acknowledged that the most important skills needed are open-mindedness (Greece), critical thinking (Hungary), and having a contextual awareness and nuanced understanding of historical narratives and propaganda mechanisms (Estonia, Finland, Germany, Latvia). Traditional journalistic skills and experience were valued by the fact-checkers, who presented a profile of experienced journalists who referred to journalistic investigative methods to counter an over-reliance on technology: "These open-source tools make people lazy because sometimes they think that they can only do this job through open-source research….It is so easy to do the job without additional tools because I used to work as a journalist" (Georgia).

Geographical distance exacerbates language barriers, making accessing and understanding information difficult. In Denmark, for example, several automated translators are used to interpret Ukrainian and Russian content. Similarly, in Germany, fact-checkers use Google Translate for primary search results to identify

patterns of disinformation circulating online, particularly from Russian sources. Language skills allow fact-checkers to directly interpret Ukrainian and/or Russian content without relying solely on technology. The use of fact-checking networks and colleagues fluent in these languages also provides alternatives. In countries where smaller languages are spoken, such as Azerbaijan, Afghanistan, and Finland, fact-checkers emphasised the need for more accessible, accurate, and reliable language translation tools.

Not all organisations are experimenting with OSINT methods and techniques, as in Latvia and Sweden, where fact-checkers rely primarily on standard journalistic methods: "I tried to do such a story…which was…not funny, but it was a good experience" (Sweden). Fact-checkers tended to use the same geolocation tools, such as Google Maps and Google Earth, recognising the importance of being able to authenticate places using technology:

> It's a handicap to be so far away from the field and in the end, you realise that if we had a video that was shot in Paris, we would not need many details to locate it because we have all lived in Paris for several years. (France)

The use of satellite imagery became more present in fact-checking practices in the context of the war. However, it refers to manipulations that are considered time-consuming (Denmark), while access to satellite imagery may be limited without a paid subscription (Germany). Nevertheless, access to tools does not make geolocation easier:

> Because whoever publishes tries to hide the location….As a result, it is really hard to verify….There's not a lot of good satellite imagery, street view imagery, or user-generated content. It's much harder than dropping in Washington DC where you have thousands of images and updated user-generated images, and the satellite imagery is up to date. (Norway)

Several fact-checkers (Afghanistan, Estonia, Georgia, and Slovenia) highlighted the challenges they face when relying on manual methods for image verification and information retrieval. They also underscored the limitations of reverse image search tools, as social media platforms systematically remove valuable metadata information such as time and location. These difficulties illustrate the resource constraints and technical challenges associated with fact-checking activities. It may, therefore, require additional time-consuming manual work that can be usefully supported by community-driven contributions, as in Spain: "We have…the 'Superpower' programme. The basic idea is that we have community with…people…who are involved in our work….We ask them to help us…in the verifications that we do" (Spain). Time pressure is also a challenge in "hard news," limiting the possibilities for effective fact-checking with only a handful of hours available (France).

Meta's monitoring tool for organisations in its third-party fact-checking programme is often opaque and provides unsatisfactory results, leaving fact-checkers to rely on manual social media monitoring instead: "The Facebook tool…has not always been super helpful and does not always pick up all the relevant things" (Germany). The discontinuation of CrowdTangle, another data access tool provided by Meta, has left several fact-checkers without viable alternatives (Afghanistan, Estonia, Georgia, and Slovenia). The challenges of monitoring disinformation on social media were underlined by almost all interviewees, demonstrating the difficulties of balancing the availability of human resources and time in smaller organisations such as in Sweden: "You do more with a lot more of people."

The emergence of generative AI technologies has raised awareness among fact-checkers of their potential to produce convincing disinformation. Fact-checkers from Italy and Greece expressed concern about the expected increase in the difficulty of debunking such AI-generated content. However, this issue was not the focus of their immediate concerns, nor was the use of deepfakes seen as an immediate threat. Furthermore, fact-checkers did not explicitly mention the use of these technologies, although they recognised their potential to assist fact-checkers in the future.

4.3.2. Dealing With War Propaganda

Fact-checking war propaganda requires an understanding of complex issues beyond the scope of the conflict and its historical roots, including geopolitical issues and international governance. The fact-checkers agreed that tackling war propaganda requires scrutiny of sources, which is complicated by the difficulty of relying on trustworthy sources from both sides because they are actively involved in the war. They also distinguished between Ukrainian "soft" propaganda, used, for example, to support troops, and the Kremlin's "hard" disinformation campaigns, which have led to an unprecedented flow of disinformation that is not easy to follow (Greece, Serbia). Moreover, in the context of geopolitical narratives, fact-checkers acknowledged that providing a definitive truth remains a challenge, mainly because of their complexity.

War propaganda transcends borders, permeating domestic and international politics and posing a constant challenge to fact-checkers. For example, narratives about bio-labs in Ukraine were repurposed in Georgia, demonstrating how misinformation can adapt and spread across regions. Other examples include the politicisation of narratives about Ukrainian refugees receiving more benefits than locals and recurring accusations of Nazism against the Ukrainian people. In Sweden, false claims about stolen speed cameras, allegedly for use in Ukraine, sparked local debates. The focus of disinformation also evolved over months, as in Poland, where narratives shifted from military disinformation to concerns about the presence and impact of Ukrainian refugees in the country. The polarisation resulting from disinformation, which in some cases was fed by political agendas (e.g., Georgia, Hungary, and Poland), complicated fact-checking efforts: "Our government is using this Russian troll factory to turn against dangerous or political opponents" (Georgia).

Several European countries with Russian-speaking populations, such as Finland, Latvia, and Estonia, faced the challenge of Russian-language disinformation due to language barriers and different media consumption patterns when these populations rely on Russian news media and channels. Fact-checkers also noted that pro-Russian sentiments among sections of the population often overlapped with the spread of pro-Russian propaganda (Hungary, India, Greece). The Greek fact-checker observed an overlap in narratives between far-right and far-left media in Greece, both of which have pro-Russian tendencies, highlighting the complexity of media influences on public opinion.

At the same time, fact-checkers from countries with common historical ties to Russia said that being more discerning or "immunised" against Russian propaganda gave them a deeper understanding of the broader geopolitical strategies at play: "We were occupied, we lived under the Soviet regime for so many years. If we know them, we are protected in this way, we are immunised" (Latvia). As a result, Russian propaganda in these countries is often perceived as using "old recipes" aimed at emotional triggers rather than substantive arguments. Furthermore, proximity to Russia makes fact-checkers more aware of disinformation: "We are

Latvians, we follow the war closely, it is very close to us, we feel this problem, we are on the border with Russia, and we are afraid, so we follow it very closely" (Latvia).

4.3.3. Psychological Effects

Fact-checking the war from behind a screen does not shield professionals from psychological challenges that can affect their mental well-being, even when they are physically distant from the actual battlefields. Irrespective of their location, fact-checkers are likely to experience secondary trauma and emotional distress because of their exposure to violent content, which is often linked to authentic content: "I have to say that it doesn't really translate into disinformation" (Poland); "Most of the time, the videos of killings and bombings are true. It's horrifying….I told my editor-in-chief that I needed to take a mental break because it was mentally torturing" (Ghana).

Confronting the violence of war may be unavoidable for fact-checkers, especially those monitoring Telegram, as in Serbia and Hungary, which is deemed the most problematic platform in the context of the war. Violent content does not only concern images but can also refer to descriptions that are offensive to the fact-checker, such as references to rapes (Hungary) or homophobic content (Georgia): "It's very irrational, emotional….When we're dealing with belief-based approaches, it's difficult to deal with this problem with just a factual approach" (Georgia).

Fact-checkers use different strategies to protect themselves from trauma: maintaining professional distance to build resilience (France, Italy, Norway), muting audio and limiting exposure time to audiovisual content (India, Italy, France, Germany, Poland), rating content according to its level of violence (Norway), seeking collective support through fact-checking networks (Serbia), and participating in training to deal with secondary trauma (Italy, Serbia). The national context can also play a role in how fact-checkers deal with violence, such as in Poland, where the fact-checker said being more emotionally attached to the situation than to the images per se. In Afghanistan, exposure to a constant context of war led the fact-checker to think that violence was "normal."

In Germany, the fact-checker noted that the harassment experienced during the Covid-19 pandemic had diminished but not disappeared. In Georgia, journalists critical of the government faced targeted harassment on social media, including homophobic language, in a tense political context. Unfortunately, the platforms where this hate speech circulated did not provide an adequate response to address the problem. The Hungarian fact-checker reported struggling to reach polarised audiences, which led to online harassment. In Estonia, Latvia, and Spain, fact-checkers also faced significant harassment and criticism: "I don't think I've ever done a fact-check that didn't upset someone" (Estonia)—which is likely to have a solid psychological impact—"One of my colleagues, who was a very talented young journalist, couldn't take it anymore" (Latvia). In Poland and Greece, fact-checkers found several harassers who had switched from the pandemic to the war in Ukraine.

The harassment can take on huge proportions, as the Greek fact-checker reported: "A pro-Russian elected in the parliament who filed a lawsuit against me….It is annoying, you have to spend time, resources. I have five or six lawsuits. It could lead to self-censorship." In Poland, the most serious cases of harassment reported by fact-checkers are not taken seriously by the police. In India, journalists face multiple threats, particularly

when they criticise government policies or work on sensitive issues such as religion, leading one fact-checker interviewed to self-censor. All these testimonies show that the social context often significantly impacts how fact-checkers respond to the psychological strain of their work and is also likely to affect their personal safety and freedom of expression.

5. Discussion and Conclusion

This research has shown that the social and professional contexts in which fact-checkers operate significantly impact the scope of their work. The analysis of the survey and the interviews converge and complement each other in many ways. In response to RQ1, which focuses on identifying common difficulties, our findings reveal several challenges, including time constraints, inadequate human resources, and reliance on technology. In the specific context of war, the challenge of obtaining reliable information is pervasive, compounded by language barriers and geographical distances that hinder direct engagement in conflict zones. The findings also highlight the importance of understanding the complex historical and geopolitical context in which propaganda is disseminated, as well as the impact of socio-professional contexts on investigative methods.

When considering RQ2, which relates to the influence of the socio-professional context on these challenges, it becomes clear that context significantly shapes investigative methods, ranging from traditional journalistic approaches to sophisticated techniques such as OSINT. Smaller organisations often struggle to strike a balance in the claims they fact-check, leading to the neglect of war-related issues, particularly if they do not have a significant negative impact on the country. Access to previous fact-checks from other countries can help maintain this balance, given the adaptability of war propaganda to different national contexts. The social context plays an important role in shaping the nature and spread of disinformation, as it is influenced by different media consumption patterns and ideological factors, making these findings consistent with previous research on fact-checking in national or transnational contexts. At the same time, the findings reflect three characteristics of fact-checking as a global movement (Amazeen, 2020): a commitment to accuracy challenged by access to reliable resources, a strategic use of technology to support professional practice, and a commitment to collaboration through the IFCN and EDMO networks to share evidence and information.

Dealing with war propaganda has psychological implications for fact-checkers, exposing them to violent content and harassment. In this context, collaboration within international networks not only helps to overcome technological limitations and navigate complex propaganda mechanisms but also provides support to mitigate the impact on well-being and professional integrity. These results highlight another important reason to see fact-checking as a global movement: Professionals have once again demonstrated their ability to self-organise and join forces, especially in times of crisis. However, ensuring the safety of fact-checkers requires more than just peer-to-peer cooperation. It should also address the responsibilities of policymakers, particularly in countries where press freedom or public debates are under pressure. The results also showed disparities across Europe, with fact-checkers in Greece, Hungary, and Poland among the most vulnerable.

While this study contributes significantly to understanding information warfare strategies and their impact on professional practice and psychological well-being, it acknowledges several limitations. First, the sample size, while diverse, may not fully capture all regional differences and specific challenges faced by fact-checkers in different parts of the world. In addition, our reliance on self-reported data may introduce

bias, as participants may present their experiences in a socially desirable way. Future research could prioritise expanding sample sizes to include a greater diversity of regions, which would improve our understanding of the different dynamics influencing fact-checking practices in times of war. However, the collective perspective, which is important and observed here through collaborative spaces, should not be neglected.

The implications of these findings go beyond mere fact-checking in times of conflict. They underline the urgent need for robust policies to protect fact-checkers from harassment and threats, particularly in the European context where inequalities are evident. This emphasis on policy aims to provide a sense of security and reassurance to the fact-checking community. It also raises the issue of integrating mental health aspects into the training of fact-checkers so that they are equipped to deal with the psychological strain of their work.

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Conflict of Interests

The authors declare no conflict of interest.

Data Availability

The results of the quantitative survey can be viewed on this page: https://ohmy.shinyapps.io/globalfact

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