Academic research on information disorders:

Five policy recommendations to improve the state-of-affairs

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The Nordic Observatory for Digital Media and Information Disorders (NORDIS) is a consortium of university researchers and fact-checkers from Denmark, Norway, Sweden, and Finland coordinated by Aarhus University. NORDIS' aim is to understand and develop theories, practices, and models that can help counteract digital information disorders – the spreading of misinformation, disinformation, and other forms of harmful information online – and empower citizens in the Nordic welfare states to build resilience against such disorders by, for example, enabling them to enhance their digital literacy.

The following are five policy recommendations identified by the NORDIS researchers from Aarhus University based on their research work and findings during the first two-year project period.

1. Access to higher-quality data from social media is needed

Data from social media poses an everlasting challenge in academic research and, in extension hereof, our ability to understand the influences of social media on various aspects of today's societies and democracies. Social media is not just entertainment to the digital citizen, but also a means for news consumption, information sharing, and socialization. Large-scale data studies could provide a fertile foundation for a better understanding of social media behavior, but unfortunately both data access and data quality leaves much to be desired – particularly for smaller countries. This is an especially pungent need during times of crisis, where having insights into the spread of misinformation could assist policy-makers in effectively mitigating the harm of misinformation.

In an EDMO report on *Research on Disinformation about the War in Ukraine*, Aarhus University researchers argue that data from Meta (Facebook, Instagram, and WhatsApp), Youtube, and Twitter are all either lacking in access or quality for optimal research to be performed. We recommend a larger focus on this in national and EU policy work and with special attention to long-term solutions where academic researchers are in dialogue with third parties, such as statistical bureaus cutting across social media instead of the companies. And where academic researchers cannot be prevented from accessing data through social media terms of service but,

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for instance are allowed to scrape data for non-commercial societal good projects if they comply with ethical guidelines and regulations. For more information on alternative data-sharing solutions, read reports on Research Data Exchange Solutions and Safe Space Solutions Including Data Management and Processing Setup.

2. A focus on emotions in misinformation could help determine the risk of collective behavior and action

Crisis-related public emotions should be a focus when discussing the negative effects of misinformation. A published journal paper from NORDIS shows that not all COVID-19 content had the same degree of negative sentiment (Charquero-Ballester et al., 2021) and, thus, some types of misinformation might travel faster than others, building on earlier studies that show how false information and negative sentiments travel faster (Vosoughi et al., 2018).

In a new report, NORDIS researchers focus on the term 'infodemic' as coined by the World Health Organisation in February 2020 and evaluate public expression of emotions in a context of high-trust societies during crises, taking the four largest Nordic countries on Twitter as case studies. The study starts with a broad perspective on emotional expression around the Covid-19 crisis in the Nordic countries and zooms in on infodemic appraisals as extracted through hashtags related to misinformation. Results revealed that misinformation appraisals were strongly loaded on anger and the related emotion of disgust, and to a lesser degree sadness and fear, in contrast to more general Covid-19 appraisals. A follow-up analysis further revealed a trend towards stronger correlations in combinations of anger-fear and anger-sadness in the misinformation appraisals, in contrast to the general Covid-19 appraisals, which was not present in the sadness-fear combination. Based on these results, we suggest expanding the concept of infodemic to encompass expression of public emotions with a particular focus on anger as a key component to crisis monitoring and management.

While more research is needed, the journal article Different types of COVID-19 misinformation have different emotional valence on Twitter and our ongoing research provide interesting insights into the need for evaluating emotions around misinformation when monitoring crises-related communication on social media.

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3. Heightening transparency in fact-checking databases would benefit stakeholders

A central vision for NORDIS is the mutual benefits of closer collaboration between fact-checkers and academic researchers. Research can benefit from better access to fact-checking data and fact-checker insights, while fact-checkers can benefit from the knowledge research can provide on fact-checking and information disorders. However, in a study performed by NORDIS researchers at Aarhus University, biases were identified in two of the most prominent fact-checking databases – Poynter and Google Fact-Check Explorer with regard to Covid-19 misinformation. While in general the databases to a large extent did not differ in the ratings of stories contained in both databases, the amount of ratings differed to a large extent. Even more pronounced was it, that the specific stories overlapped in very few instances. Furthermore, the NORDIS researchers found that 1) the number of different ratings indicates a need for standardization, 2) funding seems to influence the selection of fact-checked stories, and 3) the lack of an account of database infrastructural biases of the respective platforms can have downstream effects on society when used by a diverse set of stakeholders.

This highlights the need for heightening transparency of such databases to avoid skewed overviews of claims for citizens, researchers, politicians, and other stakeholders. There is a strong misconception that if no verified false information is registered in a certain country or region this is because there is none. However, in the work with fact-checkers from the Nordic region and other regions in Europe we instead see fact-checking as an underfunded sector and that the resources set aside for fact-checking in the different countries vary greatly and thus create skewed accounts of misinformation. We therefore strongly recommend taking this into account when providing overviews of the presence of such information disorders using verified false and misleading content by fact-checkers as the baseline. The full results can be found in the NORDIS report *A method for auditing fact checking and databases* and the journal article *Digital Infrastructures of COVID-19 Misinformation: a new conceptual and analytical perspective on fact-checking*.

4. There is a need to fund European academic research on the European context

A lot of the research conducted on misinformation is either studying the US or taking a non-region-specific point of view. Thus, the lack of representation of the global diversity of media

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systems, democracies, and citizens, poses a key challenge to our understanding of the nature of the information system. In a literature review of research studying information disorder at scale, NORDIS researchers found that even when sampling specifically for EU research, the US occurred more than all other EU member states (besides Italy) in academic research across disciplines conducted from 2015-2021. This is an indication that funding research on the unique European and European national contexts should be a continued priority to understand the nature of misinformation at scale. To get the full overview, read the journal article *Digital false information at scale in the European Union*.

5. Better small language models and tools would benefit research

One additional challenge, that misinformation researchers in the Nordic and European context face, is the lack of natural language processing (NLP) tools for small languages. Currently, most tools are optimized for the English language, and research is thus primarily conducted on either English or translated datasets, which will result in either research predominantly focussing on English language countries, or datasets potentially losing language-specific nuances during translation.

Furthermore, having tools that are standardized across languages, i.e., working equally well on different languages, could allow for direct comparisons between languages and provide better insights into regional and national differences in misinformation. This would provide needed insights into how to effectively mitigate the harm of misinformation and benefit European and regional policy measures aiming to do so. For more information on this, please read the EDMO report on *Research on Disinformation about the War in Ukraine*, where this point is further highlighted.

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For more policy material produced by NORDIS, please read the two policy briefs developed by the NORDIS researchers at the University of Helsinki on *How to assess national resilience to online disinformation?* and *Assessing Information Disorder in the Digital Media Welfare State*.

For more general information about NORDIS, please visit our website, follow us on Twitter, or contact coordinator Mathias Holm Tveen via matho@cc.au.dk

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