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ARTICLE COMMENTARY

What is Holding Us Back? We Should Be Looking Ahead! Considerations about Open Science Practices in Journalism Studies

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Only very few debates within our discipline are as relevant and at the same time challenging as the one covered in this special issue. Indeed, at the time of writing this commentary, many researchers within (digital) journalism studies remain reluctant to the implementation of open science practices which are geared at increasing transparency in the research process, such as (1) sharing data and the research process publicly (research data, materials, protocols, power and statistical analyses etc.), (2) replicating work of others, (3) pre-registration prior to data collection (including registered reports), and (4) open access publication (Bakker et al. 2021). While many scholars have slowly started to warm up to these practices, which is in line with findings from a recent overview by Bakker et al. (2021), showing that there is a general belief among communication scholars that open research practices are important for research quality, there is still a long way to go.

So, what is holding us back? Looking at the larger communication research field, there are ethical and privacy concerns when it comes to open science, as well as more practical hurdles. Markowitz, Song, and Taylor (2021) showed that 5.1% of the papers published between 2010 and 2020 across 26 communication science journals used or mentioned open science practices. Bakker et al. (2021) noted that while many scholars participating in their survey, for example, reported having shared data at least once (64%), the modal response to the question of how frequently this is done is 'occasionally'. While research quality may be enhanced, researchers experience various constraints in getting involved in open science, ranging from unfamiliarity with practices, and procedures that are experienced as tedious to rightful concerns about data protection and privacy. Overall, however, the move to open science practices is undeniable: normatively but also empirically. Recently, for example, steps were taken by various journals to increase transparency (publishing data, dedicated spaces in journals for replication, and preregistration). The question remains which specific considerations need to be taken for research within journalism, and more specifically digital journalism research. We want to argue that there are (at least) three important points to be considered.

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Is Digital Journalism Studies Really That Different?

The first, arguably, speaks in favor of using open science practices in journalism research going forward. Journalism research has spent much effort describing fundamental shifts in how media content is produced and distributed today. Moving away from a focus on newsroom cultures, a growing body of literature is observing digital journalism as global and networked journalism (Waisbord 2019). Naturally, this has brought journalism studies closer to other communication fields that study digital technologies and new modalities of information transmission, such as immersive technologies (e.g. Baía Reis and Coelho 2018), user-generated content (Naab and Sehl 2017), and the impact of social media platforms (e.g. Zayani 2021). Arguably, this has also widened methods and data use in journalism research, moving away from classical survey and interview research towards mixed-method and computational media analyses, as evidenced in this special issue (see also Lecheler, de Haan, and Kruikemeier 2020). It has also blurred the lines with media effects research and experimentation, as evidenced in journalism literature focusing on the role of emotional response in journalism (Wahl-Jorgensen, 2020) as many other topics.

In sum, and this may be an unpopular opinion, the methodological, theoretical, and epistemological lines between (digital) journalism studies and other communication subdisciplines are fading. This raises the question of why open science practices, which are so fundamental in these fields, should be of any less use in journalism research going forward. In essence, it means that what bugs communication researchers (and other social scientists), such as the lack of incentives to use open science practices, should and is also what bugs journalism scholars. This is good news, as it means that open science practices may be discussed at a larger level, connecting instead of dividing sub-disciplines along the way. Importantly, however, this also means that discipline-specific journals such as *Digital Journalism* must make an effort to connect their discourse on the topic to interdisciplinary or more general journals and their publications (e.g. Dienlin et al. 2021).

Data Secrecy within Journalism Research May Keep Sources Safe

However, this does not mean that there are not journalism-specific concerns to be worked on and worked out. Specifically, journalism research often covers the study of data that is, in essence, consistent of journalistic sources that need to be protected within the journalistic news production process. Indirectly, this means that these sources also need to be protected by researchers. Work within (digital) journalism studies is diverse in its methods and that makes it difficult to decide what needs (and is also ethically acceptable) to be open. This problem has increased even further with the rise of computational communication science applied in the field of (digital) journalism studies, where tools and algorithms that are used to process and analyze data require attention (Lecheler, de Haan, and Kruikemeier 2020). Data more recently, include more complex data structures, such as digital tracking or trace data, data donations, digital media data, eye-tracking data, physiological data, archival documents, sensitive observations, video recordings, etc. It is common wisdom that qualitative data and more complex data are not easy to anonymize compared to classical quantitative data

(Humphreys et al. 2021). Journalism studies are also unique in the sense that data often comes from secondary sources, such as (social) media, which due to its characteristics (unique content) cannot be anonymized (Longley Arthur and Hearn 2021). But even more crucially, studying, for instance, how journalists construct news (a primary data source), also involves a practice at the heart of the work of journalists: protecting their sources, in particular, when they do not want to be disclosed. This is at sharp odds with open data sharing principles and transparency practices. Both types of data, primary and secondary (digital) data are sources of information and are ought to be protected by journalists (Posetti 2017). The indirect consequence is that if data of journalists are used, it needs to be protected by the researchers as well.

Although this discussion feels like a stalemate, there are two solutions that may be useful here. The first one involves being transparent about other parts of the research process. Researchers that cannot publish their data online (which is often the case in more qualitative work), might be more transparent about other processes to increase the credibility of their work (Haven and Van Grootel 2019). Examples of transparency include but are not limited to, more detailed descriptions of the data, include processed data that can be anonymous instead of the original dataset, include data collection tools (creative tools, focus group guide, etc.), data analyses, thinking processes, and credibility strategies (e.g. different researchers analyzing the data; for more strategies see Haven et al. 2020). One important benefit of this strategy is that such information can also be used to pre-register a study, which is often regarded as a problem with postdiction (vs. prediction) research (Haven and Van Grootel 2019). Qualitative research is involved in postdiction - an explorative process that is tailored towards generating instead of testing hypotheses and inherently requires flexibility and subjectivity. However, also for this type of research, a plan needs to be outlined in advance and can be pre-registered. Furthermore, flexibility can be incorporated by making the preregistration a living document that is continuously available for the broader public. Subjectivity can be made more explicit by outlining in a preregistration the (theoretical) framework and presuppositions the research has prior to collecting and analyzing the data (see Haven and Van Grootel 2019).

The second solution involves the use of 'mediated access' instead of 'full' open access of data. In some cases, information is protected but might be accessible under specific circumstances (such as confidentiality). This practice "can be used to ensure data integrity, often through password-protection, allowing only some data to be used and reused by authorized parties and through the signing of ethical agreements" (Longley Arthur and Hearn 2021, p. 841).

Journalism Research is Research on Confidential Business Strategies

There is another reason why data collected in (digital) journalism studies make transparency challenging. This relates to the specific nature of the many research questions addressed in journalism research and the appropriate data that are collected, are at odds with open science practices. Much research in the field deals with issues relating to business models of media companies and their strategies to attract a broad audience and make profit. A key question in much journalism research has been how

traditional media outlets, and in particular newspapers, have coped with the quickly changing media environment and accompanying steep decreases in readership and subscriptions. Detailed analyses of journalistic and business responses to the 'newspaper crisis' have been abundantly available (Siles and Boczkowski 2012). More recently, studies have elaborately discussed the potential of new media and new types of journalism to become profitable, with a lot of attention for the agency individuals within news organizations have (Stalph and Borges-Rey 2018). Investigating strategic responses is a challenge, and the types of data that are collected in those studies are not always suitable to make publicly available. Data stemming from interviews with people at high positions in those businesses or at specific media outlets need to be treated with confidentiality and ensuring anonymity might be more problematic compared to, for example, interview studies with regular journalists. Access to sensitive data (such as detailed info on revenues, or the number of clicks and views) might be granted to individual researchers, but not to a broader audience, yielding significant issues with the replicability of findings. Furthermore, the explorative nature of those studies often holds back researchers from other open science practices such as pre-registration, which is often assumed to be more suitable for quantitative, hypothesis-testing research.

Again, those considerations do not release researchers from the obligation to be transparent where possible and provide as much openness as possible, and do not stand in the way of open science practices such as pre-registration.

Conclusion and Way Forward

As also becomes apparent from the studies that are part of this special issue, the advantages of open science practices, and in particular sharing of data and even research infrastructure, are clear. Not only does such openness, and as the individual studies in this issue demonstrate, help to answer relevant research questions in a unique manner. The studies also demonstrate how a single dataset can be used to tackle a wide range of different issues. Additionally, as the special issue editors rightfully argue, sharing data provides a more equal level playing field for less resourceful researchers. Finally, it encourages scholars to get involved in replication studies.

As we have argued, the specific nature of the data collected in our field makes sharing and re-using not always straightforward. Some issues are not specific to our discipline. Qualitative data in general, for example, pose a range of specific challenges relating to epistemological, methodological, legal, and ethical issues (see Chauvette, Schick-Makaroff, and Molzahn 2019 for a more elaborate discussion). The specific features of a considerable part of journalism research might make it even more sensitive to widely share data - either because privacy and unanimity are hard to guarantee or because data are sensitive from a business perspective. This does not mean that the discussion stops there. Researchers should from case to case carefully consider the highest level of openness that is feasible, and the trade-off between openness and other important values such as privacy. A more elaborate discussion on guidelines and the identification of best practices seems a logical next step here.

However, open science encompasses more than open data and data sharing. Open access to published work is also still an issue of concern. Like open data, ensuring that scientific insights are widely and freely available to a worldwide research community is of importance, and not trivial. Open access has been a key concern for many funding agencies, as well as national and EU institutions and considerable progress has been made on this issue.

Other open science practices, such as pre-registration and replication are essential elements of open science as well. In pre-registration, authors outline, before conducting the study, a detailed plan, including for example hypotheses and types of data analysis. Here, we see clear advantages and opportunities in a wider adoption in journalism studies, not only for more quantitative studies that test hypotheses. Replication studies, that seek to repeat the procedures of previous studies to test whether the main findings are similar, are still undervalued and might be difficult to get published due to a lack of new insights. However, they are essential to ensure the validity of previous studies and help to establish a solid body of fundamental knowledge in our discipline. It will require a joint effort from institutions, journals, and individual researchers to encourage and get involved in open science practices. As this special issue shows, it is worth the effort.

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