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Review

Conducting ethical misinformation research: Deception, dialogue, and debriefing

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Abstract

Misinformation research can present many ethical challenges to researchers. These challenges are not insurmountable, but recent research suggests that as a field, we should be adopting and reporting stronger ethical practices. In this review, we consider the three D's of ethical misinformation research; the need to balance *deception* with informed consent, the value of maintaining an open *dialogue* with research participants to gather their insights and perspectives, and perhaps most importantly, the essential requirement for effective post-experimental *debriefing*. We make some specific and straightforward recommendations for misinformation researchers to increase the visibility of their ethical practices and outline the benefits for individual researchers and for the field.

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Misinformation has become a huge concern for the public and there has been a corresponding explosion in related research [1]. Researching misinformation can be challenging and there are some complicated ethical dimensions that researchers must consider. These include the (often very necessary) deception that is employed in experiments and the related threats to informed consent, the use of the internet to conduct research, the study of sensitive and volatile topics, and the risk of inadvertently spreading misinformation. It is therefore crucial that misinformation researchers consider how to conduct research ethically. This is important for the integrity of our growing field, but also for maintaining the trust of participants, the public, and the wider scientific community. In a recent scoping review [2], we found poor adherence to ethical principles in current misinformation research and in particular, poor reporting of ethical dimensions of research. In this review, we will consider research on what we have termed the three D's of ethical misinformation research; deception, dialogue, and debriefing.

Deception

Much of the time, when we wish to study misinformation, we employ a degree of deception and are not upfront with our participants about the nature of the research. This can vary from neglecting to mention that the research questions relate to misinformation ("this is a study about how you consume news") to outright misrepresenting the purpose of the study ("this is a study about the role of personality in attitudes towards vaccination"). This kind of deception limits participants' ability to provide true informed consent but is considered acceptable by most ethical codes of conduct when there are no other options to study a particular phenomenon. For some misinformation research, it would be impossible to study how participants naturally respond to misinformation without employing this kind of deception, as participants' suspicions, motivations, and behaviours may change when they know the information they will be shown might be misleading.

However, it is not sufficient to simply say that there are no other options for studying misinformation. Ethical codes also specify that the deception should not be likely to cause distress. For example, the current British Psychological Society's Code of Human Research Ethics states that "If the reaction of participants when deception is revealed later in their participation is likely to lead to discomfort, anger or objections from the participants then the deception is inappropriate" ([3], p. 23). There is no one-size-fits-all recommendation for when deception is or is not appropriate and participant objections or distress are likely to be highly study-specific [4], so we advise that misinformation researchers should assess participant perceptions as part of their studies. The optimal way to do this is to ask participants to provide consent once again — or give participants the option to withdraw their data — once they have been fully debriefed at the end of a study. This

practice is vanishingly rare in contemporary studies of misinformation. Of the 346 studies included in our scoping review of ethical practices in misinformation research, just 0.29 % of papers reported asking participants to re-consent after they learned the true purpose of the study [2]. We would encourage misinformation researchers who are employing deception in their studies to consider making this part of their standard practice. This can help ensure that the deception has not gone too far and is not raising serious objections for participants. In our personal experience, it is very rare that participants choose to opt out following debriefing — in fact many report that they found the study more interesting and more enjoyable once the deception was revealed [5].

While deception should be handled with care in any area of psychological science, we would argue that misinformation researchers should be especially careful in how they communicate with participants who were not initially made aware they were participating in a misinformation study. Studies show that many members of the public are deeply concerned about misinformation [6] and some have likened the alarmist discourse around misinformation to a moral panic [1]. Participants may be left with concerns about how they were duped in a misinformation study, or may be worried about any potential lingering after-effects. Ensuring that the question of deception is clearly addressed, and that participants are given agency to opt-out, is one way we can behave more responsibly as researchers. This can also be supplemented by enabling a dialogue with participants, so they can provide feedback on the methods used.

Dialogue

The ethics and acceptability of a research study can best be evaluated on a case-by-case basis. We therefore recommend, where possible, that researchers engage their participants and gather opinions on the ethics of their work. This can be a very small addition to the work already being conducted — as simple as a few extra questions at the end of a survey. Research shows that it may only be a small proportion of participants that experience strong negative responses to taking part in deceptive misinformation research [5,7]. It is important to take those opinions on board and use participant feedback to refine our methods and ethical practices.

Establishing a practice of engaging with participants and recording their perspectives is especially important when we are trialing interventions that target misinformation susceptibility. Recent evidence suggests that many well-intended interventions may have negative consequences, in particular, they can encourage scepticism towards real news [8,9]. Given that the vast majority of information that people encounter is not misinformation [10], participants may experience net harm from taking part in studies where they engage with a misinformation intervention. We recommend that researchers include measures of discernment as an outcome for any misinformation intervention [11], but also consider consulting with participants about the ethics of these interventions — how participants perceive and evaluate these risks and what they feel is appropriate.

We also recommend misinformation researchers consider the ethics of how they communicate their findings. Evidence suggests that many members of the public may have a warped view of misinformation as a threat — perceiving it to be more widespread and more impactful than it really is [1]. Researchers that spread "misinformation on misinformation" [1] can cause significant harm, such as diverting attention away from other pressing issues or fueling mistrust of the media [12]. One way in which researchers can address this is to be transparent in how they report effect sizes related to misinformation — for example, using jargon-free language in how individual differences in misinformation susceptibility are reported to the public, or in describing the overall effectiveness of an intervention. Lay people are often unimpressed by effect sizes typically reported in psychology (e.g. $r = .11$ to $r = .30$), regarding them as small, meaningless, and unconvincing [13]. Science communicators should be mindful of how effects are described to ensure that members of the public are not misled in this regard. We recommend dialogue with research participants as a useful first step in gauging how to communicate findings to the public.

Debriefing

Many researchers who conduct misinformation studies will have had the following experience: You are giving a talk to the public or to a general scientific audience where you describe a study you conducted. The study was in part motivated by the notion that misinformation can be harmful and difficult to undo, but as part of your methods, you presented misinformation to your participants. An audience member raises their hand and asks you how you can square this apparent paradox: how do you know your study didn't cause harm to your participants and potentially to the wider community?

This is a tremendously important question to ask misinformation researchers, who may study how misinformation results in false beliefs [14] and false memories Calvillo et al. [15,16], and describe how it can be difficult to retract [17]. We cannot, on the one hand, pontificate about the dangers of misinformation, while on the other hand recklessly sharing it in our experiments. We recommend careful debriefing of participants at the end of a study, using evidence-based techniques

to ensure effective retraction of any false beliefs [18]. This is an ethical obligation that we owe not only to our research participants, but to those who feature in any misinformation we may propagate in our studies (e.g., politicians, celebrities, or other public figures).

Our scoping review found that just 27 % of misinformation papers we studied made any reference to debriefing participants [2]. When we surveyed authors to enquire about practices they may have engaged in but not reported in their papers, 73 % of those who completed the survey reported that they had debriefed participants, though more than half did not mention the debriefing in the paper. This suggests that as a field, we are not debriefing as we should, and where we do, we often neglect to report it. As researchers and peer reviewers, we need to ensure debriefing is front and centre in our practice and in how we communicate our findings to fellow scientists and the public.

Beyond merely debriefing participants about the misinformation they were exposed to, we should also verify that our debriefing procedures are effective. This is especially important when the misinformation pertains to real-world behaviours such as voting or vaccination, given the risk that even one-off exposure to misinformation can have small effects on behaviour [19,20,24]. This can be as simple as asking participants whether they still believe in a piece of misinformation, immediately or after a delay. This is also an incredibly rare practice within misinformation research — less than 1 % of papers in our scoping review reported any assessment of debriefing effectiveness. Existing research shows that standard debriefing practices are generally very effective [5,21,22]. There is even some evidence that debriefing may inoculate participants against future misinformation they may encounter, to a limited extent [5,23].

Summary

Here, we argue that misinformation researchers need to consider the three D's of ethical research in this field; deception, dialogue, and debriefing. We have outlined some relatively simple steps that researchers can adopt into their standard practice to improve the ethical standards of their work. We encourage researchers to reflect on their responsibilities to participants, in ensuring that they are treated with dignity and are not left in any way worse off than before they completed the study. This is especially important when we conduct misinformation research in highly sensitive contexts — such as studying vaccine misinformation during a global pandemic, or political misinformation during a national election. By their nature, these are contexts that are especially interesting to us as researchers, but they are also contexts where we may have tremendous capacity to do harm. We argue that it is not enough to just gain approval from ethical governing bodies, we ought to consult with our participants directly and gather empirical evidence that our practices are harmless and acceptable.

As well as meeting our ethical obligations, these practices may enable us to conduct better-quality work. Often, we seek to engage with participants who may be hostile or vulnerable in some way — for example, those with anti-science views or low education levels. If we want to earn the trust of these groups or reduce their suspicion of scientists, it is essential that we improve our ethical practices. A key challenge for misinformation research going forward is to reach these fringe groups who may be most in need of support or interventions, rather than focusing on representative or convenience samples. Offering these participants a research experience where their perspective and consent are clearly and explicitly valued may result in greater rates of participation, ultimately improving the quality of research.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

No data was used for the research described in the article.

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Papers of particular interest, published within the period of review, have been highlighted as:

* of special interest
** of outstanding interest

1. * Altay S, Berriche M, Acerbi A: **Misinformation on misinformation: conceptual and methodological challenges**. *Social Media+ Society* 2023, **9**, 20563051221150412.
This paper identifies six common misconceptions about misinformation and the challenges they raise for future research in the field. These misconceptions are: that misinformation is just a social media problem, that the internet is rife with misinformation, that falsehoods spread faster than the truth, that people believe everything they see on the internet, that being misinformed is more common than being uninformed, and that misinformation has a dramatic, causal influence on behaviour.

2. ** Greene CM, de Saint Laurent C, Murphy G, Prike T, Hegarty K, Ecker UK: **Best practices for ethical conduct of misinformation research: a scoping review and critical commentary**. *Eur Psychol* 2022, **28**, https://doi.org/10.1027/1016-9040/a000491.
This is a scoping review of ethical practices in misinformation research. The analysis includes 346 papers published between 2016 and 2021, where misinformation was presented to research participants. Findings indicated that certain practices considered standard in psychology (such as debriefing participants at the end of a study) were actually reported in the minority of studies (30%). The paper includes recommendations for researchers to conduct more ethical misinformation studies.

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This study assessed the effectiveness of a standard debriefing procedure following a fake news study and assessed participant perspectives on the ethics of the research. 630 participants were surveyed six months after they participated in a study in which they were exposed to fabricated political news stories. The findings indicated that these participants were less likely than newly recruited controls to report a false memory for fake news stories, both those they had seen in the original study and novel stories they had not seen before. Both groups of participants rated the experience very positively and did not object to the deception employed.

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