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The body as misinformation – examining the role of bodily information in the formation of false health beliefs

Brynne Campbell Rice

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Abstract

Introduction. There is scant research into the convergence of embodied information and misinformation. This paper aims to address that gap by examining the intersection of information embodiment and health misinformation.

Method. Literature from LIS and adjacent disciplines is synthesised to develop the concept of embodied health misinformation, with particular attention paid to how cognitive biases can influence the formation of false health beliefs based on bodily signals.

Analysis. Although bodily information offers valuable insights into health, the body can act as a site of misinformation generation and substantiation due to breakdowns in interoceptive accuracy and cognitive biases in information processing that apply to bodily information.

Results. Embodied health misinformation is identified as a significant avenue of future study in LIS because of its potential to illuminate the intractability and deeper epistemic conflicts that underpin health misinformation.

Conclusion. A deeper understanding of how misinformation is born and lives within the body can facilitate more sensitive study and evaluation of health misinformation.

Introduction

Although recent research trends in LIS have turned toward both the body-focused study of information embodiment and the society-level concern of misinformation (Huvila and Gorichanaz, 2025), very rarely have those two concepts been woven together in a meaningful way. Yet when it comes to human health, there is profound and complex overlap between our understanding of the body as a source of information and our understanding of health misinformation. This paper will synthesise existing literature on both information embodiment and health misinformation in order to better establish the concept of embodied misinformation, and in doing so, argue that understanding the body's role in misinformation creation and substantiation is significant for the study of health misinformation.

Defining health misinformation

For the purposes of this paper, health misinformation is defined as false or misleading information about human health, where facticity is judged against the current best available scientific evidence and/or consensus from health experts. Drawn from a few key sources (Altay et al., 2023; Vraga and Bode, 2020; Wang et al., 2022), this definition includes misleadingness in order to acknowledge that misinformation is often much more complex than can be captured in a simple true/false binary. Additionally, although health is both contextual and subjective, it is grounded in the physical world – the biological functioning of our bodies and their interactions with our environments. Thus, health misinformation is information that does not cohere with current scientific knowledge of how these systems function to achieve and maintain health.

In this view, health expertise is grounded in a deep knowledge of the physical world, constructed through years of biomedical and clinical practice, or in the case of lay experts, extensive experiential knowledge (Halloy et al., 2023). Ideally, biomedical expertise and lay expertise go hand in hand, with biomedical evidence offering generalisable, population-level understandings of health phenomena, while lay expertise offers more contextual knowledge and includes patients' embodied information.

It is important to acknowledge that this framing primarily reflects a western orientation towards health and does not fully encompass the perspectives of other knowledge systems, (e.g., Indigenous concepts of well-being). While there is a strong case for integrating insights from multiple epistemologies into discussions of health, this paper operates within a more materialist, biomedical framework.

Embodied information

Since there is some terminological ambiguity around embodied information, it is worth clarifying the meanings that are intended here. Marcia Bates (2018, p. 242) offers an expansive definition of embodied information, which she describes as '*the corporeal expression or manifestation of information previously in encoded form*,' where '*encoded*' refers to '*signal-based patterns of organization*'. These patterns exist in the sensory signalling that occurs in our nervous systems and combines with stored memories to give us subjective experience of our bodies in the world. Bates (2018, p. 244) refers to this form of embodied information as experienced information: '*within a brain full of encoded information, we somehow create a lived experience of embodiment of our environment and our bodies*'. This type of embodied information is aligned with Lloyd's (2010, para. 2) definition of corporeal information, '*information that is experienced through the situated and sensory body*'. Both these definitions encompass the form of health information that is the focus here: internal information about a person's health status that they access through interpreting their own bodily sensations. As such, although the term embodied information covers a wider concept, in this paper, it is taken to be specifically the experienced, corporeal form.

This type of embodied information is closely tied to interoception, the process by which the nervous system uses bodily signals to provide '*a moment-by-moment mapping of the internal landscape of the body*' (Berntson and Khalsa, 2021, p. 18). It is possible to consciously tap into these signals to glean information about the state of the inner body, a concept known as interoceptive awareness.

This experienced form of embodied information is highly subjective, and largely hidden from everyone except the experiencers themselves. As such, much of the investigation of embodied health information in the LIS literature comes from qualitative studies of people whose complex health status has led them to careful interrogation of their own bodies, e.g., individuals with chronic illnesses (Chen, 2015; Godbold, 2013; Whitman et al., 2021). For example, patients with kidney disease report that bodily information is '*continuously attended to, managed, worked to assess and understand, and leveraged to sustain favorable outcomes from treatment*' (Whitman et al., 2021, p. 10). These studies have reported that there is significant information work involved in accessing and making sense of the health information that originates in one's own body, and in doing so, reveal the importance of taking the body seriously as a source of health information. Indeed, disbelieving a person's account of their own bodily experience is a deeply harmful form of epistemic injustice (Carel and Kidd, 2017), and is implicated in the development of mistrust in science and medicine (Annesley, 2020).

With that said, the work of learning to read one's body does not rest exclusively on using corporeal information. Rather, one's own embodied information is commonly integrated with information from other, external sources in order to inform health behaviours, beliefs and decision making (Huttunen, 2022; Oliphant et al., 2022; St. Jean et al., 2018; Veinot and Pierce, 2019). For instance, Hicks and Lloyd (2022) find that, in assessing the risks of the Covid-19 vaccine, individuals put their own experiential and bodily information in conversation with other sources of confirmatory or disconfirmatory information. As Lloyd et al. (2014) argue, the process of orienting within the landscape of diverse information sources is an important health information practice unto itself, and is a core component of what it means to be health literate.

The body as a site of misinformation creation and substantiation

In part, learning how to read one's own body requires significant information work *because* it is possible to be wrong about what the body is saying. When that is the case, embodied information can contribute to the formation of false beliefs about how bodies function, thus creating a situation of embodied misinformation.

In neuroscience and psychology, awareness of interoceptive information is increasingly seen as distinct from the ability to accurately interpret what that information means physiologically (Garfinkel et al., 2015). Interoceptive accuracy is affected by a number of factors, including body image (Zamariola et al., 2017), mental health (Pollatos et al., 2009) and other lifestyle factors (Mulder et al., 2024). In other words, how well we can interpret our corporeal information is dependent on a kaleidoscope of factors; just because we feel a sensation does not mean that we necessarily understand what it means, or have a complete picture of what is actually happening within our bodies.

Moreover, the same cognitive biases that contribute to the formation of false beliefs based on external information sources can also apply to information originating from within the body. For instance, human judgement is subject to availability bias, the tendency to place more weight on the information that is most readily available or easily brought to mind (Van Boven, 2007), which goes hand in hand with fluency effects, or our tendency to interpret ease of processing as a marker for truth (Marsh and Yang, 2021). When the topic at hand is health, it is reasonable to suggest that the immediate and visceral nature of embodied information makes it much more salient than broad, population-level statistics about health and disease. As such, corporeal information can be

highly impactful when forming beliefs about health, even if that information is not fully representative of the reality of what is actually occurring within the body, or broader knowledge of human health.

The immediacy and intimacy of bodily information coalescences with other cognitive biases as well. In studies of health misinformation and formation of false beliefs, there has been much discussion of confirmation bias, the tendency to look for and interpret information in a way that is consistent with one's pre-existing beliefs (e.g., Savolainen, 2022). When it comes to bodily listening, it stands to reason that a person is more likely to tune into information from their own body when it coheres with other parts of their worldview. For instance, the energy healing evangelist who believes meditating with a crystal should cure their cold is primed to notice any sign that their sniffles are abating after a treatment, even if there is no plausible biological basis for crystal healing (Peterson et al., 2022).

Relatedly, the human brain also tends towards apophenia, searching for patterns in randomness (Merriam-Webster, n.d.). This tendency contributes to the illusion of causation, which underpins many false beliefs about health (Matute et al., 2015). Confirmation bias and apophenia are both implicated in the placebo effect, which can lead to beliefs about the efficacy of treatments that are, on a broader scale, ineffective (Watson et al., 2012). When a person makes a change in their health behaviour and then perceives a change in how they feel, it is easy and intuitive to assume a causal relationship, even where one does not exist. In this way, our bodies can mislead us.

Lueg (2014) suggests that the gaps between what we sense and what we perceive are important considerations for understanding human information behaviour. As such, questions of perception should colour the way we approach embodied information. Although our bodies provide valuable health information, it can be treacherous to rely too heavily on internal, bodily information to develop beliefs about human health more generally. Because it is possible to create and substantiate misinformation within our own bodies, it is vital that embodied information is kept in its appropriate personal context, and interrogated in conjunction with other information sources.

Embodied misinformation in the literature

Embodied misinformation has not been systematically documented in the LIS literature, although some studies of embodied information do acknowledge that corporeal information can be inaccurate, misleading or challenging to interpret (Godbold, 2013; Wella and Webber, 2018). With that said, there is some evidence of embodied misinformation from adjacent fields. Sociologists Topham and Smith (2023) use the phrase *embodied misinformation* to characterise the information in wellness influencers' messaging around detox diets and cleanses, health practices that are widely discredited (Klein and Kiat, 2015). In their study, they report a case of embodied misinformation about diet wherein '*it no longer matters whether detoxes, diets, and other patterns of eating are scientifically validated. What matters is how this knowledge is embodied and lived, and how it makes us feel*' (Topham and Smith, 2023, p. 692). Relatedly, working in philosophy and communications, Versteeg and her colleagues (2018) have explored discourses around ADHD medication and aspartame, identifying how bodily listening is deployed to negate biomedical evidence and '*transform personal health choices into advice that does not need to be supported by factual or scientific sources*' (Versteeg et al., 2018, p. 436). Both these studies illustrate how embodied misinformation appears where there is an inappropriate extension of internal, bodily knowledge to generate and reinforce claims that do not align with current, best evidence of how the physical body works.

Significance of embodied misinformation

Understanding embodied misinformation is significant for the study of misinformation in a number of ways. First, further exploring embodied misinformation can illuminate some of the features that make health misinformation both persuasive and challenging to assess. Claims based on corporeal

information are so intimate and subjective that they are often insulated from fact checking, enabling bodily information to act as a core of truth around which false health claims are packaged. The bundling together of true personal narratives and false claims is particularly troublesome; misinformation that is tinted with some elements of truth tends to be received as more credible and persuasive (Hameleers et al., 2023; Zhao and Tsang, 2024). Research does suggest that it is difficult to judge the veracity of health information when the claims are couched in personal narratives, with some people believing that information based on personal experience cannot be misinformation (Tang et al., 2024). The willingness to believe other people's personal experiences is reasonable, and in fact crucial for ensuring epistemic justice, yet becomes problematic when those experiences are framed as evidence for claims that are, broadly-speaking, untrue. This tension speaks to the importance of source triangulation in information practice; a person's corporeal experience can be respected as a valuable source of information while also being situated in conversation with information from other social and epistemic modalities (Lloyd, 2010).

Finally, scholars suggest that some problems of misinformation can be traced to differing sets of ideals about how to evaluate and achieve knowledge – for example, considering personal experience to be a more reliable way of knowing than scientific inquiry (Chinn et al., 2020). Embodied health misinformation often represents just such a tension, and studying it can illuminate cases of misinformation that are shaped by deeper epistemic conflicts. In better understanding these tensions, it is possible to develop more nuanced approaches to health misinformation in which individuals' internal health experiences are given the value they are due, while also being kept in an appropriate epistemic context.

Conclusion

In this paper, I argue that bodily information can be simultaneously true and misleading, and in that way, bodies are powerful vehicles for the creation and reinforcement of health misinformation. By unpacking the interplay between personal health experiences and broader health knowledge, future studies of embodied health misinformation will offer LIS the opportunity to bring nuance to our discussions of misinformation, empowering us to combat health misinformation in a way that remains sensitive to diverse forms of knowledge.

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About the author

Brynne Campbell Rice is an Assistant Curator and Librarian for Health Sciences at New York University. Her research examines information literacy as it relates to science and health, particularly credibility, authority and ways of knowing at the intersections of health equity and health misinformation. She can be contacted at brynne.campbell@nyu.edu.

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