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Information literacy as part of an interdisciplinary approach to combat misinformation

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Abstract

Introduction. Misinformation is a complex challenge that cuts across all fields and thus requires an interdisciplinary solution. As professionals who support information access and evaluation across fields and have long-championed information literacy, librarians could be well-situated to facilitate collaborative responses. So far, however, library science has remained fairly siloed in its approach, similar to other fields.

Method. As a conceptual paper, this submission does not employ a detailed methodology but provides an overview of relevant literature.

Analysis. This paper provides a high-level overview of research and thinking related to misinformation and information literacy across a wide range of fields.

Results. The overview illustrates the complexity of the problem and the intersecting ideas and responses, with a focus on how these relate to librarianship and information literacy.

Conclusion(s). The paper concludes with a proposed framework for an interdisciplinary approach to studying misinformation with an aim to developing information literacy competencies.

Introduction

As attention to the challenges of misinformation spiked following the 2016 US presidential election and the Brexit vote, librarians were quick to claim a role for themselves as information experts with a long tradition of source evaluation and information literacy instruction. Public libraries, as trusted civic organisations, have been identified as natural outlets to support the development of information literacy skills to evaluate misinformation (Taylor and Jaeger, 2021). However, LIS has been fairly insular in its approaches. Both Sullivan (2019a) and Swanson (2023) note the lack of attention to neuroscience and psychology in LIS discussions of misinformation. While convened as cross-disciplinary discussion, participants of the *Know news* symposium noted a lack of representation from K-12 educators, psychologists, and neuroscientists as well as minimal representation from the tech sector (Saunders et al., 2018). Nevertheless, as a field that interacts with information across all other fields and disciplines, library and information science (LIS) could be well-positioned to facilitate an interdisciplinary response to misinformation.

Misinformation is an interdisciplinary problem in the sense that misinformation is created and shared within and across all fields, but also research to understand how people interact with, evaluate and share misinformation is conducted across many of the fields. In discussing research on fake news, Sample et al. (2020, p. 1) note, *'the design and consumption of data rely on a mixture of psychology, sociology, political science, economics, linguistics, marketing, and fine arts,'* while Pasquetto et al., (2024, final paragraph) call for *'in-depth, interdisciplinary efforts'* on the topic. Unfortunately, much of the work, both in conducting research and in developing responses, is happening in siloes. Broda and Strömbäck (2024, 141) discuss a *'lack of conceptual clarity'* and warn of *'fragmentation across disciplines'* (Broda and Strömbäck, 2024, 139) in the study of misinformation. They note that, with few exceptions (Broda and Strömbäck point to Abu Arqoub et al. 2020; Ha et al., 2021; Madrid-Morales and Wasserman 2022), even reviews of the literature are often focused on a single field. This isolation, in which researchers and thinkers in various fields rely on the body of knowledge and collaborators within their own field with little or no attention to other fields, is likely to be less effective with such a complex topic than an interdisciplinary approach might be.

The rest of this paper offers a brief overview of how research and thinking on misinformation across a variety of fields could inform library instruction in information literacy. This overview is not meant to be comprehensive but to provide a starting point for an interdisciplinary discussion with the introduction of an information literacy dynamic. Across different disciplines, there has been a push to differentiate among different types of misinformation (see, e.g., Uscinski et al., 2024; Wardle and Derakhshan 2017). While this paper acknowledges the importance of precise definitions, for the sake of concision the term misinformation will be used as the umbrella concept.

Information literacy instruction: context

Since the upsurge in attention to misinformation in 2016, librarians have developed hundreds of instruction sessions, guides and other materials aimed at teaching information literacy skills (Agosto, 2018; Jaeger and Taylor, 2021a; Lim, 2020; Russo et al., 2019). Even as they acknowledged information (or media or news) literacy as a potential intervention for misinformation, critics expressed concerns that these approaches were largely untested (Lazer et al, 2018; Sullivan, 2019a, 2019b). These concerns seem to have been well-founded. While pedagogical approaches framed around information, news and media literacy instruction can be effective in helping people to identify misinformation (Austin et al., 2015; Bateman and Jackson, 2024; Kahne and Bowyer, 2016; McGrew et al., 2019; Roozenbeek et al., 2023; Sádaba et al., 2023), these literacies are broad and complex areas and not all instructional approaches are equally effective. Many of the methods promoted, and sometimes developed by, librarians largely rely heavily on exhaustive checklists which are time-consuming to implement (Lim, 2020; Revez and Corujo, 2021; Russo et al., 2019), are *'not derived from empirical research about what experts do when evaluating online sources'*

(McGrew and Breakstone, 2023, p. 1) and ‘*treat evaluation as a straightforward process of checking for specific features and adding up these credibility cues*’ (McGrew and Breakstone, 2023, p. 1). More effective are research-based approaches developed outside of LIS, like lateral reading and civic online reasoning (McGrew et al., 2019; McGrew and Breakstone, 2023; Wineburg and McGrew, 2017) or the SIFT Method (SIFT stands for Stop; Investigate the source; Find better coverage; and Trace the claim back to its source) (Caulfield, 2017) which draw on the fact-verification skills that journalists employ.

The rise of artificial intelligence or generative AI has added additional complexity to these issues by facilitating the creation of increasingly sophisticated misinformation, including deepfakes which can use digitally altered images and voices of celebrities, public figures and others to promote misinformation. In a 54-page guide to identifying AI-generated images, researchers from Northwestern (Kamali, et al., 2024) recommend scanning the images for a variety of tells including various anatomical anomalies such as missing or extra fingers, misaligned pupils and unlikely proportions of body parts; functional implausibilities, or ‘*relations between objects and people that do not conform to real-world mechanical principles*’ (Kamali, et al., 2024, p. 31); and violations of physics, such as improper lighting and shadowing. Interestingly, these recommendations seem to mirror the sorts of close reading and checklists approaches of earlier iterations of information literacy instruction that have been shown to be less than effective, and as AI platforms become more sophisticated, some worry that looking for those cues will not be effective (Panditharatne and Hasan, 2024; Zhou et al., 2023). More recently, lateral reading has been recommended for verifying deepfakes or AI-generated misinformation (Nygren et al., 2021; Public Affairs Council, 2023; Settles, 2023).

Given that much of the attention to misinformation was prompted by the rise of concern around *fake news*, perhaps it is not surprising that the most effective techniques for verifying misinformation align with journalistic practices. However, addressing technology will take more than lateral reading, as the issues entail more than just fact-checking. With the publication of *Algorithms of oppression*, Noble (2018) helped surface issues of algorithmic bias and dispel the idea that search engines are neutral in how they process searches and rank results. Unsurprisingly, these biases impact information across platforms such as social media (see, e.g., Kim et al., 2020; Mozafari et al., 2020). Noble’s research on how search engines perpetuate human biases in how they rank and present results added to the literature on algorithmic bias, including the ways in which personalisation of information can lead to filter bubbles and echo chambers, whereby people are increasingly directed towards information that aligns with (and thereby potentially magnifies) their existing worldviews (see e.g. Cinelli et al., 2011; Pariser, 2011). To that end, *Project Information Literacy* advocates a need for library instruction to go beyond skills to evaluate (mis)information and address ‘*how information works*’ (Fister, 2021, ‘Where do we go from here’ section) in an age of algorithms. In other words, people need to learn more about the information infrastructure, including how algorithms impact their searches and, ultimately, their thinking about information, and how bias permeates those algorithms (Fister, 2021; Head et al., 2020).

Information literacy: larger contexts

While lateral reading and discussions of the information infrastructure provide important content for information literacy instruction, they are still fairly narrowly focused on sets of skills and mechanical knowledge. From a broader perspective, the fields outside of LIS can inform the content of information literacy programmes and the evaluation of misinformation but also provide important context for the topic in general. For instance, a number of writers contend that librarians have not been attending to brain science in their discussions – and, by extension, instruction – related to misinformation (Sturges and Gasteringer, 2013; Sullivan, 2019a, 2019b; Swanson, 2023). While discussions of the role of cognitive biases and heuristics have become more commonplace in LIS, Sullivan (2019a, 2019b) observes that librarians are perhaps oversimplifying

or misconstruing some of these issues. His dissertation (2024) provides a master class overview of the relevant literature across areas like psychology, behavioural science, communications and other fields, parsing the nuances of different schools of thought on heuristics and their implications for how people make judgements and decisions. He notes that admonitions to evaluate 'every' piece of information, often through overly extensive methods, and criticisms of 'satisficing' that are common across library instruction programmes ignore the realities of heuristics and even some of the beneficial aspects they provide.

Needless to say, the literature in this area is vast and complex, encompassing the study of perhaps dozens of different types of cognitive biases. With regard to misinformation, one area that has received extensive attention is confirmation bias, or '*people's tendency to process information by looking for, or interpreting, information that is consistent with their existing beliefs*' (Casad and Luebering, 2024, para. 1), with the idea being that people are motivated to seek out and believe misinformation if it aligns with, or confirms, what they already believe to be true (Edmans, 2024; Heshmat, 2015; Peruzzi et al., 2018). As an additional challenge, a variety of research studies show that misinformation is often resistant to corrections (Vraga et al., 2019). Once people believe some piece of misinformation, they may persist in believing that faulty information even after receiving corrections, a phenomenon known as the continued influence effect (see, e.g. Ecker et al., 2011; Seifert, 2002). As such, even if belief(s) are initially changed, the incorrect information may eventually reassert itself over the new, corrected information (Grady et al., 2021). When people are exposed to the same inaccurate messages repeatedly, the likelihood of believing that misinformation increases, even if the reader has been warned the information is inaccurate (Pennycook et al., 2017). Importantly, most of the discussions about the role librarians could play in teaching people to evaluate information and avoid misinformation do not address librarians' own biases and, as a result, seem to imply that as *information experts*, librarians are perhaps immune to biased thinking. However, through a series of experiments and observations, Sullivan (2024) demonstrated that partisan ideologies can influence how librarians evaluate political information. In an interview, Dar (2021, p. 8) quotes librarian Nate Gass as saying "We all carry bias with us, and neither journalists nor librarians are exempt from this".

Further, not only do those studying the topic need to keep abreast of an overwhelming amount of literature, but they also have to contend with contradictory findings and corrections. For instance, different studies have arrived at different conclusions as to the extent to which motivated reasoning, a type of confirmation bias in which people choose to believe information that aligns with their worldviews and reject other information, explains why people are likely to believe certain types of misinformation (see, e.g., Kahne and Bowyer, 2017; Pennycook and Rand, 2021, 2019; Rozenbeek et al., 2022; Savolainen, 2022). In another example, the backfire effect, or the idea that, when confronted with corrections that challenged a mistaken belief, some people would not only reject the correction but *double-down* or become even more entrenched in their original belief, was a popular explanation for why misinformation corrections do not always work. Although later research did not confirm the findings and Nyhan (2021), the researcher who originally identified the backfire effect, noted that it was being overapplied and was at best a moderate effect, the explanation is still invoked.

Beyond biases, some writers have noted a lack of attention to the role emotions play in how people interact with and evaluate information (Hewitt, 2023; Hicks and Lloyd, 2021; Swanson, 2023), instead treating evaluation as a wholly rational process. Lilla (2024, para. 8) notes that '*seeking and having knowledge is not just a cognitive pursuit; it is also an emotional experience*'. Along those lines, Young et al. (2020, p. 541) note that '*if educational approaches do not account for the interaction between personal beliefs (and emotion) and misinformation, then they will be far less effective at changing the behavior of students (or the general public)*' but they also note these as areas in which librarians often lacked confidence and perceived a need for more training and support. Caulfield's (2017) SIFT method, which is similar to lateral reading, does encourage people to recognise and

reflect on how emotion might play into their interactions with information. However, a better understanding of cognitive biases, heuristics and related topics would not only allow librarians to integrate those topics into library instruction with the intent of helping patrons to recognise how these impact their interactions with and evaluations of information so they can mitigate those effects, but might help them to consider their own responses to and interactions with (mis)information.

Even when discussing cognitive biases and emotions, however, much of the emphasis of information literacy and library instruction focuses on factual information and how to verify facts. Especially in an era of *alternative facts* and *post-truth* (see, e.g., McIntyre, 2021), discussions of information evaluation will need to extend beyond verification of facts, which may bring the field into areas of philosophy and epistemology. Indeed, Lim (2020) notes that the materials for evaluation of information created by librarians rarely, if ever, defined terms like *fact*, while Fister (2021) argues that library instruction must attend to *truth*. But, to Lim's (2020) point, there is little, if any, discussion of what is meant by either fact or truth within the context of information literacy and library instruction. Are these terms synonymous and interchangeable? If not, how does one verify each kind of information? Unfortunately, this lack of distinction may muddy attempts to discuss evaluation of information, since people can arrive at different conclusions based on the same facts, and what people believe to be true may have little to do with the facts involved (see, e.g., Blackburn, n.d.; Collins, 2024; Nyhan, 2014). Indeed, truth claims are often based in fact, but offer speculation asserted as though it is part of, or follows inevitably from, that fact. As such, truth claims pose a different challenge for evaluation than facts, and more time in library instruction must be devoted to how to parse such claims, which will entail attention to more *philosophical* approaches to evaluation (Saunders and Budd, 2020). Further, the conflation of fact and truth might obscure the reality that facts can change over time, especially in the area of science as new data is gathered (see, e.g., Arbesman, 2013). As such, understanding the nature of fact and the evolution of understanding is a critical part of scientific literacy.

Personal *truths* or beliefs are often highly connected to individuals' values and identity, which might make it harder for them to accept facts that contradict those truths (Lilla, 2024). But another reason might be a simple reluctance to admit that one was wrong in one's beliefs to begin with. Intellectual humility is another more contextual area informing instruction related to misinformation that is receiving some attention, coming broadly from fields of epistemology and philosophy. Research across the social sciences has shown that misinformation is often resistant to correction (see e.g., Ecker and Antonio, 2021; Ecker et al., 2011). While some of that resistance may be part of how our brains are hard-wired to deal with memories, some of it could potentially be attitudinal. Intellectual humility essentially provides space for a person to admit their own fallibility, which might open them up to potential corrections in their ideas or beliefs. Gorichanaz (2021; 2023) discusses intellectual humility as a virtues-approach framing for information literacy. Some research suggests that intellectual humility could be correlated with media literacy, with people with higher levels of intellectual humility not only demonstrating better ability to evaluate information but also being more likely to spend more time reviewing sources and somewhat less likely to find sources that confirm their own biases (Gorichanaz, 2023; Koetke et al., 2023; Leary et al., 2017; Lin et al., 2022; Prike et al., 2024). This openness seems like it could be a counter to librarians' concerns that typically the patrons who self-select into programming on misinformation are those who already have some knowledge, while those who might benefit most will avoid the sessions because they do not want to admit that they have fallen for *fake news* (Young et al., 2020).

While promising, one challenge to this approach is to figure out how to teach for intellectual humility (Gorichanaz, 2021). One potential avenue would be to frame evaluation on a continuum of relative trustworthiness, or as a probabilistic judgement, rather than a binary of true and false. This '*tentative or provisional judgement*' may signal that there is room for argument or new evidence (Sinatra and Lombardi, 2020, p. 124), and some research suggests that people are more accurate in

their evaluations when rating trustworthiness on a scale rather than a binary (Guilbeault et al., 2021). Indeed, some fact-checking outlets like Politifact (<https://www.politifact.com/>) model this approach by scoring stories on a 'truth-o-meter' with ratings such as mostly true, half true and 'pants on fire'.

The importance of pedagogical knowledge

The question of how one teaches intellectual humility raises the point that the entire discussion of information literacy and library instruction needs to be framed within larger discussions of pedagogy. Young et al. (2020, p. 543) uncovered *'complex issues that limit their [librarians'] ability to confidently design and implement effective programming'* and assert that these librarians need a better understanding of the *'most effective formats for misinformation programming'* as well as *'tools and training that can make librarians feel more confident in addressing misinformation as it emerges within their communities'*. Part of the challenge, the authors note, is not only the dynamic and fast-changing environment of misinformation, but the fact that the topic intersects with so many areas, which *'forces the librarians to juggle a lot of different domains'* (Young et al., 2020, p. 545). In discussing some of the technological topics related to misinformation such as online safety, privacy and scams, Young et al. (2020, p. 545) note that many of the librarians they worked with *'ended up conflating many of these different phenomena, which can also lead to a muddled understanding and response to them'*. Similarly, Jaeger and Taylor (2021b) express surprise at the lack of information literacy among professional librarians and call on LIS degree programmes to integrate information literacy more fully into their curricula.

Indeed, a number of studies suggest that librarians feel un- or underprepared for their instructional roles, raising questions of how well degree programmes are preparing emerging librarians (see, e.g., Bryan, 2016; Hostetler, 2021; Julien and Genius, 2011; Saunders, 2015). To be effective instructors, librarians will need at least some grounding in pedagogy and instructional design. While instructional design knowledge is important for planning programming that is engaging, accessible and aligned with specific learning outcomes, an understanding of pedagogy and basic learning theory could help library instructors to understand and tap into learners' motivations and support whole-person learning, including some of the affective aspects of learning.

The social context

At an even broader level, the challenges of misinformation and, by extension, instruction related to misinformation evaluation, need to be put into the larger social and political context. Chatman (1996, 1999) uncovered the ways in which individuals in *small worlds* shared (or, in some cases avoided sharing) information and how *insider* and *outsider* status could impact the extent to which information sources were trusted. In an effort to conform to the expectations and norms of their small world communities, members may avoid or discount information and viewpoints that come from outside sources. More recently, writing and research on misinformation has considered identity and, often, political identity, as one factor in how people evaluate information (See, e.g., Jenke, 2024; Pennycook and Rand, 2021, 2019). However, even when it considers sociopolitical context, or group interactions such as on social media, much of this literature still seems to focus on how individuals evaluate information on their own. Yet, some research suggests that people reach better judgements about information as a group when they interact with peers, rather than as individuals (Guilbeault et al., 2021). Importantly, those effects were demonstrated under experimental conditions with groups formed only for the study. Other research suggests that, when individuals self-select into like-minded groups, *'formation of online groups affects information consumption patterns, often leading to more polarization and radicalization'* (Efstratiou and De Cristofaro, 2022, p. 1).

Building on Chatman's theories, Burnett and colleagues (2008) advocate for more exploration of what they describe as social access to information, or the ways in which communities develop normative behaviours around information which impact what they are willing to access and accept as accurate or true. Burnett and Williams (2023) offer a helpful overview of how this approach can be used to explore the promotion of conspiracy theories within like-minded groups, including how technological and algorithmic issues such as filter bubbles and echo chambers might exacerbate the situation. Likewise, in studying social norms online, Castioni et al. (2022) found that a large volume of misinformation is created by a small minority of users on Twitter (now X) and then retweeted by a much larger group of what they call 'consumers'. They suggest that the consumers mistakenly believe that misinformation to be a majority voice because of its volume and exposure and then feel *pressured* to share the misinformation in order to conform to the norms of their group. From a more positive perspective, some research has suggested that promoting social norms around information sharing can be effective at reducing the spread of misinformation on social media. Rozenbeek et al. (2023, 195) describe social norm nudges as messages which '*draw attention to partisan or societal norms around news-sharing behavior in order to improve the quality of people's news-sharing decisions*'. These nudges can take the form of brief messages framing responsible behavior. In a review of the research, they describe several types of social norm nudges. Descriptive norms explain what people generally do in certain situations. These messages warn people that they might encounter misinformation online and remind them that responsible people would not share such inaccurate information. Injunctive norms, on the other hand, will explain what kinds of behaviour other people will approve or disapprove of. Such nudges can be either general or targeted towards specific beliefs, such as anti-vaccine information. Overall, both descriptive and injunctive nudging can be somewhat effective in reducing the sharing of misinformation and encouraging people to report misinformation when they encounter it, and using both kinds has the greatest effect (Prike et al., 2024; Rozenbeek et al., 2023). In their edited volume on information literacy theory, Hicks and colleagues (2023) present several discussions on social aspects of information literacy and information behaviours. Nevertheless, research on social norms and social access to information seems light compared to other areas of study on misinformation.

A better understanding of the social context might be especially important as libraries continue to emphasise their role as community centres and even community builders, and as they promote more programming related to civic – and civil – discourse (Kranich, 2010; Wyatt, 2023). Indeed, at a time of increasing polarisation and partisanship, the role libraries can play in bringing communities together could be critical (Budd, 2022; Edwards et al., 2013; Kranich, 2020; Scott, 2011). Such work might happen both actively and passively, as librarians provide programming and collections that help patrons access many ideas and perspectives. However, it is unclear how well, if at all, librarians have been prepared to navigate these kinds of discussions, especially in a highly politicised environment. Young et al. (2020, p. 543) observe that librarians understand the complexities of the situation including how the political nature of misinformation made programming '*complicated and kind of tricky*,' and they emphasise the need to frame interventions in ways that are '*respectful and effective*'. Indeed, some librarians in their study expressed concern that because the topic of misinformation has itself become politicised, related programming could '*cultivate an us-versus-them mentality that could easily lead the public to viewing librarians as an enemy*,' and potentially '*bring patrons to the library with feelings of pre-emptive rage, which would undermine their programming for everyone*' (Young et al., 2020, p. 546). These concerns suggest that librarians may need not only a better understanding of the social context but training in how to facilitate discourse in a highly politicised environment. As noted above, evaluating facts might be different from evaluating truths or truth claims and, given the emotional aspect of engaging with what one believes to be true, such interactions might also entail a different form of communication (McIntyre, 2021).

Politics and policy

As a final note, several writers (see, e.g., Grizzle et al., 2013; Jaeger and Taylor, 2019; Taylor and Jaeger, 2021; Young et al., 2020) discuss the importance of the broader political environment and information policy on information literacy. For example, Young et al. (2020) note that some librarians were concerned about running misinformation programming for fear of alienating patrons as well as larger municipalities and funding bodies. The authors suggest that librarians may need to partner with other organisations to share risk but acknowledges that this approach *'requires a lot of political work by libraries, to ensure that they are building strong partnerships that will help them weather any political fallout'* (Young et al, 2020, p. 546). Taylor and Jaeger (2021) devote an entire book chapter to issues of politics and policy related to literacy and information literacy specifically, while elsewhere they discuss information policy more broadly (Jaeger and Taylor, 2019). UNESCO (Grizzle et al., 2013) provides a policy brief related to media and information literacy (MIL), framing media and information literacy as critical competencies and advocating the need for policies that will help ensure equity and access.

While these issues extend beyond the content and even framing of library instruction, at a time of ever-increasing polarisation when impacts on education and libraries are moving beyond pressure campaigns to the regulatory environment (EveryLibrary, 2023; Meehan and Friedman, 2023), and government funding to research misinformation is being politicised and called into question (Newton and Schiffer, 2024), it does seem that librarians, perhaps especially in public and school libraries, will need to monitor the situation and be ready to advocate for information literacy. While clearly important, issues of policy, politics and advocacy add yet another set of disciplines and perspectives with which librarians would need to be familiar.

A framework for further discussion

None of this is to say that librarians cannot address misinformation, or even that they do not already address it, at least to some extent. But, to fully engage these issues will clearly take an interdisciplinary approach. However, it is not realistic or necessary to expect librarians to become experts across the disciplines. Rather, there is a need to develop interdisciplinary teams to engage in the research and develop and test the approaches that will encompass these various interdisciplinary perspectives. Burnett and colleagues' (2008) discussion of normative information behaviours might provide a useful starting point. In that paper, the authors describe three realms of information access: physical, intellectual and social. Physical access is the ability to locate and obtain existing information, while intellectual access entails the ability to understand and evaluate the information and social access, as described earlier, addresses the ways in which community and culture can influence a person's interactions with information.

Each of these realms aligns to some extent with various disciplinary approaches to studying information and, by extension, misinformation. For instance, physical access would necessarily include the technologies people rely on to access information, including search engines and social media platforms, and the sometimes invisible infrastructure that supports them (Haider and Sundin, 2019, 2022). Intellectual access would likely include psychological and neuroscience understandings of how the brain processes information, including heuristics, confirmation bias, and so on, but might also include areas such as intellectual humility and consciousness. Social access could include various sociological perspectives including group decision making as well as social norms. Importantly, however, all of these realms intersect. For example, research on social norm nudges touch on social access, but might also include attention to intellectual access issues such as confirmation bias. And all of this might be studied in an online environment, which then entails the physical access of technology. Issues of algorithmic bias might be viewed as a technology concern, but it clearly overlaps with and grows out of human biases within the realm of psychology and intellectual access. As such, one could conceive of these three realms as a Venn diagram, as in Figure 1, where the overlaps describe potential areas of interdisciplinary research.

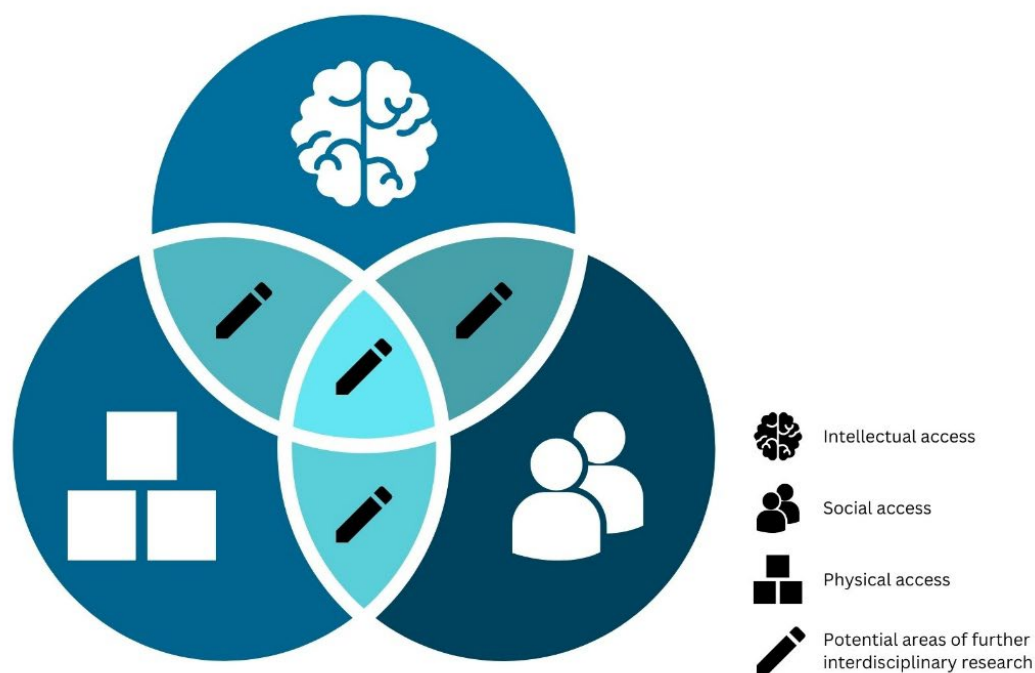


Figure 1. Realms of access.

Graphic created by Katherine Carlson.

However, as noted above, the issues and challenges of misinformation exist in a larger framing of politics, policy and even pedagogy. Thus, the Venn diagram could be placed within a larger circle representing that environment. And, finally, one might describe the absolute centre of the Venn diagram, where the three areas of access completely intersect within that larger environment, as a place of information literacy, as illustrated in Figure 2:

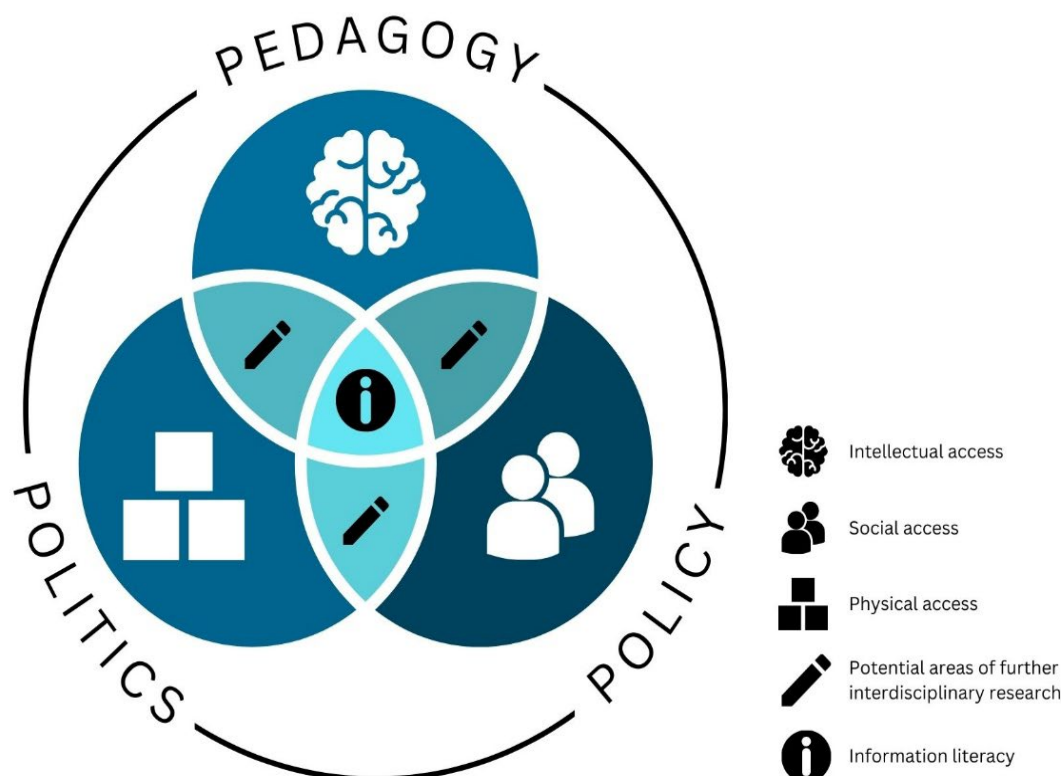


Figure 2. Realms of access in a political environment.

Graphic created by Katherine Carlson.

Conclusion

As noted from the start, this paper barely scratches the surface of the challenges of misinformation. It would be impossible to provide a comprehensive overview, not only given the vastness of the literature, but because the author is herself limited by her disciplinary knowledge. The purpose of the paper is to demonstrate (some of) the complexities of the topic and hopefully to start a larger conversation. Given that misinformation has been repeatedly identified as a global threat (Howell, 2013; World Economic Forum, 2019), that the threats to people's wellbeing from misinformation is such that the UN Secretary General stated that '*misinformation kills*' (United Nations, 2020), and that the poor outcomes associated with misinformation disproportionately impact people from historically marginalised communities (Arun, 2019; Nerbovig, 2020), engaging in research to better understand how people engage with misinformation, what strategies are most effective in identifying and avoiding it, and how best to teach those strategies and advocate for policies to support them, is imperative. All of this also has implications for LIS education. As noted above, there has already been discussion in the literature as to the extent to which emerging librarians are being prepared to take on instructional roles, and even how well information literacy is being taught in LIS degree programmes. The complexities of misinformation suggest even more areas to address, from psychology and neuroscience to philosophy to politics and policy. Of course,

library programmes could not hope to address all of these areas, and no librarian could become an expert in all, or even just a few, of these disciplines, which is why an interdisciplinary approach, bringing together experts from across the fields, is necessary.

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References

- Abu Arqoub, O., Abdulateef Elegba, A., Efe Özad, B., Dwikat, H., & Adedamola Oloyede, F. (2022). Mapping the scholarship of fake news research: a systematic review. *Journalism Practice*, 16(1), 56–86. <https://doi.org/10.1080/17512786.2020.1805791>.
- Agosto, Denise (Ed.) 2018. *Information literacy and libraries in the age of fake news*. Libraries Unlimited.
- Arbesman, S. (2013). *The half-life of facts: why everything we know has an expiration date*. Penguin.
- Arun, C. (2019). On WhatsApp, rumours, lynchings, and the Indian government. <https://papers.ssrn.com/abstract3336127> (Archived by the Internet Archive at <http://web/20250321172522/https://papers.ssrn.com/abstract3336127>).
- Austin, E. W., Pinkleton, B. E., Chen, Y. C., & Austin, B. W. (2015). Processing of sexual media messages improves due to media literacy effects on perceived message desirability. *Mass Communication & Society*, 18(4), 399–421. <https://doi.org.ezproxy.simmons.edu/10.1080/15205436.2014.1001909>.
- Bateman, J. & Jackson, D. (2024). Countering disinformation effectively: an evidence-based policy guide. *Carnegie Endowment for International Peace*. <https://carnegieendowment.org/research/2024/01/countering-disinformation-effectively-an-evidence-based-policy-guide?lang=en> (Archived by the Internet Archive at <http://web/20250321173048/https://carnegieendowment.org/research/2024/01/countering-disinformation-effectively-an-evidence-based-policy-guide?lang=en>).
- Blackburn, S. (n.d.) Truth: philosophy and logic. *Britannica*. <https://www.britannica.com/topic/truth-philosophy-and-logic> (Archived by the Internet Archive at <http://web/20250321173444/https://www.britannica.com/topic/truth-philosophy-and-logic>).
- Broda, E. & Strömbäck, J. (2024). Misinformation, disinformation and fake news: lessons from an interdisciplinary systematic literature review. *Annals of the International Communication Association*, 48(2), 139–166. <https://doi.org/10.1080/23808985.2024.2323736>.

- Bryan, J. E. (2016). The preparation of academic librarians who provide instruction: a comparison of first and second career librarians. *The Journal of Academic Librarianship*, 42(4), 340-354.
- Budd, J. M. (2022). *The library as forum in the social media age*. Rowman & Littlefield.
- Burnett, G. & Williams, S. (2023). 'Do your own research': everyday misinformation and conspiracy theories in online information worlds. IDEALS. <https://www.ideals.illinois.edu/items/126257> (Archived by the Internet Archive at </web/20250321173909/https://www.ideals.illinois.edu/items/126257>).
- Burnett, G., Jaeger, P. T., & Thompson, K. M. (2008). Normative behavior and information: The social aspects of information access. *Library and Information Science Research*, 30 (1), 56-66.
- Casad, B. J., & Luebering, J. E. (2024, October 22). Confirmation bias: psychology. *Britannica*. <https://www.britannica.com/science/confirmation-bias> (Archived by the Internet Archive at </web/20250321175016/https://www.britannica.com/science/confirmation-bias>).
- Castioni, P., Andrighetto, G., Gallotti, R., Polizzi, E., & De Domenico, M. (2022). The voice of few, the opinions of many: evidence of social biases in Twitter COVID-19 fake news sharing. *Royal Society Open Science*, 9(10). <https://doi.org/10.1098/rsos.220716>.
- Caulfield, M. (2017). *Web literacy for student fact-checkers*. <https://pressbooks.pub/webliteracy/> (Archived by the Internet Archive at </web/20250321181812/https://pressbooks.pub/webliteracy/>).
- Chatman, E. A. (1999). A theory of life in the round. *Journal of the American Society for Information Science*, 50(3), 207-217.
- Chatman, E.A. (1996). The impoverished life-world of outsiders. *Journal of the American Society for Information Science*, 47(3), 193-206. [https://doi.org/10.1002/\(SICI\)1097-4571\(199603\)47:3<193::AID-ASI3>3.0.CO;2-T](https://doi.org/10.1002/(SICI)1097-4571(199603)47:3<193::AID-ASI3>3.0.CO;2-T).
- Cinell, M., Morales, G.D., Galeazzi, A., Quattrociocchi, W., Starnini, M. (2011). The echo chamber effect on social media. *PNAS*, 118(9), <https://doi.org/10.1073/pnas.2023301118>.
- Collins, F. (2024, September 20). Take it from a scientist. Facts matter, and they don't care how you feel. *New York Times, Opinion*. <https://www.nytimes.com/2024/09/20/opinion/covid-vaccines-truth-life-death.html> (Archived by the Internet Archive at </web/20250321182009/https://www.nytimes.com/2024/09/20/opinion/covid-vaccines-truth-life-death.html>).
- Dar, M. (2021). To tell the truth. *Library Journal*, 146(3), 26-29.
- Ecker, U. K. H., & Antonio, L. M. (2021). Can you believe it? An investigation into the impact of retraction source credibility on the continued influence effect. *Memory & Cognition*, 49, 631-44. <https://doi.org/10.3758/s13421-020-01129-y>;
- Ecker, U. K. H., Lewandowsky, S., Swire, B., & Chang, D. (2011). Correcting false information in memory: manipulating the strength of misinformation encoding and its retraction. *Psychonomic Bulletin Review*, 18(3), 570-8. <https://doi.org/10.3758/s13423-011-0065-1>
- Edmans, A. (2024, April 12). These 2 internal biases cause us to fall for misinformation—here's why. *World Economic Forum*. <https://www.weforum.org/stories/2024/04/misinformation-confirmation-bias-black-and-white-thinking/> (Archived by the Internet Archive at </web/20250321182149/https://www.weforum.org/stories/2024/04/misinformation-confirmation-bias-black-and-white-thinking/>).

- Edwards, J. B., Robinson, M. S., & Unger, K. R. (2013). *Transforming libraries, building communities: the community-centered library*. Scarecrow Press.
- Efstratiou A. & De Cristofaro, E. (2022). Adherence to misinformation on social media through socio-cognitive and group-based processes. In *Proceedings of the 25th ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW 2022)*. ArXiv. <https://arxiv.org/abs/2206.15237>
- EveryLibrary. (2023, June 30). New report: unpacking 2023 legislation of concern for librarians. https://www.everylibrary.org/unpacking_2023_legislation_concern_report (Archived by the Internet Archive at https://web/20250321182333/https://www.everylibrary.org/unpacking_2023_legislation_concern_report).
- Fister, B. (2021, February 3). Lizard people in the library. *Project Information Literacy*. <https://projectinfolit.org/pubs/provocation-series/essays/lizard-people-in-the-library.html> (Archived by the Internet Archive at <https://web/20250321185117/https://projectinfolit.org/pubs/provocation-series/essays/lizard-people-in-the-library.html>).
- Gorichanaz, T. (2023). Relating information seeking and use to intellectual humility. *Journal of the Association for Information Science and Technology*, 73(5), 643-654. <https://www.doi.org/10.1002/asi.24567>
- Gorichanaz, T. (2021). A compass for what matters: applying virtue ethics to information behavior. *Open Information Science*, 7(1), 1-14. <https://doi.org/10.1515/opis-2022-0151>
- Grady, R. H., Ditto, P.H., & Loftus, E.F. (2021). Nevertheless, partisanship persisted: fake news warnings help briefly, but bias returns with time. *Cognitive Research: Principles & Implications*, 6(1). <https://doi.org/10.1186/s41235-021-00315-z>
- Grizzle, A., Moore, P., Dezuanni, M., Asthana, S., Wilson, C., Banda, F., & Onumah, C. (2013). Media and information literacy: policy and strategy guidelines. UNESCO. <https://unesdoc.unesco.org/ark:/48223/pf0000225606> (Archived by the Internet Archive at <https://web/20250321190247/https://unesdoc.unesco.org/ark:/48223/pf0000225606>).
- Guilbeault, D., Woolley, S., & Becker, J. (2021). Probabilistic social learning improves the public's judgment of news veracity. *PLoS One*, 16(3), e0247487. <https://doi.org/10.1371/journal.pone.0247487>
- Ha, L., Perez, L. A., & Ray, R. (2021). Mapping recent development in scholarship on fake news and misinformation, 2008 to 2017: disciplinary contribution, topics, and impact. *American Behavioral Scientist*, 65(2), 290-315. <https://doi.org/10.1177/0002764219869402>
- Haider, J., & Sundin, O. (2019). *Invisible search and online search engines: the ubiquity of search in everyday life*. Routledge.
- Haider, J., & Sundin, O. (2022). *Paradoxes of media information literacy: the crisis of information*. Routledge.
- Head, A. J., Fister, B., & MacMillan, M. (2020, January 15). Information literacy in the age of algorithms: Student experiences with news, information, and the need for change. *Project Information Literacy*. <https://projectinfolit.org/publications/algorithm-study/> (Archived by the Internet Archive at <https://web/20250321190607/https://projectinfolit.org/publications/algorithm-study/>).

- Heshmat, S. (April 23, 2015). What is confirmation bias? *Psychology Today*. <https://www.psychologytoday.com/blog/science-choice/201504/what-is-confirmation-bias> (Archived by the Internet Archive at <https://web/20250321190950/https://www.psychologytoday.com/us/blog/science-of-choice/201504/what-is-confirmation-bias>).
- Hewitt, A. (2023). What role can affect and emotion play in academic and research information literacy practices? *The Journal of Information Literacy*, 17(1), 120-137. <http://dx.doi.org/10.11645/17.1.3311>
- Hicks, A., & Lloyd, A. (2021). Saturation, acceleration, and information pathologies: The conditions that influence the emergence of information literacy safeguarding practice in COVID-19 environments. *The Journal of Documentation*, 78(5), 1008-1026. 10.1108/JD-08-2021-0162
- Hicks, A., Lloyd, A., & Pilerot, O. (2023). *Information literacy through theory*. Routledge.
- Howell, L. (2013). Global risks 2013. World Economic Forum. <http://reports.weforum.org/global-risks-2013/title-page/>
- Hostetler, K. (2021, June 9). The iSchool equation. Project Information Literacy. <https://projectinfolit.org/pubs/provocation-series/essays/the-ischool-equation.html> (Archived by the Internet Archive at <https://web/20250321191600/https://projectinfolit.org/pubs/provocation-series/essays/the-ischool-equation.html>).
- Jaeger, P. T., & Taylor, N. G. (2019). *Foundations of information policy*. ALA Editions.
- Jaeger, P. T., & Taylor, N. G. (2021a). Arsenal of life-long information literacy: educating users to navigate political and current events information in world of ever-evolving misinformation. *Library Quarterly: Information, Communication, Policy* (91)1, 19-31, <https://www.journals.uchicago.edu/doi/abs/10.1086/711632?af=R>
- Jaeger, P. T., & Taylor, N. G. (2021b). Raking the forests: information literacy, political polarization, fake news, and the educational role of librarians. In N. G. Taylor, K. Kettnich, U. Gorham and P. T. Jaeger (Eds.), *Libraries and the global retreat of democracy: confronting polarization, misinformation, and suppression*, (pp. 211-224). Emerald Publishing.
- Jenke, L. (2024). Affective polarization and misinformation belief. *Political Behavior*, 46(2), 825-884. <https://doi.org/10.1007/s11109-022-09851-w>
- Julien, H., & Genuis, S. K. (2011). Librarians' experiences of the teaching role: a national survey of librarians. *Library & Information Science Research*, 33(2), 103-111.
- Kahne, J., & Bowyer, B. (2017). Educating for democracy in a partisan age: confronting the challenges of motivated reasoning and misinformation. *American Educational Research Journal*, 54(1), 3-34. <https://doi.org/10.3102/0002831216679817>
- Kamali, N., Nakamura, K., Chatzimpampas, A., Hullman, J., & Groh, M. (2024). How to distinguish AI-generated images from authentic photographs. Northwestern University. <https://arxiv.org/abs/2406.08651>
- Kim, J. Y., Ortiz, C., Nam, S., Santiago, S., & Datta, V. (2020). Intersectional bias in hate speech and abusive language datasets. ArXiv. <https://doi.org/10.48550/arXiv.2005.05921>
- Koetke, J., Schumann, K., Porter, T., Smilo-Morgan, I. (2023). Fallibility salience increases intellectual humility: implications for people's willingness to investigate political

- misinformation. *Personality and Social Psychology Bulletin*, 49(5), 806-820. <http://dx.doi.org.ezproxy.simmons.edu/10.1177/01461672221080979>
- Kranich, N. (2020). Libraries and democracy revisited. *Library Quarterly*, 90(2), 121-153. <https://www.doi.org/10.1086/707670>
- Kranich, N. (2010). Promoting adult learning through civil discourse in the public library. *New Directions for Adult & Continuing Education*, 127, 15-24. <https://doi.org/10.1002/ace.377>
- Lazer, D. M. J., Baum, M. A., Benkler, Y., Berinsky, A. J., Greenhill, K. M., Menczer, F., Metzger, M. J., Nyhan, B., Pennycook, G., Rothschild, D., Schudson, M., Sloman, S. A., Sunstein, C. R., Thorson, E. A., Watts, D. J., & Zittrain, J. L. (2018). The science of fake news: addressing fake news requires a multidisciplinary effort. *Science*, 359(6380), 1094-1096. <https://doi.org/10.1126/science.aao2998>
- Leary, M. R., Diebels, K. J., Davisson, E. K., Jongman-Sereno, K. P., Isherwood, J. C., Raimi, K. T., Deffler, S. A., & Hoyle, R. H. (2017). Cognitive and interpersonal features of intellectual humility. *Personality and Social Psychology Bulletin*, 43(6), 793-813. <https://doi.org/10.1177/01461672176976>
- Lilla, M. (2024, December 2). The surprising allure of ignorance. *The New York Times Opinion*. <https://www.nytimes.com/2024/12/02/opinion/ignorance-knowledge-critical-thinking.html>
- Lim, S. (2020). Academic library guides for tackling fake news: a content analysis. *The Journal of Academic Librarianship*, 46(5), 1-11. <https://doi.org/10.1016/j.acalib.2020.102195>
- Lin, M., Chai, C. S., & Liang, J.-C. (2022). A mediation model of the relationship between university students' news media literacy and xenophobia: the role of intellectual humility, perceived threat and blind patriotism. *Frontiers in Psychology*, 13, 1-15. <https://doi.org/10.3389/fpsyg.2022.1036497>
- Madrid-Morales, D., & Wasserman, H. (2022). Research methods in comparative disinformation studies. In H. Wasserman & D. Madrid-Morales (Eds.), *Disinformation in the global south*, (pp. 41-57). Wiley Blackwell.
- McGrew, S., & Breakstone, J. (2023). Civic online reasoning across the curriculum: developing and testing the efficacy of digital literacy lessons. *AERA Open*, 9, <https://doi.org/10.1177/233285842311764>
- McGrew, S., Smith, M., Breakstone, J., Ortega, T., & Wineburg, S. (2019). Improving university students' web savvy: an intervention study. *British Journal of Educational Psychology*, 89(3), 485-500. <https://doi.org/10.1111/bjep.12279>
- McIntyre, L. (2021). *How to talk to a science denier: conversations with flat earthers, climate deniers, and others who defy reason*. MIT Press
- Meehan, K. & Friedman, J. (2023). Banned in the USA: state laws supercharge book suppression in schools. PEN America. <https://pen.org/report/banned-in-the-usa-state-laws-supercharge-book-suppression-in-schools/> (Archived by the Internet Archive at <https://web/20250321191957/https://pen.org/report/banned-in-the-usa-state-laws-supercharge-book-suppression-in-schools/>).
- Mozafari, M., Farahbakhsh, R., & Crespi, N. (2020). Hate speech detection and racial bias mitigation in social media based on BERT model. *PLOS One*, 15(8), 1-26. <https://doi.org/10.1371/journal.pone.0237861>

- Nerbovig, A. (2020, November 28). 'Truth is lost' as Michigan's immigrant communities hit with misinformation on closed platforms. *Arab American News*, 36(1816), 8–9. <https://arabamericannews.com/2020/11/28/truth-is-lost-as-michigans-immigrant-communities-hit-with-misinformation-on-closed-platforms/> (Archived by the Internet Archive at [/web/20250321192415/https://arabamericannews.com/2020/11/28/truth-is-lost-as-michigans-immigrant-communities-hit-with-misinformation-on-closed-platforms/](https://web/20250321192415/https://arabamericannews.com/2020/11/28/truth-is-lost-as-michigans-immigrant-communities-hit-with-misinformation-on-closed-platforms/)).
- Newton, C., & Schiffer, Z. (2024, June 13). The Stanford internet observatory is being dismantled. *Platformer*. <https://www.platformer.news/stanford-internet-observatory-shutdown-stamos-diresta-sio/> (Archived by the Internet Archive at [/web/20250321192709/https://www.platformer.news/stanford-internet-observatory-shutdown-stamos-diresta-sio/](https://web/20250321192709/https://www.platformer.news/stanford-internet-observatory-shutdown-stamos-diresta-sio/)).
- Noble, S. (2018). *Algorithms of oppression*. New York University Press.
- Nygren, T., Guath, M., Axelsson, C-A. W., & Frau-Meigs, D. (2021). Combatting visual fake news with a professional fact-checking tool in education in France, Romania, Spain and Sweden. *Information*, 12(5), 201. <https://www.doi.org/10.3390/info12050201>.
- Nyhan, B. (2021). Why the backfire effect does not explain the durability of political misperceptions. *PNAS*, 118(15). <https://www.pnas.org/doi/10.1073/pnas.1912440117>.
- Nyhan, B. (2014, July 5). When beliefs and facts collide. *The New York Times*. <https://www.nytimes.com/2014/07/06/upshot/when-beliefs-and-facts-collide.html> (Archived by the Internet Archive at [/web/20250321193103/https://www.nytimes.com/2014/07/06/upshot/when-beliefs-and-facts-collide.html](https://web/20250321193103/https://www.nytimes.com/2014/07/06/upshot/when-beliefs-and-facts-collide.html)).
- Panditharatne, M., & Hasan, S. (2024, May 16). How to detect and guard against deceptive AI-generated election information. *Brennan Center*. <https://www.brennancenter.org/our-work/research-reports/how-detect-and-guard-against-deceptive-ai-generated-election-information> (Archived by the Internet Archive at [/web/20250321193834/https://www.brennancenter.org/our-work/research-reports/how-detect-and-guard-against-deceptive-ai-generated-election-information](https://web/20250321193834/https://www.brennancenter.org/our-work/research-reports/how-detect-and-guard-against-deceptive-ai-generated-election-information)).
- Pariser, E. (2011). *The filter bubble: what the internet is hiding from you*. Penguin Press.
- Pasquetto, I., Lim, G., & Bradshaw, s. (2024, October 3). Misinformed about misinformation: on the polarizing discourse of on misinformation and its consequences for the field. *Mis/information Review*. <https://misinforeview.hks.harvard.edu/article/misinformed-about-misinformation-on-the-polarizing-discourse-on-misinformation-and-its-consequences-for-the-field/> (Archived by the Internet Archive at [/web/20250321193947/https://misinforeview.hks.harvard.edu/article/misinformed-about-misinformation-on-the-polarizing-discourse-on-misinformation-and-its-consequences-for-the-field/](https://web/20250321193947/https://misinforeview.hks.harvard.edu/article/misinformed-about-misinformation-on-the-polarizing-discourse-on-misinformation-and-its-consequences-for-the-field/)).
- Pennycook, G., & Rand, D.G. (2021). The psychology of fake news. *Trends in Cognitive Science*, 25(5), 388–402. [https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613\(21\)00051-6?rss](https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(21)00051-6?rss) (Archived by the Internet Archive at [/web/20250321214621/https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613\(21\)00051-6?rss](https://web/20250321214621/https://www.cell.com/trends/cognitive-sciences/fulltext/S1364-6613(21)00051-6?rss)).

- Pennycook, G., & Rand, D. G. (2019). Lazy not biased: susceptibility to partisan fake news is better explained by lack of reasoning than by motivated reasoning. *Cognition*, 188, 39-50. <https://doi.org/10.1016/j.cognition.2018.06.011>
- Pennycook, G., Cannon, T. D., & Rand, D. G. (2017). Prior exposure increases perceived accuracy of fake news. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2958246 (Archived by the Internet Archive at /web/20250321234229/https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2958246)
- Peruzzi, A., Zollo, F., Schmidt, A. L., & Quattrociocchi, W. (2018). From confirmation bias to echo chambers: a data-driven approach. *Sociologia e Politiche Sociali*, 21(3), 47-74. <https://doi.org/10.3280/SP2019-003004>
- Prike, T., Butler, L. H., & Ecker, U. K. H. (2024). Source-credibility information and social norms improve truth discernment and reduce engagement with misinformation online. *Scientific Reports*, 14(1), 1-11. <https://www.doi.org/10.1038/s41598-024-57560-7>
- Prike, T., Holloway, J., & Ecker, U. K. H. (2024). Intellectual humility is associated with greater misinformation discernment and metacognitive insight but not response bias. *Advances In Psychology*, 2, e020433. <https://doi.org/10.56296/aip00025>
- Public Affairs Council. (2023). *Impact: How to spot fake news in the age of AI*. <https://pac.org/impact/how-to-spot-fake-news-in-the-age-of-ai> (Archived by the Internet Archive at </web/20250321234558/https://pac.org/impact/how-to-spot-fake-news-in-the-age-of-ai>).
- Revez, J., & Corujo, L. (2021). Librarians against fake news: a systematic literature review of library practices (Jan. 2018-Sept. 2020). *The Journal of Academic Librarianship* 47(2). <https://doi.org/10.1016/j.acalib.2020.102304>
- Rozenbeek, J., Culloty, E., & Suiter, J. (2023). Countering misinformation: evidence, knowledge gaps, and implications of current interventions. *European Psychologist*, 23(3), 189-205. <https://doi.org/10.1027/1016-9040/a000492>
- Rozenbeek, J., Maertens, R., Herzog, S. M., Greers, M., Kurvers, R., Sultan, M., & van der Linden, S. (2022). Susceptibility to misinformation is consistent across question framings and response modes and better explained by myside bias and partisanship than analytical thinking. *Judgement and Decision Making*, 17(3), 547-573. <https://www.doi.org/10.1017/S1930297500003570>
- Russo, A., Jankowski, A., Beene, S., & Townsend, L. (2019). Strategic source evaluation: addressing the container conundrum. *Reference Services Review*, 47(3), 294-313. doi: 10.1108/RSR-04-2019-0024
- Sádaba, C., Salaverría, R. & Bringué-Sala, X. (2023). How to teach the elderly to detect disinformation: a training experiment with WhatsApp. *El Profesional de la Información*, 32(5), 1-12. <https://www.doi.org/10.3145/epi.2023.sep.04>
- Sample, C., Jensen, M. J., Scott, K., McAlaney, J., Fitchpatrick, S., Brockinton, A., Omrod, D., & Omrod, A. (2020). Interdisciplinary lessons learned while researching fake news. *Frontiers in Psychology*, 11, 1-22. <https://www.doi.org/10.3389/fpsyg.2020.537612>
- Saunders, L., & Budd, J. (2020). Examining authority and reclaiming expertise. *The Journal of Academic librarianship*, 46(1), <https://doi.org/10.1016/j.acalib.2019.102077>

- Saunders, L., Gans-Boriskin, R., & Hinchliffe, L. (2018). Know news: Engaging across allied professions to combat misinformation. Simmons University. <https://slis.simmons.edu/blogs/disinformation/white-paper/> (Archived by the Internet Archive at <https://web/20250321234913/https://slis.simmons.edu/blogs/disinformation/white-paper/>).
- Saunders, L. (2015). Education for instruction: a review of LIS instruction syllabi. *The Reference Librarian*, 56(1), 1-21. <https://doi.org/10.1080/02763877.2014.969392>
- Savolainen, R. (2022). What drives people to prefer health-related misinformation? The viewpoint of motivated reasoning. *Information Research*, 27(2) <https://doi.org/10.47989/irpaper927>.
- Scott, R. (2011). The role of public libraries in community-building. *Public Library Quarterly*, 30(3), 191-227. <https://doi.org/10.1080/01616846.2011.599283>
- Seifert, C.M. (2002). The continued influence of misinformation in memory: what makes a correction effective? *Psychology of Learning and Motivation*, 41, 265-292. [https://doi.org/10.1016/S0079-7421\(02\)80009-3](https://doi.org/10.1016/S0079-7421(02)80009-3)
- Settles, G. (2023, April 20). How to spot deepfake videos like a fact-checker. Poynter. <https://www.poynter.org/fact-checking/2023/what-are-deepfakes-how-to-identify-them/> (Archived by the Internet Archive at <https://web/20250321235331/https://www.poynter.org/fact-checking/2023/what-are-deepfakes-how-to-identify-them/>).
- Sinatra, G. M., & Lombardi, D. (2020). Evaluating sources of scientific evidence and claims in the post-truth era may require reappraising plausibility judgements. *Educational Psychologist*, 55(3), 120-131. <https://www.doi.org/10.1080/00461520.2020.1730181>
- Sturges, P., Gasting, A. (2013). The information literate brain. In: S. Kurbanoglu, E. Grassian, D. Mizrachi, R. Catts, & S. Špiranec (Eds.), *Worldwide commonalities and challenges in information literacy research and practice*. ECIL 2013. Communications in Computer and Information Science, 397. https://doi.org/10.1007/978-3-319-03919-0_3
- Sullivan, M.C. (2024). *Habits and heuristics: how librarians evaluate news online*. Doctoral Dissertation, Simmons University.
- Sullivan, M. C. (2019a). Why librarians can't fight fake news. *Journal of Librarianship and Information Science*, 51(4), 1146-1156. <https://doi.org/10.1177/0961000618764258>
- Sullivan, M.C. (2019b). Libraries and fake news: what's the problem? what's the plan? *Communications in Information Literacy*, 13(1), 91-113. <https://doi.org/10.15760/comminfolit.2019.13.1.7>
- Swanson, T. (2023). *Knowledge as a feeling: how neuroscience and psychology impact human information behavior*. Rowman & Littlefield.
- Taylor, N. G. & Jaeger, P.T. (2021). *Foundations of information literacy*. ALA Editions.
- United Nations Secretary General. (2020, September 28). Statement by the Secretary-General on the 1 millionth death from the COVID-19 pandemic. <https://www.un.org/sg/en/content/sg/statement/2020-09-28/statement-the-secretary-general-the-1-millionth-death-the-covid-19-pandemic-scroll-down-for-french-and-spanish> (Archived by the Internet Archive at <https://web/20250321235700/https://www.un.org/sg/en/content/sg/statement/2020-09-28/statement-the-secretary-general-the-1-millionth-death-the-covid-19-pandemic-scroll-down-for-french-and-spanish>).

[28/statement-the-secretary-general-the-1-millionth-death-the-covid-19-pandemic-scroll-down-for-french-and-spanish\).](#)

- Uscinski, J., Littrell, S., & Klofstad, C. (2024). The importance of epistemology for the study of misinformation. *Current Opinion in Psychology*, 57, <https://doi.org/10.1016/j.copsyc.2024.101789>
- Vraga, E. K., Kim, S. C., & Cook, J. (2019). Testing logic-based and humor-based corrections for science, health, and political misinformation on social media. *The Journal of Broadcasting & Electronic Media*, 63(3), 393-414. <https://doi.org/10.1080/08838151.2019.1653102>
- Wardle, C., & Derakhshan, H. (2017). Information disorder: toward an interdisciplinary framework for research and policy making. Council of Europe. <https://edoc.coe.int/en/media/7495-information-disorder-toward-an-interdisciplinary-framework-for-research-and-policy-making.html> (Archived by the Internet Archive at </web/20250322000014/https://edoc.coe.int/en/media/7495-information-disorder-toward-an-interdisciplinary-framework-for-research-and-policy-making.html>).
- Wineburg, S., & McGrew, S. (2017). *Lateral reading: reading less and learning more when evaluating digital information*. Stanford History Education Group. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3048994 (Archived by the Internet Archive at /web/202503220000644/https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3048994).
- World Economic Forum. *The Global Risks Report 2019, 14th Edition*. World Economic Forum. http://www3.weforum.org/docs/WEF_Global_Risks_Report_2019.pdf
- Wyatt, D. (2023). Partnering to promote civil discourse. *Alki: The Washington Library Association Journal*, 39(3), <https://alki.pubpub.org/pub/gakfm418/release/1> (Archived by the Internet Archive at </web/20250322001001/https://alki.pubpub.org/pub/gakfm418/release/1>).
- Young, J. C., Boyd, B., Yefimova, K., Wedlake, S., Coward, C., & Hapel, R. (2020). The role of libraries in misinformation programming: a research agenda. *Journal of Librarianship and Information Science*, 53(4), 539-550. <https://doi.org/10.1177/0961000620966>
- Zhou, J., Zhang, Y., Luo, Q., Parker, A. G., & De Choudhury, M. (2023). Synthetic lies: understanding AI-generated misinformation and evaluating algorithmic and human solutions. In A. Schmidt, K. Vaananen, T. Goyal, P. O. Kristensson, A. Peters, S. Mueller, J. R. Williamson, & M. L. Wilson. *CHI '23 Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems*. ACM. <https://dl.acm.org/doi/book/10.1145/3544548#>

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