# Information literacy, transition, and risk in the COVID-19-environment

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Abstract. This paper examines how people transitioned into newly created pandemic information environments and the ways in which information literacy practices came into view as the SARS-CoV-2 virus took hold in the UK. Employing a qualitative research design, semi-structured interviews were carried out from May 2020-February 2021 with 32 participants, including people who were engaged in new employment, voluntary or caring roles as well as people who had been diagnosed with COVID. Findings demonstrate that transition into new pandemic environments was shaped by an unfolding phase, an intensification phase, and a stable phase, and information literacy emerged as a form of safeguarding as participants mitigated health, financial and wellbeing risks. This paper develops research into the role that information practices play during crisis as well as extending understanding related to the concept of empowerment, which forms a key idea within information literacy discourse. Findings will be useful for librarians and information professionals as well as public health researchers designing health promotion strategies.

Keywords: COVID-19, information literacy, risk, transition, avoidance

## 1 Introduction

The aim of this study is to investigate people's information practices over time as the COVID-19 pandemic played out in the UK throughout 2020 and 2021. During this period, the COVID-19 pandemic led to three periods of government mandated lock-down, including in March-June 2020, October/November 2020, and December-March 2021. Centred on a strict curtailment of face-to-face interaction, restrictions imposed at the time encouraged workers to work from home or to be furloughed under the government scheme and forced schools and universities to move teaching online. Certain groups were additionally classified as "vulnerable" and encouraged to shield in their homes.

As information researchers, we are particularly interested in the way that information literacy practices came into view as people transitioned into pandemic information environments, including taking on new working, caring or voluntary roles. As the pandemic continued, we became further focused on the longer-term implications of functioning in crisis mode as the UK was plunged in and out of local restrictions before returning to national lockdown conditions. From this perspective, we concentrated on how people constructed an understanding of risk within the pandemic context as well as how they operationalised information practices to deal with the changing range and volume of information that was being produced across social and technological platforms. These ideas are expressed through the following research question:

• What has informed the UK public's understanding about the COVID-19 pandemic and what information practices and literacies of information came into view during the early days of the pandemic and the subsequent countrywide lockdowns?

Within this framing, information literacy is positioned as a social practice that is enacted in social settings and composed of activities and skills that reference structured and embodied knowledges and ways of knowing relevant to the context [1].

## 2 Literature Review

## 2.1 Risk

Risk has typically either been understood through a techno-scientific perspective, as an objective hazard, or through a sociocultural approach, as a concept that is mediated through social and cultural processes [2, 3]. This study adopts a sociocultural perspective, which positions risk as real, but as embedded in a local context [4]. These ideas focus attention on social, corporeal, and epistemic meaning making or how risk is brought into view though "personal embodied experiences, observations and emotional responses, discussions with others and access to expert knowledges" [2, p.45]. To date, the emphasis on techno-scientific approaches to danger means that risk information environments have not been explored in significant detail beyond recognising the role that emotions and trust play within risk societies [e.g., 5]. An exception includes the work of Hicks [6], who studied the information practices of language-learners in a culturally unfamiliar setting. Leading to the production of the grounded theory of mitigating risk, which states that risks produced during language-learners' sojourns overseas catalyse the enactment of information literacy practices that mediate transition within a new setting [6], this localised research points to the important role that information activities play in both constructing and mediating danger.

#### 2.2 COVID-19 Studies

Information use forms a small but important theme within COVID-19 literature to date. Initially focusing on information sources that people employ to adjust to the pandemic [7, 8, 9, 10], research has since started to examine the impact of anxiety on information seeking as the pandemic progressed. Within this framing, the amount of COVID-19 information available to people [11], stress [12,13] and mistrust of the government [14] have been seen to lead to information overload and subsequently, information avoidance. However, studies rarely look beyond the initial stages of the pandemic (March-May 2020), with little research examining the ongoing impact of crisis on information practices. An exception is a report from the British Red Cross [15], which notes how the implementation of local rather than national lockdowns created considerable confusion related to information access and use.

#### 2.3 Crisis Information Studies

Before 2020, studies of the role that information plays during crisis tended to centre on natural hazards, including floods and hurricanes [e.g., 16, 17, 18], as well as human disasters such as 9/11 [19]. Typically emphasising the vital role that the community plays in providing emotional and informational support during times of uncertainty [16, 20, 21], these studies have also noted the impact that images [22] and observing environmental cues play in helping people to understand the severity of the situation [22, 23, 24]. Trust forms another important subtheme within this literature, with authors exploring these ideas in relation to misinformation [17, 25] and anxiety [16, 26].

## 3 Methodology

The study employed a qualitative methodology to explore what informed the UK public's understanding about the COVID-19 pandemic. Semi-structured interviews were carried out online from May 2020 through to February 2021 during the UK's three lockdown phases (March-June 2020; October/November 2020; and December-March 2021). The interviews were open-ended but focused on examining transition into and out of each of the lockdown phases, including new furlough, working, caring, or homeschooling roles as well as changing information needs throughout the year. Interviews took place on an end-to-end encrypted video conferencing tool and were audio-recorded and transcribed. Interviews lasted between 30 and 50 minutes and follow up questions were emailed to participants when necessary.

The study sample comprised 32 participants who were recruited through social media and a snowball sampling method. Participants included keyworkers and people working from home as well as people who had lost their jobs or who were furloughed. Participants also included retirees and people taking on new home-schooling, caring or volunteer roles, as well as people who had previously been diagnosed with COVID. Participants were located throughout the UK and represented a range of ages between 18-80.

Data were coded and analysed by each researcher using the constant comparative technique that is found in constructivist grounded theory methods [27]. Each researcher reviewed and coded the recordings and transcription separately before coming together to discuss the coding over several online sessions. The researchers also undertook a situational analysis [28] to help visualise how participants engaged with information within and throughout the pandemic. Limitations of the study include the relative difficulty recruiting younger participants (18-25) to the research as well as increasing lockdown fatigue, which may have impacted enthusiasm to participate in the project.

## 4 Findings

Three phases of transition are highlighted as people move into and begin to construct an understanding of the rapidly emerging COVID-19 context, including the evolving conditions and social (re)arrangements that shape their everyday, social, and working lives. Each of these phases references the information activities that help to mediate transition as the pandemic is brought into view and participants start to construct their understanding of risk. These phases are represented in Figure 1, alongside the study's overarching category of safeguarding, which forms the outcome of information literacy practice during the COVID-19 pandemic. Safeguarding constitutes the agentic information work that participants to understand and then to mitigate the risk established through government, scientific and everyday discourse.

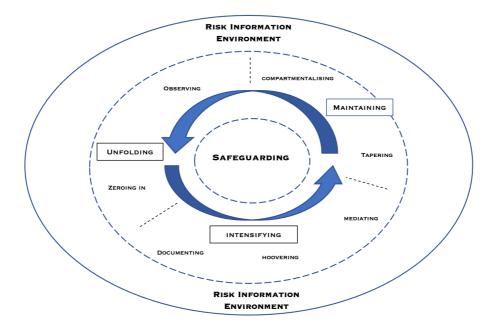


Fig. 1. Information landscape of safeguarding [29]

#### 4.1 Phase One: Unfolding

The COVID-19 information environment begins to unfold within Phase One. During this time, participants' awareness and understanding of the spread of the SARS CoV-2 virus is tinged with disbelief and characterised by exploratory engagement with authoritative information sources, including governmental advice, which is reported via a range of media channels, as well as physical cues. In this stage, which represents an

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initial engagement with the pandemic theatre, information literacy practice is represented by observing, which refers to a reliance on physical and visual cues to confirm rules that were established through formal governmental and scientific sources, and zeroing in, which refers to the targeting of tried and tested information providers.

#### 4.2 Phase Two: Intensifying

Phase Two is represented by a period of intensification whereby people actively immerse themselves in a wide range of information environments to 'grasp' the pandemic and recognise its implications. Marked by anxiety and stress, this time reflects the growth of new rules and regulations, for instance, the implementation of queuing measures in shops, as well as increased social engagement as people draw upon their social networks to build a more complex understanding of the pandemic. In this stage, information literacy practice is represented by hoovering, which refers to participants' indiscriminate approach to gathering news, mediating, which refers to interpreting information through and with family, friends, and social networks, and documenting, which refers to the creative recording of information about the pandemic, including taking photos and keeping diaries.

#### 4.3 Phase Three: Maintaining

Phase Three emerges as a more stable phase that is represented by a mapped understanding of the information sources and activities that are required to maintain an informed view of the pandemic. During this phase, the ongoing and multilayered complexity of the information environment meant that participants begin to make decisions about the amount of information they require and sources that are trusted. Centring on saturation and the creation of boundaries, information literacy practice during this time is represented by compartmentalising, which refers to avoiding information to reduce the sense of being overwhelmed by a saturated information environment, and tapering off, which refers to the narrowing down of information sources.

#### 4.4 Safeguarding

Transition into the novel pandemic information environment is subsequently characterised in terms of safeguarding, which refers to how participants mitigate the risks of their new setting. As the overarching concept of the study, safeguarding emerges though the information work that participants engage in to firstly, reconcile understanding about the pandemic on social life and secondly, situate themselves intersubjectively in relation to collective knowledge. Emerging as an information practice as people become informed about the changed conditions and arrangements that influence their agency, safeguarding also refers to the ways in which people protect the National Health Service (NHS), which was consistently seen to be at risk of becoming overwhelmed by patient admissions. Safeguarding consequently centres upon the protection of self, family, friends, and institutions and is catalysed by the risks that were produced during the pandemic.

### 5 Discussion

The findings from this study suggest that during the pandemic, conceptualisations of risk unfolded across three interconnected dimensions to construct the practice of safeguarding, which illustrates how information literacy practice is shaped and enacted. Providing an emerging view of COVID-19 from an information perspective, these ideas draw attention to what comes into view within a pandemic information environment, including transition, information literacy and risk.

#### 5.1 Transition

Transition is brought into view through people's growing understanding of the new conditions and arrangements that shape their everyday social life. Referring to change over time, transition is shaped by sociocultural conditions and focused upon the redefinition of self [30]. From an information perspective, transition is consequently positioned as centred on the reconstruction of information landscapes [1] – that is, participants' awareness of the pandemic changes over time as they engage with and become situated within the unfolding information environment. The concept of transition enables us to make visible how the pandemic information landscape [1] is entered, experienced, and then stabilised as people develop an intersubjective understanding of this new setting.

The feelings of saturation that people experienced as an outcome of the intensifying phase also brings the transitional space between the intensifying and maintenance phases of the pandemic into view .The information avoidance strategies in which people reported engaging within the third maintaining phase, as represented by compartmentalising and tapering off, stood out because they appeared to reference performances of people who are burnt out by the repeated imposition of lockdown measures, particularly when they are referenced against the community reinforcement actions of the unfolding and intensifying stages. Avoidance strategies also became irreconcilably entwined with the idea of resistance as people start to refuse to engage with official government advice. However, we argue that transitional spaces make the emotional demands of the time visible- that is, these actions should be understood as protective measures that people employ to regulate the emotional impact of change rather than being treated as "pathologies" [31]. Grounded in affective judgement, these activities illustrate how transition is facilitated through reflexive processes and agentic performance [32, p.149] as people manage the impact of transformation within their lives.

#### 5.2 Information Literacy

Information literacy, as represented by the practice of safeguarding, is brought into view through the emerging pandemic context, which predetermines practice, agency, and activity. Consisting of three interlinked dimensions, this context is constituted by government briefings and official messaging, which reference the formal political, scientific, medical, and public health risk narratives; corporeal or physical information, which establishes preconditions that enable or constrain agency and performance; and the sharing of information, which creates the collective space through which the pandemic is mediated. From this perspective, information literacy is centred on participation and sensory interaction and reflects the pandemic's legitimised formal discourses.

The important roles that saturation, avoidance and resistance play within the pandemic illustrate how information literacy cannot always be understood affirmatively as a series of proactive and enabling activities. Instead, findings from this study draw attention to the reactive elements of practice, or how people respond to rather than prepare for the conditions of practice. The recognition that information literacy practice is premised upon conditions that purposefully constrain access to information consequently challenges the empowerment narratives that are positioned as a key outcome of information literacy practice [33]. Saturation, avoidance, and resistance also raise questions about how these ideas can be accommodated within educational curricula that typically focus on information literacy's positive narrative.

### 5.3 Risk

Information activities also bring risk into view, which is positioned in this study as a temporal and spatial enactment that is shaped through the ways in which people access, use and disseminate information. Linked to the negotiation of "meanings, logics, and beliefs" [2, p.44] rather than the acceptance of 'neutral' or objective expertise, these findings also illustrate the important role that affective judgement, including feelings of fear and safety, plays in giving form to danger and hazard. From an information perspective, risk must consequently be understood as shaped through visual, social, corporeal, and epistemic literacies as the pandemic information environments contextualise different forms of knowledge and create discourses that position people within sociocultural frameworks.

#### 6 Conclusion

This yearlong study of how people in the UK coped and lived with the COVID-19 pandemic and its associated lockdowns has provided difficult but unique insight into how information practices emerge within complex and uncertain crisis situations. Findings suggest that risk unfolds across three dimensions to create the practice of safe-guarding of self, others, and institutions. Representing information literacy practice within the pandemic situation, safeguarding also helps to demonstrate how information landscapes [1] are entered and stabilised as people transition from pre to pandemic information environments. The extension of our study beyond the initial lockdown period has allowed us to further refine these ideas by examining the idea of transitional space in more detail, including the important role that reactive elements of practice play in safeguarding against intense and accelerated information environments. Implications

for this study include the problematisation of empowerment narratives, which play a central role within information literacy discourse. The importance that this study place on the reactive elements of practice, which establish an affirmative/non-affirmative binary, also challenges the labelling of information literacy as holistic. Future research should continue to explore the impact of ongoing crisis upon decision-making as well as to examine concepts of saturation and desensitisation in relation to COVID-19 vaccine hesitancy.

#### References

- 1. Lloyd, A. Information Literacy Landscapes. Chandos Publishing (2010).
- 2. Lupton, D.: Risk. London, Routledge (2013).
- Zinn, J.: Introduction: The contribution of sociology to the dicourse on risk and Uncertainty. In: Zinn, J. (ed.) Social theories of risk and uncertainty: An introduction. New York, John Wiley & Sons (2009).
- 4. Douglas, M.: Risk and blame: Essays in cultural theory. London, Routledge (1992).
- 5. Choo, C.W.: Seeking and avoiding information in a risky world." *Information Research* 22(3), n.p. (2017).
- Hicks, A.: Mitigating risk: Mediating transition through the enactment of information literacy practices. *Journal of Documentation* 75(5), 1190-1210 (2019).
- Bray, L., Carter, B., Blake, L., Saron, H., Kirton, J. A., Robichaud, F., and Protheroe, J.: "People play it down and tell me it can't kill people, but I know people are dying each day". Children's health literacy relating to a global pandemic (COVID-19); an international crosssectional study. Plos One, 16(2), n.p. (2021).
- Lupton, D., and Lewis, S.: Learning about COVID-19: a qualitative interview study of Australians' use of information sources. BMC Public Health, 21(1), 1-10 (2021).
- 9. Savolainen, R.: Sharing experiential information in online discussion: the case of coping with the COVID-19 epidemic. *Journal of Documentation* (2021).
- Sykes, S., Wills, J., Trasolini, A., Wood, K., and Frings, D.: eHealth literacy during the COVID-19 pandemic: seeking, sharing, suspicion amongst older and younger UK populations. *Health Promotion International* (2021).
- Okan, O., Bollweg, T. M., Berens, E. M., Hurrelmann, K., Bauer, U., and Schaeffer, D.: Coronavirus-related health literacy: A cross-sectional study in adults during the COVID-19 infodemic in Germany. *International Journal of* Environmental Research and Public Health, 17(15), n.p. (2020).
- Karim, M., Singh, R., and Widén, G. Dealing with the COVID-19 infodemic: Understanding young people's emotions and coping mechanisms in Finland and the United States. Nordic Journal of Library and Information Studies, 2(1), 38-57 (2021).
- Soroya, S. H., Farooq, A., Mahmood, K., Isoaho, J., and Zara, S. E.: From information seeking to information avoidance: Understanding the health information behavior during a global health crisis. *Information Processing & Management*, 58(2), (2021).
- 14. Nielsen R.K., Fletcher, R., and Newman, N.: Navigating the 'infodemic': how people in six countries access and rate news and information about coronavirus. Reuters Institute report, Reuters Institute for the Study of Journalism, Oxford. Available at: https://reutersinstitute.politics.ox.ac.uk/infodemic-how-people-six-countries-access-and-rate-news-and-information-about-coronavirus, Last accessed 2021/08/06
- British Red Cross: The longest year: life under local restrictions. Retrieved from: https://www.redcross.org.uk/-/media/documents/about-us/research-publications/emergency-response/the-longest-year-life-under-local-restrictions.pdf, Last accessed 2021/08/06

- Lopatovska, I., and Smiley, B.: Proposed model of information behaviour in crisis: the case of Hurricane Sandy." *Information Research* 19(1), n.p. (2013).
- Pang, N., Karanasios, S., and Anwar, M.: Exploring the information worlds of older persons during disasters. Journal of the Association for Information *Science and Technology* 71(6), 619-631 (2020).
- Rahmi, R., Joho, H., and Shirai, T.: An analysis of natural disaster-related information-seeking behavior using temporal stages", *Journal of the Association* for Information Science and Technology 70(7), 715-728 (2019).
- Fu, L.: The government response to 9/11: Communications technology and the media, *Library & Archival* Security 24(2), 103-118, (2011).
- 20. Hagar, C.: Crisis information management: Communication and technologies. Oxford, Chandos (2011).
- Shklovski, I., Palen, L., and Sutton, J.: Finding community through information and communication technology in disaster response. In: *Proceedings of the* 2008 ACM conference on Computer supported cooperative work, 127-136, (2008).
- 22. Ryan, B.: Establishing information seeking pathways in slow and flash floods. International Journal of Disaster Risk Reduction 31, 9-19, (2018).
- Muhren, W. J., and Van de Walle, B.: Sense-making and information management in emergency response. Bulletin of the American Society for Information Science and Technology 36(5), 30-33 (2010).
- Ryan, B.: Information seeking in a flood. *Disaster Prevention and* Management: An International Journal 22(3), 229-242, (2013).
- Starbird, K., Spiro, E. S., and Koltai, K.: Misinformation, Crisis, and Public Health—Reviewing the Literature. *Social Science Research Council*, available at https://mediawell.ssrc.org/literature-reviews/misinformation-crisis-and-public-health/versions/v1-0/ (2020).
- Griffin, R.J., Dunwoody, S., and Neuwirth, K.: Proposed model of the relationship of risk information seeking and processing to the development of preventive behaviors. *Environ*mental Research 80(2), S230–S245 (1999).
- 27. Charmaz, K.: Constructing grounded theory. London, SAGE Publications (2014).
- 28. Clarke, A.: Situational analysis. Thousand Oaks, CA, SAGE Publications (2005).
- Lloyd, A., and Hicks, A.: Contextualising Risk: The unfolding information work and practices of people during the COVID-19 pandemic. *Journal of Documentation*, 77(3), 1052-1072, (2021).
- Meleis, A. I., Sawyer, L. M., Im, E. O., Messias, D. K. H., and Schumacher, K.: Experiencing transitions: an emerging middle-range theory. *Advances in Nursing Science* 23(1), 12-28 (2000).
- Bawden, D., and Robinson, L.: The dark side of information: overload, anxiety and other paradoxes and pathologies. *Journal of information science* 35(2), 180-191 (2009).
- Kralik, D.: The quest for ordinariness: transition experienced by midlife women living with chronic illness. *Journal of Advanced Nursing 39*(2): 146-154 (2002).
- 33. Hicks, A. & Lloyd, A.: Deconstructing information literacy discourse: Peeling back the layers in higher education. *Journal of Library and Information Science*, *53*(4), 559-571 (2021).