



Contextualising Risk: The unfolding information work and practices of people during the COVID-19 pandemic.

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Title: Contextualising Risk: The unfolding information work and practices of people during the COVID-19 pandemic.

Abstract:

- **Purpose:** The aim of this study is to investigate people's information practices as the SARS-CoV-2 virus took hold in the UK. Of particular interest is how people transition into newly created pandemic information environments and the ways information literacy practices come into view.
- **Design/methodology/approach:** The qualitative research design comprised one to one in-depth interviews conducted virtually towards the end of the UK's first lockdown phase in May-July 2020. Data were coded and analysed by the researchers using constant comparative and situated analysis techniques.
- **Findings:** Transition into new pandemic information environments was shaped by an unfolding phase, an intensification phase, and a stable phase. Information literacy emerged as a form of safeguarding as participants engaged in information activities designed to mitigate health, legal, financial and well-being risks produced by the pandemic.
- **Originality:** This is one of the first studies to explore information practices during the COVID-19 pandemic.
- **Research limitations/implications:** Time constraints meant that the sample from the first phase of this study skewed female.
- **Social implications:** This paper contributes to our understandings of the role that information and information literacy play within global and long-term crises.
- **Practical implications:** Findings establish foundational knowledge for public health and information professionals tasked with shaping public communication during times of crisis.

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1. Introduction

In their 2020 paper that positions global health crises as information crises, Xie *et al.* state that one of the major challenges for information scientists is to establish how COVID-19 information environments are characterised, and what information science theories and methods might be used to examine and interpret human activity during a pandemic, including in lockdown situations. These challenges are underscored by Lupton (2020, n.p.) who argues that the scope of the pandemic means that social research documenting "people's everyday experiences of living in this moment" is urgently needed. The research reported in this study, which represents the first in several papers that will report on information practices in the United Kingdom (UK) during the COVID-19 crisis, forms an attempt to respond to these calls. The overall aim of this two-phase study is to investigate people's information practices as the SARS-CoV-2 virus, which is responsible for the current respiratory syndrome commonly referred to as Covid-19, took hold.

In the UK, the Covid-19 pandemic initially unfolded during January-February 2020 and led to a government instigated countrywide lockdown for a period of 13 weeks from March-June 2020. During this period, schools and non-essential businesses closed, exercise and face-to-face social interaction was severely curtailed, and workers were encouraged to work from home, or were furloughed under a government scheme. Certain groups designated as vulnerable were further encouraged to 'shield' or to take additional precautions. These radical redefinitions of everyday life were intensified through the UK's relative lack of

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3 experience with pandemic situations; while the world has grappled with SARS (2003),
4 MERS (2012) and H1N1 (2009) in recent years, COVID-19 represents one of the most
5 serious diseases to hit the UK since the Spanish flu pandemic of 1919. COVID-19 is also
6 very different from other epidemics that have affected the UK because it is not associated
7 with stigmatised social practices, as in the case of HIV/AIDS.

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9 As information researchers, we are interested in how people transitioned into newly
10 created pandemic information environments including how people's information literacy
11 practices emerged in the context of the risks and uncertainties that were produced through the
12 rapid spread of COVID-19 in the community. Within this framing, we are particularly
13 interested in how participants construct their understandings of risk (socially, temporally,
14 physically and materially) as well as the ways in which these uncertainties create the context
15 and the condition through which participants operationalise their information practices. To
16 examine these ideas, we take the following question as our starting point:

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19 • What has informed the UK public's understanding about the COVID-19 pandemic
20 and what information practices and literacies of information came into view during
21 the early days of the pandemic and the subsequent countrywide lockdown?
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24 In this study we conceptualise risk from a socio-cultural perspective (Douglas, 1992) as a
25 construction that is brought about by the coupling of social, material and corporeal
26 dimensions. These dimensions create conditions and arrangements that, in turn, structure the
27 lived everyday experience of people. From this perspective, knowledge about risk is
28 mediated through social and cultural frameworks that shape understanding about what
29 information and knowledges are valued and what type of information work and practice may
30 be operationalised to achieve specific ends (Douglas, 1992; Tulloch and Lupton, 2003;
31 Lloyd, 2010; Schatzki, 2002). Central to this understanding of risk is a focus on the
32 interactions that the participants in this study take to mitigate risk.
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34 We also understand information literacy as a social practice that is enacted in social
35 settings and composed of a suite of activities and skills that reference structured and
36 embodied knowledges and ways of knowing relevant to the context (Lloyd 2010; 2017). This
37 definition moves beyond the positioning of information literacy as a set of measurable skills,
38 which would narrow our understanding of the forms of information and the ways of knowing
39 that contribute to the construction of information landscapes. Information literacy is a
40 complex practice, and in modern and fluid information environments, it has become a critical
41 literacy with relational, situational, recursive, material and embodied dimensions (Lloyd,
42 2017). To investigate information literacy practice consequently means that we attempt to
43 understand:
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47 ○ The ways the practice is constructed and then enacted in relation to the social
48 setting through which the participant is situated
- 49 ○ how participants break down information challenges related to understanding
50 risk
- 51 ○ the non-human actors that support their practice and performance
- 52 ○ how the practice draws from expertise, knowledge and local/nuanced ways of
53 knowing and is thus expressed and articulated.
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56 In the unique and unexpected contexts created by the COVID-19 pandemic, critical thinking
57 about risk and the actions that might mitigate the risks presented is predicated on the capacity
58 to employ information literacy practice.
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2. Literature Review

This work is contextualised by a brief overview of literature related to risk, including in relation to health crises and information, as well as prior work related to crisis situations.

2.1 Risk

Risk is a complex concept that is understood in a number of different ways. These various understandings, which impact whether risk is positioned as an objective event or as socially mediated and constructed, are loosely categorised as taking either a techno-scientific perspective, where risk is understood in terms of measurement and probability, a cognitive psychological approach, where risk is studied in terms of rational human response to danger, and a sociocultural perspective, which emphasises the social and cultural contexts that shape understandings of hazard (Lupton, 1999; Zinn, 2009).

Within a sociocultural perspective, risk is divided into ‘weak’ or ‘strong’ constructionist positions (Lupton, 2013, p.41). In the ‘weak’ constructionist position, which is also known as a critical realist position (Zinn, 2009, p.7; Tulloch, 2009), risk is understood as real, yet as shaped and labelled through cultural processes (Lupton, 2013, p.42). This approach is most famously exemplified through the concept of the risk society, which argues that modernisation has led to the creation of societies that are characterised by increasingly prominent and pervasive conceptions of risk (Beck, 1992; Giddens, 1990). In contrast, the ‘strong’ constructionist perspective positions risk as the product of discourse, or sociocultural ways of seeing. This approach to risk has been developed through reference to the work of Foucault (1991), which positions risk as a strategy of power that is employed by the government to regulate populations (Lupton, 2013, p.116).

The study reported here is framed theoretically by a cultural/symbolic perspective on risk, which emerges from the work of Mary Douglas (1985, 1992). Long overlooked in risk theory (Lupton, 1999, p.6), a cultural/symbolic approach positions risk as culturally specific, or as shaped in a specific context in relation to “culturally learned assumptions and weightings” (Douglas, 1992, p.58). These ideas emerge from Douglas’ earlier anthropological work into the ways in which purity and pollution are used to construct protective and stabilising boundaries between bodies, groups and communities (Lupton, 1999, p.3). Characterised as adopting a ‘weak’ constructionist position towards risk, due to her emphasis on the “reality of danger” (Douglas, 1992, p.29), Douglas’ work nonetheless positions risk as constructed through the social, corporeal and epistemic meaning making activities that shape lived experience rather than existing as an objective hazard. The emphasis on community boundaries further draws attention to how conceptions of risk must be understood as shared locally rather than individualistically or globally. The sociocultural perspective that is adopted in this study therefore focuses on how risk is understood and embedded within a community, as well as how these dangers are brought into view through “personal embodied experiences, observations and emotional responses, discussions with others and access to expert knowledges” (Lupton, 2013, p.45).

2.2 Risk and Health Crises

The literature that explores risk in relation to public health is extensive. Studies originally tended to take a probabilistic or techno-scientific approach, but researchers have since started to engage with constructionist understandings of risk in an attempt to move beyond early positivist framings (Heyman *et al.*, 2012). Similar divisions can also be seen in literature that more specifically examine health crises such as pandemics, where risk is frequently understood in terms of risk calculation (Dryhurst, 2020; Wong and Jensen, 2020) or as situated in the discourses of a risk society, even though Beck (1992) himself does not classify disease as a risk (e.g., Abeysinghe and White, 2011; Lohm *et al.*, 2015). However, in an

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3 editorial designed to extend interpretivist understandings of health risks, Brown uses Mary
4 Douglas' work to explore how risk is brought into being (Brown, 2020, p.6) in specific ways
5 through news and media outlets as well as governments and international organisations.
6 Importantly for this study, this includes how probabilistic understandings of risk have
7 contributed to the positioning of specific community members, including "the relative safety
8 of the mainstream 'normals', and the implicit othering of those who are older and more
9 vulnerable" (Brown, 2020, p.5). The future time of herd immunity rather than more short-
10 term realities was further seen to direct attention in a number of ways. Brown additionally
11 uses Douglas' work to illustrate the impact of affective responses on risk, including the ways
12 in which imagery, which shapes emotional reactions, elevates or suppresses perceptions of
13 risk (Slovic, 2012, p.409). However, while Brown implicitly acknowledges the role that
14 public communication plays in shaping understandings of risk, his work stops short of
15 examining the impact of information sources on the construction and mitigation of risk.
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19 **2.3 Risk and Information**

20 The role that information plays within risky situations has not previously been widely
21 explored. When information has formed the focal point of research, studies have tended to
22 focus on the factors that impact risk information activity, a cognitive psychological
23 perspective that centres on perceptions of human rationality. An example of this approach
24 can be found in Griffin, Dunwoody and Neuwirth's (1999) Model of Information Risk,
25 Seeking and Processing, where perceptions of information sufficiency and information
26 gathering capacity, amongst other factors, are seen to shape a person's response to risk. More
27 recently, Choo (2017) has developed this model to recognise the role that emotions and
28 information avoidance plays within a risk society. Beyond these studies, there has been little
29 work examining information interactions in more detail, beyond a recognition that people
30 rely on a variety of resources, including magazines, social media, internet and knowledgeable
31 others, rather than just official sources for risk information (Tulloch and Lupton, 2003).
32 Tulloch and Lupton (2003, p.5) note that these sources help to "ward off" danger (p.77) by
33 making the invisibility of risk more visible. However, there has been little further sustained
34 focus on the ways in which information is produced, accessed, used and documented within
35 risk information environments. Similarly, although Catellier and Yang (2012, p.906) indicate
36 that trust in "government agencies, doctors, scientists" and public health bodies plays a vital
37 role in risk information seeking, research stops short of probing these ideas further.
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40 The connections between risk and information literacy were first explored by Nara
41 (2007), who suggests that people can individually counteract risk through understanding and
42 engaging with a variety of information sources, including the senses, institutional or expert
43 information and mass media (p.946). These ideas are explored more fully in Hicks'
44 examination of the information literacy practices of language-learners (2019, 2020, 2021),
45 which led to the production of the grounded theory of mitigating risk. The grounded theory of
46 mitigating risk states that the risks produced during language-learners' sojourns overseas
47 catalysed the enactment of information literacy practices that mediated transition within a
48 new setting (Hicks, 2019). While the theory is localised, it nonetheless draws attention to the
49 role that various information activities play in mitigating risk, including observing people and
50 the environment, mediating information to less experienced people and documenting written
51 and photographic information for the purposes of posterity. The study further acknowledges
52 the important role that positioning plays in the construction of risk, as well as the close
53 connections between information and social support.
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58 **2.4 Crisis Information Studies**

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3 Work that explores the role that information plays within crisis or disaster situations can be
4 traced back to the work of Hagar (2006), who coined and established the Crisis Informatics
5 field of study. Defined as the “interconnectedness of people, organizations, information and
6 technology during crises,” (Hagar, 2010, p.10), crisis informatics has since grown to examine
7 the role of social media and technology within a variety of natural disasters (e.g., Shklovski
8 *et al.*, 2008) and other crisis situations (e.g., Huang *et al.*, 2015). A related field is Disaster
9 Informatics, which focuses more specifically upon sudden and unpredictable natural disasters
10 rather than human-inflicted problems (Ogie and Verstaavel, 2019). More recently,
11 researchers have started to examine crises and disasters from a Library and Information
12 Science (LIS) perspective, including through the lens of information behaviour and, less
13 commonly, information literacy. Focusing for the most part on natural disasters such as
14 floods, hurricanes, tornadoes and fires (e.g., Lopatovska and Smiley, 2013; Pang *et al.*, 2019;
15 Rahmi *et al.*, 2019), literature has also examined other human tragedies, such as 9/11 (Fu,
16 2011) and the South Korean Sewol Ferry disaster (Lee and Kang, 2018). While this literature
17 explores disasters and crises that are more localised and short-term than in the COVID-19
18 pandemic, which continues to unfurl on a global stage, research offers interesting points of
19 comparison.
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23 The importance of community and collective action forms one of the most prominent
24 themes within existing disaster literature, particularly in crisis informatics research which
25 traces how the growth of social media facilitates the construction of altruistic support
26 networks (e.g., Huang *et al.*, 2015; Shklovski *et al.*, 2008). Noting that local communities
27 help to “reduce ambiguity” (Muhren and Walle, 2010), studies demonstrate that these
28 technologies provide social support as well as facilitating information-sharing (Hagar, 2011;
29 Lopatovska and Smiley, 2013; Shklovski *et al.*, 2008). These affordances are particularly
30 valued when information is scarce, or when official strategies and measures are continually
31 being adjusted, as Hagar found in her study of the UK’s drawn-out foot and mouth crisis
32 (Hagar, 2010; 2011, also see Cole and Watkins, 2015). Another interesting theme is trust,
33 with studies exploring how trustworthy sources of information are established (Cole and
34 Watkins, 2015; Hagar, 2010; 2011; Taylor *et al.*, 2009) as well as, more recently, the impact
35 of misinformation (e.g., Pang *et al.*, 2019; Starbird *et al.*, 2020). Interestingly, rumours,
36 which are often seen to be problematic within crisis situations, are recognised as a “collective
37 problem-solving technique” (Starbird *et al.*, 2020) or “social coping mechanism” with a
38 cathartic purpose (Huang *et al.*, 2015), rather than as uniquely contributing to the crisis.
39 Running throughout these themes is the idea of uncertainty, which is seen to inhibit the
40 verification of information (Starbird *et al.*, 2020) and promote anxiety and other intense
41 emotions (Lopatovska and Smiley, 2013; Griffin *et al.*, 2008).
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45 Studies of crisis and disaster have also typically been temporally marked as occurring
46 in a series of stages or phases. Drawing upon Dynes’ early work exploring disaster (1970),
47 Lopatovska and Smiley (2015) establish a six-stage temporal model of crisis behaviour
48 comprising Pre-disaster, Warning/threat, Impact, Inventory, Survival and Recovery (also see
49 Rahmi *et al.*, 2019). In contrast, there are only three stages in Bunce, Partridge and Davis’
50 (2011) examination of floods in Queensland; Pre-flooding, Flooding, Receding, which mirror
51 the emphasis on Preparing, Responding and Recovering found in Pang *et al.* (2019). These
52 stages were seen to impact on information sought as well as information behaviour. Other
53 authors have focused more specifically on information activities, with a number of authors
54 highlighting the importance of monitoring or keeping up to date with new information at a
55 specific point in time (Bunce *et al.*, 2011; Lopatovska and Smiley, 2015; Yates and Partridge,
56 2014). Images (Ryan, 2018), and observing or noticing environmental (Muhren and Walle,
57 2010; Ryan, 2013, 2018), social, governmental and business cues, such as the closing of
58 shops (Demuth *et al.*, 2018), are also seen to help people apprehend the severity of the
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3 situation as well as to take preparatory action. Underscoring these ideas is the need to build
4 new routines, particularly when changing material circumstances such as limited connectivity
5 and electric power (Lopatovska and Smiley, 2013) have ruptured habitual activities. These
6 issues were seen to be especially challenging for farmers (Hagar, 2010, 2011) who were
7 denied access to their usual ecology of information sources when they were forced to
8 physically and socially isolate during the UK's foot and mouth disease.
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10 These studies shed light on the role that information plays during a time of crisis or
11 disaster. However, research has tended to focus, for the most part, on short-term, sudden and
12 localised crises that typically involve physical displacement rather than crises that are global
13 in scope, as well as longer-term. To date, there have been few studies exploring information
14 during the COVID-19 pandemic, although researchers have warned of the impact of social
15 isolation and digital connectivity upon an ability to mediate risk (Robinson *et al.*, 2020).
16 Diary studies that were carried out in the UK between April and May 2020 offer further
17 intriguing insights into unfolding concerns related to misinformation, including trust and the
18 role that the UK government has played in creating and spreading confusing messages
19 (Cushion *et al.*, 2020). These findings are supplemented by work from the Reuters Institute
20 for the Study of Journalism at the University of Oxford, who surveyed people in the UK
21 about their attitudes to the media and government from April- August 2020 (Nielsen *et al.*,
22 2020). Noting that people in the UK generally had a high degree of confidence in news
23 outlets such as the BBC at the beginning of April, researchers traced how trust in government
24 information declined throughout May 2020 due to perceived mismanagement and
25 incompetence. Interesting, this study also noticed age-related differences related to news
26 consumption as well as a degree of news avoidance in early May as people grappled with
27 anxiety and other mood changes. The current qualitative research project will facilitate an
28 examination of these issues in more detail.
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33 **3. Methodology**

34 The study's focus on participants' constructions of risk and their developing information
35 practices as they responded to the lockdown edict of the UK government was suited to the
36 richer reflective approaches offered by qualitative research. The qualitative research design
37 comprised one to one in-depth interviews conducted virtually in May-July, towards the end
38 of the UK's first lockdown phase. Interview questions were open-ended to generate an
39 understanding of lived experience, risk and the conditions that contributed to the creation of
40 information practices but initially focused on; 1) Transition to new working, furlough or
41 unemployment conditions and/or caring roles, including use of technology, altered social
42 connections and physical mobility; 2) Changing health, social, workplace and family
43 information needs, including finding and locating reliable information; 3) Evaluating
44 information sources, including experience of rumours, misinformation and fake news during
45 the pandemic.
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48 Interviews took place online using an end-to-end encrypted video conferencing tool
49 and were audio-recorded and transcribed. The decision was made not to send the
50 transcriptions back to participants who were often dealing with work and family-related
51 challenges, in addition to online fatigue. To ensure accuracy, the transcriptions were
52 independently checked between the two researchers. In some instances, the researchers
53 followed up with further questions, which were emailed to participants. Interviews lasted
54 between 35 and 50 minutes.
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56 Participants were recruited via researcher and institutional social media accounts as
57 well as through a snowball sampling method. Seventeen participants were included in phase
58 one, including twelve females and five males. Participants included people who were
59 working from home or adapting to work under social distancing rules, people who had been
60

furloughed/ made redundant, people who had undertaken new volunteer, caring or home-schooling roles and retirees. Participants were aged between 18 and 70 and were located throughout the UK (See Table 1).

Gender	Location	Age Range	Role	COVID-status	Date Interviewed
Female	Oxfordshire	18-30	Special needs teacher	Key worker	May 2020
Female	Bristol	30-60	Nurse	Working from Home (WFH) / Homeschool	May 2020
Male	Somerset	60+	Doctor	WFH	May 2020
Female	Essex	60+	School administrator	WFH	May 2020
Female	Manchester	30-60	TV crew	Unemployed	May 2020
Female	Hampshire	60+	Retired	Retired	May 2020
Female	Bristol	30-60	Barrister	WFH / Homeschool	May 2020
Male	Glasgow	30-60	Teacher	WFH / Homeschool	May 2020
Female	Birmingham	30-60	Lecturer	WFH	May 2020
Female	Yorkshire	30-60	Fitness Consultant	WFH/ Homeschool	May 2020
Male	London	60+	Human Resources	WFH	June 2020
Male	East Lothian	60+	Retired	Retired	June 2020
Female	London	60+	Poet/ Academic	WFH	June 2020
Female	London	18-30	Student	Student	July 2020
Female	Oxfordshire	60+	Caterer	Furlough	July 2020
Female	Somerset	18-30	Childcare	Key worker	July 2020
Male	Cambridge	60+	Stockbroker	WFH	July 2020

Table 1: Study Participants

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Data were coded and analysed by the researchers using constant comparative techniques employed in constructivist grounded theory methods (Charmaz, 2014). These techniques focus on identifying similarities and differences in participants' lived experience to map sources of information and to recognise the range of information strategies as well as significant themes and perspectives. Recordings and transcriptions of interviews were reviewed independently by both researchers and then coding was compared and discussed over several online sessions.

In addition to the interviews, a situated analysis (Clarke, 2003) was undertaken to develop an understanding of how information literacy plays out discursively as a practice and the literacies of information that became central to supporting people in times of risk. The creation of situational maps as part of the analysis work helped the researchers to visualise the social worlds of participants as the pandemic context unfolded, intensified and then stabilised. Mapping further enabled the researchers to think systematically about the messy and complex interactions participants had with information and information sources as they learned to navigate and map their new pandemic-shaped contexts. The mapping also provided a cartography of relations and sites of actions, allowing us to visualise (at a collective level) how participants' information landscapes were being formed.

Limitations of the first phase of the study include the characteristics of the initial sample; while attempts were made to recruit a broad sample, time constraints meant that the sample skewed female and older. This limitation will be addressed in the second phase of data collection for this study.

4. Findings: Transition into the COVID-19 pandemic theatre

In the context of the COVID-19 crisis, transition into new and suddenly unfamiliar information environments was shaped by the ways in which the pandemic was brought into view, the information work undertaken to construct an understanding of risk and the information literacy practices that evolved to mitigate risk. Shaped through participants' growing awareness of information dissemination, which occurred over time, and created spatial changes to everyday life, transition is characterised as a complex and iterative process of reconstruction. More specifically, transition is conceptualised as taking place within three phases. Each of these stages or periods represent an enmeshed, iterative and evolving set of arrangements, actions and activities that allowed information and knowledge to intensify and stabilise as governmental, medical, economic and social conditions continued to evolve. These phases, and the core information activities that mediate this transition are represented in Figure 1, alongside the information landscape of safeguarding, which forms the major outcome of information literacy practice during lockdown. Safeguarding emerges as the agentic information focused work that participants undertook (i.e., their information literacy practice) to understand and then to mitigate the instrumental risk established via government discourse. In the present analysis, agency is defined in terms of the dynamic interplay between people's capacity to exert power over the way in the social, political and economic structures of social life shape everyday practices and the formation of their information landscapes. In this respect, agency can be seen performatively as the doings and sayings of practice (Schatzki, 2002). The three phases are now detailed.

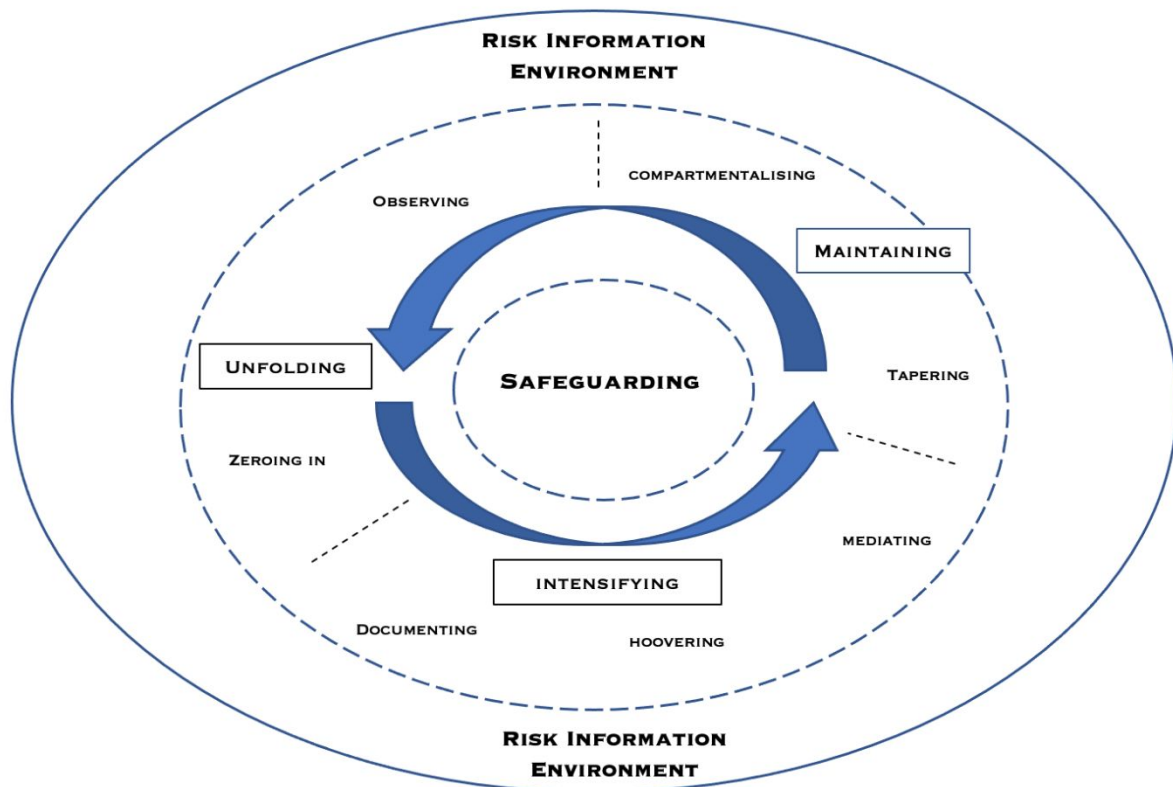


Figure 1: Information landscape of safeguarding (derived from Lloyd, 2017).

Phase 1: Unfolding

In phase one, the COVID-19 information environment begins to unfold. During this time, participants' awareness and understanding of the spread of the SARS CoV-2 virus is 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. Tinged by a general sense of disbelief, this early stage of transition is represented as a liminal zone, described as a state of interstuality - as between time and space, located betwixt and between (Turner, 1967).

The unfolding of the forthcoming crisis represents a key preliminary engagement with the pandemic theatre, which we use to describe the politics, science and community of COVID-19, where audience and actors alike start to become aware of the imminent upheaval upon their everyday life. In the UK, participants reported a growing consciousness of what would become the COVID-19 pandemic from December 2019 to February 2020. However, they remained, for the most part, unconcerned until professional media sources as well as accounts from European acquaintances reported the arrival of the COVID-19 virus in Italy and other nearby countries. Notwithstanding, growing awareness was tempered by a sense of general (but short-lived) disbelief in the seriousness of the pandemic:

“plagues don’t happen in the 2020, do they?” (P10)

“being up in North Yorkshire, you feel rather removed from everything and almost untouchable” (P17)

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3 Incredulity meant that participants swiftly started to focus on authoritative professional
4 resources that would invoke confidence and direction. Government sources, in particular,
5 were seen to legitimise the pandemic while establishing the conditions and arrangements that
6 would impact everyday life (i.e., policy, restrictions and limitations). Scientific and medical
7 sources played a similar role (government and scientific information was often seen as
8 indistinguishable in this early stage), establishing the health discourses that would frame the
9 lock down period. Accessed through professional media sources such as TV, radio and the
10 newspaper, this information shaped the conditions and the arrangements for an individual,
11 subjective construction of risk, including how the virus might affect a person in terms of
12 health and well-being as well as employment, relationships and the legal requirements
13 associated with lock down life. Formal and authoritative sources played an important role in
14 the workplace, too, with participants indicating that they turned to emails and directives from
15 governing bodies, professional associations and local government to direct and reconstruct
16 employment practices.

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19 The important role that professional media sources played in transmitting
20 governmental and health advice meant that the unfolding pandemic information environment
21 was shaped materially with home technology playing a central role in the creation and co-
22 construction of knowledge. In the early stage of the pandemic, at least, many participants
23 relied on first generation technologies (such as TV and radio), which were seen to provide
24 reliable access to key information, including the 5pm briefings that were presented by the UK
25 Prime Minister and senior health officials. However, the complexity and uncertainty of the
26 situation meant that daily updates soon proved to be insufficient, and participants noted that
27 they supplemented traditional media with information from on-demand news sites, including
28 news apps or alerts on their smartphone as well as news reports posted on YouTube and
29 social media channels. For some participants, this approach helped to “build a picture” [P8]
30 of the changing pandemic information environment. For others, however, the technological
31 affordances of on-demand news sites swiftly meant that keeping up with the news became
32 all-consuming:
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37 “what we were all doing at the beginning in the office, which was constantly having
38 the BBC News thing on your computer and reading it every five minutes and
39 worrying yourself sick” (P14)

40 “I listened to the news avidly... 8am, 1pm, 6pm and 10pm” (P10)

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42 Demonstrating the anxiety of this time as participants sought to enforce a sense of control
43 within an unfamiliar setting, being informed could also be seen as creating a form of risk
44 ritual (Moore, 2020), where repeated news checking formed the means through which people
45 felt that they were dealing responsibly with uncertainty or doing everything possible to allay
46 the potential dangers of the virus.
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49 **Observing**

50 *Observing* played a similarly vital role during the unfolding period with participants noting
51 that they relied on physical and visual cues to recognise potential danger to themselves as
52 well as to build an appropriate physical response to the pandemic. These cues referenced
53 emerging political and expert discourses and acted to situate participants within the unfolding
54 information environment. Participants most frequently reported observational practices to
55 gauge and confirm regulations laid down epistemically through formal, governmental and
56 scientific sources, including working out what to do in a newly unfamiliar setting. One
57 participant, for example, would “drive around... to see how it was working” (P7) before she
58 went food shopping, while another reported observing the arrangements put in place to
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3 accommodate distancing rules at their local supermarket from her first-floor apartment
4 window (P8). Seeing how arrangements operated helped to alleviate uncertainty about
5 everyday activities that, until the pandemic, were taken as granted (an activity that has also
6 been noted within research that examines information practices within culturally unfamiliar
7 settings (Hicks, 2019; Lloyd, 2014)). Observing also helped to alert people to potential
8 dangers, both to themselves and to government institutions, as the increased presence of
9 government warning signs (on the daily briefing podium as well as on the radio and in the
10 street) drew attention to the risk of over-stretching the capacity of the National Health
11 Service (NHS). At the same time, observing also added to confusion and uncertainty with one
12 participant suggesting that seeing a 5G mast reinforced her belief in a widely shared
13 conspiracy theory (P5). Other participants commented that a lack of masks amongst
14 pedestrians confirmed their own decision not to wear one at a time when masks were not
15 obligatory: “nobody else is wearing them, so I’d feel like an idiot” (P8). Observing also
16 contributed to the general sense of disbelief as participants noted hearing birdsong (P9) and
17 an unusual lack of traffic (P13).
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22 ***Zeroing in***

23 Participants also engaged in more targeted forms of information seeking during the unfolding
24 stage, including *zeroing in* on familiar or tried and tested information providers. Referring to
25 the ways in which people went straight to the sources that they thought would be most likely
26 to help them, zeroing in forms a limited but highly focused approach to dealing with new and
27 suddenly complex practical challenges:
28

29 “In the beginning it wasn’t obvious, I emailed my accountant... ‘what do you
30 think?’” (P8)

31 “I... went on to East Midlands Railway on Twitter and asked them to clarify” (P16)
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34 Often centring on resources that had previously been useful to participants, zeroing in
35 demonstrates how familiar sources may provide a comforting marker of normalcy during a
36 time of precarity, as well as confirming and legitimising the general sense of confusion. The
37 emphasis on trusted professionals further illustrates the important role that cognitive
38 authorities (Wilson, 1983) play in the establishment of new information landscapes within a
39 time of transition (Hicks, 2019).
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42 **Phase 2: Intensifying**

43 Phase two formed a period of intensification that was marked by increasing anxiety and stress
44 as people actively tried to ‘grasp’ the pandemic and understand the potential short- and long-
45 term implications in social, medical, economic and material terms.
46

47 As participants started to draw down from the unfolding information environment,
48 they entered a more intense and concentrated phase of activity. Centring on increased
49 engagement, this period of intensification reflected the growth of new rules and procedures as
50 essential businesses started to adjust to pandemic arrangements. It also refers to the creation
51 of more complex processes of production and co-production as participants disrupted and
52 recast their everyday practices to form new information landscapes. As a consequence of
53 these powerful changes, the intensification period is characterised by anxiety and precarity. It
54 is also marked by increased greater social engagement or ambient copresence (Madianou,
55 2016) as participants drew from strong and weak social ties to build a more complex
56 awareness of how the pandemic manifests as new sets of arrangements, activity and practice.
57 In this period, information literacy practice is represented by:
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Hoovering up information

A significant activity during the intensification phase was the concept of hoovering up information. We define *hoovering* as an intermittent but indiscriminate approach to dealing with information, where people would engage across media platforms to ‘suck up’ all available scraps of news:

“It’s obviously coming here... we were hoovering up all the information” (P6)

Hoovered news and information might then be pooled (Lloyd, 2014) among households at mealtimes, where family members would share updates gleaned from different sources. Constituting a more intense monitoring and scanning of information environments, hoovering suggests that people were actively working to establish an information landscape that would help them to mediate challenges. However, hoovering could also be understood as emerging from a wish to supplement UK government sources, with participants noting that they turned to social media sources as well as news reports from other countries to meet their thirst for knowledge. Hoovering could consequently also reflect the frustration with or distrust of government performance that is noted by Nielsen et al. (2020) as well as providing further evidence of the high levels of anxiety that structure this period.

Mediating

As lockdown continued, participants started to reach out to family, friends and other social networks. The social space, which was created by familial and broader social networks and facilitated through a range of new and older forms of technology, acted as a place in which information was mediated or interpreted by and with others (Hicks, 2019; Lloyd *et al.*, 2014). Helping to allay fears and reconcile understandings, mediating scaffolded understanding of the pandemic by forming a space in which participants could share their unique and first-hand experiences of the pandemic, including those who had recovered from COVID-19 (P17) or who had returned to work early (P5). Mediating further helped to shape participants’ understandings of what was relevant within the new information environment with one participant describing her concern about the implications of isolation on very young children after receiving a photo of her grandchild peering through a hole in the fence (P3). A similar focusing of attention was noted by participants who reported becoming hyper alert to and monitoring information related to industries in which their adult children were employed (P3, P15).

At the same time, concerns about the wellbeing of family and friends meant that many participants reported deciding to withhold or refrain from sharing information that was perceived to be upsetting, including visual images related to death or hospital care of COVID-19 patients during the peak crisis period (P5). Others decided to only share “happy news” (P8) with friends and family, considering they had a duty of care to protect their own as well as others’ wellbeing. The desire to restrict the amount of potentially overwhelming information, which highlights the affective impact of imagery (Brown, 2020), illustrates that the intensification phase is referenced affectively as well as socially.

Documenting: Being present

Affective dimensions of the pandemic were also referenced through the ways in which participants documented their pandemic experiences. Forming a creative and reflexive response to lockdown life, documenting centred on either reflective text (e.g., diaries) or visual images (e.g., photography, video) and further situated participants in relation to the discourses and actors of the pandemic information environment. For some participants, documenting aspects of their new life helped to situate themselves temporally, with various

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3 people reporting taking photos of seasonal changes in their garden and other measures of
4 passing time (P5, P6, P15). These photos were then often shared via Facebook or WhatsApp
5 networks to situate family and friends within participants' new realities. More commonly,
6 however, participants reported taking photos or writing diary entries to record lockdown
7 events for future posterity, including desolate streets and empty supermarket shelves. As one
8 participant put it: "when are [the streets] ever going to be like that again?" (P8). Forming a
9 way to mark the zeitgeist, documenting helped to establish and confirm a person's presence
10 within the pandemic information environment, which mirrors Hicks' findings (2019) about
11 the role that souvenirs played within language-learner transitions. Participants' record of the
12 pandemic also connected them to broader shared experiences when these posts were shared on
13 social media or in family and friendship groups.
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16 17 **Phase Three: Maintaining**

18 Phase three emerged as a more stable yet increasingly desensitised stage that was represented
19 by a mapped understanding of the information sources, practices and activities that were
20 required to maintain a consistent and informed view of the pandemic, its progress and its
21 implications. During this phase, which represents a more established period, participants
22 were more in control of the pandemic information environment. However, the continued high
23 volume of information means that this period led to desensitisation or an increasingly
24 selective reliance on a small number of information sources as participants become saturated
25 by virus information. In this period, information literacy practice is represented by:
26
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28 29 ***Compartmentalising***

30 As the lockdown continued, some participants identified that the intensive hoovering up of
31 information resulted in 'noise' that left them feeling saturated and overwhelmed. The
32 increased volume of unfamiliar information, the wider range of information resources, and
33 the need to engage with a variety of new scientific, medical and legal terms meant that
34 participants started to compartmentalise their engagement within the pandemic information
35 environment. Referring to the ways in which people started to shut down or avoid
36 information, compartmentalising forms an active strategy to reduce the sense of being
37 overwhelmed or overloaded with information. For some participants, compartmentalising
38 was a form of self-care or a wellbeing strategy, as they struggled to deal with the 360-degree
39 pandemic coverage:
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42 "I have actually stopped watching the news because I just find it a bit too anxiety
43 creating, but also I just don't know how much of it is accurate...and also social
44 media stuff, I look on social media quite a lot whether it's Facebook, Instagram and
45 Twitter and obviously people do quite a lot of talking on there and sharing of things
46 so yeah, it was coming in all directions" (P5)
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49 For others, compartmentalising emerged as a strategy to ensure that they were able to
50 maintain access to the information that they needed, even as the volume of information
51 continued to increase:
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53

54 "I wouldn't say I was really in a heightened state of anxiety but what I decided to do
55 was just focus on the information that I needed to know. I just started to
56 compartmentalise stuff so I was looking at stuff that was basically relevant to me-
57 which essentially was how can I keep safe" (P16)
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Compartmentalising was also shaped materially by unfolding pragmatic challenges; participants who were suddenly facing increased caring responsibilities cut down on social media because it did not feel like the best use of their limited time (P17), a strategy that may be linked to care-taking gender gaps (e.g., Toff & Palmer, 2018). Participants who were newly working from home also noted a reluctance to engage with certain information sources due to increasing screen fatigue (P11), a bodily reaction that is rarely acknowledged when people are blamed for avoiding information (e.g., Nielsen et al., 2020)

Tapering off

Conversely, as participants became more engaged within the COVID-19 landscape, they also began to feel a more increased sense of stability. This led to a gradual tapering off, which is described here as a gradual narrowing down or targeting of information sources, as participants felt more confident that they would not miss anything new:

“I have stopped watching the briefings... because it’s always kind of similar and you don’t need to watch all of it to get the distilled bits out later ...” (P8)

Along the same lines, people reported replacing the broad range of information sources upon which they had been relying with proxies or shortcuts that would tell them all they needed to know. P3, for example, reported gauging the pandemic’s progress through glancing at death rate statistics rather than news reports and briefings. Compartmentalising is consequently marked by a more reflexive and critical engagement with the pandemic information environment as participants started to limit and distinguish between the information sources that they perceived to be useful or not (including trusted informants):

“everybody was putting their tuppence worth in- to the point that it was becoming seriously annoying because some of the information that they were giving was wrong and there were a couple of serial Facebook virus experts that I actually unfollowed” (P16)

Participants also started to narrow down the information sources on which they relied as they became more critical of the perceived politicisation of lockdown, particularly as Scottish and English approaches to the pandemic began to diverge, and media outlets started to take a more critical approach to government policy. Judging that information was being massaged for political gain, participants reported avoiding information or using the affordances of technology to reduce their engagement with perceived partisan or biased perspectives:

“I don’t watch the news anymore because it annoys me... [but on a phone] you can be a bit more selective as to which information you can choose to look at” (P15)

These comments also indicate how the sense of feeling overwhelmed is replaced by frustration as participants become more attuned to the changing pandemic environment.

Safeguarding

Transition into the novel and complex pandemic information environment is subsequently characterised in terms of safeguarding, which forms the overarching category of this study.

As participants started to become more involved with lockdown life, the precarity of this time coupled with the lack of a foreseeable pandemic end date created a number of risks for health, employment and social life. Health risk forms one of the most obvious dangers. Centring on personal health and, for one participant, the risk of dying, risk was also

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3 understood in terms of the health of others as awareness of the infectiousness of COVID-19
4 continued to grow. However, as lockdown continued, health risks were supplemented by a
5 number of other everyday challenges, including the risk of not being able to access basic
6 provisions and supplies, legal risks of breaking new laws, and more affective risks, including
7 losing access to support networks. The disruption to the workplace meant that the pandemic
8 also produced financial risks, as people were forced into furlough or unemployment
9 situations, as well as employment risks, including the risk of failing dependent colleagues,
10 pupils and patients, amongst others. The concept of risk is fluid, iterative, complex and
11 multidimensional and is dependent on affordances that influence how people understand risk
12 in relation to social conditions and arrangements.
13

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15 Participants consequently attempted to mitigate the risks that were produced within
16 their new contexts by enacting information literacy practices that facilitate the agentic work
17 of safeguarding as they transition into this novel context. Through drawing upon information
18 sources, participants safeguarded against risk by reconciling individual understanding about
19 the potential impact of the pandemic on health, employment and social life and situating
20 themselves intersubjectively in relation to collective knowledge about the lockdown. At the
21 same time, becoming informed also enabled participants to safeguard the National Health
22 Service (NHS), which was frequently positioned as being at risk of being overwhelmed by
23 hospital admissions. From this perspective, the practice of safeguarding emerged as
24 participants became informed about the changed conditions and arrangements that influence
25 agency. Shaped by the overarching contextualisation of each of the transitional phases that
26 characterise the pandemic information experience, safeguarding is consequently catalysed by
27 risks produced during lockdown and centred upon protecting self, others and institutions.
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31 **5. Discussion: What comes into view?**

32 Themes of positioning, agency and transition emerged as participants mitigated risks via the
33 agentic performance of safeguarding, as seen in Figure 2. These themes help to bring
34 information literacy practice into view by drawing attention to the sociological and dialogical
35 aspects of information experiences and planting the ‘social’ as the central point around which
36 constructions of risk spiral.
37

38 Context is central to understanding how information literacy, as represented by the
39 practice of safeguarding, is brought into view and becomes interpretable within the pandemic
40 situation. Context is shaped by the evolving conditions and arrangements that structure social
41 life yet often creates difficulties for researchers because of its layered and sticky complexity.
42 As Linton (1936) points out, “the last thing a fish would notice is water.” A similar sentiment
43 is echoed by Dervin (1997) who suggested that “context is something you swim in like a fish.
44 You are in it, it is in you.” While this may appear axiomatic, the pandemic has provided an
45 opportunity to observe a specific information context as it is constructed. This is particularly
46 important for the study of information literacy, which has traditionally been understood as a
47 preestablished set of activities and skills.
48

49 In defining context, Schatzki (2002, p.xiv) takes an ontological view, describing it as
50 a “setting or backdrop which envelops and determines phenomena” to “help... determine
51 their existence and being” (Schatzki, 2002, p.20). Upon this understanding, context
52 predetermines practices which, in turn, prefigure agency and activity. Foucault (1986, p.23)
53 also notes that “we live inside a set of relations...” or that contextual space has a history and
54 is always bound with experiences and time. These ideas led Schatzki (2002) to state that
55 context:
56
57

- 58 • Embraces the phenomenon (e.g., the COVID-19 virus)
- 59
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- Shapes the phenomenon and entities within it (through privileging forms of discourse over others); and
- has compositions and character that will vary with entities or phenomenon that exist in context

The unfolding context of the pandemic can therefore be viewed as three intra-connected dimensions that shape the information landscape and through which a construction of risk emerges:

- Government briefings and official messaging create the *cultural discursive* dimension of the information environment, which shapes the discourses and narratives related to the pandemic and its theatre. This dimension references the sanctioned narratives that drive political, scientific, medical and public health discourses and through which risk becomes epistemically instrumentalised. Information in this modality emerges in formal expressions that are explicit, objective and reproducible (Lloyd, 2012) and information literacy emerges as normative and as reflective of the legitimised discourses of the setting.
- Corporeal or physical information (accessed through activities such as observing) references the *material-economic* dimension of the information environment. This dimension establishes preconditions that enable or constrain agency and performance e.g., practising social distancing, wearing a mask and/or gloves, working and socialising from home, etc. Information in this modality is actioned and reflective and information literacy emerges as centred on sensory interaction.
- The sharing of information through social media and family/friend networks represents the *communal* dimension of the information environment, which creates the collective space through which the disruption created by the pandemic is mediated. This dimension references the development of life world processes, shared meanings and practical arrangements (Habermas, 1987) and forms the means through which risk is negotiated. Information in this modality is nuanced and often difficult to express in written form and information literacy emerges as processes of participation and membership (Lloyd; 2011; Lloyd 2012).

Interlinked and entwined, these three dimensions enmesh in the social site to shape how the practice of information literacy is constructed. They also establish preconditions for the ways in which people's positioning and agency are shaped within the pandemic context. Positioning theory, which centres on the ways in which "people use words (and discourse of all types) to locate themselves and others" (Moghaddam and Harré, 2010, p.2), demonstrates that the three dimensions of the pandemic context establish a discursive space that works to position members of the population and shape their information literacy practice. Risk is consequently brought into being through daily government briefings that position participants in relation to risk by categorising them as vulnerable (unable to leave their homes), furloughed (employed but not working), home-schooling, working remotely from home or simply at home, and thus subject to specific discourses. These categorisations subsequently position information literacy practice by situating a locked down identity within a specific discourse that, in turn, influences the construction of risk in the unfolding, intensifying and stabilising phases.

Positioning also impacts on people's agency in relation to the ways in which they find and access information relevant to their positioning and use technology to maintain social connections. Agency is defined as a "temporally embedded process, that encompasses three different elements; iteration, projectivity and practical evaluation" (Embirybayer and Mische,

1998, p.962) and signifies a capacity to act. In the current study, agency comes into view through the practice of safeguarding as participants reconcile their previous subject positions with the new categorisations imposed upon them by the lockdown. From this perspective, agency is shaped by information activities that enable people to project future trajectories for the pandemic as well as to construct an understanding of risk and establish safeguarding activities. Agency is also referenced through the collaborative pooling of information with family, friends or colleagues.

The emerging COVID-19 context also brings transition into view as people begin to understand the unfolding conditions and social (re)arrangements that will shape their everyday and working lives. Transition refers to movement that is shaped and precipitated by the cultural, social, economic/political and historical conditions that disrupt and necessitate a change (Meleis et al., 2000). These understandings are informed by nursing and education transitions theory, which conceptualise transition as a complex and iterative “passage” (Chick & Meleis, 1986, p. 239) during which “people redefine their sense of self and redevelop self-agency in response to disruptive life events” (Kralik et al., 2006, p.321). From an information perspective, transition is positioned as emerging from significant disruption and as focused on the reconstruction of everyday information landscapes (Lloyd, 2014; Hicks, 2021). Mediated through information literacy, which facilitates the connection and situatedness needed to develop a collective understanding of the pandemic, transition is catalysed by information, which is defined here as “a difference that makes a difference [in some later event]” (Bateson, 1972; p.323, p.386).

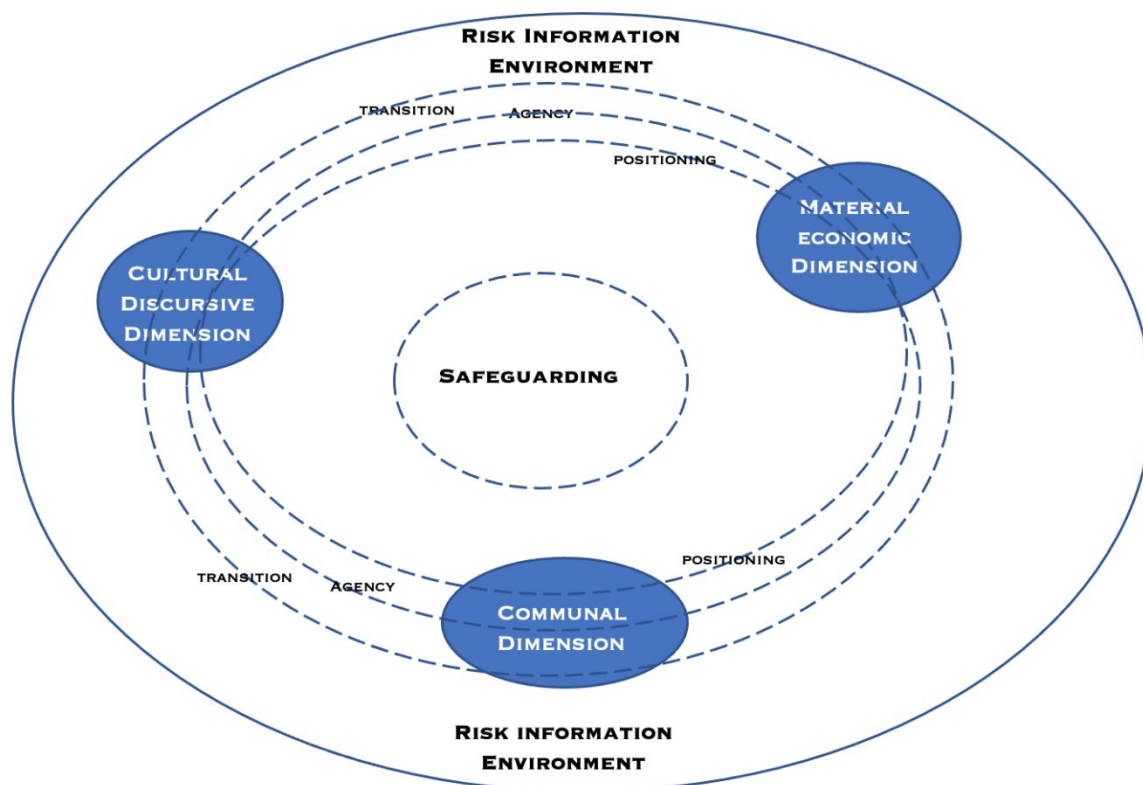


Figure 2: Conceptual themes

An information perspective on COVID-19

Analysis of phase one data provides an emerging view of COVID-19 from an information perspective. This view highlights the social construction of risk relative to the making and

remaking of information landscapes and introduces themes of transition, positioning and agency. From phase one of the research, several statements are offered:

1. When risk is viewed from an information perspective, researchers should develop an understanding of how the pandemic information environment is constructed and how this acts to contextualise knowledge (medical, scientific, instrumental and expertise) to construct discourses that act to discursively position people in cultural and social frameworks.
2. The information literacy practice that underpins becoming informed about risks of COVID-19 and establishes people's information landscapes emphasises communal and corporeal acts to situate people in relation to:
 - a. Forms of power expressed through governmental and instrumental construction of the COVID-19 environments
 - b. Societal interpretations and mediations, which enable, constrain and contest COVID-19 knowledge
 - c. Physical constructions, which alter the performance of self (Charmaz, 1991)
3. The practice of information literacy in a pandemic context is broad and includes both visual, social, corporeal and epistemic literacies that are aimed at establishing a meaningful understanding of risk and how mitigation might occur.
4. The concept of transition enables us to make visible how the information landscape is entered, experienced and then stabilised as people participate in the construction of their pandemic landscapes.
5. Information literacy is inherent in the positioning and agentic work of safeguarding (which operates on the level of the self, of others, and of institutions). Emerging as participants encounter the uncertain pandemic theatre, safeguarding centres on information activities that will build an understanding of risk and facilitate transition from pre- to pandemic information environments. Information literacy emphasises social and visual ways of knowing, as people come to terms with the new conditions and arrangements of everyday life.

Conclusion

The COVID-19 pandemic has infiltrated and impacted on all aspects of people's lives, creating a 'new normal' in which a first concern is to safeguard against the impact of health, economic and social risks. It is a terrible and terrifying disease that has produced anxiety and uncertainty while altering the arrangements and conditions in which people operate. For researchers who are interested in information literacy practice and its literacies it has also created a difficult but unique opportunity to explore how information practices emerge and evolve within an uncertain situation.

Within the context of this study, findings suggest that the UK's public understanding about the COVID-19 pandemic was shaped through the production of risk that unfolded across three enmeshed dimensions to construct a practice of safeguarding, which illustrates information literacy practices within the pandemic context. In the discussion, we considered how safeguarding is enacted and shaped as practice by reflecting on what comes into view within the pandemic information environment. Enacting these three stages suggests that from an information perspective, risk is viewed as a temporal and spatial enactment that becomes meaningful as the pandemic progresses.

This study represents the first section of a two-phase study that is investigating people's information practices during the COVID-19 pandemic. Phase two, which is already under way, will continue this research by examining the long-term impact of operating in 'crisis mode' as the UK returns to lockdown conditions in November 2020. Future research

should explore the desensitisation phase that emerged from phase one in more detail, including the ways in which the complexity of information environments causes people to cut themselves off from information as well as the impact of declining trust in government advice. Future studies could also examine how findings from this research could be used by public health and information professionals tasked with shaping public communication during times of crisis.

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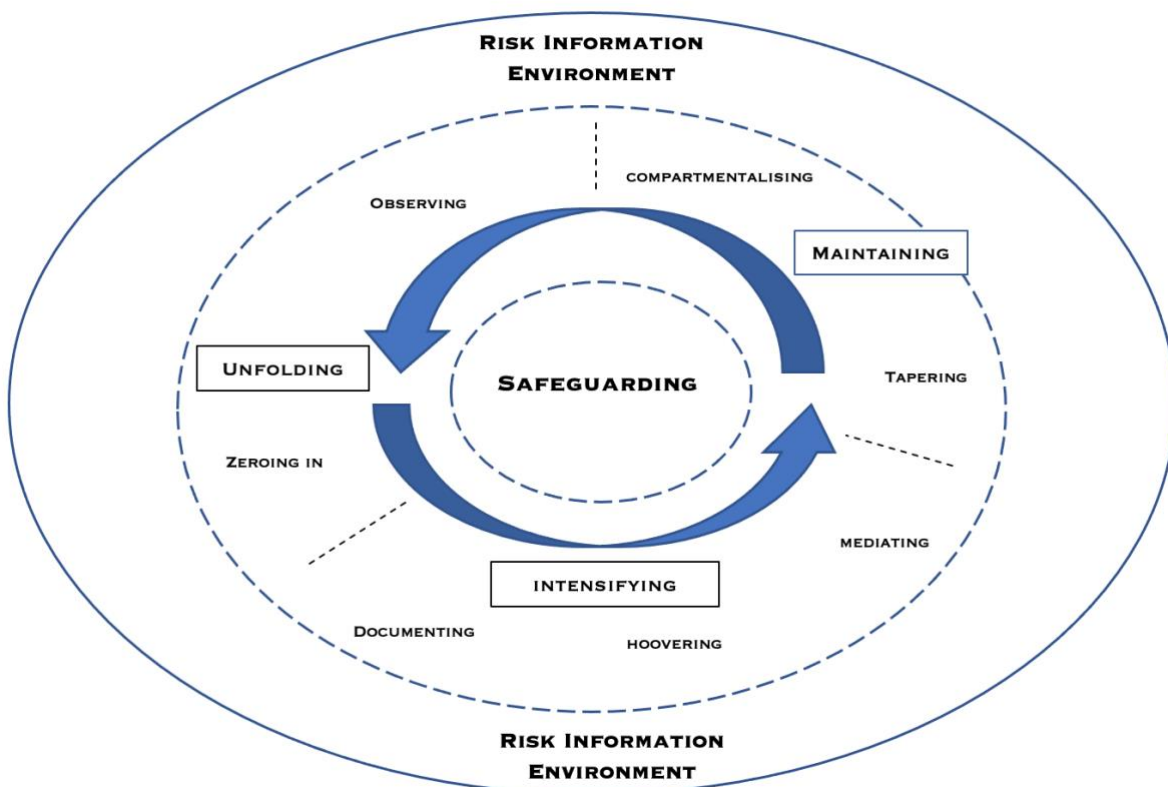


Figure 1: Information landscape of safeguarding (derived from Lloyd, 2017)

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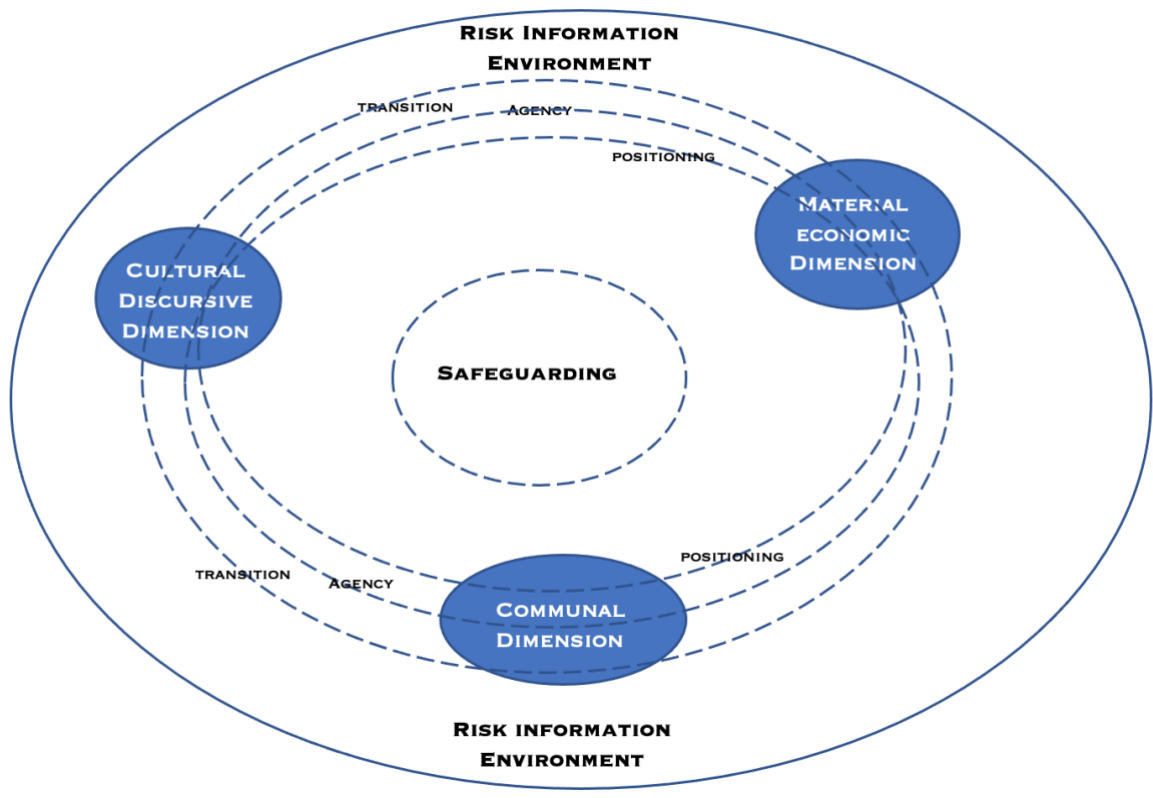


Figure 2: Conceptual themes

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Gender	Location	Age Range	Role	COVID-status	Date Interviewed
Female	Oxfordshire	18-30	Special needs teacher	Key worker	May 2020
Female	Bristol	30-60	Nurse	Working from Home (WFH) / Homeschool	May 2020
Male	Somerset	60+	Doctor	WFH	May 2020
Female	Essex	60+	School administrator	WFH	May 2020
Female	Manchester	30-60	TV crew	Unemployed	May 2020
Female	Hampshire	60+	Retired	Retired	May 2020
Female	Bristol	30-60	Barrister	WFH / Homeschool	May 2020
Male	Glasgow	30-60	Teacher	WFH / Homeschool	May 2020
Female	Birmingham	30-60	Lecturer	WFH	May 2020
Female	Yorkshire	30-60	Fitness Consultant	WFH/ Homeschool	May 2020
Male	London	60+	Human Resources	WFH	June 2020
Male	East Lothian	60+	Retired	Retired	June 2020
Female	London	60+	Poet/ Academic	WFH	June 2020
Female	London	18-30	Student	Student	July 2020
Female	Oxfordshire	60+	Caterer	Furlough	July 2020
Female	Somerset	18-30	Childcare	Key worker	July 2020
Male	Cambridge	60+	Stockbroker	WFH	July 2020

Table 1: Study Participants