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“I Try to Find a Balance”: Investigating Strategies for Self-Regulating Covid News Consumption

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ABSTRACT

Excessive news consumption during global crises (e.g., through regularly monitoring fast-moving developments), can result in information fatigue and anxiety. Indeed, research has highlighted dangerous risks to mental wellbeing from ‘over-consumption’ of Covid-related news. While prior research has examined how people find Covid-related information and sometimes avoid it to prevent overwhelm, no existing studies have investigated how people leverage information seeking, encountering and avoidance (often in concert) to self-regulate their Covid news consumption. We conducted a two-week diary study and follow-up interviews with 16 people. An inductive Thematic Analysis identified several strategies for self-regulating Covid news consumption: *short-term avoidance* of all Covid news, *selective avoidance* (e.g., of news on particular Covid topics), *selective consumption* of Covid news from particular sources, news perceived to be within one’s control, or news likely to be of personal benefit and *conscious consumption* of Covid news by *limiting time spent consuming it*, *relying on passively encountering* (rather than actively seeking) it and *consuming it less frequently* by returning to pre-pandemic news-browsing routines. An understanding of Covid news self-regulation strategies can help digital platforms that provide crisis-related news better support people in regulating their information consumption more effectively which, in turn, can help safeguard their mental wellbeing.

KEYWORDS

COVID-19, information behavior, information seeking, information encountering, information avoidance

INTRODUCTION

Recent years have seen a shift in the way people obtain news; away from obtaining it from traditional news outlets and towards obtaining it on social media; a 2021 survey of US adults noted heavy reliance on social media for staying informed about COVID-19 specifically, with almost 60% indicating they consumed Covid information on social media at least once per week (Neeley et al., 2021). This shift in information behavior means a significant segment of the population (social media users) are exposed to far more news content than ever and this brings with it risks of information fatigue and information anxiety (Bright et al., 2015). In global crises, such as the COVID-19 pandemic, people may feel compelled to regularly monitor online news sources, particularly during the early (and most uncertain) phase. However, excessive news consumption during global crises can exacerbate existing risks of information fatigue and overwhelm (Fitzpatrick, 2022; Stevens et al., 2021; Yang et al., 2022; Skarpa and Garoufallou, 2021) and this can negatively impact on people’s mental wellbeing (Loosen et al., 2021; Fitzpatrick, 2022).

A link between information seeking and health anxiety during COVID-19 has been demonstrated, both cross-sectionally and longitudinally (Jagtap et al., 2021). Furthermore, obsessive-compulsive symptoms in the UK increased during and after the first wave of the pandemic, even after the easing of Covid restrictions (Loosen et al., 2021). These symptoms were found to be “*directly linked to Covid-related information seeking*” (ibid., p.1), highlighting the dangerous mental wellbeing impacts of ‘over-consumption’ of Covid-related information, such as Covid news. Indeed, early in the pandemic, the WHO declared “*we’re not just fighting a pandemic; we’re fighting an infodemic*” (Adhanom Ghebreyesus, 2020) and a March 2020 opinion paper in JASIST echoed this sentiment, calling for deeper engagement from the information science community, including to understand information behavior during the pandemic (Xie et al., (2020). The research reported here addresses this call by focusing on a specific aspect of Covid information acquisition and avoidance behavior; strategies that people put in place to self-regulate their Covid news consumption.

Several studies conducted since the start of the pandemic have investigated information behavior during COVID-19, but these have primarily focused on examining information seeking and avoidance in the early months of the crisis, when little was known about the virus and there was a much higher degree of uncertainty. Given COVID-19’s longevity, it is important to examine people’s information behavior not just at the initial stages but as the pandemic matures; for one, prolonged pandemic-related information consumption can be exhausting and could potentially affect their behavior later in the crisis. Also, while existing studies have examined how people actively seek Covid information (e.g., Huang et al., 2021; Lachlan et al., 2021) and some have examined the role of *passively* encountering (i.e. stumbling upon) health information during the pandemic (Zhang and Zheng, 2021; Zimmerman, 2021), to our knowledge no prior work has examined the gray area between information seeking, encountering and avoidance (i.e., when people do not specifically look for Covid information, but may still consume it if they come across it).

Finally, and perhaps of most societal importance, while existing studies have examined how people actively seek Covid information (e.g., Huang et al., 2021), how they passively encounter it (e.g., Zhang and Zheng, 2021) and how

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they sometimes avoid it to prevent overwhelm (e.g., Kim et al., 2020), to our knowledge no existing research has examined how these approaches are leveraged, often in concert, to self-regulate Covid news consumption.

Our research questions asked how people acquire or avoid Covid-related information (referred to henceforth as ‘Covid information’), and what their strategies and motivations are for doing so. We conducted a two-week diary study and follow-up interviews with 16 people across the US and UK in July 2021, during a phase of the pandemic where global vaccine rollout had begun, lockdowns were lifting, and uncertainty had begun to reduce. We asked participants to document when they acquired or avoided information about COVID-19 and asked them in detail about their rationale behind it. Initial findings revealed that people self-regulated their Covid news consumption and this resulted in a refined research focus to examine *how* and *why* they did so. We found that sixteen months into the pandemic, participants had developed several strategies to self-regulate their consumption of Covid news as a means of striking a balance between staying informed about Covid and protecting their mental wellbeing. An understanding of these kind of strategies is vital for designers of digital news platforms, to support people in regulating their information consumption more effectively, which, in turn, can help safeguard their mental wellbeing.

In this paper, we first discuss background work on information seeking and avoidance when consuming crisis-related information in general, before focusing in on Covid-related information behavior research. Next, we explain and justify our diary study and interview methods, including participant selection and ethical considerations and limitations, and our data analysis approach. We then present our findings, focusing on the strategies people adopted to self-regulate their Covid news consumption. Next, we discuss the implications of our findings for research on information behavior in global crises and for the design of digital platforms that provide crisis news, highlighting potential areas for future research, then we conclude.

BACKGROUND

Information seeking and avoidance when consuming crisis-related information

Since the early 1980s, monitoring and blunting have been considered two key information behaviors for dealing with potentially distressing information, such as crisis-related news (Case et al., 2005). Defined by Miller and Mangan in 1983 in a study of patients at risk for cervical cancer, ‘monitors’ regularly check for information, while ‘blunters’ avoid or distract themselves from it (Miller and Mangan, 1983). Later research focused on how people manage uncertainty when seeking health information (e.g., Brashers et al., 2000; 2001; Sairanen and Savolainen, 2010; Barbour et al., 2012), painting a far more complex, nuanced picture of the relationship between information seeking and avoidance; seeking and avoidance were not separate and orthogonal approaches to information engagement/non-engagement but could work in concert, with people balancing the two to suit their needs. Research on health uncertainty management has also found that information avoidance can be broken down into *comprehensive avoidance* (avoiding all sources that may provide undesirable information about a health issue) and *selective avoidance* (accessing some limited health information to manage uncertainty to suit one’s needs) (Sairanen and Savolainen, 2010). Our research builds on this nuanced complexity by highlighting that seeking and avoidance, as well as passive encountering, are all part of a repertoire of strategies people adopt to self-regulate their Covid news intake.

Covid-related information behavior

Despite the evidence from research on health uncertainty management that information seeking and avoidance are inter-related, most studies that have tried to understand how people seek or avoid Covid information have regarded these concepts as dichotomous. This represented a research opportunity – to understand how people seek, encounter and avoid Covid information through the lens of self-regulation strategies and where they might alternate or combine these approaches to strike a balance between staying informed and safeguarding their mental wellbeing.

Most studies that have investigated Covid-related information behavior can be divided into those that focus on seeking (e.g., Ebrahim et al., 2020; Huang et al., 2021; Liu, 2020; Oosterhoff and Palmer, 2020; Schäfer et al., 2021; Stainback et al., 2020; Yang et al., 2022; Zhang and Zheng, 2021), avoiding (e.g. Siebenhaar et al., 2020; Buneviciene et al., 2021; Link, 2021; Bruin et al, 2021; Qu et al, 2021; Song et al, 2021) or a combination of both, where extensive information seeking may result in overconsumption and, in turn, subsequent avoidance (Ahn et al., 2021; Dreisiebner et al., 2021; Kim et al., 2020; Liu et al, 2021; Nolte et al., 202; Soroya et al., 2021).

Increased exposure to social media during the pandemic was found to contribute to a greater sense of information overload and anxiety, and a person’s anxiety level was found to have a significant impact on their level of information avoidance (Soroya et al., 2021). Other studies demonstrated a link between news consumption in general (i.e., not only on social media) and information overload. For example, a study conducted in German-speaking countries in the first months of the pandemic showed an increase in the demand for reliable information and in the use of public broadcasting, newspapers, and information from public organizations (Dreisiebner et al., 2021). However, the sheer volume and publishing frequency of Covid information during the peak of the crisis led some participants to feel a sense of information overload after intense news consumption, which eventually led to reduced consumption

(Dreisiebner et al., 2021). High levels of Covid news consumption during the first months of the pandemic also led to greater emotional distress (Stainback et al., 2020), and heightened anxiety in parents due to concerns over their children becoming infected (Ebrahim et al., 2020). These findings highlight the importance of understanding how people take actions to self-regulate their Covid news consumption to mitigate the risk of overwhelm. Our research focuses on gaining this understanding.

On compliance with preventative measures such as mask-wearing, one study conducted with US adolescents found those who regularly monitored Covid news had an increased sense of social responsibility, social trust and the severity of the virus and practiced more preventative measures, such as handwashing and social distancing (Siebenhaar et al., 2020). However, while Covid information has been found to have a positive effect on compliance, it can also lead to greater information avoidance and, in turn, *reduced* compliance (Siebenhaar et al., 2020). These findings suggest that people's approaches to engaging or not engaging with Covid information are likely to be complex and nuanced; both consuming 'too much' and 'not enough' Covid information may be detrimental to individuals and society. Our research aims to understand people's complex, nuanced approaches to self-regulating their Covid news consumption.

While most studies of Covid-related information behavior do not try to fit people purely into the role of 'monitors' or 'blunters' as proposed by Miller and Mangan (1983), they tend to focus on a progressive movement from monitoring to blunting - i.e., from information seeking, to reduced seeking, then to avoidance. An increase in Covid news consumption followed by greater avoidance did occur at the beginning of the pandemic in the UK (Reuters Institute, 2020), and indeed, studies reflecting these findings were conducted in the first few months of the pandemic. However, as information behavior has shifted during the COVID-19 pandemic (Montesi, 2021), it is also important to examine information behavior *throughout* crises - as shifts in information behavior (such as a reduction in active seeking, increase in encountering and/or increase in avoidance) might provide useful insight. Our research aims to understand how and why people engage or do not engage with Covid news during a later stage in the pandemic, where people may experience reduced uncertainty, but increased crisis and crisis news fatigue.

As we progress through the information age, with increasing levels of information and technology ubiquity, we now interact with a far richer and more complex information landscape than we once did (Bawden and Robinson, 2008) and appreciate both a broader range and more complex nuance of information behavior within it (Lee et al., 2022). For example, the prevalence and wide availability of online news has increased the possibility of coming across news incidentally, during other activities. This has been recognized as a key way people become informed about current affairs (Yadamsuren and Erdelez, 2010). Some existing studies have examined the role of passive information encountering when acquiring health information during the pandemic. One study compared findings across identical surveys on health information seeking behavior conducted before and during the pandemic and found an increase in passive encounters of health information during COVID-19 (Zimmerman, 2021). Another study found that people who were vaccine-apatetic tended to rely heavily on information encounters to make their decision on whether to get vaccinated for COVID-19 (Zhang and Zheng, 2021), perhaps because they did not consider it important enough to invest time actively seeking Covid vaccine information. Our research examines the role passive information encountering plays in people's Covid news consumption and in their strategies for self-regulating it. In doing so, it examines the gray area between information seeking, encountering and avoidance (i.e., when people do not specifically look for Covid news, but may still consume it if they come across it).

METHODS

To gain an enriched understanding of how people actively seek, passively encounter and avoid Covid-related news, we conducted a two-week diary study with 16 people: 5 male and 11 female, 5 aged 30-39, 7 aged 40-49, 2 aged 50-59 and 2 aged 60-69. The study was conducted via WhatsApp messenger over 25 days, between July 15-August 9, 2021. Although we embarked on the study with a broad research focus, initial findings demonstrated that people self-regulated their Covid news consumption and this resulted in a refined research focus to examine *how* and *why* they did so. We conducted the study during a phase of the pandemic where global vaccine rollout had begun, lockdowns were lifting, and uncertainty had begun to reduce. Participants received daily text prompts to screenshot any Covid news they found that day and explain how they found it. The prompts also asked them to state if they deliberately did not look for Covid news that day, or considered it but decided not to, and to explain why. We also conducted semi-structured follow-up interviews at the end of each week. We now explain and justify our participant recruitment strategy, then our diary study, interview and data analysis approaches.

Participant recruitment and ethical considerations

We initially recruited 18 participants. Two dropped out, leaving a sample size of 16. This sample was in line with documented diary studies of information behavior (e.g., Makri et al., 2017; Sun et al., 2011) and provided ample data to address our research aim. Participants were recruited from across two countries: the US and UK. Both countries were at similar stages in the pandemic, but rules on preventative measures such as social distancing and indoor mask-wearing differed. We conducted the study across two countries to ensure our findings were not localized, and therefore

generalizable. However, our aim was not to compare strategies or behaviors across the US and the UK. Participants were recruited based on the researcher's personal and professional contacts, via e-mail. While this risked recruiting participants that had similar characteristics to the researcher (e.g., information acquisition preferences, political ideologies, or educational levels), we noted extensive variation in information behavior in the data.

We first sent participants an informal e-mail detailing the study focus (how people decide to look for or not look for Covid-related news during the pandemic) and what would be required (responding to two questions via WhatsApp message at least once a day for two weeks, taking screenshots of Covid news they found, and participating in weekly remote interviews). We then asked participants if they had either acquired or avoided Covid news in the past month and only recruited those who had, so we could be fairly confident there would be at least some engagement with Covid news over the diary study period. The data reflected strong engagement with Covid news.

In the study instructions, we asked participants to avoid engaging with or logging any information they might find distressing and to contact us if they became distressed during the study. While wellbeing was not our study's specific focus, we recognized Covid news had potential to distress, so prepared a list of Covid-related mental health resources to provide any distressed participants. None reported distress. Participants were also informed they could pause or stop the study at any time and that their data would be anonymized and stored on an encrypted and password-protected device. The study received ethical approval from the Department of Computer Science's Ethics Committee.

Diary study

We chose a diary study as our primary data capture method because it allows for in-situ capture of rich, naturally occurring data over time. It is also less obtrusive than observation (Carter and Mankoff, 2005) and has been used successfully to understand information behavior (e.g., see Makri et al., 2017). Before the study, we briefed participants on the different types of information acquisition and non-acquisition we were interested in exploring (*seeking, encountering and avoiding*). We told participants it was essential they approached Covid news as naturally as possible and should not look for or avoid any news they would not normally. While an enhanced awareness of seeking, encountering and avoiding Covid-related news may have influenced the frequency of these behaviors, we did not notice any influence on the strategies reported. We also unpacked the term 'Covid-related news,' so they knew what information to log; news from any source where Covid had some bearing, whether about the spread of infection rates or an increase in local bird populations during lockdown. The news could be on any platform (e.g., news sites, news aggregators, social media, websites, podcasts, streaming services etc.) and in any format (e.g., text, image, audio, video).

To encourage daily participation, participants were sent a daily text message prompt to ascertain if they had actively *looked for*, passively *encountered*, or *avoided* Covid news that day. If they *actively looked for* Covid news, these prompts asked *what* kind of information they were looking for, if they considered it *interesting* or *potentially useful*, and *why* or *why not*. If they *passively found* Covid-related news without looking for it, we asked *how they found it* (e.g., when looking for other information, through an alert or notification, when browsing, when not looking for any information at all) and if they found it *interesting* or *potentially useful*. If they *considered but decided not to look for information*, we asked *what made them consider looking* and *what made them decide not to*; and if they *decided not to look for information*, we asked *why*. We asked participants to respond to these prompts at least daily. We used a lightweight text-and-answer form of diary-keeping via WhatsApp to encourage daily participation. If participants did not respond to prompts one day, they were reminded the next day to respond to the previous day's prompts.

Follow-up interviews

At the end of each of the two weeks, we conducted 40-60 minute semi-structured remote interviews with each participant over Zoom. The interviews delved deeper into participants' responses to prompts throughout the previous week, particularly to ascertain the motivations behind their acquisition and/or avoidance behavior. We asked participants to elaborate on key instances of acquisition/avoidance they had logged on WhatsApp, using their text response and screenshots as interview prompts. For example, we asked them for more detail on *why they looked for or avoided the information, what they felt, thought or did after finding the information, whether and why they considered the information they found useful or not* and *what prompted any decisions where they decided not to look for Covid news that day or considered doing so but decided not to*. As the goal of the interviews was to delve deeper into the data provided by the participants themselves, many of the questions varied depending on the diary data and some were generated on the spot to explore a line of inquiry based on participants' responses.

At the end of the second-week interview, we asked participants to *reflect on their information behavior over the past two weeks and compare it to their behavior earlier in the pandemic*. To help trigger their memory about earlier in the pandemic, we provided a timeline of key Covid-related events in the US or UK at the beginning of the pandemic. This helped to situate the study findings in the context of an ongoing pandemic.

Data analysis

We analyzed the diary and interview data using a primarily inductive Thematic Analysis approach (Braun and Clarke, 2021), where we derived the codes and overarching themes from the data itself. This was supported by importing the WhatsApp diary entries and interview transcripts into NVivo. As it is impossible to approach data without prior existing knowledge of key theoretical concepts (Braun and Clarke, 2021), this inductive analysis was undertaken in consultation with prior literature; in particular, we used the concepts of *active information seeking*, *passive information encountering* and *information avoidance* as ‘sensitizing concepts’ (Reeves, 2011). Codes generally consisted of micro-level patterns in the data such as *crisis fatigue*, *managing uncertainty* and *dislike of clickbait articles*. Overarching themes synthesized these codes into an explanatory account of *how* and *why* people self-regulated their Covid news consumption and formed a set of self-regulation strategies. For example, one theme (and self-regulation strategy) was that people avoided all Covid news on certain days because they were concerned about the impact constant news consumption would have on their mental wellbeing. This theme is presented in the findings as *“I need a day off”*: *Short-term comprehensive avoidance of all Covid news*. Some other strategies included *selective avoidance of Covid news likely to cause distress* and *conscious consumption by limiting time spent consuming news*. As the prevalence of codes or themes in a Thematic Analysis does not necessarily imply importance, and can potentially mislead (Braun and Clarke, 2021), we do not report number of occurrences of patterns in our data. Instead, we use approximate terms such as ‘some,’ ‘most,’ and ‘many’ participants.

FINDINGS

We now discuss the *strategies people used to self-regulate their Covid news consumption*. These include *short-term comprehensive avoidance* of all Covid news, *selective avoidance* of particular Covid topics or news likely to cause distress, *selective consumption* of Covid news only from particular sources, news perceived to be within their locus of control, or news likely to be of personal benefit and *conscious consumption* of Covid news by *limiting time spent consuming it*, *relying on passively encountering* (rather than actively seeking) it and *consuming it less frequently* - by returning to their pre-pandemic news browsing routines.

While some of these strategies relate specifically to information avoidance or consumption (e.g., short-term avoidance of all Covid news) many can be framed as either, or both. For example, participants *selectively avoided* some Covid topics while *selectively consuming* news on others. However, they framed this behavior as selective avoidance, and we report it as such. The same applies to most of the strategies; for example, *selectively consuming* only Covid news that is passively encountered essentially means *selectively avoiding* news that is actively sought. Also, while there is some conceptual overlap between strategies, this reflects their non-discrete nature; they were often used in concert to strike an effective balance between staying informed about Covid and protecting mental wellbeing.

Strategies for self-regulating Covid news consumption

Sixteen months into the pandemic, participants had come to realize this would be a long-term crisis and were taking steps to strike a balance between staying informed and protecting their mental wellbeing - by adopting strategies to self-regulate their Covid news consumption. This was more nuanced than simply ‘seeking’ or ‘avoiding’ Covid news; P5 referred to the days she consciously and deliberately chose not to look at news not as avoiding, but ‘trying to find a balance’ between information consumption and non-consumption: *“I try to find a balance...I do not spend hours Googling what's going on with Covid. I try to find topics that are interesting to me or take a break for a day or two. I do not think I would want to not know anything”* (P5).

Whether by avoiding the news for few days, limiting the amount of time consuming Covid news, or avoiding specific Covid topics they might find distressing, most participants tried to strike a balance between staying informed about Covid and going about the rest of their lives as much as possible. The combination of a 24-hour news cycle, the intensity of news headlines designed to evoke negative emotions and convince readers to click, and the natural uncertainty of the pandemic had left participants feeling anxious, tired, depressed and somewhat numb: *“I'm really trying hard to not actively consume any information about Covid because it depresses me too much. [The news] is so bombard-y, telling us about...villages of people dying in Italy...and because news is 24-7, I feel like it kind of makes you immune to really horrible news”* (P13). Self-regulating their Covid news consumption was a way of countering ‘crisis fatigue,’ while safeguarding their mental wellbeing. We now discuss each of their strategies for self-regulating their Covid news consumption:

“I need a day off”: Short-term comprehensive avoidance of all Covid news

One of most common ways participants self-regulated their Covid news consumption was to alternate between consuming Covid news for several consecutive days and avoiding it for a few days after. On the days they avoided Covid news, they would either stay away from their devices, actively choose not to seek it, and/or avoid browsing news altogether (as they knew much of it would be Covid-related). They did this to counter Covid news fatigue and overwhelm and did not think it negatively affected their desire to keep up with Covid in general as, at this stage in the pandemic, most deemed much Covid news repetitive (and therefore redundant). They also considered it not as fast-

moving as earlier in the pandemic, so they thought they could catch up later if needed. For example, P3 wrote in her WhatsApp diary that she did not consider looking up Covid news one day because she “*needed a break*” and was “*feeling very overwhelmed by news.*” In her interview, she stated if there was no big Covid news going on now, she had rather avoid it that day: “*it affects me directly and very personally. It's just if there's no new news...I probably do not need to sit with it in my brain every single day.*” P4 also practiced short-term avoidance, stating “*there was a time when I liked reading the news...but in this era of constant crisis, it's just one thing after another...if it's not Covid, it's protests...fires...mass shootings...after a certain point, it just becomes a bunch of noise...it's tired me out.*”

“I’m not clicking on that topic”: *Selective avoidance of news on particular Covid topics*

Another way participants self-regulated their Covid news consumption was to selectively avoid specific Covid topics - either by purposefully not clicking on a topic when they stumbled upon it or declining to look it up while remaining open to consuming other information about Covid. On the same day that P6 actively searched for experiential information from those with long Covid symptoms, she passively encountered a Facebook post from Heather Cox Richardson and selectively avoided news about new Covid variants *Epsilon* and *Lambda* in her Twitter feed. This meant that in a single day, P6 actively *sought*, passively *encountered* and selectively *avoided* different Covid information. News about long Covid might be distressing for some, but P6 had not reached the point where it was too distressing to look up - unlike information about the new Covid variants. Similarly, P18 avoided looking up the side effects of her specific vaccine in advance of receiving a second dose.

“Is this going to upset me?”: *Selective avoidance of Covid news likely to cause distress*

As the pandemic progressed, many participants reflected on the usefulness of Covid news and how far it potentially contributed to their feelings of anxiety, sadness, or frustration. In the diary study, P16 reported browsing the *New York Times* to see the day’s headlines, which involved skimming but not fully reading an article entitled ‘Covid Death Toll in India is Likely Beyond 3 Million.’ In her interview, P16 explained: “*there's a certain kind of triage I do: Is this only going to upset me if I read it? Or am I going to learn something? And that death toll from India, it's like, no, I'm not going to learn something. It's just going to make me more anxious and feel horrible, so I didn't read it.*” This triaging, based on assessment of likeliness to cause distress, was another strategy for self-regulating Covid news consumption. Although likeliness to cause distress was often related to a news article’s topic, and therefore this strategy overlaps with topic-based selective avoidance, it was a prominent theme nonetheless.

“I only want news from these places”: *Selective consumption of Covid news only from particular sources*

Some participants selectively consumed Covid news only from certain sources. On one hand, this served as a self-regulation strategy for mitigating against excessive Covid news consumption, as it restricted consumption of news from other sources. On the other, it also served to ensure a *more appropriate quality* of news. This was often news that contained balanced opinion, or thoughtful critical analysis, enabling participants to better understand the nature of and context surrounding the pandemic. This translated into prioritizing long-form news articles with more extensive reporting and analysis, or listening to podcasts that took the time to question prevailing findings. This was often at the expense of consuming shorter, less detailed ‘attention-grabbing’ articles from other news sources. For example, P4 stated he wanted Covid news he consumed to be “*substantive, not just doomscrolling.*” He liked the *New Yorker*, as “*they spend a lot of time with different sources... there's much more on-the-ground reportage and interviewing.*” Although P4 considered Reuters to be “*less about the depth of reporting,*” he liked the “*dispassionate and objective*” reporting style, stating “*it does not create a tone of constant terror and hysteria.*” Similarly, P4 found a *New Yorker* interview with NYC Councilmember Mark Levine interesting (Figure 1), as it evaluated the pros and cons of mandating indoor mask-wearing from several perspectives (i.e., economic and social, in addition to public health).



Figure 1. New Yorker article that evaluated pros and cons of indoor masking from multiple perspectives

“I only want to read what’s in my control”: *Selective consumption of Covid news perceived to be within one’s internal locus of control*

Most participants wanted to focus on Covid news that was personally relevant to them, especially when it could lead them to affect change in their lives. Most information seeking was prompted by a desire for Covid news that directly affected participants’ health or personal movement, like mask-wearing, social-distancing rules, and the development of booster vaccines. With travel borders starting to open, participants wanted to find out about certain countries’ Covid

travel restrictions in advance of a trip they or someone they knew were considering taking. While some participants like P6 found news about antivaxxers useful so she could learn more “*about how they think*,” most information was regarded as useful if it helped guide what preventative measures participants should be taking.

With cases rising, P16 searched online to find the most protective face mask (Figure 2, left). She found an article from *Good Housekeeping* (Fig. 2, right), a source she usually did not read. In her interview, she discussed how her media consumption had changed since the pandemic: “*during Covid information became much more transactional about survival. You know, okay, do I feel safe wearing a mask? Okay, what kind of mask?...it's much more seeking information to base a decision on about behavior.*” (P16).

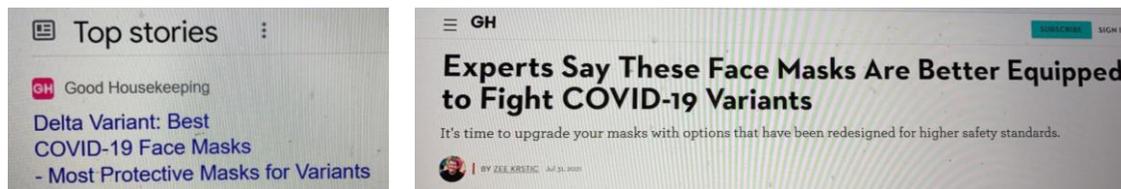


Figure 2. News search to find the best face mask (left). Encountered Good Housekeeping article (right)

P9 struggled with the balance between staying informed about Covid’s broad global impact and choosing to focus on Covid topics that personally affected her own safety and health. P9 commented she wanted to avoid getting addicted to ‘pandemic porn’: “*it's like reading compulsively every single thing I could about it, devastation here and devastation there, and that's not healthy or good*”. While focusing on only what personally affected her felt “selfish”, this was an area she felt she had control over.

***“I want to read it on my time, not theirs”:* Conscious consumption by limiting time spent consuming news**

Most participants took active steps to limit time spent consuming Covid news. Some (e.g., P1 and P4) limited their consumption by choosing to read the news usually only on weekday mornings before work. Regarding his news consumption, P1 stated “*I limit it to just once a day... I can get enough information, but I'm not overwhelmed by it.*” When P15 wanted to reduce his Covid news intake, he scrolled past headlines instead of reading the full article. So, while not totally avoiding information, he “*would say I spend a lot less time on the site looking*” (P15).

Sometimes participants found that reading the headline was enough. When P5 noticed articles posted on Reddit on California State University mandating vaccines, Nevada mandating masks and Biden announcing vaccine requirements, she “*did not click on them, but learned something new by just seeing the title.*” In her interview, she explained “*a year ago, it was different. But now I think just even seeing the blurbs, the titles...that's enough of an information dump.*” Most participants had not signed up for alerts and notifications due to a general dislike of receiving push-based news. A side effect of this was that it helped reduce the amount of the day they spent reading Covid news; P15 stated “*[Alerts and notifications] would drive me nuts...I just want to read it on my time, not on their time.*”

***“I'll read it when it comes to me”:* Conscious consumption by relying on passively encountering (rather than actively seeking) Covid news**

Some participants relied on passively encountering (rather than actively seeking) Covid news to self-regulate their Covid news consumption. They did this so that they continued to consume Covid news of interest, but without dedicating the same amount of time and effort that active information seeking required. Furthermore, some passive encounters of Covid news led participants to actively seek more information about specific Covid topics, or other related topics. When the news they encountered sparked interest or appeared to have a bearing on their personal choices (e.g., mask-wearing, vaccination), participants conducted follow-up searches on it. But they only did so under those circumstances; otherwise, they limited their Covid-related news consumption by *not* following-up on encountered information. This approach to self-regulation allowed them to maintain control while in this ‘passive’ mode of information absorption, without having to expend as much effort when actively seeking. Encountering leading to active seeking has been discussed in prior information behavior research (e.g., Erdelez & Makri, 2020; McKay et al. 2020), but not in the context of self-regulating information consumption.

For example, P13 encountered Covid news during a Google Hangouts session with an aunt (Figure 3) and Zoom work call with a colleague, both of whom she was surprised had become infected with COVID-19. “*I always thought that people who were careless, reckless, do not wear masks, they're the sort of people that get Covid, not my aunt. So, I was thinking, well, this is something I could also get.*” These encounters led her to consult a UK government site about what to expect after a single Covid vaccination dose; she learned she can still contract the virus after the one dose she had received, as vaccination does not eliminate the possibility of contracting Covid.



Figure 3. Encountered information linking to an official UK Government source on COVID-19 vaccination

“I’m returning to my old routine”: Conscious consumption of Covid news by consuming it less frequently

Most participants noted a distinct shift in their interaction with Covid news in the sixteen months since 11 March 2020, when COVID-19 was first declared a pandemic by the WHO (Adhanom Ghebreyesus, 2020). In reflecting on the diary study, P16 mentioned that her answers would have been very different six months or a year ago, *“because then I was actively hunting for every scrap of information I could get.”* While most participants spent the early months of the pandemic actively searching for all possible news about it due to the initial novelty of and uncertainty around the disease, many of them stated they were now far more passive with their news intake. While some did continue to actively monitor national and local Covid cases daily, many preferred to acquire the latest Covid news through their routine daily scrolls of news organization sites, news streaming services (e.g., news radio) and news and social media feeds. This habitual news browsing was more akin to participants’ pre-pandemic routines than the daily active seeking they did at the start of the pandemic. It reflects *conscious consumption of Covid news by consuming it less frequently*. It also overlaps with *relying on passively encountering*, as often their pre-pandemic news acquisition routines placed less emphasis on *actively seeking* news and greater emphasis on *passively encountering* it.

For some, reducing how frequently they consumed Covid news came with the development and deployment of Covid vaccines. Once vaccinated, some participants said they no longer needed to seek information as often as before, as more was now known about the virus and how they could protect themselves. On her changing consumption patterns of Covid news, P11 remarked: *“I’m not actively seeking it out. It’s more just like, I read the headlines. And I think that maybe the vaccines have really given me reassurance and hope.”* This more passive attitude to Covid news acquisition was also fueled in part by the belief expressed by some participants that if any significant change occurs, they will be alerted to it regardless: either through an email they receive or second-hand via people they knew. As Covid continued to dominate headlines, its prevalence increased the chances that participants would passively encounter Covid news during their regular morning news scroll or in going about their day, as reported by P18: *“I don’t really feel the need to look as much...I think when there was less information and less of a plan available, I was trying to plug the gaps.”* Even sixteen months into the pandemic, Covid news was still omnipresent. This meant that even when participants were not specifically seeking it, it was everywhere: *“I found Covid-related info everywhere I looked, but I wasn’t looking for it actively”* (P15). For P15, this included when browsing the front page of the *Boston Globe*, in an article on the NPR website about an NHL hockey player coming out, in a regular (non-Covid-related) podcast and on the HBO show *In Treatment*. This enabled participants to actively seek, and therefore consume, Covid news less frequently while returning to their pre-pandemic news browsing routines.

Summary of strategies for self-regulating Covid news consumption

Participants adopted a variety of strategies for self-regulating their Covid news consumption: *short-term comprehensive avoidance* of Covid news by taking a break from news consumption, *selective avoidance* of specific Covid news topics and news likely to cause distress or not provide personal benefit, *selective consumption* of Covid news only from particular sources, of news perceived to be within their locus of control and of news triaged based on an assessment of likely benefit or distress and *conscious consumption* of Covid news by *limiting time spent consuming it*, *relying on passively encountering* (rather than actively seeking) it and *consuming it less frequently* - by returning to their pre-pandemic news browsing routines. These strategies highlight that, when deciding whether to consume Covid news, people try to dynamically strike an often-delicate balance between staying informed about the pandemic and safeguarding their mental wellbeing.

DISCUSSION

Implications for research on information behavior in global crises

Most prior studies of Covid-related information behavior have represented information seeking and avoidance as discrete, dichotomous behaviors and have not focused prominently on the role passive information encountering plays in deciding whether to engage with Covid information. Our findings paint a more complex, nuanced picture; participants selectively engaged and disengaged with Covid news dynamically, to self-regulate their Covid news consumption and thereby protect their mental wellbeing. Some participants, even in a single day, actively sought some types of Covid news, while avoiding others and followed-up on passive encounters by deciding to consume Covid news they had not actively sought but found interesting. These findings highlight that information acquisition and avoidance may be best considered not as either/or choices to engage or not engage with information, but as complementary approaches to information engagement and disengagement that can be applied dynamically to strike an effective balance between staying informed and safeguarding one’s mental wellbeing.

Sometimes participants self-regulated their Covid news consumption by temporarily *pausing their entire Covid news intake*, other times by *selectively avoiding specific Covid news topics*, such as those likely to distress them or unlikely to benefit them personally, or *selectively consuming* Covid news only from certain sources, or on topics they perceived to be within their locus of control. As well as explicitly consuming and avoiding certain types of Covid news, sometimes they selectively consumed news implicitly, by *relying on passively encountering* rather than on active seeking it. This dynamic act of ‘balance-seeking’ (between staying informed and mitigating personal harm) is highly important in managing the uncertainty of health information, (Sairanen and Savolainen, 2010), but has not featured prominently in prior explanatory accounts of Covid-related information behavior. ‘Balance-seeking’ characterized the overarching motivation behind the strategies people adopted to self-regulate their Covid news intake and these strategies were central to how they chose to engage or not engage with Covid news content. Future research could further examine the conscious and unconscious interplay between information seeking, encountering and avoidance.

While existing studies have highlighted that extensive Covid information seeking can ultimately lead to avoidance (Soroya et al., 2021), they have not discussed comprehensive avoidance as a means of self-regulating Covid news consumption. Most participants comprehensively avoided all Covid news a few days each week, which they described as ‘just needing a break’ from Covid. Many also said they avoided Covid news because they found that it, during the current stage of the pandemic, did not change much from day to day and was therefore repetitive, and often redundant. Some participants mentioned that even on days where they actively sought Covid news, they also selectively avoided or just briefly skimmed articles on certain Covid topics. Participants selectively avoided information they found depressing and might lead to them feeling distressed, but also information over which they felt they had little control, such as mass deaths in India, the side effects of a vaccine, or the possible spread of new Covid variants. They instead chose to focus on seeking information that gave them a greater sense of self-efficacy or control, like learning about the best masks to buy, travel regulations to follow, and other preventative measures. While selective and comprehensive information avoidance have been documented as general approaches to health uncertainty management (Sairanen and Savolainen, 2010), they have so far been absent from discussions on information avoidance during COVID-19 (see, e.g., Dreisiebner et al., 2021; Soroya et al, 2021). A more nuanced understanding of the complex motivations behind people’s decisions to engage or not engage with Covid news is essential for supporting people to ‘strike their own balance’ between crisis news consumption and non-consumption. Future research could examine how people trade-off various factors (e.g., informational, task-based, emotional) when striking this balance.

These findings are consistent with prior research into the impact of locus of control and self-efficacy on information consumption and mental wellbeing (Katz, 1968; Bandura, 1977; 1986). Feelings of powerlessness can lead to reduced information seeking when people feel there is no point learning more about things they have no control over, i.e., when they perceive the locus of control to be external rather than internal (Katz, 1968). A person’s sense of locus of control can affect their feelings of self-efficacy; if they think an outcome is determined by factors they do not control, searching for information becomes pointless and avoiding it can become more appealing (Bandura, 1986). Prior Covid information behavior research has also found a link between locus of control, self-efficacy and depression; during COVID-19, having an external locus of control increased depressive symptoms while an internal locus of control decreased them (Sigurvinsdottir, et al., 2020). As perceiving a strong internal locus of control can help protect mental wellbeing (ibid), supporting people to develop an internal locus of control may be especially beneficial during a global health crisis and future research could be targeted at determining the most effective ways of providing this support.

Due to the high prevalence of Covid news, some participants expected to come across Covid news easily enough while browsing online or tuning into news streaming services. This form of leisure-time web use has been described as ‘respite’ and, when information is passively consumed (e.g., streamed video/radio shows), as ‘lean-back internet’ (Lindley et al., 2012). During times of leisurely ‘respite’ or ‘lean-back internet,’ our participants sometimes unexpectedly encountered interesting or useful Covid information. Some of these passive encounters sparked active searches to further explore or verify the information - a common way of following-up on encountered information (Erdelez and Makri, 2020; McKay et al., 2020). Some of participants’ Covid news acquisition was characterized by a *reliance* on passive encountering (rather than active seeking). This was a conceptual ‘leaning back’ that allowed them to limit the time and energy they spent seeking and consuming Covid news. Further research into how people leverage passive encountering to promote mental wellbeing could be fruitful, both within and beyond crisis contexts.

The changes in Covid news acquisition since the start of the pandemic participants reported can also be framed as a strategy for self-regulating their Covid news consumption; while many described frequent monitoring of Covid developments several times per day early in the pandemic, by this stage the novelty of and uncertainty surrounding the disease had decreased. This signaled a switch to a return to their more casual pre-pandemic routine of (often daily) browsing of all news headlines, not just those related to Covid. By obtaining Covid news less often, participants mitigated against the potentially detrimental long-term effects of frequent Covid news consumption; it would have been difficult and perhaps harmful to maintain the same level of consumption as earlier in the pandemic. This also allowed them to experience as much of a return to their pre-pandemic habits as possible. These findings highlight the

importance of studying information behavior *throughout* global health crises and highlight the need for more longitudinal research into crisis-related information behavior to better understand the key impacts of shifts in behavior. Overall, these findings emphasize the importance of supporting people in regulating their crisis-news consumption to help safeguard their mental well-being.

Implications for the design of digital platforms that provide crisis-related news

Our findings also have implications for the design of digital platforms that provide crisis-related news content (i.e., crisis-news platforms). As a general principle, these platforms should respect the need for people to self-regulate their news consumption during crises and support them in doing so effectively, by supporting them in acquiring information through the right mode (active or passive) and the at the right time - when wanting to seek rather than avoid it. We outline four broad design guidelines for achieving this:

1) Crisis-news platforms should support a variety of information behaviors beyond seeking and avoiding. Our findings highlight the importance of understanding information behavior during a global health crisis not just in terms of seeking and avoiding, but as part of a web of interconnected behaviors in which *passive encountering* was just as important as active seeking, particularly further into the pandemic.

2) Crisis-news platforms should consider that news consumers may want to selectively avoid some crisis topics but seek information about others. *Selective avoidance* of certain pandemic topics was a strategy participants used to strike a balance between staying informed and protecting their mental wellbeing, particularly when faced with topics they felt they had no control over. *Selective consumption* of Covid news from particular sources also allowed participants to strike this balance.

3) Crisis-news platforms should acknowledge feelings of powerlessness engendered by global health crises and aim to empower news consumers.

Participants tended to seek out *Covid news perceived to be within their internal locus of self-control*; there is a need for crisis-news platforms to focus on empowering rather than disempowering news consumers. This concurs with previous recommendations from Olagoke et al. (2020) and Sigurvinsdottir et al. (2020).

4) Crisis-news platforms should consider the changing needs of news consumers over the course of long-term health crises and the need to balance staying informed and protecting mental wellbeing. Participants had been exposed to 16 months of negative Covid news and felt fatigued, with some turning to *passively encountering (rather than actively seeking) Covid news*. Crisis-news platforms should be designed with these considerations in mind and help news consumers in their aim to strike the important balance between staying informed and protecting their own mental wellbeing; staying informed over long periods of time could have positive benefits for them in the future.

CONCLUSION

We found that people adopt several strategies to self-regulate their Covid news consumption, spanning *short-term comprehensive avoidance* of all Covid news, *selective consumption* and *selective avoidance* of certain news, and *conscious consumption* of news (for example, by limiting time spent consuming it, relying on passively encountering rather than actively seeking it, and consuming it less frequently). All these strategies are characterized by the desire to *strike an (often difficult) balance between staying informed of Covid developments and protecting one's mental wellbeing*. These strategies paint a more complex, nuanced picture of information behavior beyond the seeking-avoidance dichotomy that has been the focus of many studies of Covid-related information behavior. Participants flexibly leveraged active information seeking, passive information encountering and information avoidance as integral components of individual strategies, often employing them in concert. For example, they actively sought some types of Covid news while avoiding others and remaining open to consuming news they passively encountered. An understanding of these strategies can help digital platforms that provide crisis-related news better support people in regulating their information consumption more effectively which, in turn, can help safeguard their mental wellbeing.

Because both active and passive information acquisition have the potential to reduce *or* increase uncertainty and anxiety, information provision during a pandemic must be responsive to peoples' situational and informational needs, preferences and, most of all, how consuming such information makes them feel. Giving people the agency to control what, when, and how much information they receive, through their choice of either passive or active acquisition, is a key principle for the design of future digital platforms that provide access to crisis-related news. By considering how information can both help and hinder during a pandemic, designers of digital platforms can support not only people's informational needs, but also assist them in safeguarding their more basic needs - like the need to sustain their mental wellbeing in times of crisis. Furthermore, in line with the ASIS&T 2022 conference theme, the findings from this research can help us *re-imagine an information-resilient society* that better deals with crisis information through more appropriate information provision. How best to achieve these aspirations remain important avenues for future research.

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