
Proceedings Paper:
Fallatah, K., Harvey, M. orcid.org/0000-0001-5504-2089 and Rutter, S. (2024) Health information post-encountering behaviours on social media platforms. In: Wilson, T.D., (ed.) Information Research, Special Issue: Proceedings of the 15th ISIC - The Information Behaviour Conference. 2024 Information Seeking in Context Conference (ISIC), 26-29 Aug 2024, Aalborg, Denmark. University of Borås , pp. 253-274.

https://doi.org/10.47989/ir292826

Information Research, Special Issue: Proceedings of the 15th ISIC - The Information Behaviour Conference, Aalborg, Denmark, August 26-29, 2024

Health information post-encountering behaviours on social media platforms

Khalid U Fallatah, Morgan A Harvey, and Sophie Rutter
DOI: https://doi.org/10.47989/ir292826

Abstract

Introduction. While much research has been done into how people encounter information, little has investigated post-encountering behaviours and their motivating factors. This exploratory study aims to study people's behaviours after encountering health information on social media platforms.

Method. Participants were recruited through the X platform (previously Twitter) by posting an invitation about the study. 39 participants from the UK took part in the diary study conducted from 3 June 2023 to 1 July 2023. Using their personal social media platforms, they submitted 71 diary entries of encountered health information through an online form.

Analysis. Inductive content analysis (open coding) was used for the analysis.

Results. The findings show that participants' post-encountering behaviours consist of saving, sharing, directly using, discussing, exploring, ignoring, returning to browsing, and making mental notes of encountered health information. Our results indicate that participants are likely to experience emotional changes due to the influence of the health information they encounter. Findings also show that the influencing factors can be grouped into personal, informational, and health-related factors.

Conclusions. This study provides insights into the nature of health information post-encountering behaviours on an everyday basis and their motivating factors. It also highlights the need for more in-depth investigations into the potential factors that moderate their relationships.

Introduction

Social media platforms have evolved from socialising sites to become important sources of health information (Chen and Wang, 2021). The significance of health information dissemination on these platforms has become evident, particularly during the global COVID-19 pandemic. During this time, it has become increasingly apparent that social media platforms are used to access, acquire, share, and engage with health information (Barua et al., 2021). Through these platforms, encountering useful health information can easily be accessed and disseminated in real-time to a wide range of audiences globally. Such health information could educate and empower individuals to make informed decisions about their well-being (Ming, 2023; Wang, 2019). It could also help motivate behavioural change and increase awareness of health issues, particularly during health crises (Buchanan, 2016; Kim et al., 2023; Soroya et al., 2021).

Encountering health information on social media platforms involves passively consuming health-related content that appears on an individual feed or timeline without actively searching for it (Erdelez et al., 2005; Erdelez and Makri, 2020). On such platforms, unexpected exposure to health information can come from various sources and is driven largely by algorithms based on relevance and engagement metrics (Gillespie, 2014; Narayanan, 2023). Consequently, individuals are expected to exhibit different behaviours from those who actively invest time and effort to seek health information (Agarwal, 2015).

Furthermore, with the huge amount of available health information on these platforms, individuals are exposed to a wide range of health misinformation information, such as incomplete, misrepresented or false health information. Studies have found a significant percentage of inaccurate and unreliable health information on such platforms (Denniss et al., 2023; Swetland et al., 2021). Also, the widespread health misinformation on social media platforms has made it common for individuals to encounter such information regularly (Li et al., 2022; Suarez-Lledo and Alvarez-Galvez, 2021). This issue is particularly concerning since individuals may use unreliable information to make health-related decisions.

Despite the abundance of studies on health information on social media platforms, there is little understanding of how individuals behave after encountering health information. Post-encountering behaviours can be critical in determining how they acquire, apply, validate and share health-related content on social media platforms. Also, these post-encountering behaviours, such as sharing encountered health information, play a crucial role in disseminating health-related content, which can negatively affect individuals and public health (Chen and Wang, 2021; Marocolo et al., 2021). The existing body of literature on information encountering has mainly concentrated on providing a holistic view of the occurrence and process of information encountering (Erdelez and Makri, 2020; Liu et al., 2021). While these insights provide a foundational understanding of information-encountering behaviours, it is essential to investigate how and why individuals behave after encountering health information.

Moreover, existing research falls short in providing insights into the factors that motivate diverse post-encountering behaviours with health information. The complicated interplay of personal traits, health needs, and other information-related factors in shaping individuals' behaviours is not well identified. Recognising these influencing factors is crucial for a better understanding of post-encountering behaviours. Emotional state is another element that influences and significantly impacts how individuals respond to information (Sun et al., 2022; C. Wang et al., 2017). Surprisingly, the influence of encountered health information on emotional states, particularly in the context of health information encounters, remains underexplored.

To address these gaps in the existing literature, we conduct an exploratory study to discover the behaviours exhibited by individuals after encountering health information and their influencing factors. This study aims to contribute to a more comprehensive

understanding of health information post-encountering behaviours and their motivating factors. To achieve this aim, we have formulated the following research questions:

- **RQ1:** What are the potential behaviours after encountering health information?
- **RQ2:** What is the effect of encountered health information on emotions?
- **RQ3:** What factors influence health information post-encountering behaviours?

Literature review

Significance of encountering health information on social media platforms

Encountering health information has become an important aspect of social media platforms as it impacts how people perceive, understand, and make decisions about their well-being (Kreps, 2017). The significance of this phenomenon revolves around the possibility of encountering diverse perspectives and insights related to health from a global community. Rapidly disseminating health information on social media platforms can influence public health trends and awareness. This could help form a collective opinion about health issues, such as preventive measures, treatment options, and emerging health threats (Jafar et al., 2023).

In addition, the significance of encountering health information lies in the vast and complex landscape of health information on social media platforms. With the exponential growth of health-related content, individuals are expected to encounter various health-related information, ranging from medical research findings, health diseases, and treatments to wellness advice (Kelly et al., 2014; Lim et al., 2023; Liu et al., 2020).

Another important aspect is that health information is constantly evolving (Fahy et al., 2014). In such a dynamic environment, individuals are more likely to engage with health encountered health information to stay informed. This abundance of health information could potentially impact public health by helping people make informed decisions about their health and take control of their health behaviours.

Furthermore, encountering health information on social media platforms could lead to adverse effects, particularly when information is misrepresented, outdated or incorrect. In these instances, the spread of health-related information can have negative consequences since it may misguide individuals and contribute to a misunderstanding of various health issues (Chen et al., 2021). In the context of public health, disseminating inaccurate health information can cause threats to the community's well-being, such as collective false health-related opinions (Marocolo et al., 2021).

Moreover, the viral nature of content and how content is recommended to people on these platforms increases the importance of understanding how people behave after encountering health information (Wang et al., 2019). These platforms offer unparalleled abilities for people to react differently after the encounter by sharing, saving, discussing or even validating the quality of encountered health information. For example, in the community notes on the X platform, contributors can add notes and links in order to fact-check published content or add more context to the post. These post-encountering behaviours could be responsible for the increased spread of misinformation and misconceptions related to health information. Thus, studying the reasons and factors that influence people to behave differently after encountering health information is necessary. The following section will discuss the existing literature on post-encountering behaviours in more detail.

Post-encountering behaviours

The existing literature on information encountering provides a comprehensive overview of the entire information encountering process, encompassing pre-, mid-, and post-encountering behaviours. For example, Erdelez et al. (2005a) proposed an information-encountering model comprising five steps: noticing, stopping, examining,

capturing, and returning. Within this model, capturing and returning can be interpreted as post-encountering behaviours. Awamura (2006a) extended Erdelez's model to encompass keeping and sharing as post-encountering behaviours, categorising them under the broader term *capture*. Keeping involves preserving encountered information for future use, while sharing implies disseminating the information to peers through digital technologies.

Later, Jiang et al. (2015a) conducted an in-depth study to model the explicit process of information encounters. Their model identified post-encountering behaviours as exploring, saving, using, and sharing. It is worth noting that these models primarily concentrated on understanding the general concept of encountering information or focused on pre- and post-behaviours within the broader online web environment. These previous models emphasise high-level views of information behaviours without delving deeply into the post-encountering phase. This approach leaves a significant gap, particularly in understanding how individuals interact with health information after encountering it. Thus, our study focuses on post-encountering behaviours since they are crucial for maximising the usefulness and impact of the encountered information.

Influencing factors

Current research has primarily concentrated on understanding factors that influence the overall occurrence of information-encountering experiences, particularly those that help individuals notice the information they encounter. These factors, often called stimuli, are critical in guiding individuals toward information they may encounter. Therefore, early efforts to understand the nature of information-encountering experiences, such as Erdelez (1999), identified four key factors that affect information encountering: user characteristics, the environment in which the information is encountered, the nature of the encountered information, and the alignment of the information with an individual's specific information needs.

Prior researchers studied the personal factors influencing information encounters (Erdelez et al., 2016; Heinström, 2006; Heinström and Sormunen, 2020). In particular, Heinström highlighted that extroversion increases individuals' willingness to notice and engage with encountered information, while stress and anxiety tend to have the opposite effect. McBirnie (2009) noted contextual factors impacting this willingness, such as the physical environment and time pressures.

More recently, Jiang et al.'s (2015) integrated model encompassed 14 influencing factors categorised into user-related, information-related, and environment-related factors. While they suggested that these factors could influence post-encountering activities, the study predominantly focused on factors influencing the occurrence of information-encountering experiences rather than exploring the specific factors of post-encountering behaviours.

Thus, the present study focuses on the factors that shape individuals' post-encountering behaviours in the context of health information on Social media platforms. By concentrating on this unexplored aspect, the study offers valuable insights into the factors that drive individuals' behaviours after encountering health-related information, ultimately contributing to a more comprehensive understanding of information encountered on Social media platforms.

The effect of emotions

Many researchers have investigated the role of emotion in human information behaviour (Lopatovska and Arapakis, 2011). For example, Savolainen (2014) found that emotions can motivate different information-seeking behaviours, such as starting, expanding, and terminating. The positive emotion of informational cues (for example, information uniqueness) can motivate people to share information on microblogs (Wang et al., 2017). In the context of information encounters, only a

few have addressed the role of emotions. Jiang et al. (2020a) developed a general framework of information-encountering experiences, presenting nine main themes: pre- and post-encountering emotional states. According to this study, emotions are unstable and encountering information could maintain or reverse encounters' emotional states or strengthen or weaken their emotions. Emotional states refer to how an individual feels at particular moments, including before and after encountering health information. The literature also suggests that emotional states can influence and be influenced by various factors. For example,(Sun et al., 2022) investigated the role of emotions and found that positive emotions influence the likelihood of encountering information.

Methods

This study adopts an exploratory approach to understand people's behaviours after encountering health information on social media platforms and the factors influencing them. Information encountering experiences can occur in different environments such as TV, hospitals, paper and digital environments (Erdelez, 1999). In social media platforms, encountering health information usually depends on how individuals use such platforms. For instance, individuals can encounter health information while scrolling through a feed, exploring trending topics, receiving notifications, exploring sponsored content, or through browsing shared content from friends and followers. All these examples can provide a wide range of opportunities to encounter health information. To explain the concept of information encountering on social media platforms, participants were given two examples of encountering experiences, namely receiving a notification from a friend on Instagram and encountering while casually browsing a personal X platform account. However, participants were not restricted to these two examples. Instead, they were encouraged to report any encountering experiences.

This study adopts an exploratory approach to understand people's behaviours after encountering health information on social media platforms and the factors influencing them. Information encountering experiences can occur in different environments, including TV, hospitals, paper and digital environments (Erdelez, 1999). However, on social media platforms, encountering health information depends on how individuals use such platforms. For instance, individuals can encounter health information while scrolling through a feed, exploring trending topics, receiving notifications, exploring sponsored content, or through browsing shared content from friends and followers. All these examples can provide a wide range of encountering health information opportunities. To explain the concept of information encountering on social media platforms, this study provided two examples of encountering experiences, namely receiving a notification from a friend on Instagram and encountering while casually browsing a personal X platform account. However, participants were not restricted to these two examples. Instead, they were encouraged to report any kind of experience.

Due to the stochastic nature of encountering health information, this research aims to adopt an approach that provides rich information about people's daily experiences without relying too much on memory recall in order to avoid potential memory bias (Sheble and Wildemuth, 2009). The diary was useful for participants to naturally record health information encountering events as they happened (Makri et al., 2017; Rahman and Wilson, 2015).

Therefore, a diary study was conducted, where participants were required to answer eleven questions after encountering health information (the diary study form can be found in the appendix). These questions are divided into two sections. The first section gathers general information about the encounter, such as the activity performed before the encounter, the current objective for browsing social media, the date, time, and location of the encounter, and participants' emotional states before and after the encounter. The second section aims to learn about the participants' actions after

encountering health information and the motivational reasons that influenced those actions. Additionally, they were required to answer questions about the usefulness and value of the health information they encountered. Whenever participants encountered health information and chose to report a diary, they were required to answer these questions. Data was gathered using an online diary form (Google Form). The participants were not given any expected number of diaries but were encouraged to report as many as possible. Participants were also allowed to report incidents of encountering health information on any social media platform.

The diary study lasted four weeks, from 3 June 2023 to 1 July 2023. During this period, participants could contact the corresponding researcher and ask relevant questions by sending emails. At the beginning of the diary study, the concept of encountering health information was explained, and two real-life examples were provided to eliminate any potential misunderstandings. Prior to commencing the study, informed consent was obtained from all participants by signing an online form and confirming their intention to be part of the study. Ethical clearance was also obtained from the University of Sheffield Research Ethics Committee (application number: 049356) to ensure the research adhered to ethical principles and standards. To maintain the participants' privacy, all data is reported anonymously with sequential numbers, which were assigned to participants as they enrolled in the study (P01, P02...).

Participants were recruited through the X platform (previously Twitter) by posting an advertisement about the study on the platform. Eligible (i.e., over 18 years old, UK resident, English fluency, and current users of Social media platforms) participants received an email providing complete descriptions of the diary study. Participants were required to sign and answer a few personal questions to confirm their eligibility. Only one participant was excluded from the study due to their place of residence.

Inductive content analysis was used to analyse the data qualitatively (Elo and Kyngäs, 2008; Hsieh and Shannon, 2005). The 71 diaries of encountered health information were imported and coded using QSR NVivo 14 for data analysis.

Participants and data

The 39 participants were included in the study after excluding duplicates and individuals with no submitted diary entries. During the study, 71 diary entries were collected over four weeks, with participants contributing an average of 1.8 entries each. It is important to note that one participant reported a maximum of 9 diaries, while the minimum was one diary recorded by 26 participants. This may seem a relatively low number, but this was expected considering the focus of our study on encounters of only specific (i.e., health-related) content. Most participants were 18-39, while only three were over 40. Regarding educational background, 5 held a Diploma, 23 had undergraduate degrees, and 9 were postgraduates. Daily browsing time showed that 26 participants spent over three hours online, seven between two and three hours, five between one and two hours, and one less than an hour.

In the pre-study questionnaire, participants were required to give Likert scale responses to six distinct statements regarding their daily social media use and personal health perceptions (see Figure 1 below). It was observed that the majority of participants, 33 out of 39, use social media platforms daily. Also, 14 of these participants identified as *silent users*, implying infrequent interactions (i.e., not posting, commenting, etc.) with content on these platforms.

Nearly all participants stated that they are curious and concerned about their health in general, and 31 respondents said they were committed to making health and well-being a top priority in their lives, with a mere three participants dissenting from this belief. Nevertheless, when asked whether they thought they needed to pay more attention to their health and well-being, only 14 responded positively, with 13 disagreeing. Only 9

participants indicated that they suffer from a chronic health condition.

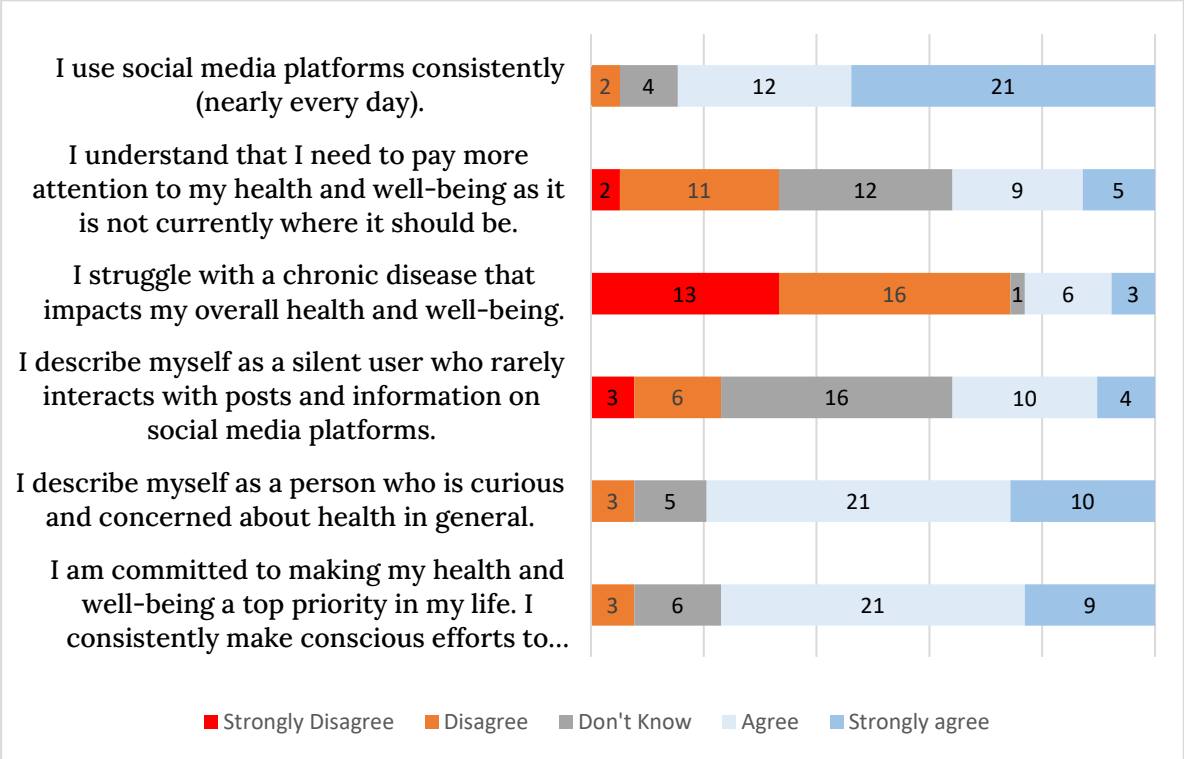

Figure 1. Number of participants in agreement and disagreement with the statements

Results

Date and time of the encounter

The insights gained from our analysis of date and time data provide valuable context for understanding the dynamics of the diary study. The highest number of incidents occurred during June, which is aligned with the period of the diary study. However, some outliers may have occurred due to inaccurate data entry by the participants (see Figure 2). In addition, Figure 3 illustrates the distribution of diary entries across the hours of the day (aggregated across the whole study period). The data reveals consistent activity throughout most hours, which could indicate frequent activity throughout the day. The busiest hours, namely 11, 15, 16 and 20, show peaks in encounters of 9, 7, 7 and 6, respectively. This indicates that the vast majority of reported encounters took place between the early morning (09:00) and the evening (23:00). This pattern provides confidence that these reported encounters of health information on social media are happening and that the participants engaged with encountered health information during their professional and personal time.

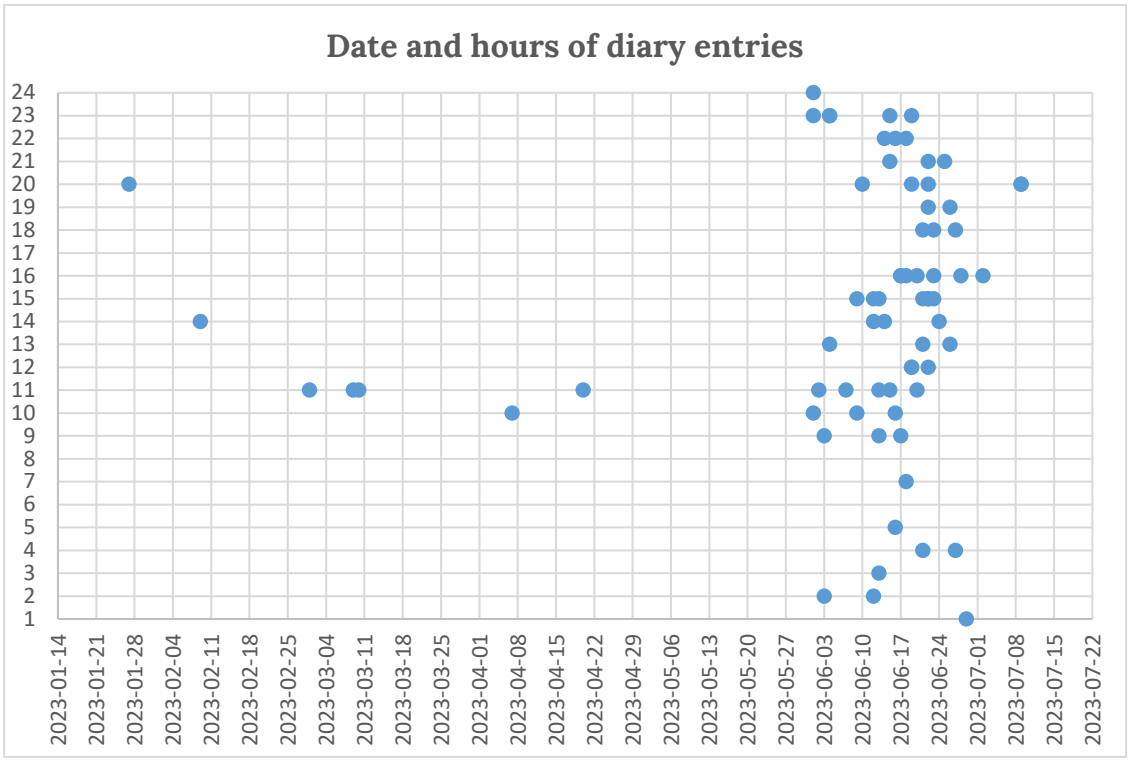

Figure 2. Date and time of the diary entries

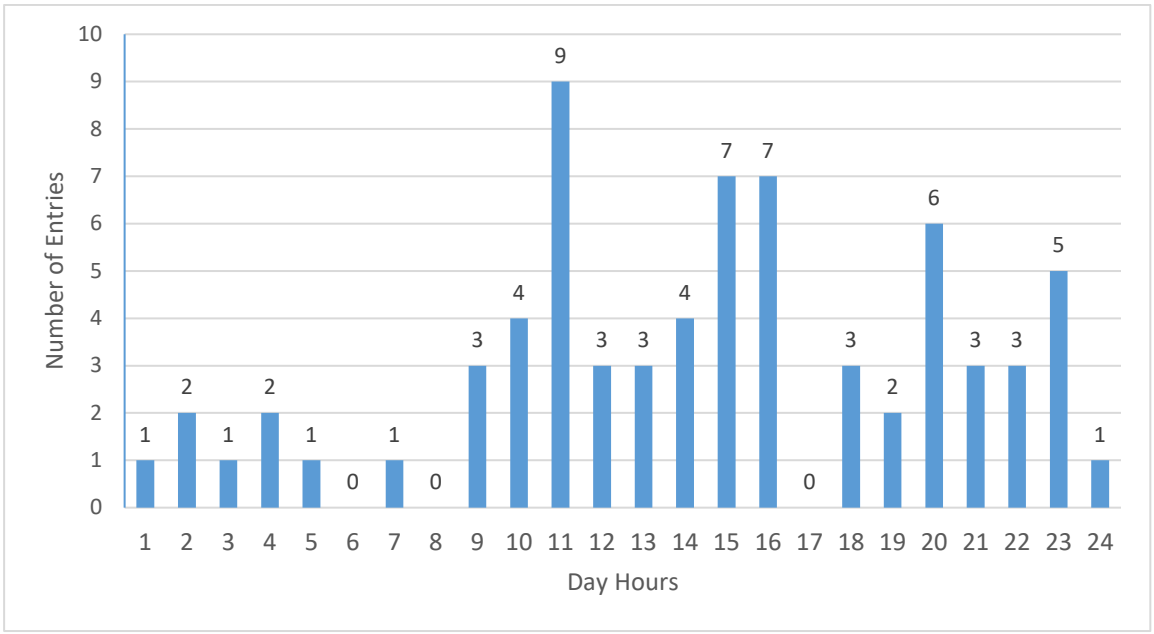

Figure 3. Diary entries over hours of the day

Emotions before/after encountering health information

Emotional states may emerge as a silent factor that passively influences or shapes how people behave with encountered health information. We asked participants to describe their emotional states before and after encountering the health information and then classified these as positive, negative, neutral or mixed emotions. For 33 of the health encounters, participants' emotions were consistent, with no apparent alteration caused by the exposure to the encounter of health information (23 in positive emotion, 7 in negative emotions, 2 in neutral emotions and 1 in mixed emotions), as depicted in Figure 4.

However, the findings also shed light on the significant influence of encountered health information on participants' emotions: 38 out of 71 entries showed that exposure to health-related information had a discernible impact on participants' emotional states. As shown in Figure 4, this impact was multifaceted, encompassing various emotional changes. Participants experienced shifts from positive to negative emotions, negative to positive emotions, or even transitions to neutral emotional states. For instance, the participant (P10) stated, '*I was moody*' before the encounter but became '*enlightened*' afterwards. Another participant (P27) stated being '*neutral*' before the encounter but felt '*kinda worried*' afterwards, particularly when the information was sensitive to them, leading to uncertainty about how to handle it. In general, emotional valence was more likely to change from negative or neutral to positive than in the opposite direction, although our analysis does not account for magnitude.

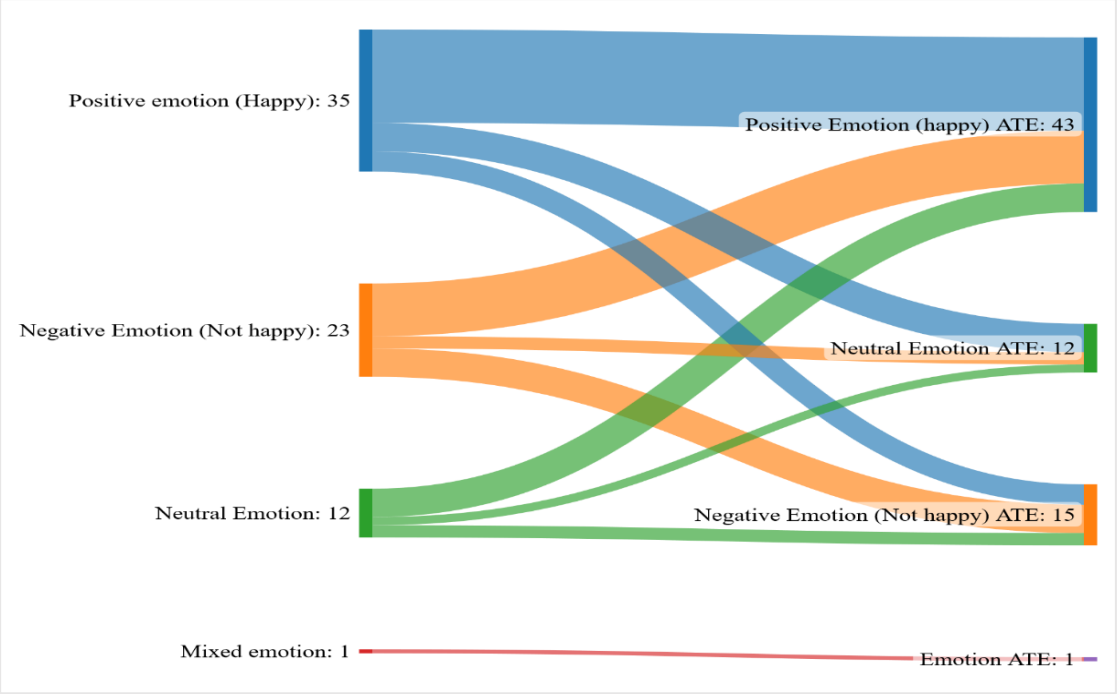

Figure 4. Emotion change of participants after the encountering (ATE)

Post-encountering behaviours

Figure 5 shows the diverse range of behaviours exhibited by participants upon encountering health information on social media platforms. For each diary entry, participants had to reflect and record their post-encountering behaviours. Through the analysis of the 71 entries, these post-encounter behaviours were categorised into distinct behavioural categories: saving, sharing, directly using, discussing, further exploring, ignoring, returning, and making a mental note. These categories were based on the open-coded analysis of relevant items where participants were given some options for potential behaviours, and they had the opportunity to add more behaviours.

Among these behaviours, saving the encountered health information emerged as a prevalent decision, with 49 entries opting for this action. In Social media platforms, this encompassed various actions, such as bookmarking, downloading, or archiving content for future reference or personal use. Following the saving behaviours, participants chose to discuss encountered health information in 29 entries. For discussion of the content encountered, participants can engage in conversations, comments, or interactions with others about health information, utilising the various communication features offered by social media platforms.

Sharing encountered health information was another prominent behaviour; in 44 entries, participants opted to share encountered health information with public and/or private networks. Sharing involves the act of reposting, forwarding, tagging, or mentioning the content to friends and family members or a broader social media audience. Additionally, participants demonstrated a tendency to use the health information they encountered directly in 24 entries. This entailed interpreting and potentially applying the health content to improve their health status, enhance disease prevention, or seek emotional support.

Moreover, in 23 entries, participants chose to explore the health information they encountered further, which could indicate their curiosity and desire for deeper understanding. Sixteen entries showcased a unique combination of behaviours, with participants returning to browse social media platforms while simultaneously making a mental note of the content, highlighting the nuanced ways individuals engage with health information on these platforms. Lastly, only two entries indicated the choice to ignore the encountered health information and not to perform any action, illustrating that this behaviour was infrequently reported.

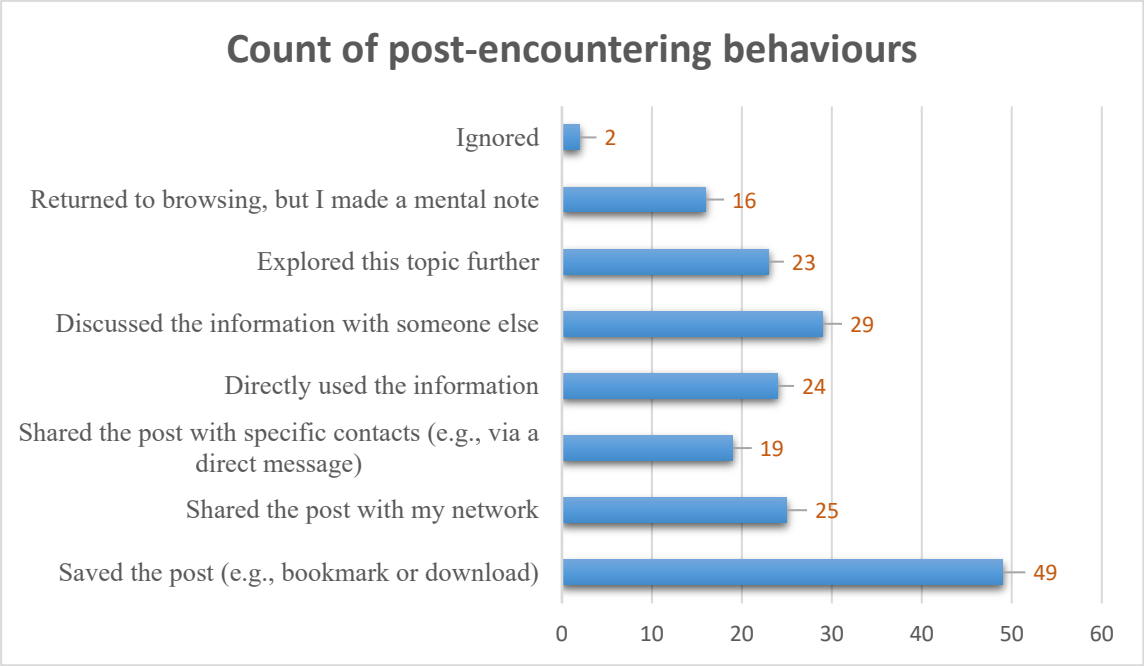

Figure 5. Count of post-encountering behaviours in 71 diary entries

Influencing factors

Participants were asked about the factors or motivators influencing their encountering behaviours. The influencing factors have been organised with each corresponding post-encountering behaviour (7 categories and 12 sub-categories) as presented in Table 1 below.

The first category, *Reasons for saving encountered health information*, encompasses factors that prompt participants to save the health information they come across. Within this category, three distinct subcategories emerged: For further exploration due to time restrictions, General health concerns or curiosity, and Quality and presentation of encountered health information. It was observed that participants predominantly saved encountered health information for future exploration when they did not have time to read it. Additionally, they were inclined to save health information they encountered when confronted with personal health concerns or ailments. For example, (P12) with gastroenteritis said: '*Because it tells us how to relieve gastroenteritis*'. The quality and presentation of the information also played a significant role in motivating participants to save it. For instance, (P28) wrote: '*The way the advert/ service was being promoted made me want to access the service…*'.

The second category addresses *Reasons for sharing encountered health information*. Participants' motivations for sharing encountered health information primarily revolved around their desire to inform and assist others. For instance, (P01) said: '*I shared with others so they can be informed*,' and another mentioned, '*Trying to make everyone around me better*, (P07)'. Health relevance and personal needs emerged as solid influencers for sharing encountered health information with participants sharing information that directly pertained to their own health or the needs of their contacts. Furthermore, the type and perceived importance of encountered health information played a role in encouraging sharing, with engaging content and attractive presentation styles being mentioned as motivating factors, as (P29) explained by saying: '*Catchy topic and graphics*'.

The third category revolves around *Reasons for using encountered health information*." Participants used encountered health information either to manage existing health

issues as (P28) mentioned, '*As I suffer with this condition, I am more likely to engage in this source, I need help and support in managing this condition*', or to proactively maintain and improve their health as one participant stated, '*To protect my own health it is essential to have such knowledge...*'. Moreover, participants often engaged in discussions about encountered health information to spread awareness and inform others, showcasing their commitment to helping those around them become better informed. For instance, (P32) stated: '*I have a friend who also has rhinitis, and I want to discuss it with him*'.

The findings of this study show some cases where participants chose to *Further Explore encountered health information*. This behaviour appeared to be triggered by the need for a deeper understanding of the encountered health information or a need to validate its accuracy. These reasons highlight the importance of trust and credibility in health information sources. As (P04) explained his choice to explore further encountered health information, 'I really need its help, but I'm not sure it's true.'

In other cases, participants occasionally opted to *Ignore encountered health information* when they disagreed with the content or believed it could potentially mislead or harm others. As (P03) explained, '*I ignored health information because I did not want to mislead..* '. This reflects a sense of responsibility towards disseminating inaccurate or unreliable health information that may harm other people's health.

Lastly, the study revealed that participants often returned to their previous activities, such as online browsing, while mentally noting the health information they encountered. The content and perceived usefulness of the encountered health information emerged as pivotal factors influencing this behaviour, underscoring the significance of delivering relevant and engaging health information to capture individuals' attention and interest.

Category	**sub-category**	**Example**
Reasons for saving encountered health information	General health concerns or curiosity	'I want to take better care of my body (P07)" "I want to know my body better. (P14)' 'Because it tells us how to relieve gastroenteritis. (P12)" 'To ease my pain. (P16)'
	For further exploration, due to time restrictions	'I wanted to go through it later at my leisure', 'I wanted to go through it later when I have more time. (P27)'
	Quality and presentation of encountered health information	'The way the advert/ service was being promoted made me want to access the service… (P28)', 'The importance of the information influenced me.', 'Catchy topic and graphics (P29)'
Reasons for sharing encountered health information	To inform and help others	'I shared with others so they can be informed (P01)', 'Trying to make everyone around me better (P07).'
	Health relevance or importance of encountered	'I know that the content is relevant to myself and the contact I sent it to. (P10)', 'Relevance of the information as it covered STIs - kissing whilst having sex in some

	health information	detail. (P28)', 'The importance of the information influenced me, (P26)"
Reasons for using encountered health information	Dealing with health-related issues	'As I suffer with this condition, I am more likely to engage in this source; I need help and support in managing this condition. (P28)' and 'Settle a stomachache. (P38)'
	Improving and maintaining health status	'To protect my own health, it is essential to have such knowledge. As for my situation (changing partners), I should carry out sexual health testing regularly. (P28)'
Reasons for discussing encountered health information	To spread awareness and inform others	'I like to discuss health information, and I have sent some publications about needles that help with weight loss, which are an alternative to surgeries, and when I was browsing Snapchat, I found this information that belongs to the previous information on needles and supports the topic and benefits people who use these means to lose weight. (P08)'
Reasons for further exploring encountered health information	To gain a deeper understanding	'I felt like I needed to know more, and as my family has a history with kidney diseases, I felt it was important for me to research about it. (P17)", 'To know better. (P24)'
	To validate the accuracy of encountered health information	'Because I really need its help, but I'm not sure it's true. (P04)'
Reasons for ignoring the encountered health information	Disagreement with encountered health information	'I finally decided to ignore it because I had an internal fight between my religious beliefs and the correct health information I agreed with. (P03)'
Reasons for returning and making a mental note of encountered health information	Importance and value of encountered health information	'The information is valuable and useful. (P33)'

Table 1. Categories and sub-categories of the influencing factors

Discussion

This study investigated post-encountering behaviours relevant to health information on social media platforms. Regarding **RQ1**, we found a wide variety of different post-encounter behaviours. Building upon previous research works (Erdelez and Makri, 2020; Jiang et al., 2019), our findings have extended the literature by showing more health-related post-encountering behaviours that encompass a spectrum of actions, namely saving, sharing, directly using, discussing, exploring, ignoring, returning and taking a mental note. These findings provide valuable insights into how individuals interact with encountered health content on social media platforms.

With respect to **RQ2**, while some prior research focused on how positive emotions would influence people to encounter more information (Sun et al., 2022), our results demonstrate the dynamic and potentially complex nature of the emotional responses. These findings indicate that while emotions may not always explicitly influence post-encountering behaviours, encountered health information can significantly impact participants' emotions, sometimes leading to positive shifts but, in other cases, inducing negative feelings. It was also found that encountering relevant health information has a greater influence on participants with relevant health issues. This may indicate a relationship between health status and the effect of relevant encountered health information, which aligns with the previous work on the information encountering process model (Jiang et al., 2019; Makri and Buckley, 2020).

For **RQ3**, we uncovered several interesting factors behind post-encountering behaviours, shedding new light on this area of research. Personal health relevance or health issues repeatedly appeared as predominant reasons for multiple post-encountering behaviours such as saving, using and sharing encountered health information. This consistent connection between health needs and behavioural responses may emphasise the role health-related motivations play in shaping how individuals engage with encountered health information. Health-related information gaps and fulfilling personal information needs were also found to be significant drivers of multiple post-encountering behaviours. This may indicate that individuals are motivated to engage with a post of encountered health information based on their desire to bridge existing knowledge gaps (Nwone and Mutula, 2020). Information-related factors such as quality, presentation, and perceived importance of encountered health information similarly show their influence on post-encountering behaviours. This highlights the implication of how information is presented, which can significantly influence post-encountering behaviours.

Limitations and future research directions

To the best of our knowledge, this is the first study focusing on post-encountering health information behaviours on social media. Nevertheless, we acknowledge several limitations, which may all be associated with the small number of participants. Firstly, it lacked diversity in age groups, with the majority of participants falling in their 20s and 30s and none in their 50s or older. Secondly, most participants held degrees (i.e., Diploma, Bachelor or Master), which may not represent the broader population. Lastly, recruitment was exclusively conducted on X (formerly Twitter), potentially introducing selection bias. A more diverse age range, educational backgrounds, and recruitment methods should be considered for a more comprehensive and representative dataset to enhance future studies.

Conclusions and implications

In this study, we explored post-encountering behaviours of health information on social media platforms. Existing research studies have mainly focused on pre- and during-encountering behaviours, while this work provides insights into how people behave after they unexpectedly come across health-related content on social media platforms. The findings are based on the analysis of 71 diary entries that reveal seven post-encountering behaviours, including saving, sharing, directly using,

discussing, exploring, ignoring, returning to browsing and making mental notes of the content of encountered health information.

Additionally, this research also provides evidence of the motivating reasons that influence people to behave differently after encountering health information. These influencing factors have been identified and organised with each corresponding post-encountering behaviour, as shown Table 1. These factors revolve around the need to deal with general health concerns, gain a deeper understanding of specific health-related topics, validate the accuracy of encountered health information, spread awareness and inform others.

This study's findings provide implications for managing the spread of health misinformation on social media platforms. For instance, understanding what motivates people to share encountered health information could be used to disseminate good-quality health information on social media platforms. The findings could also be helpful in assisting health-related content creators, such as health practitioners, in designing and refining their content to be more effectively aligned with the needs of health information consumers.

Furthermore, multiple research studies have focused on the influence of emotional states on information-seeking or encountering behaviours. This study, however, specifically explored emotional states on post-encountering behaviours on social media platforms. The findings indicate that exposure to health information does not consistently affect individuals' emotional states. However, it can significantly impact their emotions, especially when the information is relevant to their health status. The findings also showed the need for further work to be carried out to discover the potential influence of emotional states on people's post-encountering behaviours.

In future work, we intend to focus on the relationships between post-encountering behaviours and the potential reasons (motivating factors) that influence people to behave differently after encountering health information. We will concentrate on factors that moderate the relationships between encountered health information and post-encountering behaviours and develop scales to measure these relationships. To avoid the shortcomings of self-reporting methods and to better understand the relationships between the health information encountered and the motivating factors, we might use other methods, such as experiments and thinking aloud (Jiang et al., 2022).

About the authors

Khalid U Fallatah is a doctoral student at Sheffield University's Information School. His research interests include online information behaviours and information retrieval. Khalid U Fallatah can be reached at kumfallatah1@sheffield.ac.uk

Morgan A Harvey is a senior lecturer in data science at the Information School at the University of Sheffield. He conducts research and publishes work in the fields of information retrieval, information behaviour, and recommender systems. Although his research is applied in a broad array of different contexts, at its core is the idea of helping to connect people to the information they need or want.

Sophie Rutter is a senior lecturer in information management at the Information School at the University of Sheffield. Her research investigates how people use information to inform communication strategies and technology development. She is also interested in inclusive user research and is working on a project that aims to embed equality, diversity, and inclusion in usability testing.

References

Agarwal, N. K. (2015). Towards a definition of serendipity in information behaviour. *Information Research*, 20(3).

Awamura, N. (2006). Rethinking the information behavior model of information encountering: an analysis of the interviews on information encountering on the web. *Library and Information Science*, 55, 47–69.

Barua, R., Datta, S., & Bardhan, N. (2021). Impact of social media on pandemic COVID-19 outbreak. In *Handbook of Research on Representing Health and Medicine in Modern Media* (pp. 422–435). IGI Global. https://doi.org/10.4018/978-1-7998-6825-5.ch025

Buchanan, S. (2016). Health information behaviours: Insights informing health literacy interventions and practices. *NHS Health Literacy Conference*.

Chen, J., & Wang, Y. (2021). Social media use for health purposes: Systematic review. *Journal of Medical Internet Research*, 23(5). https://doi.org/10.2196/17917

Chen, K., Luo, Y., Hu, A., Zhao, J., & Zhang, L. (2021). Characteristics of misinformation spreading on social media during the COVID-19 outbreak in China: A descriptive analysis. *Risk Management and Healthcare Policy*, 14, 1869–1879. https://doi.org/10.2147/RMHP.S312327

Denniss, E., Lindberg, R., & McNaughton, S. A. (2023). Quality and accuracy of online nutrition-related information: a systematic review of content analysis studies. *Public Health Nutrition*, 26 (7), 1345–1357). https://doi.org/10.1017/S1368980023000873

Elo, S., & Kyngäs, H. (2008). The qualitative content analysis process. *Journal of Advanced Nursing*, 62(1), 107–115. https://doi.org/10.1111/j.1365-2648.2007.04569.x

Erdelez, S. (1999). Information encountering: It's more than just bumping into information. *Bulletin of the American Society for Information Science*, 25(3), 26–29. https://doi.org/10.1002/bult.118

Erdelez, S., Fisher, K. E., & McKechnie. (2005). Information encountering. In *Theories of Information Behavior*. Information Today.

Erdelez, S., Heinström, J., Makri, S., Björneborn, L., Beheshti, J., Toms, E., & Agarwal, N. K. (2016). Research perspectives on serendipity and information encountering. *Proceedings of the Association for Information Science and Technology*, 53(1), 1–5. https://doi.org/10.1002/pra2.2016.14505301011

Erdelez, S., & Makri, S. (2020). Information encountering re-encountered A conceptual re-examination of serendipity in the context of information acquisition. *Journal of Documentation*, 76(3), 731–751. https://doi.org/10.1108/JD-08-2019-0151

Fahy, E., Hardikar, R., Fox, A., & Mackay, S. (2014). Reviewing a complete and evolving landscape. *Australasian Medical Journal*, 7(1), 24–28. https://doi.org/10.4066/AMJ.2014.1900

Gillespie, T. (2014). The Relevance of Algorithms. In T. Gillespie, P.J. Boczkowski, &. K.A. Foot (Eds.), *Media technologies: Essays on communication, materiality, and society* (chapter 9). The MIT Press.

Heinström, J. (2006). Psychological factors behind incidental information acquisition. *Library and Information Science Research*, 28(4), 579–594. https://doi.org/10.1016/j.lisr.2006.03.022

Heinström, J., & Sormunen, E. (2020, December 20). Serendipity as chaos or discovery – exploring the role of personality and sense of coherence. *Proceedings of ISIC: The Information Behaviour Conference Pretoria, South Africa, 28th September to 1st October, 2020*. https://doi.org/10.47989/irisic2001

Hsieh, H. F., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research*, 15(9), 1277–1288. https://doi.org/10.1177/1049732305276687

Jafar, Z., Quick, J. D., Larson, H. J., Venegas-Vera, V., Napoli, P., Musuka, G., Dzinamarira, T., Sridara Meena, K., Raju Kanmani, T., Rimányi, E., & Author, C. (2023). Social media for public health: Reaping the benefits, mitigating the harms. *Health Promotion Perspectives*, 2023(2), 105–112. https://doi.org/10.34172/hpp.2023.13

Jiang, T., Fu, S., Erdelez, S., & Guo, Q. (2022). Understanding the seeking-encountering tension: Roles of foreground and background task urgency. *Information Processing and Management*, 59(3). https://doi.org/10.1016/j.ipm.2022.102910

Jiang, T., Fu, S., Guo, Q., & Song, E. (2019). Modeling the process of information encountering based on the analysis of secondary data. In *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, Vol. 11420 LNCS. https://doi.org/10.1007/978-3-030-15742-5_8

Jiang, T., Fu, S., & Song, E. (2020). Toward a description framework of information encountering experiences: Guidance for diarists in story telling. *Journal of Documentation*, 76(4), 807–827. https://doi.org/10.1108/JD-07-2019-0131

Jiang, T., Liu, F., & Chi, Y. (2015). Online information encountering: modeling the process and influencing factors. *Journal of Documentation*, 71(6), 1135–1157. https://doi.org/10.1108/JD-07-2014-0100

Kelly, S., Eldredge, S. A., Dalton, E. D., & Miller, L. E. (2014). Health-information behavior: An initial validity portfolio for active and passive measures. *Communication Research Reports*, 31(2), 171–182. https://doi.org/10.1080/08824096.2014.907145

Kim, L., Hong, Y., Abrar, S., & FitzGerald, C. A. (2023). Relationships between social media use, exposure to vaccine misinformation and online health information seeking behaviour. *Journal of Creative Communications*, 18(2), 199–213. https://doi.org/10.1177/09732586231166111

Kreps, G. L. (2017). Online information and communication systems to enhance health outcomes through communication convergence. *Human Communication Research*, 43(4), 518–530. https://doi.org/10.1111/hcre.12117

Li, Y.-J., Marga, J. J., Cheung, C. M. K., Shen, X.-L., & Lee, M. (2022). Health misinformation on social media: A systematic literature review and future research directions. *AIS Transactions on Human-Computer Interaction*, 14(2), 116–149. https://doi.org/10.17705/1thci.00164

Lim, H. M., Ng, C. J., Dunn, A. G., & Abdullah, A. (2023). Experiences and influences of online health information-seeking about statin use in patients with high cardiovascular risk: a qualitative study. *Family Practice*, 40(5-6), 796-8004. https://doi.org/10.1093/fampra/cmad034

Liu, X., Zhang, B., Susarla, A., & Padman, R. (2020). Go to Youtube and call me in the morning: Use of social media for chronic conditions. *MIS Quarterly: Management Information Systems*, 44(1), 257–283. https://doi.org/10.25300/MISQ/2020/15107

Lopatovska, I., & Arapakis, I. (2011). Theories, methods and current research on emotions in library and information science, information retrieval and human-computer interaction. *Information Processing and Management*, 47(4), 575–592. https://doi.org/10.1016/j.ipm.2010.09.001

Makri, S., & Buckley, L. (2020). Down the rabbit hole: Investigating disruption of the information encountering process. *Journal of the Association for Information Science and Technology*, 71(2), 127–142. https://doi.org/10.1002/asi.24233

Makri, S., Ravem, M., & McKay, D. (2017). After serendipity strikes: Creating value from encountered information. *Proceedings of the Association for Information Science and Technology*, 54(9), 279–288.

Marocolo, M., Meireles, A., Leandro, H., Souza, R. De, Mota, G. R., Oranchuk, D. J., Hora, L., & Leite, R. (2021). Is social media spreading misinformation on exercise and health in Brazil ? *Environmental Research and Public Health*, 18, 11914.

McBirnie, A. (2009). Seeking serendipity: The paradox of control. *Aslib Proceedings: New Information Perspectives*, 60(6), 600–618. https://doi.org/10.1108/00012530810924294

Ming, Y. (2023). *Impacts from intentional and incidental online health information seeking and eHealth literacy on shared decision-making and information avoidance among diabetic patients*. Kent State University.

Narayanan, A. (2023). *Understanding social media recommendation algorithms*. https://doi.org/10.7916/khdk-m460

Nwone, S. A., & Mutula, S. M. (2020). Active and passive information behaviour of the professoriate: A descriptive comparative pattern analysis. *SA Journal of Information Management*, 22(1). https://doi.org/10.4102/sajim.v22i1.1161

Rahman, M. A., & Wilson, M. L. (2015). What is diary method? *SIGIR 2015 - Proceedings of the 38th International ACM SIGIR Conference on Research and Development in Information Retrieval*, 939–942. https://doi.org/10.1145/2766462.2767783

Savolainen, R. (2014). Emotions as motivators for information seeking: A conceptual analysis. *Library and Information Science Research*, 36(1), 59–65. https://doi.org/10.1016/j.lisr.2013.10.004

Sheble, L., & Wildemuth, B. M. (2009). Research diaries. *Applications of social research methods to questions in information and library science*, 211–221. http://www.worldcat.org/title/applications-of-social-research-methods-to-questions-in-information-and-library-science/oclc/289095944

Soroya, S. H., Farooq, A., Mahmood, K., Isoaho, J., & Zara, S. e. (2021). From information seeking to information avoidance: Understanding the health information behavior during a global health crisis. *Information Processing and Management*, 58(2), 102440. https://doi.org/10.1016/j.ipm.2020.102440

Suarez-Lledo, V., & Alvarez-Galvez, J. (2021). Prevalence of health misinformation on social media: Systematic review. *Journal of Medical Internet Research*, 23 (1). Inc. https://doi.org/10.2196/17187

Sun, X., Zhou, X., Wang, Q., & Sharples, S. (2022). Investigating the impact of emotions on perceiving serendipitous information encountering. *Journal of the Association for Information Science and Technology*, 73(1), 3–18. https://doi.org/10.1002/asi.24540

Swetland, S. B., Rothrock, A. N., Andris, H., Davis, B., Nguyen, L., Davis, P., & Rothrock, S. G. (2021). Accuracy of health-related information regarding COVID-19 on Twitter during a global pandemic. *World Medical and Health Policy*, 13(3), 503–517. https://doi.org/10.1002/wmh3.468

Wang, C., Zhou, Z., Jin, X. L., Fang, Y., & Lee, M. K. O. (2017). The influence of affective cues on positive emotion in predicting instant information sharing on microblogs: Gender as a moderator. *Information Processing and Management*, 53(3), 721–734. https://doi.org/10.1016/j.ipm.2017.02.003

Wang, X., Chen, L., Shi, J., & Peng, T. Q. (2019). What makes cancer information viral on social media? *Computers in Human Behavior*, 93, 149–156. https://doi.org/10.1016/j.chb.2018.12.024

Wang, Y. (2019). Impact of Social Media on Public Health. *Annals of Social Sciences & Management Studies*, 3(2). https://doi.org/10.19080/asm.2019.03.555608

Appendix

This form is designed to record diary entries of health information encountered on social media platforms. Answering this form will collect a separate entry for each event. You can contribute multiple times by repeating this form when you encounter health information on social media.

* Indicates a required question

Section Two of the diary study

Description of encountered health information

Encountered health information is the acquisition of useful or/and valuable health-related information that is not planned or anticipated before the encounter. This means that you have not been actively involved in searching for health information, nor were you expecting to acquire such information.

Here are a couple of real-world examples:

1) This afternoon, while browsing my Instagram account to connect with friends, I suddenly noticed a post about how to deal with constant headaches. Since I'm currently under so much pressure in my work, I have been experiencing several health issues, including frequent and sharp headaches that I tried to treat with simple medications such as painkillers. So, reading this post, which a friend of mine posted, was very useful because I learned useful information about the possible reasons why people get headaches in the first place. I expect this information will be useful and valuable as I learn to solve the potential causes of health issues and not just treat the symptoms of my health issues.

2) I was at leisure the other night and casually browsing my Twitter account on my personal computer as usual. Suddenly, I noticed my phone buzzing frequently. I opened it. And I noticed my friends arguing about the benefits and the potential drawbacks of having the Covid-19 vaccine on WhatsApp group chat. As a curious person, I immediately opened the WhatsApp application and read all their posts carefully to find out who was right and who was not. Reading my friends' posts (which were partially supported by scientific evidence) on both sides of the argument has encouraged me to go online to and more information about this topic to be able to decide whether to get vaccines or not.

1. Your email address (please use one throughout the study): *

---

2. **Q1:** What activity were you involved in when the encounter with health * information happened?

---

3. **Q2:** What was your goal in browsing your social media account? *

---

4. **Q3:** When did the encounter happen (date)? *

Example: 7 January 2019

5. **Q4:** When did the encounter happen (24-hour format)? *

Example: 8.30 a.m.

6. **Q5:** Describe your emotions **before** encountering the health information (e.g., * Upset, cheerful, neutral, worried, frustrated, optimistic, resentful, disgusted, happy, sad, stressed, or others).

---

7. **Q6:** Describe your emotions **after** encountering the health information (e.g., * Upset, cheerful, neutral, worried, frustrated, optimistic, resentful, disgusted, happy, sad, stressed, or others).

---

8. **Q7:** What actions, if any, have you taken after encountering the health * information (e.g., saving, sharing, using it, discussing it with someone else, further exploring it or something else)?

Tick all that apply.

- [ ] Saved the post (e.g., bookmark or download)
- [ ] Shared the post with my network (e.g., retweet or mention)
- [ ] Shared the post with specific contacts (e.g., via a direct message)
- [ ] Directly used the information
- [ ] Discussed the information with someone else
- [ ] Explored this topic further

Returned to browsing, but I made a mental note Other:

9. **Q8:** What do you think has influenced (motivated) you to take the above * action(s)? Please list and explain. *(Type or dictate your answer using your voice)*

10. **Q9:** Where were you located during the encounter (e.g., at home, outside, at * work, a public place, a social event, etc.)?

11. **Q10:** Did you find this encountered health information useful or potentially * useful (***useful*** *means this unexpectedly found information could be used for a practical purpose or in several ways*) (e.g., health-related issues, informational quality, relevance, importance, accessibility and type)? Please explain why.

(Type or dictate your answer using your voice)

12. **Q11:** Did you find this health information valuable or potentially valuable * (**valuable** means this unexpectedly found information could have considerable importance or worth for you)? Please explain how? (*Type or dictate your answer using your voice*)

13. **Q12:** Please upload a screenshot of the encountered health information. *

Files submitted:

14. **Q13:** You can also provide the URL to the health information you encountered.